

# Financial Reporting Through the Lens of a Property/Casualty Actuary

Kathleen C. Odomirok, FCAS, MAAA  
Liam M. McFarlane, FCIA, FCAS  
Gareth L. Kennedy, ACAS, MAAA  
Justin J. Brenden, FCAS, MAAA  
EY



## FOREWORD

EY was retained by the Casualty Actuarial Society (CAS) to write a new text on financial reporting and taxation as it affects reserving and statutory reporting for use in the CAS basic education process. The CAS had two key objectives for this text:

1. Replace a number of readings that existed on the *CAS Syllabus of Basic Education* as of 2011 with a single educational publication.
2. Refine the content of the syllabus material to focus on financial accounting and taxation topics that are of particular relevance to the property/casualty actuary.

The CAS specified that the new text would focus on the learning objectives contained within the syllabus as of 2011.

This publication has been prepared from an actuary's lens, highlighting those areas of financial reporting and taxation deemed to be relevant by the CAS Syllabus Committee and the authors of this text. The learning objectives contained within the 2011 syllabus provided the underlying direction of the content contained herein. The Exam 6 learning objectives and examination material may change over time, and thus, the content of this publication may need to be updated.

This text does not represent the position of EY or the authors with respect to interpretations of accounting or tax guidance. Nor is this text intended to be a substitute for authoritative accounting guidance issued by the National Association of Insurance Commissioners (NAIC), American Institute of Certified Public Accountants (AICPA), Financial Accounting Standards Board (FASB), Governmental Accounting Standards Board (GASB), Securities and Exchange Commission (SEC), Internal Revenue Service (IRS), Canadian Institute of Chartered Accountants (CICA), or any other regulatory body. Authoritative guidance from regulatory bodies trumps the writings contained herein. Furthermore, accounting standards are continuously evolving. As a result, readers of this text should be aware that the accounting standards referenced in this publication may have changed since the time of writing. The CAS may request that this publication be updated to reflect such changes.

While the authors of this publication have taken reasonable measures to verify references, content and calculations, it is possible that we may have inadvertently missed something. We would appreciate being informed of any inaccuracies so an errata sheet(s) may be issued and/or future editions of this publication may be corrected.

## ACKNOWLEDGEMENTS

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The authors would also like to acknowledge those individuals within EY who assisted us by creating certain content, tables and exhibits and performing editorial reviews. These individuals include John Dawson, Aleksandra Orlova, Cosimo Pantaleo, Doru Pantea, Anita Park, Kishen Patel, Yan Ren, Christopher Scudellari, Heidi Sullivan and Jay Votta. Particular credit goes to Adam Walter, who created the Risk-Based Capital calculations for Fictitious Insurance Company.

We would also like to thank Dave Heppen, member of the American Academy of Actuaries Committee on Property and Liability Financial Reporting, for reviewing the sections on the Statement of Actuarial Opinion and Actuarial Opinion Summary.

Finally, the authors of this text would like to express their deep gratitude to the actuarial professionals who have invested their time writing publications for the CAS examination process. Although this publication will serve as a consolidation of many of the papers formerly on the Exam 6 Syllabus, we acknowledge the significant contributions that those papers have made in advancing the actuarial profession, as well as the knowledge of the authors of the text.

In preparing *Financial Reporting through the Lens of a Property/Casualty Actuary*, we relied extensively on the following publications and resources:

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2011 Insurance Expense Exhibit.

A.M. Best Company, "Best's Key Rating Guide, Property/Casualty, United States & Canada," 2010.

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Feldblum, Sholom. "Computing Taxable Income for Property-Casualty Insurance Companies," CAS Exam Study Note, Arlington, VA: Casualty Actuarial Society, 2007, pp. 1-13, [http://www.casact.org/library/studynotes/7U\\_Feldblum2007.pdf](http://www.casact.org/library/studynotes/7U_Feldblum2007.pdf).

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National Association of Insurance Commissioners, *Property and Casualty Risk-Based Capital Forecasting and Instructions*, 2011.

Steenek, Lee R., "Commutation of Claims," CAS Exam Study Note, Arlington, VA: Casualty Actuarial Society, 1998, pp. 1-26,  
<http://www.casact.org/library/studynotes/steeneck6.pdf>.

Troxel, Terrie T., and George E. Bouchie, *Property-Liability Insurance Accounting and Finance*. 3rd ed. Malvern, PA: American Institute for Property and Liability Underwriters, 1990.

RESOURCES

Actuarial Standards Board, Canada, <http://www.actuaries.ca/ASB/index.cfm>.

Website of Office of the Superintendent of Financial Institutions, <http://www.osfi-bsif.gc.ca/>

- ▶ MCT effective January 1, 2012
- ▶ The Canadian Annual Statement Blank – P&C-1

Website of Canadian Institute of Chartered Accountants, <http://www.cica.ca/>

Canadian Institute of Actuaries, <http://www.actuaries.ca/>

- ▶ Dynamic Capital Adequacy Testing, Educational Note, November 2007

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## **PART I. INTRODUCTION**

### **CHAPTER 1. FINANCIAL REPORTING IN THE PROPERTY/CASUALTY INSURANCE INDUSTRY**

#### **IMPORTANCE AND OBJECTIVES OF FINANCIAL REPORTING**

Financial reporting serves as a means to communicate a company's financial results and health. Financial reporting is accomplished through a series of financial statements that consolidate a company's transactions and events into a summarized form under specified accounting rules. The purpose of these rules is to provide companies with a framework for measuring and recording transactions and the related revenue, expenses, assets and liabilities on a consistent basis.

Financial reports enable stakeholders and regulators to track financial performance, compare a company's performance to others and make informed financial decisions under a set of common rules. The stakeholders of an insurance company include policyholders, claimants, investors, directors of the board and company management. The regulators primarily include state governmental authorities, as we shall see below.

#### **OVERVIEW OF THE BASES OF FINANCIAL REPORTING (STATUTORY, GAAP, IFRS, TAX, CANADIAN) AND DIFFERENCES IN TERMS OF USE**

The accounting standards that govern financial reporting for insurance companies are numerous and complex. As we write this publication these standards are evolving, and this evolution is resulting in much debate among industry participants. Regardless, the intent of accounting standards is to promote a consistent framework for reporting insurance company transactions such that comparisons of financial performance and health of insurance companies can be made within the industry.

In the U.S., insurance companies are regulated by the individual state governments within which they are licensed to transact business. Within each state government there is an insurance division led by an insurance commissioner, director, superintendent or administrator (commissioner). The National Association of Insurance Commissioners (NAIC) serves as an organization of state regulators that facilitates and coordinates governance across the U.S. The NAIC itself is not a regulator; regulatory authority remains with the individual states. Therefore, model laws and regulations established by the NAIC are not law; individual states have the authority to decide whether to adopt NAIC model laws and regulations.



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Statutory Accounting Principles (SAP) is a framework of “accounting principles or practices prescribed or permitted by an insurer’s domiciliary state.”<sup>1</sup> Most insurance companies are licensed to transact business in more than one state. Having to follow the accounting rules and regulations of each state in which the company is licensed can be cumbersome and result in inconsistent reporting practices. To minimize the varying complexities of different rules and facilitate commonality in reporting practices, the NAIC adopted Codification of SAP effective January 1, 2001. Codification does not prevent individual state regulation but rather provides a common set of principles that individual states can follow to ease the regulatory burden on companies and promote consistency.

Statements of Statutory Accounting Principles (SSAPs) are published by the NAIC in its *Accounting Practices and Procedures Manual*. The manual includes more than 100 SSAPs, which serve as the basis for preparing and issuing statutory financial statements for insurance companies in the U.S. in accordance with, or in the absence of, specific statutes or regulations promulgated by individual states.

From a financial reporting perspective, regulatory oversight by state governments focuses on insurance company solvency to ensure that policyholders receive the protection they are entitled to and claimants receive the applicable compensation for damages incurred. SAP and associated monitoring tools are intended to provide regulators with early warning of deterioration in an insurance company’s financial condition. SAP tends to be conservative in order to provide that early warning. For example, certain illiquid assets are not admitted (excluded from the balance sheet) under SAP, despite having economic value.

Generally Accepted Accounting Principles (GAAP) provides another set of common rules under which publicly traded insurance companies and privately held companies report their financial transactions and operating results. GAAP does have certain specialized rules for insurance companies, but unlike SAP, this framework is not built on the principle of conservatism. Rather, the primary focus of GAAP is the presentation of a company’s financial results in a manner that more closely aligns with the company’s financial performance during the period. Historically, this has been accomplished by matching revenues and expenses. For example, under GAAP, expenses incurred by an insurance company in conjunction with successful acquisition of business are deferred to match the earning of associated premium. In contrast, under SAP, all costs associated with policy acquisition are expensed at the time they are incurred by the insurance company.

The Securities and Exchange Commission (SEC) is the authoritative body for establishing accounting and reporting standards for publicly traded companies in the U.S., including publicly traded insurance companies. As highlighted on the SEC’s website, “The mission of the U.S. Securities and Exchange Commission is to protect investors, maintain fair, orderly and

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<sup>1</sup> NAIC, *Accounting Practices and Procedures Manual*, Vol I, March 2009, page P-2.

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efficient markets, and facilitate capital formation.”<sup>2</sup> The SEC has assigned the Financial Accounting Standards Board (FASB) with the responsibility of developing and establishing GAAP, with the SEC operating in an overall monitoring role. The FASB is the private organization providing authoritative accounting guidance for nongovernmental entities.

The Governmental Accounting Standards Board (GASB) is the private organization providing authoritative accounting guidance for the public sector. According to the GASB’s website, the GASB “is the independent organization that establishes and improves standards of accounting and financial reporting for U.S. state and local governments ... the official source of generally accepted accounting principles (GAAP) for state and local governments.”<sup>3</sup> Although this publication does not discuss accounting for governmental entities, we note that the accounting for such entities differs from the accounting for insurance companies. Knowledge of the GASB as it relates to insurance-related activities of governmental entities is important for the property/casualty actuary who performs actuarial services for the public sector.

The Internal Revenue Service (IRS) is the U.S. government agency responsible for enforcing tax laws and collecting taxes. Every business paying taxes in the U.S. must compute taxable income based on the tax laws passed by Congress and the related regulations issued by the IRS. For insurance companies, the starting point for taxable income is income determined under SAP. SAP income is adjusted based on the provisions of the various tax laws and regulations. While SAP is generally conservative, tax-basis accounting may be more or less conservative depending on how political and other factors affect tax legislation. While some adjustments result in a decrease to taxable income (e.g., tax-exempt income), adjustments specific to the insurance industry tend to focus on the acceleration of income for tax purposes (e.g., the discounting of loss reserves and the reduction of unearned premiums).

The Canadian Institute of Chartered Accountants is the body in Canada that defines Canadian Generally Accepted Accounting Principles (CGAAP). At one time, SAP applied to the preparation of the Annual Return for Canadian-domiciled insurers. However, this is no longer the case, and the financial statements included in the Annual Return are prepared in accordance with CGAAP.

Under CGAAP, policy liabilities can be recorded in accordance with accepted actuarial practice in Canada, which means that the recorded liabilities are discounted to reflect the time value of money and include a provision for adverse deviation.

International Financial Reporting Standards (IFRS) provide an alternative accounting framework used by many countries outside the U.S. IFRS are established by the International

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<sup>2</sup> U.S. SEC, *The Investor’s Advocate: How the SEC Protects Investors, Maintains Market Integrity, and Facilitates Capital Formation*, <http://www.sec.gov/about/whatwedo.shtml>, July 30, 2012.

<sup>3</sup> GASB, *Facts About GASB*, <http://www.gasb.org/cs/BlobServer?blobcol=urldata&blobtable=MungoBlobs&blobkey=id&blobwhere=1175824006278&blobheader=application%2Fpdf>, 2012.

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Accounting Standards Board (IASB). There is pressure for the U.S. to replace GAAP with IFRS for purposes of creating a consistent accounting framework across the globe in response to the growth of the global economy. However, rather than a direct conversion to IFRS from U.S. GAAP, the current belief is that there will be a convergence process through joint projects of the IASB and FASB. It is expected that new standards would be developed and/or there would be an endorsement process whereby the FASB would evaluate and accept, reject or modify standards produced by the IASB.

IFRS already affect companies in the U.S. that currently have international subsidiaries or are subsidiaries of IFRS filers. At the time of the writing of this publication, IFRS 4, which pertains to the recognition and measurement of insurance contracts, permits insurance companies to report under the current accounting rules of their local country with slight modifications. An example of one such modification is requiring companies to establish premium deficiency reserves, as needed, regardless of local requirements. Given the current lack of a detailed measurement model under IFRS for insurance contracts, one of the key joint projects of the IASB and the FASB is development of a new accounting standard for insurance contracts. We will discuss the pending proposals of the IASB and FASB and how they differ from the measurement of insurance liabilities today.

### CHAPTER 2. RELEVANCE OF FINANCIAL REPORTING TO THE ACTUARY

#### IMPORTANCE AND OBJECTIVES OF FINANCIAL REPORTING

Actuaries estimate the financial impact of insurable events. As such, actuaries need to understand the accounting rules under which the financial impact is being reported. Consider the actuary providing an estimate of an insurance company's unpaid claims for purposes of comparison to recorded loss reserves on the company's balance sheet. If the balance sheet is prepared under Statutory Accounting Principles (SAP), then the loss reserves are recorded on a net of reinsurance basis. If the company's financial statements are prepared under Generally Accepted Accounting Principles (GAAP), then the loss reserves are recorded gross of reinsurance. For comparison purposes, the actuarial estimate of unpaid claims would need to be prepared on a net basis for SAP and gross basis for GAAP. The actuary might also provide an estimate of unpaid claims ceded to the company's reinsurers, for comparison to the reinsurance recoverable amount recorded as an asset on a GAAP basis.

Actuaries providing estimates of unpaid claims on a SAP basis must also be aware of state regulations under which the company is recording its loss reserves. For example, while the National Association of Insurance Commissioners *Accounting Practices and Procedures Manual* permits companies to discount workers' compensation reserves on a tabular basis,<sup>4</sup> certain states have varying requirements with respect to whether and how the tabular discount is applied.<sup>5</sup> For instance, as of December 31, 2011, the state of Montana permitted tabular discounting but required use of a specific interest rate in the calculation (4%).<sup>6</sup>

To take this one step further, actuaries issuing Statements of Actuarial Opinion should include a statement within the opinion stating that the company's recorded loss and loss adjustment expense reserves "meet the requirements of the insurance laws of (state of domicile)."<sup>7</sup> The opining actuary is therefore required to read the state regulations and confirm that the recorded reserves meet the state laws.

The accounting convention is not only important to the reserving actuary for an insurance company, but also to actuaries who perform other jobs, including but not limited to the following:

- ▶ Working with regulators to monitor the financial health of insurance companies
- ▶ Pricing and designing insurance products, including development of profit margins

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<sup>4</sup> According to page C-3 of the American Academy of Actuaries, *2011 Property/Casualty Loss Reserve Law Manual*, tabular reserves are defined as "indemnity reserves that are calculated using discounts determined with reference to actuarial tables that incorporate interest and contingencies such as mortality, remarriage, inflation, or recovery from disability applied to a reasonably determinable payment stream. This definition shall not include medical loss reserves or any loss adjustment expense reserves."

<sup>5</sup> American Academy of Actuaries, *Property/Casualty Loss Reserve Law Manual*, 2011, page A-6.

<sup>6</sup> *Ibid.*, page 452.

<sup>7</sup> NAIC, *Annual Statement Instructions Property/Casualty*, 2011, page 12.

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- ▶ Determining capital requirements to support the various risks of an insurer
- ▶ Evaluating risk transfer of reinsurance contracts
- ▶ Assessing reserve adequacy for non-insurance entities, such as organizations that self-insure or retain a portion of their property/casualty insurance exposures
- ▶ Preparing tax returns
- ▶ Appraising and valuing insurance companies in merger and acquisitions

For each of the above, the result of the work performed will differ depending on the accounting framework used, illustrating the need for actuaries in different disciplines to be knowledgeable about the various accounting and financial reporting frameworks.

## CHAPTER 3. OVERVIEW OF THIS PUBLICATION

### ROADMAP

This publication begins with an overview of basic accounting concepts (*Part II. Overview of Basic Accounting Concepts*) and then delves into the fundamental aspects of the statutory Annual Statement and certain supplemental filings, that provide the means for financial reporting in the U.S. under Statutory Accounting Principles (SAP) (*Part III. SAP in the U.S.: Fundamental Aspects of the Annual Statement* and *Part IV. Statutory Filings to Accompany the Annual Statement*). Measurement tools used to evaluate the financial health of a property/casualty insurance company are discussed in *Part V. Financial Health of Property/Casualty Insurance Companies in the U.S.* These tools are particularly important to regulators in monitoring solvency for the purpose of protecting the stakeholders of an insurance company. We then investigate differences between statutory reporting and other financial reporting frameworks in the U.S., namely Generally Accepted Accounting Principles, International Financial Reporting Standards and tax accounting in *Part VI. Differences from Statutory to other Financial/Regulatory Reporting Frameworks in the U.S.* We move on to Canada to provide a discussion of Canadian accounting principles (*Part VII. Canadian-Specific Reporting*). The publication closes with a discussion of the future of SAP and evolution of new accounting frameworks, differentiating between what is “real” and what is only in the discussion phase at the time of publication of this text (*Part VIII. The Future of SAP*).

### ANNUAL STATEMENTS REFERENCED THROUGHOUT THE PUBLICATION

The Casualty Actuarial Society (CAS) Syllabus Committee and authors of this publication agreed that it would be helpful for students studying for the CAS exams to be able to rely as much as possible on one insurance company throughout the publication to illustrate the major concepts. For the U.S. examples, the CAS Syllabus Committee has assisted us in creating excerpts of a 2011 Annual Statement for a fictional insurance company named Fictitious Insurance Company (Fictitious). The excerpts of this statement are contained in Appendix I of this publication.

We have relied on the Annual Statement excerpts for Fictitious for the more detailed examples and calculations. We also referenced the National Association of Insurance Commissioners *2011 Property and Casualty Annual Statement Blank*, which was also included on the CAS Exam 6 U.S. Syllabus at the time this publication was written. We recommend that each of these statements be viewed side by side with this publication when reading and working through examples and following the flow of exhibits, notes, interrogatories, and schedules within the Annual Statement. We also recommend that the reader review the Annual Statement for a real company for the current year because the aforementioned statements were based on 2011.

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For Canada, we have used the 2011 aggregate experience of Canadian insurers as published on the website of the Office of the Superintendent of Financial Institutions (OSFI). As with the U.S. chapters, we recommend that the student have this information by his or her side when reading the Canadian chapters of this publication.

We acknowledge that there may be differences between exhibits within an Annual Statement; such differences are due to rounding.

#### BACKGROUND ON FICTITIOUS INSURANCE COMPANY

The authors of this publication felt it important to provide some background information on Fictitious and describe the landscape in which Fictitious was operating during the time period covered by its Annual Statement filing (December 31, 2011). This will provide additional context for students when reading and interpreting the figures contained therein.

Fictitious is a publicly held property/casualty insurance company in the U.S. As displayed in Table 1, approximately one-third of the company's writings in 2011 were in personal lines markets, with the remainder in commercial markets. Homeowners multiple peril (homeowners) was the largest single line written in 2011 on a net of reinsurance basis (17% of net written premium), followed by workers' compensation (15% of net written premium) and other liability – occurrence (13% of net written premium). The company wrote business in all 50 states in the U.S. and was therefore exposed to natural catastrophes and weather-related events in 2011.

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TABLE 1

<b>Fictitious Insurance Company</b>				
<b>Distribution of 2011 Written Premium (WP) by Line of Business (USD in 000s)</b>				
<u>Line of Business</u>	<u>Direct WP \$</u>	<u>Direct WP %</u>	<u>Net WP \$</u>	<u>Net WP%</u>
<b>Personal lines</b>				
Homeowners multiple peril	4,646	16%	4,555	17%
Private passenger auto liability	2,804	10%	2,804	10%
Private passenger auto physical damage	1,661	6%	1,665	6%
Subtotal, personal lines	9,111	32%	9,024	34%
<b>Commercial lines</b>				
Fire	3,254	11%	2,484	9%
Commercial multiple peril (non-liability portion)	3,243	11%	3,032	11%
Commercial multiple peril (liability portion)	1,760	6%	1,645	6%
Workers' compensation	4,394	15%	4,022	15%
Other liability – occurrence	3,749	13%	3,502	13%
Commercial auto liability	2,334	8%	2,250	8%
Commercial auto physical damage	651	2%	647	2%
Fidelity	138	0%	146	1%
Subtotal, commercial lines	19,523	68%	17,728	66%
<b>Total</b>	<b>28,634</b>	<b>100%</b>	<b>26,752</b>	<b>100%</b>

In terms of the frequency of catastrophe losses incurred by insurance companies worldwide, 2011 was an unprecedented year. Catastrophes ranged from tornadoes in the U.S. to tsunamis and flooding overseas. According to an article by *National Underwriter* in early 2012, "Underwriting losses are expected to total approximately \$33.9 billion for 2011, the second consecutive year of underwriting losses and the third-largest annual underwriting loss ever behind 2001 (\$56.4 billion) and 2002 (\$34.3 billion)."<sup>8</sup> The *National Underwriter* article goes on to say, "The industry's combined ratio climbed 6.5 points to 107.5 for 2011. Catastrophe-related losses accounted for 10.1 points, compared to 4.6 points in 2010."<sup>9</sup>

As we shall see through examination of the company's 2011 Annual Statement, Fictitious did not escape the financial impact of the natural catastrophes in the U.S. During 2011, Fictitious experienced a net loss from underwriting of \$2 million, largely due to events including wildfires in Texas, New Mexico and Arizona; tornadoes in the Midwest and Southeast; the Halloween Nor'easter; and Tropical Storm Lee and Hurricane Irene's impact on the East Coast. The company's net loss and loss adjustment expense (LAE) ratio for accident year 2011 was about 10 percentage points higher than that for accident year 2010.

<sup>8</sup> Gusman, P. "2011 Cats Lead to Largest U.S. P&C Underwriting Loss Since 2002," *National Underwriter PropertyCasualty* 360, February 6, 2012.

<sup>9</sup> Ibid.



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When reading this publication and reviewing the 2011 Annual Statement for Fictitious Insurance Company, note that the U.S. insurance market, including Fictitious, continued to feel the effects of the financial crisis of 2008. Despite a soft insurance market,<sup>10</sup> insurance companies experienced declines in premium volume due to affordability and other economic issues.<sup>11</sup> They also experienced declines in investment income due to instability in the financial markets. The continued soft market conditions also contributed to the increasing loss and LAE ratio in 2011.

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<sup>10</sup> A soft market is one where insurance prices are low and therefore insurance is cheaper for the consumer. The insurance industry tends to observe increasing loss ratios in a soft market because the consumer is paying less in premiums for the same level of insurance protection.

<sup>11</sup> For example, workers' compensation premium, which is determined based on a rate multiplied by payroll, declined over the period due to decreases in payroll levels as a result of the economic environment.

## **PART II. OVERVIEW OF BASIC ACCOUNTING CONCEPTS**

### **INTRODUCTION TO PART II**

Part II of this publication will provide a detailed discussion on the construction, use and interpretation of an insurance company's financial statements and other financial information. Before beginning that detailed discussion, we will introduce two important accounting topics: primary financial statements and key accounting concepts. Both are recurring topics throughout this publication, and a basic understanding will be helpful to students.

### CHAPTER 4. PRIMARY FINANCIAL STATEMENTS

#### PRIMARY FINANCIAL STATEMENTS

Although there are numerous accounting frameworks, they generally rely on a few primary financial statements. Of these, the two most commonly referenced are the balance sheet and the income statement. Other primary financial statements include the statement of capital and surplus (or equity) and the statement of cash flow. The financial statements are accompanied by subsequent pages of notes, which provide additional information that helps explain balances within the financial statements.

#### BALANCE SHEET

The balance sheet presents all of a company's assets and liabilities as of a specific point in time. Assets are defined as resources obtained or controlled by a company as a result of past events that have a probable future economic benefit to the company. Liabilities are probable sacrifices of economic benefits arising from present obligations of a company to transfer assets or provide services to other entities in the future as a result of past events. The relationship between the assets and the liabilities of a company is important, because it is a measure of the company's ability to use its assets to fully satisfy its liabilities. The difference between assets and liabilities is generally referred to as net worth (or equity); in the case of an insurance company reporting under Statutory Accounting Principles (SAP), this difference is referred to as statutory surplus (or policyholders' surplus).

One unique aspect of insurance companies' balance sheets is the inherent uncertainty associated with the estimation of the liability for unpaid claims and claim adjustment expenses (loss reserves). While a certain amount of estimation is involved in other industries' accounting, the more significant estimates are generally with respect to asset valuation and collectibility and pale in comparison to the uncertainties involved in estimating loss reserves. Actuaries typically have an important role in valuing insurance company liabilities and are therefore critical to the accurate preparation of the balance sheet.

#### INCOME STATEMENT

While the balance sheet presents the financial balances of a company at a point in time, the income statement reveals a company's financial results during a specific time period. The general types of accounts that are used as a means to measure these results are revenue and expenses. Revenues are inflows or enhancements of assets or settlement of liabilities (or a combination of both) from delivering goods or services during the specific time period. Expenses are outflows or other use of assets or incurrence of liabilities (or a combination of both) from delivering or producing the goods and services that were provided during the specific time period. The difference between the amount of the revenues and expenses during the period is referred to as net income if it is positive or net loss if it is negative.

## Part II. Overview of Basic Accounting Concepts

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The nature of the service provided by insurance companies, which is a promise to pay claims in the future if some specific criteria are met, creates unique accounting challenges. Insurance accounting standards address how to earn the premiums insurance companies are paid and how to measure and when to record claim costs resulting from the insurance coverage. Again, actuaries usually play a significant role in the estimation of the amount and timing of these future payments and therefore are critical to the accurate preparation of the income statement. Another important source of revenue for insurance companies is investment income, which will be discussed in *Chapter 8. The Statutory Income Statement: Income and Changes to Surplus*.

### CAPITAL AND SURPLUS

The statement of capital and surplus reflects certain changes in surplus that are not recorded in the income statement and reconciles the beginning surplus to the ending surplus for the reporting period. This statement is similar for insurance companies and for other types of companies; however, there are several items within the statement of capital and surplus, such as those related to nonadmitted assets and the provision for reinsurance, that are unique to insurers. These items and others will be discussed in *Chapter 7. Statutory Balance Sheet: A Measure of Solvency* and *Chapter 8. The Statutory Income Statement: Income and Changes to Surplus*.

### CASH FLOW

The cash flow statement receives less attention but is also important. This financial statement is necessary because the timing of the receipt or payment of cash for a revenue or expense does not necessarily coincide with the recognition of that revenue or expense from an income statement perspective. In other words, even if the cash payment is received sometime before or sometime after the good or service is provided, the associated revenue is generally recognized at the time the good or service is provided. The cash flow statement presents all operations strictly from a cash perspective.

In other industries, companies face liquidity issues when they cannot collect revenue in cash on a timely basis, and this type of liquidity issue would be made evident by the statement of cash flows. An example of this would be a manufacturing company that sold products on credit but was not able to collect the cash on a timely basis to pay their expenses. For insurance companies, this specific type of liquidity issue is less likely to occur due to the collection of premiums at the onset of the policy and the subsequent payment of losses. This difference in the order of cash receipts and disbursements somewhat diminishes the importance of cash flow statements for insurance companies. Further, actuaries are not generally involved in or necessary for the preparation of the cash flow statement, so this financial statement is not covered in detail in this publication.

## NOTES TO FINANCIAL STATEMENTS

In addition to the four primary financial statements already discussed, another important element is the notes to financial statements. The notes include quantitative and qualitative disclosures regarding the significant accounts presented in the financial statements. This includes matters that are relevant or may be relevant to the users of the financial statements. For instance, the notes will typically describe the basis of accounting used in the preparation of the financial statements, as well as any important details on specific aspects of the financial statements that are based on estimates or subject to uncertainty. We will discuss several of the footnotes to the financial statements that are of specific importance to actuaries in *Chapter 10. Notes to Financial Statements*.

## CHAPTER 5. KEY ACCOUNTING CONCEPTS

Throughout each major accounting framework, there are several common key concepts. Understanding these key concepts will be beneficial to anyone who is involved in using or preparing financial statements because it will allow them to appreciate the purposes of and the differences between each framework. A few of the most important and relevant concepts are below.

- ▶ Liquidation vs. going concern: When preparing financial statements, it is possible to view the company as either an ongoing business (going concern) or as a run-off of the current assets and liabilities (liquidation). Either perspective may be appropriate depending on the user and purpose of the financial statements. For instance, investors would generally be most interested in the value of a business as a going concern, whereas regulators may think in terms of a liquidation perspective, given that they are primarily interested in satisfying policyholder obligations.
- ▶ Fair value vs. historical cost: There are often multiple possible approaches to valuing a given asset or liability. The choice of approach is of particular importance when the value of that asset or liability is uncertain. Recording an asset or liability at fair value means recording it at a value that it would be bought or sold for in the open market, while recording at historical cost means valuing it at the original purchase price less depreciation. In cases where the value of an asset or liability is uncertain, there is a trade-off between the reliability of the historical cost method (in that it is objectively verifiable) and accuracy of the fair value approach (in that it is more consistent with the actual market value).
- ▶ Principle-based vs. rule-based: Each aspect of any accounting framework is generally guided by either a principle or a rule. A principle describes a general accounting approach that must be interpreted and applied, while a rule provides specific accounting guidance on how something should be done. There is a trade-off because the rules-based guidance may be easier to understand and to audit, but a principles-based approach is generally more adaptable to changes in the business environment.

## **PART III. SAP IN THE U.S.: FUNDAMENTAL ASPECTS OF THE ANNUAL STATEMENT**

### **INTRODUCTION TO PART III**

In the U.S., property/casualty insurance companies report their financial results to state insurance regulators in what is called the Annual Statement. For those who have never used or seen an Annual Statement, it is an 8.5" x 14" book. The Property/Casualty Annual Statement is identified by its yellow cover, while the Life Annual Statement's cover is blue (known as the yellow book and blue book, respectively). Both types of Annual Statements are publicly available documents.

The Annual Statement is developed and maintained by the National Association of Insurance Commissioners and is often referred to as "the Blank." The Blank is the template that insurance companies use to report under Statutory Accounting Principles (SAP), and is uniformly adopted by all states. This allows insurance companies licensed in multiple states to prepare one Annual Statement for filing with all states. The Annual Statement is accompanied by NAIC instructions that are generally adopted by all states, though there are instances of specific differences and exceptions.

The first page in the Annual Statement is the Jurat page, which provides basic information about the reporting entity, such as name, NAIC code, address, name of preparer and title, and officers of the reporting entity. The notarized signatures of officers of the reporting entity are included on this page, attesting to the accuracy of the information contained therein.

Following the Jurat page are the statutory financial statements. The statutory Annual Statement contains other exhibits and schedules that provide further insight into the insurance company's statutory financial statements and historical experience. These include General Interrogatories; Five-Year Historical Data; and Schedules A, B, BA, D, DA, F, P, T and Y.

In *Part III. SAP in the U.S.: Fundamental Aspects of the Annual Statement*, we will walk through the Property/Casualty Annual Statement, beginning with the financial statements, and discuss the related accounting requirements. We provide examples to illustrate the uses of the Annual Statement and how certain amounts are calculated and compiled.

## CHAPTER 6. INTRODUCTION TO STATUTORY FINANCIAL STATEMENTS

### INTRODUCTION

This chapter focuses on Statutory Accounting Principles (SAP) and specifically discusses the fundamental aspects of the Annual Statement, including the financial statements themselves (the balance sheet and income statement, for example), as well as the other exhibits and filings that accompany the Annual Statement (such as various schedules, the Insurance Expense Exhibit and the Risk-Based Capital calculation). *Part V. Financial Health of Property/Casualty Insurance Companies in the U.S* will discuss how this information can be used to assess the financial health of an insurance company and *Part VI. Differences from Statutory to other Financial/Regulatory Reporting Frameworks in the U.S* will focus on differences between SAP and the other financial and relevant regulatory reporting regimes.

### SAP AND THE NAIC

The National Association of Insurance Commissioners (NAIC) operates through various committees that comprise state insurance commissioners and their staff. Through these committees, the NAIC regularly updates SAP and creates model insurance laws and regulations that individual states may elect to adopt. While this generally leads to a good deal of uniformity in insurance regulation, there are still instances of differences between states. For example, individual states have the ability to permit accounting practices that differ from NAIC SAP (“permitted practices”). And, model laws and regulations are not always enacted by all states exactly as adopted by the NAIC.

It is worth noting that the NAIC may revise the Annual Statement each year, and these changes are described on the NAIC website. Some of the examples and exhibits provided in this section of the publication are based in part on the information provided in the 2011 industry Annual Statements.<sup>12</sup>

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<sup>12</sup> Accessed via SNL.com by SNL Financial LC.



## CHAPTER 7. STATUTORY BALANCE SHEET: A MEASURE OF SOLVENCY

As previously noted, the primary focus of statutory accounting is to highlight potential solvency issues (an insurance company's capability to meet its obligations to its policyholders and creditors). Consequently, the most important aspect of an insurance company's financial statements to an insurance regulator is the strength of its balance sheet (i.e., the extent to which its assets are sufficient to meet all liabilities).

### RELEVANCE TO ACTUARIES

Solvency and the balance sheet are relevant to the actuary for two primary reasons.

First, actuaries traditionally have some responsibility for the loss and loss adjustment expense (LAE) reserves, which represent the majority of the liabilities for property/casualty insurance companies. Actuaries may either participate directly in the reserve-setting process, or they may assess the reasonableness of the reserves established by company management. Actuaries involved in either of these functions are focused on the liabilities for losses and LAE on the Liabilities, Surplus and Other Funds page of the Annual Statement (page 3).

Second, actuaries often have a role in determining or assessing the amount of capital that an insurance company requires to support the risks that it has taken through its business operations. In the context of statutory accounting, this would be based on an actuary's understanding of the Risk-Based Capital (RBC) framework to calculate the required capital at a given point in time (see *Chapter 19. Risk-Based Capital*). More broadly speaking, actuaries may evaluate the surplus needs on other bases, including on an economic basis, which is guided by the insurer meeting some economically defined criteria for solvency. In both of these cases, an actuary who is evaluating an insurance company's capital will need to be familiar with the assets and the liabilities on the balance sheet (pages 2 and 3), as well as the risk characteristics of each of those items.

This chapter will provide an overview of the composition of the two main categories in the statutory balance sheet:

- ▶ Assets (page 2)
- ▶ Liabilities, Surplus and Other Funds (page 3)

### ASSETS<sup>13</sup>

Assets can be broadly defined as a property, right or claim arising from past events that has future value. From an individual perspective, we are all accustomed to the concept of owning

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<sup>13</sup> In general, this section aligns with Chapter 2 (Assets) of *Property Casualty Insurance Accounting* by the Insurance Accounting and Systems Association (IASA). References to other sections in IASA that were previously on the CAS Syllabus will be included throughout. Readers seeking additional detail may consult with IASA on these topics or other topics.

# FINANCIAL REPORTING THROUGH THE LENS OF A PROPERTY/CASUALTY ACTUARY

## Part III. SAP in the U.S.: Fundamental Aspects of the Annual Statement

financial assets, such as stocks and bonds, and owning real assets, such as a home or vehicle. Insurance companies own various assets in the same way that an individual does, and those assets are summarized on page 2 of the Annual Statement Blank (the balance sheet). Some of these assets are consistent with assets of non-insurance entities, and some are specific to insurance companies.

Table 2 summarizes the major assets held by the U.S. property casualty insurance industry as of December 31, 2011.<sup>14</sup> The first column indicates the numerical label for each item, as presented on page 2 of the Annual Statement. Only the material line items are shown in this summary.

TABLE 2<sup>15</sup>

Assets: Total U.S. P&C Insurance Industry SNL Briefing Book – U.S. 2011 Statutory Financials, NAIC Format (USD in OOs)						
Line	Description	Assets	% of Total	Nonadmitted Assets	Net Admitted Assets	% of Total
1.	Bonds	902,605,065	55%	116,731	902,488,334	57%
2.1	Preferred stocks	11,685,355	1%	66,292	11,619,064	1%
2.2	Common stocks	232,556,368	14%	3,386,260	229,170,621	14%
4.	Real estate	10,413,352	1%	42,809	10,370,543	1%
5.	Cash, cash equivalents and short-term investment	72,609,565	4%	24,662	72,584,902	5%
8.	Other invested assets	122,592,988	7%	5,357,863	117,272,227	7%
<b>12.</b>	<b>Subtotal, cash and invested assets</b>	<b>1,352,462,693</b>	<b>82%</b>	<b>8,994,617</b>	<b>1,343,505,691</b>	<b>84%</b>
15.1	Uncollected premiums and agents balances	45,078,729	3%	2,434,863	42,643,866	3%
15.2	Deferred premiums and agents balances	79,570,809	5%	213,418	79,357,391	5%
16.1	Amounts recoverable from reinsurers	29,954,875	2%	12,006	29,942,869	2%
18.2	Net deferred tax asset	47,756,959	3%	18,622,680	29,134,278	2%
23.	Receivables from parent, subsidiaries and affiliates	11,821,940	1%	583,221	11,238,720	1%
25.	Aggregate write-ins	34,218,694	2%	16,917,907	17,300,786	1%
	Other non-invested assets	44,439,228	3%	6,427,659	38,021,770	2%
	<b>Subtotal, non-invested assets</b>	<b>292,841,233</b>	<b>18%</b>	<b>45,211,754</b>	<b>247,639,680</b>	<b>16%</b>
<b>28.</b>	<b>Total</b>	<b>1,645,303,926</b>	<b>100%</b>	<b>54,206,371</b>	<b>1,591,145,370</b>	<b>100%</b>

<sup>14</sup> Accessed via SNL.com by SNL Financial LC.

<sup>15</sup> We acknowledge that assets minus nonadmitted assets should equal net admitted assets. However, there are certain line items in this table where this equation does not hold. We have taken the data as provided from SNL Financial LC without modification.

### Part III. SAP in the U.S.: Fundamental Aspects of the Annual Statement

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As shown in Table 2, the U.S. property/casualty industry held \$1.6 trillion dollars of assets as of December 31, 2011. The statutory balance sheet makes two broad distinctions regarding assets held by insurers:

- ▶ Cash and invested assets vs. non-invested assets: Assets are categorized by this criterion to identify the proportion of an insurer's asset that is readily convertible to cash. The "cash and invested assets" are assets that could be readily sold in near term to meet the insurer's liabilities, while the "non-invested assets" are less liquid. This distinction is in line with the emphasis that statutory accounting places on solvency. Rows 1 through 12 on the Assets page include cash and invested assets, while rows 13 through 25 include non-invested assets.
- ▶ Admitted vs. nonadmitted assets: As shown in Table 2, there are separate columns that depict the amount of assets that are nonadmitted. These nonadmitted assets, which represent about 3% of total assets, are not recognized by state insurance departments in evaluating the solvency of an insurance company for statutory accounting purposes. The rationale for this exclusion is that those nonadmitted assets are not readily convertible for use to meet an insurer's liabilities now *or in the future* and thus would not be reasonable to consider in evaluating a company's solvency. In many cases nonadmitted assets are determined by formulae established by the National Association of Insurance Commissioners (NAIC). As shown in Table 2, there are nonadmitted assets in the cash and invested assets categories and the non-invested assets categories, though the proportion of nonadmitted assets is much lower for cash and invested assets. Several common examples of nonadmitted assets will be discussed in the description of the specific asset classes below (such as certain uncollected and deferred premiums and agents' balances and net deferred tax assets), which will help to demonstrate this point.

Those distinctions aside, it is clear from Table 2 that the largest asset class for the property casualty industry in 2011 was bonds, which represented 57% of the industry's total assets, followed by common stocks, which represented 14% of the industry's total assets. These statistics have remained relatively consistent over the years. While most actuaries will not need to have a deep understanding of each of the asset classes on the balance sheet, it is worthwhile to know a few relevant details on the largest classes to have a fundamental understanding of the balance sheet.

#### *Bonds (Line 1)*

Bonds are securities that pay one or more future interest payments according to a fixed schedule. The face value of a bond refers to the amount that is to be paid in the final single payment at the maturity of a bond. When an insurance company purchases a bond, the value of that bond is recorded as the actual cost, including brokerage and other fees. This purchase price may be more or less than the face value of the bond.

### Part III. SAP in the U.S.: Fundamental Aspects of the Annual Statement

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To the extent that the purchase price is higher (or lower) than the face value of the bond, a bond premium (or discount) is recorded as a part of the recorded amount. Over the life of the bond, that bond premium or bond discount will be amortized according to a constant yield approach. The reason for this amortization is that when the bond ultimately matures, the amortized value will be equal to the face value, eliminating a lump sum gain or loss at the maturity of the bond.

After the purchase, statutory accounting indicates that bonds be recorded at one of the following bases:

- ▶ Amortized cost
- ▶ The lower of amortized cost and fair value

The rating the NAIC's Security Valuation Office (SVO) assigns to the bond determines the applicability of the two bases above. The six possible ratings are NAIC 1 through NAIC 6, which range from the "highest quality" bonds to "bonds in or near default," respectively. Bonds with the two highest ratings (NAIC 1 and 2) are carried at amortized cost, while bonds with ratings NAIC 3 ("medium quality") and below are carried at the lower of amortized cost or fair value. The amount at which a bond is recorded, following these criteria, is referred to as the adjusted carrying value.

Schedule D of the Annual Statement provides details on the specific bonds that are held by an insurance company, including the following:

- ▶ Type of issuer (e.g., federal, state or corporate)
- ▶ Maturity (e.g., one year, one year to five years)
- ▶ NAIC Class (Class 1 through Class 6)

Based on the industry aggregate Annual Statement as of December 31, 2011, insurance companies' bond portfolios were made up of approximately one-third government-sponsored entity bonds; one-third corporate bonds; and one-third federal, state and local government bonds. By maturity, about half of bonds held were 5 years to maturity or less, with the majority of the remainder having maturities between 5 and 10 years. Furthermore, approximately 86% of bonds held by insurers were in the NAIC Class 1.

Given that bonds are the largest asset class for property casualty insurers, an actuary or other user of the financial statements who is reviewing the financial health of an insurance company may benefit from reviewing the detail in Schedule D.

#### *Stocks (Lines 2.1 and 2.2)*

As shown in Table 2, approximately 15% of insurers' assets were in common or preferred stock. Stocks are securities that represent an ownership share in a company. Those ownership shares are subordinate to bondholders and creditors. Common stock ownership

### Part III. SAP in the U.S.: Fundamental Aspects of the Annual Statement

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confers voting privileges and may pay a dividend, though the dividend is not guaranteed. Preferred stock does not confer voting privileges but usually provides a guarantee on dividends to be paid, and usually has preference to common stock in the event of liquidation.

At purchase, stocks are valued at cost plus any brokerage or related fees. After purchase, publicly traded stocks are recorded at fair value, which is based on the market price that is readily available to the public and which can generally be determined from external pricing services. If a stock is not publicly traded or a price is not available, the NAIC's SVO will determine a fair value. Preferred stocks are assigned similar NAIC ratings as bonds with six rating levels, which dictate whether they are valued at amortized cost or fair value based on the NAIC rating.

Because stocks represent a relative minority of the assets held by property casualty insurance companies, and due to the volatility and uncertainty in the value of stocks, an actuary or other user of the financial statements who is evaluating the financial health of an insurance company should take note and investigate further if an insurance company has a relatively larger portion of their assets in stocks, compared to the overall industry.

#### *Real Estate (Line 4)*

Three classes of real estate are presented separately on the Assets page of the Annual Statement:

- ▶ Properties occupied by the company
- ▶ Properties held for the production of income
- ▶ Properties held for sale

These classes are relatively self-explanatory, though one detail to be aware of is that if a company occupies less than 50% of a property, it is classified as either a property held for production of income or a property held for sale (as opposed to a property occupied by the company). Properties in the first two categories are recorded at depreciated cost, while properties that are held for sale are recorded at the lower of depreciated cost and fair value.

Details of a company's real estate transactions and holdings are presented in Schedule A of the Annual Statement.

#### *Cash, Cash Equivalents and Short-Term Investments (Line 5)*

This asset class generally includes assets that are immediately convertible to cash. As of December 31, 2011, these assets represented nearly 5% of insurers' total assets, and approximately two-thirds of these assets were in short-term investments.

Cash equivalents must have an original maturity of less than three months, and short-term investments must have an original maturity of one year or less. In the Annual Statement, details on cash are provided in Schedule E-1, cash equivalents are described in Schedule E-2,

### Part III. SAP in the U.S.: Fundamental Aspects of the Annual Statement

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and short-term investments are found in Schedule DA. Further, a reconciliation is made in the Cash Flow statement showing cash, cash equivalents and short-term investments at the beginning of the year, adjusted for net cash (inflows minus outflows from operations, investments, financing and miscellaneous sources) during the year. The result is the amount of cash, cash equivalents and short-term investments at the end of the year, which is shown in line 5 of the Assets page.

#### *Uncollected and Deferred Premiums and Agents' Balances (Lines 15.1 and 15.2)*

These two asset classes represent premiums that have been written, but have not yet been received. Although the names of the asset classes refer to "agents' balances" (or balances due from policies sold by insurance agents, as intermediaries between the insurance company and the policyholder), both asset classes may also include uncollected premiums for policies sold directly to policyholders.

Uncollected premiums and agents' balances include premiums due on or before the financial statement date, while deferred premiums and agents' balances include premiums due after the financial statement date. Both classes include installment premiums that meet those timing criteria as well.

Premiums that are more than 90 days past due from an agent or a direct policyholder are considered nonadmitted assets. Furthermore, an insurer may determine that agents' balances that are 90 days or more overdue are unlikely to be collected (or "impaired"). In this event the insurer should establish an allowance for bad debts.

These two classes together represented nearly 10% of the industry assets as of December 31, 2011, highlighting that collectibility of these assets is relevant to a company's financial health and a measure of the efficiency of its collections' department. An actuary or other user of the financial statements who is reviewing the financial health of an insurer may consider the overall magnitude of a company's uncollected and deferred agents' balances and the percentage of agents' balances that are nonadmitted. Either one of these metrics could be benchmarked to the overall industry; a company having a significantly higher portion of its assets in these two classes relative to the industry would warrant further analysis to understand the impact to liquidity.

#### *Amounts Recoverable from Reinsurers (Line 16.1)*

This asset class reflects amounts that are expected to be recovered from a reinsurer on losses and LAE that have been paid by the company, but do not include expected reinsurance recoveries for loss and LAE reserves. The reason that expected recoveries for loss and LAE reserves are not included is that loss and LAE are already reflected net of reinsurance on the balance sheet. Additional detail on expected recoveries for both paid amounts and reserves are included in Schedule F, which will be discussed in detail in *Chapter 14. Schedule F*. The detail

### Part III. SAP in the U.S.: Fundamental Aspects of the Annual Statement

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included in Schedule F allows an actuary or other user of the financial statements to assess the quality and collectibility of the reinsurance recoverables.

#### *Net Deferred Tax Assets (Line 18.2)*

Deferred tax assets (DTAs) represent expected future tax benefits related to amounts previously recorded in the statutory financial statements and not expected to be reflected in the tax return as of the reporting date. They are referred to as “net” DTAs because they are recorded net of any deferred tax liabilities (DTLs) that exist. Two common sources of DTAs relevant to the actuary are the following:

- ▶ The difference in tax accounting and statutory accounting for loss reserves
- ▶ The carryforward of net operating losses from previous years

The first source of DTAs is particularly relevant to actuaries. For tax reporting purposes, loss reserves are discounted when determining pre-tax income. This means that an insurance company is not able to deduct from taxable income the full amount of losses that are incurred during a year. Therefore, assuming loss reserves are growing, a company’s pre-tax income on a tax basis is higher than the company’s pre-tax income on a statutory basis in the current year. In the future, as this discounting unwinds, the insurer will get a tax deduction, which will not be recorded in statutory financial statements because it was already recorded in the year the reserves were established. The value of this future deduction (35% of the deduction) represents the DTAs. This asset can be particularly significant for growing companies.

The second source of DTAs of relevance to the actuary (carryforward of net operating losses) occurs when an insurance company has net operating losses in one financial year and expects those losses to offset gains in the future, thereby reducing future tax liability.

For any DTA or DTL, an insurer can only record the portion of the asset or liability that is expected to be realized, based on available evidence. Furthermore, the insurer must perform an admissibility test to determine the amount of a DTA that can be considered as an admitted asset.

As shown in Table 2, DTAs were the largest single source of nonadmitted assets at December 31, 2011, representing \$18.6 billion of the total \$54.2 billion in nonadmitted assets, or just over 34%.

#### *Receivables from Parent, Subsidiary and Affiliates (Line 23)*

Many insurance companies are members of a national or international insurance group or may be affiliated with other insurance companies that are owned by the same parent company. These affiliates often share services or resources, such as internal support staff or third-party vendor agreements. In these cases, receivable balances for these services or resources exist between the parties. As shown in Table 2, these receivables accounted for

### Part III. SAP in the U.S.: Fundamental Aspects of the Annual Statement

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about 1% of assets held by the industry at December 31, 2011. If an individual company had a significantly larger portion of their assets in the form of receivables, a user of those financial statements may consider investigating further, as those receivables may not be as liquid or available as other asset types. More specifically, the user could attempt to ascertain the specific source of the receivables and the proportion of the receivables that are paid on time.

#### *Other Nonadmitted Assets*

In addition to the examples of nonadmitted assets already mentioned (agents' balances more than 90 days overdue and net DTAs that do not meet the statutory admissibility test), there are other sources of nonadmitted assets. Several common examples include:

- ▶ Amounts held of specific types of bonds, stocks, mortgage loans or real estate that are in excess of limitations that exist in specific states
- ▶ Capitalized electronic data processing equipment and software in excess of state-specific limits for admitted assets
- ▶ Furniture, equipment and supplies
- ▶ Balances due from a broker when a security has been sold but the proceeds have not been received that are still outstanding more than 15 days after settlement
- ▶ Funds held or deposited with reinsured companies that exceed the associated liabilities
- ▶ 10% of deductibles recoverable on deductible and service-only insurance policies in excess of collateral specifically held and identifiable on a per policy basis

As previously noted, nonadmitted assets only represented about 3% of the total industry assets at December 31, 2011. However, due to their importance when measuring solvency, an actuary should be familiar with the sources of nonadmitted assets. If an actuary or other user of the financial statements observes that an insurer has a larger proportion of nonadmitted assets than the industry average, it may be worthwhile to investigate further to understand the source of those nonadmitted assets because they could be indicative of a problem with the business.

#### LIABILITIES AND SURPLUS<sup>16</sup>

A liability is an obligation that the company must fulfill, based on past events or transactions, which will require the use of the company's resources. Under the literal definition of solvency, a company must have assets that are at least equal to its liabilities to remain solvent.

To be prudent and to comply with RBC requirements (see *Chapter 19. Risk-Based Capital*), most insurance companies have assets that significantly exceed their liabilities. The amount of this excess of assets over liabilities is generally referred to as surplus. Surplus can be viewed as the equity in the business or as the source of protection to the policyholders. These three amounts follow the relationship shown below:

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<sup>16</sup> Aligns with IASA Chapter 5.



## Part III. SAP in the U.S.: Fundamental Aspects of the Annual Statement

$$\text{Assets} = \text{Liabilities} + \text{Surplus}$$

Or, equivalently,

$$\text{Assets} - \text{Liabilities} = \text{Surplus}$$

Because the combination of liabilities and surplus are equal to assets, liabilities and surplus are presented on the same page (page 3) of the Annual Statement. The assets reflected in the relationship above include only admitted assets because Statutory Accounting Principles (SAP) does not allow insurers to take credit for nonadmitted assets in surplus.

A breakdown of the industry liabilities and surplus amounts (page 3 of the Annual Statement) by significant account is provided in Table 3 as of December 31, 2011.<sup>17</sup>

TABLE 3

<b>Liabilities, Surplus and Other Funds: Total U.S. Property/Casualty Insurance Industry SNL Briefing Book – U.S. 2011 Statutory Financials, NAIC Format (USD in 000s)</b>			
<u>Line</u>	<u>Description</u>	<u>Liabilities</u>	<u>% of Total</u>
1.	Losses	496,162,946	31%
2.	Reinsurance payable on paid loss and loss adjustment expenses	17,442,626	1%
3.	Loss adjustment expenses	104,532,699	7%
5.	Other expenses (excluding taxes, licenses and fees)	23,863,600	1%
9.	Unearned premiums	204,915,762	13%
12.	Ceded reinsurance premiums payable	40,200,154	3%
13.	Funds held under reinsurance treaties	24,144,250	2%
16.	Provision for reinsurance	2,994,296	0%
25.	Aggregate write-in for liabilities	42,889,678	3%
	Other liabilities	68,994,071	4%
<b>28.</b>	<b>Subtotal, liabilities</b>	<b>1,026,139,981</b>	<b>65%</b>
29.	Aggregate write-ins for special surplus funds	54,909,820	3%
30.	Common capital stock	4,536,681	0%
34.	Gross paid in and contributed surplus	186,691,158	12%
35.	Unassigned funds	300,443,945	19%
	Other surplus and capital	15,512,118	1%
<b>37.</b>	<b>Subtotal, surplus as regards policyholders</b>	<b>562,093,722</b>	<b>35%</b>
<b>38.</b>	<b>Total</b>	<b>1,591,145,369</b>	<b>100%</b>

First, note that the total amount of liabilities and surplus shown in Table 3 (\$1.591 trillion) is exactly equal to the amount of net admitted assets that were shown in Table 2. This relationship must be true given the fundamental equation of  $\text{Assets} = \text{Liabilities} + \text{Surplus}$ .

<sup>17</sup> Accessed via SNL.com by SNL Financial LC.

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The next observation that can be made is that the insurance industry carried liabilities and surplus on its balance sheet in a ratio of roughly 2 to 1 as of December 31, 2011. On the surface, this suggests that the industry as a whole had sufficient assets to be able to sustain a sizeable increase in liabilities (or reduction in asset values) while still maintaining solvency, due to the current positive difference of assets relative to liabilities.

However, this may not be true at the individual company level, and there are also other risks that could affect surplus that are not reflected in either the recorded assets or liabilities (such as catastrophe risk or liquidity risk). An actuary can benchmark a company's ratio of liabilities to surplus against the current industry average. Further investigation may be warranted if the ratio is significantly higher than that of the industry. A review of the company's RBC would be the next logical step.

We can also measure each of the underlying accounts in relation to total liabilities or surplus. Together, loss and LAE reserves (lines 1 and 3) have historically been the largest liability item on a property/casualty insurance company's balance sheet. As of December 31, 2011, this item represented nearly 60% of total industry liabilities. This speaks to the importance of property/casualty actuaries to the financial reporting process because they are often the most suited to evaluate and establish those liabilities. The next largest liability class is unearned premium reserves, which made up approximately 20% of the industry liabilities as of December 31, 2011. Given actuaries' involvement in pricing products, actuaries certainly play a role in this premium account. To the extent the unearned premium is not adequate to cover expected future losses, LAE and maintenance expenses, additional liabilities need to be recorded. Actuaries often play a key role in that analysis.

A brief description of each of the key liabilities and surplus classes is provided below.

#### *Loss and Loss Adjustment Expense Reserves (Lines 1 and 3)*

The required basis for loss and LAE reserves under SAP is defined by SSAP 55, *Unpaid Claims, Losses, and Loss Adjustment Expenses*. Statements of Statutory Accounting Principles (SSAP) 55 states that the recorded liabilities for loss and LAE reserves, for each line of business and for all lines of business in the aggregate, should be based on "management's best estimate" (note that this term is not explicitly defined in the accounting guidance). Further, SSAP 55 requires that management consider the variability in the estimate of these liabilities. The standard states that management's best estimate may consider a range of estimates; in the rare instances when no point within the range is considered to be a better estimate than other points within the range, the midpoint of the range should be used.

Note that SSAP 55 refers to management's best estimate and not the actuary's best estimate or central estimate. However, management will often rely on an actuary's estimate, in whole or in part, in establishing their own best estimate to be recorded on the balance sheet.

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Whether or not management relies on an actuary in establishing the recorded reserves, the NAIC Model Law for Property and Casualty Actuarial Opinions (MDL-745)<sup>18</sup> requires that a Statement of Actuarial Opinion be provided that attests to the adequacy of the recorded liabilities (see *Chapter 16. Statement of Actuarial Opinion*).

Significant detail on the loss and LAE reserves is included in Schedule P of the Annual Statement. Schedule P provides loss and LAE reserves both gross and net, and also breaks down the total reserves by line of business and accident year. Further detail on the data in Schedule P and the potential uses of that data are described in *Chapter 15. Schedule P*. There are also relevant references to loss and LAE reserves in the Notes to Financial Statements within the Annual Statement (see *Chapter 10. Notes to Financial Statements*).

Because loss and LAE reserves are often the largest most variable liability on an insurer's balance sheet, they are of critical importance to the financial health of an insurance company.

#### *Reinsurance Payable on Losses and Loss Adjustment Expenses (Line 2)*

Reinsurance payable on losses and LAE includes liabilities related to assumed reinsurance contracts and is for loss and LAE that have already been paid by the reinsured. A detailed breakdown of this amount by type of reinsurer (e.g., affiliated, authorized and unauthorized as well as U.S. and non-U.S.) is provided in Schedule F, Part 1, column 6. Liabilities under assumed reinsurance contracts for loss and LAE that are reserved by the reinsured, but not paid, are included in lines 1 and 3 of the Liabilities, Surplus and Other Funds page (loss and LAE reserves).

#### *Other Expenses (Excluding Taxes, Licenses and Fees) (Line 5)*

In general, an insurance company's expenses can be separated into two broad categories: LAE and underwriting and investment expenses. Further divisions can be made within each category. The underwriting and investment expense category can be further divided into the following subcategories:

- ▶ Commission and brokerage expenses
- ▶ Taxes, licenses and fees
- ▶ General and administrative expenses
- ▶ Investment expenses

The other expenses liability item on the balance sheet generally represents incurred but not yet paid expenses from the third and fourth categories listed above. Additional detail on these expenses can be found in the Underwriting and Investment Exhibit (U&IE), Part 3, Expenses, where the unpaid expenses are shown on line 26. Although this exhibit does not provide the

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<sup>18</sup> NAIC, *Model Regulation Service – January 2012, Index and Model Description*, MDL-745, [http://www.naic.org/documents/committees\\_models\\_index.pdf](http://www.naic.org/documents/committees_models_index.pdf), 2012.

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breakdown of the unpaid expenses by expense category, the total incurred expenses during the calendar year for these other expenses are included on lines 3 through 18.

An additional observation from U&IE, Part 3 is that each category of other underwriting expenses is split between column 1 (Loss Adjustment Expenses), column 2 (Other Underwriting Expenses) and column 3 (Investment Expenses). This is based on an allocation that is performed by the company, and that allocation determines whether unpaid amounts in these categories appear on the balance sheet as LAE reserves or as other expenses liabilities. Additional discussion regarding other expenses is provided in *Chapter 8. The Statutory Income Statement: Income and Changes to Surplus*. Further detail regarding the allocation of expenses by category is also provided in the following chapter (*Chapter 18. Insurance Expense Exhibit*).

#### *Unearned Premiums (Line 9)*

Unearned premium represents a liability related to the unexpired portion of all policies in force. For any individual in-force policy, the total amount of written premium can be separated into earned and unearned portions. In the simplest and most common case, this split is made by the number of coverage days in the total policy period that are expired or unexpired, respectively. This approach is referred to as the daily pro rata method and is the standard method used for lines such as automobile insurance, homeowners, general liability or property.

Another approach that is sometimes used is called the monthly pro rata method. This method assumes that policies are written evenly over the course of the month. Based on that assumption, 1/24 of the premium written in a given month is expected to earn in that month. Subsequent to that, 1/12 is expected to be earned in the next 11 months, and the remaining 1/24 is earned in the thirteenth month. This abbreviated method allows for a calculation of the earned premium in each month with less data and calculations.

Some specific types of coverage require different approaches to calculating earned premium (e.g., title insurance, financial guaranty and ocean marine).

The unearned premium reserve serves the important purpose of recognizing revenue over the time period the policy is in force. Unearned premium reserves represent an insurer's obligation to provide future coverage and the potential obligation to refund the unexpired portion of the premium to a policyholder, in the event that a policy is cancelled.

While this accrual of unearned premium and the subsequent earning of that premium may appear to be an attempt to match revenues with expenses, this is not the case. Statutory accounting requires that expenses related to the acquisition of an insurance policy be realized as an expense at the time of acquisition. Despite that, the full amount of the written premium is still recorded as an unearned premium reserve at the inception of the policy. This departure from the matching principle that is commonly followed in accounting regimes exists to allow

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for a more conservative solvency-focused presentation because it results in lower policyholders' surplus, which is consistent with the objective of SAP.

Additional detail of the composition of the unearned premium recorded on page 3 (Liabilities, Surplus and Other Funds) of the Annual Statement can be found on page 7, which is part of the U&IE. Page 7 (U&IE Part 1) shows the breakdown of the total unearned premium into the following four categories:

- ▶ Amount unearned (running one year or less from date of policy)
- ▶ Amount unearned (running more than one year from date of policy)
- ▶ Earned but unbilled premiums
- ▶ Reserve for rate credits and retrospective adjustments based on experience

The first two categories above are relatively self-explanatory and separate the unearned premium related to policies with effective periods that are one year or less and policies with effective periods that are longer than one year. The third category, earned but unbilled (EBUB) premiums, includes estimated adjustments that will occur to the premium on audit-type policies where the actual amount of premium depends on some exposure measure, such as payroll, and is unknown until the end of the policy period. EBUB premiums are only recorded if they are reasonably estimable in the aggregate. The fourth category represents the expected adjustments that will occur on retrospectively rated policies, where the premium is variable based on the loss experience on the policy.

In addition, SAP and GAAP require an insurer to establish a separate premium liability, referred to as a premium deficiency reserve, if the unearned premium reserve for a portion of the business is not sufficient to cover the expected corresponding losses, expenses and other costs. An actuary in either a reserving or pricing role should be aware of the criteria that dictate when a premium deficiency reserve is required so they can advise management accordingly. Different criteria apply for short-duration and long-duration contracts. Additional discussion of premium deficiency reserves is included in *Chapter 10. Notes to Financial Statements*.

#### *Ceded Reinsurance Premiums Payable (Line 12)*

Ceded reinsurance premiums payable represent premiums that are owed to reinsurers for ceded reinsurance. This liability is recorded net of any commission retained to cover expenses that were incurred issuing the reinsured policies. This line item does not include ceded reinsurance that are owed to the reinsurer or other funds that are being held as a deposit by the ceding company as collateral for payment of the reinsurer's obligations under specific terms of the reinsurance treaty, which is reflected in the next item, "Funds Held Under Reinsurance Treaties," discussed below.

*Funds Held Under Reinsurance Treaties (Line 13)*

These liabilities relate to funds that are held by a ceding company as collateral from a reinsurer. The funds provide security to the ceding company that the reinsurer will pay losses as they come due. This is particularly common in the case of unauthorized reinsurers (companies not authorized or licensed to do business in the ceding company's state of domicile) because it allows the ceding company to avoid a statutory accounting penalty on the recoverables from the unauthorized reinsurer. This penalty is described in SSAP 62, which states that a recoverable from an unauthorized reinsurer that is not sufficiently collateralized is a nonadmitted asset. As noted above, this category also included ceded reinsurance premiums that were payable but were held according the terms of the reinsurance agreement.

*Provision for Reinsurance (Line 16)*

Although the magnitude of this liability category is not large for most insurers, it is worth mentioning because it is unique to statutory accounting. The provision for reinsurance is a statutory liability established for reinsurance recoverables that may not be collectable. The change in this provision is recorded directly to surplus. This penalty applies to all reinsurers that are slow to pay or that are disputing amounts owed to the ceding company and unauthorized reinsurers that do not meet the collateral requirements of the ceding company's domiciliary state. The actual details of the calculation of the provision for reinsurance are shown in Schedule F, Parts 4 through 7 (*Chapter 14. Schedule F* provides the details underlying this calculation).

Note that the net loss reserves, net unearned premium and the amounts recoverable from reinsurers for paid losses on page 2 of the Annual Statement are net of reinsurance but are stated without regard for the provision for reinsurance. The provision for reinsurance appears on page 3 and is a direct reduction to surplus and does not affect a company's assets or income. This direct reduction to surplus and other direct reductions to surplus will be discussed in *Chapter 8. The Statutory Income Statement: Income and Changes to Surplus*.

*Common Capital Stock (Line 30)*

Common capital stock is a surplus account that is equal to the par value of the common stock issued and outstanding. This account only applies to stock insurance companies and does not exist for purely mutual insurance companies. Par value is an amount set by the issuer of a stock (the insurer, in this case) when the stock is initially offered that serves as a minimum value for which the stock can be sold in that initial offering. Par value has no relation to the market value of a stock and is often set at a low amount, so this common capital stock is not a material item for most insurers (it is only included here to allow for a complete explanation). Certain state regulators have specific requirements for how the par value of shares is established. A separate, similar account is maintained for preferred stock.

*Gross Paid in and Contributed Surplus (Line 34)*

This account represents amounts received through the sale of stock in excess of the par value for each share. This account also exists only for stock insurers. As shown Table 3, gross paid in and contributed surplus makes up about 30% of the industry surplus, and it is much larger than the common capital stock account.

*Unassigned Funds (Line 35)*

Unassigned funds represent surplus that has been accumulated over time through retained earnings of the business. For mutual companies, all surplus will generally be reflected in the unassigned funds account because none of those funds were received due to the sale of stock. However, there are some cases in which mutual insurance companies have changed their capital structure through the creation of a mutual holding company. In those situations, the insurance companies do issue the holding company stock and will have common capital stock and gross paid in and contributed surplus accounts. Unassigned funds represented nearly 54% of the industry surplus as of December 31, 2011.

SUMMARY

This chapter has explained the basic structure of the statutory balance sheet and has introduced some of the more significant and relevant accounts. An actuary's involvement is often primarily focused on the loss and LAE reserves, which are the largest liability on the balance sheet, but it is also important for an actuary to understand the bigger picture of an insurer's balance sheet in order to better assess the overall financial health of an insurance company.

In *Chapter 13. Overview of Schedules and Their Purpose*, we will discuss other schedules in the Annual Statement that provide details beyond what we have touched upon here. We will also discuss how that additional detail can be used with the contents of the balance sheet to assess the financial health of an insurance company.

## CHAPTER 8. THE STATUTORY INCOME STATEMENT: INCOME AND CHANGES TO SURPLUS

While the balance sheet is of key importance to regulators and the focal point of statutory accounting, the income statement is of equal importance to the ongoing viability of an insurance company. The income statement illustrates the revenue, expenses and net income of an insurance company.

The income statement is presented on the top portion of the Statement of Income on page 4 of the Annual Statement and provides the three sources of income, before federal and foreign income taxes and dividends to policyholders, separately: underwriting income, investment income and other income.

A sample of the statutory income statement for the industry as of December 31, 2011, is presented in Table 4.<sup>19</sup>

TABLE 4<sup>20</sup>

Statement of Income, Income Section: Total U.S. Property/Casualty Insurance Industry		
SNL Briefing Book – U.S. 2011 Statutory Financials, NAIC Format (USD in 000s)		
Line	Description	Amount
1.	Premiums earned	438,359,503
2.	Losses incurred	293,097,978
3.	Loss adjustment expenses incurred	55,157,144
4.	Other underwriting expenses incurred	123,917,023
5.	Aggregate write-ins for underwriting deductions	1,475,530
6.	Total underwriting deductions	473,647,676
8.	<b>Underwriting income</b>	<b>(35,288,173)</b>
9.	Net investment income earned	50,972,121
10.	Net realized capital gains (losses) less capital gains tax	7,576,459
11.	<b>Investment income</b>	<b>58,548,034</b>
12.	Net gain (loss) from agents' or premium balances charged off	(1,270,419)
13.	Finance and service charges not included in premiums	3,179,764
14.	Aggregate write-ins for miscellaneous income	401,701
15.	<b>Other income</b>	<b>2,311,045</b>
16.	<b>Net income before dividends to policyholders and federal/foreign income tax</b>	<b>25,530,839</b>
17.	Dividends to policyholders	2,315,009
19.	Federal and foreign income taxes incurred	3,030,418
20.	<b>Net income</b>	<b>20,123,505</b>

<sup>19</sup> Accessed via SNL.com from SNL Financial LC.

<sup>20</sup> We recognize that line 9 plus line 10 sums to \$58,548,580. Further, line 16 minus lines 17 and 18 equals \$20,185,412. We have taken the data as accessed from SNL Financial LC without modification.



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As shown in Table 4, the net income for the industry during 2011 was \$20.1 billion. The subtotals for each source of income show that the industry incurred underwriting losses in 2011, which were more than offset by investment and other income. Each of the three sources of income is discussed further below.

## UNDERWRITING INCOME

Underwriting income is the most familiar and relevant source of income to most actuaries. Underwriting income is calculated as earned premium minus loss and loss adjustment expense (LAE) and other underwriting expenses incurred.

Actuaries are typically involved in estimating incurred losses and LAE and possibly in the calculation of earned premium, so these terms should already be familiar. On the income statement, each of the amounts labeled incurred presented also include the ultimate amount of those liabilities that occurred in the current year, and any changes in the ultimate amount of the liabilities that occurred in previous years (as shown in the formula below).

$$\text{Income statement incurred} = \text{Current period ultimate} + \text{Change in prior period ultimate}$$

where,

$$\text{Change in prior period ultimate} = (\text{total all periods ultimate at end of period} - \text{total all periods ultimate at beginning of period}) - \text{current period ultimate}$$

Actuaries may be less familiar with the item labeled "other underwriting expenses incurred." Further discussion on this other underwriting expense category is provided below.

*Other Underwriting Expenses Incurred (Line 4)*<sup>21</sup>

We already encountered other underwriting expenses briefly during our discussion of the liability for "Other Expenses (Excluding Taxes, Licenses and Fees)" in *Chapter 7. Statutory Balance Sheet: A Measure of Solvency*. The "Other Expenses" account represents all other expenses that were incurred but not paid at the end of the fiscal year, while this line on the income statement represents the total amount of other expenses incurred during the course of the year, whether or not they have already been paid.

As shown in Table 4, the amount of the other underwriting expenses that were incurred by the industry in 2011 was \$123.9 billion, which is more than twice the amount of LAE incurred at the time and nearly half the amount of the industry losses incurred. The magnitude of these other underwriting expenses highlights the importance of other underwriting expenses to the profitability of the industry and the importance of ensuring that they are accurately reflected in the financial statements.

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<sup>21</sup> Aligns with IASA Chapter 8.

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Expense accounting requires that expenses be allocated in three ways:

1. NAIC operating expense classifications, which represent 24 types of expenses, some of which have sub-types. These 24 types are listed in the rows Underwriting and Investment Exhibit (U&IE), Part 3. Examples of these expense classifications are "commission and brokerage," "salary and related items," and "taxes, licenses and fees." It is suggested that the reader review the U&IE, Part 3, now to see the full list of classifications.
2. Expense categories, which are broader groupings of expenses that align with the different operational functions of an insurance company. There are three of these broad categories: LAE, other underwriting expenses and investment expenses. These categories are presented in the columns of the U&IE, Part 3.
3. Line of business, of which there are 33, some of which have sub-lines. These lines of business are listed in the U&IE, Part 2A. The lines of business used for expense reporting are similar to those lines of business used in Schedule P, but not the same.

Each time an insurance company has an expense, the appropriate expense classification needs to be determined and an allocation must be made by line of business and expense category. In some cases, the entire amount of the expense can be specifically identified with one expense classification, within one expense category and for one line of business (for instance, a commission paid on a policy within a specific line of business); however, this is often not the case, such as the salary of an employee who oversees several products and functions. In those instances an allocation of that expense must be made. Some expenses may require several allocation steps.

When an allocation is required, it will be performed based on information that is relevant to that expense. Examples of potential allocation bases are policy counts, which may be appropriate in the case of policy administration expenses; employee headcount, which may be reasonable for supervisors' salaries; or other measures of business or employee activity.

An example of a complex expense allocation would be one related to the rent that is paid for a home office that serves as a center for all operating functions. The allocation process could take place as follows:

- ▶ This expense can be specifically identified as the "rent and rent items" expense classification and therefore assigned fully to that classification.
- ▶ Because the home office is used for all company functions, its expenses would need to be allocated between all three categories: LAE, other underwriting expenses and investment expenses. One possible approach to this is to allocate the rent to those three categories by headcount of personnel associated with each function.

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- ▶ The home office is also the base for all lines of business, so the expenses may be allocated to each line of business by premium volume. This allocation to line of business could differ by expense category.

The result of the first two of these allocations can be observed in the U&IE, Part 3, and the line of business allocation is reflected in the Insurance Expense Exhibit, Part 2, which will be discussed in more detail in *Chapter 18. Insurance Expense Exhibit*.

Guidance for allocation of expenses is provided in the NAIC Annual Statement Instructions, and also in the Statements of Statutory Accounting Principles (SSAP) 70, *Allocation of Expenses*. These are the sources of the uniform classifications and categories that are described above, as well as additional allocation rules. In general, the guidance indicates that specific identification of expenses is preferable to allocation but that when allocation is required, it should be apportioned based on pertinent factors or ratios such as premium, number of claims or headcount. The decision to allocate and the factors or ratios that are used when allocation is required will require judgment on the part of a company.

While the topic of expense accounting and specifically other underwriting expenses may seem of questionable relevance to an actuary, it is important to have a basic awareness and knowledge of the topic. The reason for this is twofold.

First, the overall level of company expenses will directly affect the pricing (or the adequacy of pricing) of its insurance products. A company with lower expenses relative to its competitors has the potential to be more competitive and or more profitable. Actuaries can contribute by participating in the planning and control of expenses.

Second, if the relative allocation of expenses across functions and products is not accurate, it can lead to subsidies between products that may obscure the true profitability of those products and lead to inefficient allocation of resources or even anti-selection. An actuary who understands expense allocation can prevent or minimize such subsidies and their consequences by striving to allocate expenses as accurately as possible.

The expense allocation process described above and presented in the U&IE is the driver of the other underwriting expense account on the income statement, as well as other references to expenses elsewhere in the Annual Statement.

#### INVESTMENT INCOME<sup>22</sup>

Investment income is an important source of income to insurance companies and a unique aspect of an insurer's business relative to other industries. The importance of investment income was already highlighted by the summary of the industry income statement. There we

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<sup>22</sup> Aligns with IASA Chapter 9.

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saw that in 2011 the insurance industry's positive net income was entirely attributable to investment income and not to underwriting income.

Because there is a delay (significant in some cases) between the time insurers receive premiums and the payment of claims, they have an opportunity to earn investment income on those funds. This makes consideration of investment income fundamental to the pricing of insurance products, which is not the case for most other industries.

The investment income item on the income statement consists of the following:

- ▶ Net investment income earned
- ▶ Net realized capital gain (loss)

Net investment income earned is primarily related to interest and dividends received on investment assets held over the course of the year. Net investment income earned does not include changes to the prices in assets that are held (those are included in net realized capital gain described below). Furthermore, it is recorded on an accrual basis, meaning that it is reflected in the year in which it is earned and not necessarily the year in which the actual cash related to the income is received. The amount of this income is shown net of investment expenses and other costs, but gross of federal income taxes, on the income statement.

Net realized capital gain (loss) generally results from the sale of investments for more or less than original cost, adjusted for the amortization of premiums or accretion of discounts (amortized cost). Realized losses also result from impairment adjustments. Certain investments (primarily common stock) are recorded at fair value. The changes in the value of these investments (unrealized gains (losses)) are not included as income and instead reflected as direct adjustments to surplus. These direct adjustments to surplus are necessary because these items do not flow through net income for the current period, but the surplus must still be adjusted to maintain the assets equal liabilities plus surplus relationship.

In 2011, industry net investment income earned was \$51 billion, and the net realized capital gain was \$7.6 billion. Detail of both the net investment income and the net realized capital gain (loss) amounts that are shown in the income statement is provided on page 12 of the Annual Statement, which includes the Exhibit of Net Investment Income and the Exhibit of Capital Gains (Losses). These exhibits provide the detail of both sources of income by asset class. The Exhibit of Net Investment Income also differentiates between the amount of income collected and the amount of income earned in the year and describes the deductions for investment expenses and other costs. The Exhibit of Capital Gains (Losses) shows the split of the gains (losses) between those gains (losses) that were realized on the sale or maturity of an asset and those that were due to impairments (labeled "other realized adjustments").

The details underlying these two exhibits are provided in Schedules A, B, D, DA and DB of the Annual Statement, which describe the assets held in each asset class as of the evaluation date

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of the financial statement and the assets that were sold, redeemed or disposed of during the current year.

While property/casualty actuaries are not typically involved in the investment reporting and valuation, they should have a basic understanding of these items due to their significance to product pricing and overall insurer operating results. For that reason, a discussion of the statutory reporting and valuation guidelines for each major asset class is included below. More detail will be provided on bonds and stocks because they represent the vast majority of assets held, but several other asset classes will also be discussed briefly.

#### *Bonds*

Bonds represent a majority of the assets held by insurance companies. On the Exhibit of Net Investment Income and the Exhibit of Capital Gains (Losses), bonds are reported in four categories: U.S. government bonds, bonds exempt from U.S. tax, other bonds (unaffiliated) and bonds of affiliates. The underlying detail is primarily provided in Schedule D, Part 1 (Long-Term Bonds Owned) and Schedule D, Part 4 (Long-Term Bonds Sold, Redeemed or Disposed of). Bonds that mature in one year or less are reported in Schedule DA, Part 1 (Short-Term Investments Owned).

The net investment income earned from bonds, as shown in the Exhibit of Net Investment Income, is based on the following four amounts:

1. Interest received during the year (Schedule D, Part 1, column 20 and Part 4, column 20).
2. Interest due and accrued (Schedule D, Part 1, columns 19 and 20).
3. Current year's (amortization)/accretion (Schedule D, Part 1, column 13 and Part 4, column 12)
4. Interest paid for accrued interest on dividends (Schedule D, Part 3, column 9).

The first of the four items, interest received during the year, represents all coupon payments that were received on bonds held during the year. This includes coupon payment on bonds owned at the end of the year and on bonds that were owned at the beginning of the year but sold, redeemed or disposed of during the year. This is presented on the basis of when the actual interest coupon was actually received, so an adjustment is required to convert it to an accrual basis. This adjustment is made by adding the change in the interest due and accrued account (the second item from above) over the last year to the interest received during the year.

The explanation of the third item above, current year's (amortization)/accretion, requires us to revisit basic bond valuation. Recall that when a bond is purchased, the actual purchase price is usually different from the face value due to the difference between the coupon rate on the bond and the market interest rates at the time of purchase. To provide the buyer with

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an effective interest rate equal to the current market interest rate, the bond is sold at either a discount or a premium to the face value. For financial reporting purposes, that discount or premium is then realized as either positive (in the case of a discount) or negative (in the case of a premium) interest income over the life of the bond. This is referred to as either the amortization of the premium or the accretion of the discount and is reported for each bond in Schedule D, Parts 1 and 4.

The following example illustrates the accounting for a bond purchased at a discount. Assume a five-year bond with face value of \$100 is purchased for \$90. The purchase price is less than the face value because the coupon rate on the bond is less than the current market interest rate. This difference between the face value and purchase price is referred to as a discount, and the amount of the discount is set such that the effective yield on the bond will equal the current market interest rates at the time of purchase. The \$10 discount is realized over the remaining five-year duration of the bond as investment income in addition to the actual coupon payments, such that the effective yield in each period also matches the market interest rate at the time of purchase.

The same example can be reversed for bonds that are purchased at premium (when the coupon rate exceeds the market interest rate), and that premium is amortized as negative investment income over the life of the bond to achieve an overall investment income equal to the market interest rate at the time of purchase.

The fourth and final item above, interest paid on accrued interest and dividends, is related to coupon payments that are received on bonds acquired during the year. When a bond is acquired between coupon payments, the buyer of the bond (in this case the insurance company) is required to pay the seller of the bond the portion of the coupon payment that was earned while they owned the bond. This amount is presented on Schedule D, Part 3 (Long-Term Bonds and Stocks Acquired During Current Year), column 9 (Paid for Accrued Interest and Dividends).

Each of these three items (interest received, accrual/amortization of discount/premium, interest due and accrued, and payments for accrued interest on purchases) is reflected in the investment income collected and earned columns in the Exhibit of Net Investment Income.

The other aspect of investment income related to bonds, net realized capital gains (losses), comprises the following components:

- ▶ Realized gain (loss) on sale or maturity (Schedule D, Part 4, column 16)
- ▶ Foreign exchange gain (loss) on disposal (Schedule D, Part 4, column 17)
- ▶ Other than temporary impairments recognized (Schedule D, Part 1, column 14 and Part 4, column 13)

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Before we discuss these items in more detail, we will first review the basic statutory accounting concepts for bonds. When a bond is purchased, it is recorded at actual cost, including brokerage and other fees. This amount is recorded as the “actual cost” in Schedule D, Part 1, column 7 and Schedule D, Part 4, column 7. In each statutory Annual Statement after the purchase of the bond, the bond is recorded at “adjusted carrying value,” which is based on one of two amounts:

- ▶ Amortized cost
- ▶ The lower of amortized cost and fair value

Amortized cost represents the actual cost of the bond adjusted for the amortization of any premium or discount from the face amount (as described in the paragraphs above). Fair value generally refers to the value that an asset could be sold for in the open market.

For bonds that are rated National Association of Insurance Commissioners (NAIC) 1 and 2 and carried at amortized cost, the adjusted carrying value of the bond is updated each year to reflect the amortization of premium or the accretion of discount. As a result, the adjusted carrying value of the bond will converge with the par value as a bond matures. For bonds that are rated NAIC 3 through 6, the value of the bond is shown as the lesser of fair value or amortized cost. The fair value is provided by the NAIC *Valuation of Securities Manual* for all securities that are owned by insurers. All of this information is summarized on Schedule D, Part 1, including the NAIC designation, actual cost, fair value, par value and book/adjusted carrying value.

To the extent the adjusted carrying value of a bond is adjusted to fair value, the adjustment is considered an unrealized loss and is reflected in Schedule D, Part 1, column 12. Once the bond is sold, the difference between the consideration received and the adjusted carrying value is considered a realized gain or loss and is recorded in Schedule D, Part 4, column 18. Many bonds held by insurance companies are rated NAIC 1 or 2 and held to maturity, so there is never any capital gain or loss over the life of the bond.

Bonds denominated in a foreign currency will also be affected by changes in foreign exchange rates over time. These changes are reflected in the adjusted carrying value but are unrealized until the bond is sold, redeemed or otherwise disposed of. The change in the unrealized amount of this foreign exchange gain or loss is found on Schedule D, Part 1, column 15, and the amount of foreign exchange gain or loss that is realized upon disposal is found on Schedule D, Part 4, column 17.

The sum of the realized gain or loss on disposal and the foreign exchange gain or loss on disposal equals the total gain or loss on disposal, which is shown on Schedule D, Part 4, column 19.

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One important exception to the reporting and valuation rule described above relates to the third source of the net realized capital gains and losses, which is referred to as “other than temporary impairments recognized.” In general an impairment occurs when it is deemed probable that the insurer will not collect all amounts due on a debt security. Whether or not impairment is temporary is a subjective judgment of the company. Impairments can occur on bonds with any NAIC rating, and they result in the realized capital losses even though a bond has not been sold, redeemed or disposed.

The total realized capital gain or loss for a year is calculated in the Exhibit of Capital Gains (Losses). Column 1 represents the “Realized Gain (Loss) On Sales or Maturity,” which is calculated in Schedule D, Part 4, and shown in column 18 of that exhibit. Column 2 is labeled “Other Realized Adjustments” and includes the foreign exchange gain (loss) on disposal and other than temporary impairments recognized in the first year.

#### *Stocks*

Like bonds, investment income from stocks comprises investment income earned and realized capital gains.

Preferred stocks and common stocks are reported on separate lines on the Exhibit of Net Investment Income and the Exhibit of Capital Gains (Losses), and they have separate supporting schedules, Schedule D, Part 2, Section 1 and Section 2, respectively. Disposals of preferred and common stocks are reflected in Schedule D, Part 4.

Investment income for stocks is simply the amount of dividends received during the year plus the change in the accrual for dividends declared but unpaid (dividends are accrued on the ex-dividend date). These dividends are included in Schedule D, Part 2-Section 2, column 11 for stocks owned at year end and in Schedule D, Parts 4 and 5, column 20 for stocks sold during the year.

When either common stocks or preferred stocks are purchased, the actual cost plus any commissions or taxes becomes the initial carrying value. Subsequently, the valuation of preferred stocks and common stocks differ, so each is discussed separately.

Common stocks of unaffiliated companies listed on the major U.S. exchanges (NYSE and NASDAQ) are simply recorded at fair value. Changes to fair value after purchase are recorded as unrealized valuation increases (decreases) in Schedule D, Part 2, Section 2, column 13. When a stock (common or preferred) is disposed of, the difference between the consideration received and the original cost is recorded as a realized gain (loss) on disposal and a foreign exchange gain (loss) on disposal (if applicable) in Schedule D, Part 4, columns 17 and 18.

The rules governing the accounting for investments in subsidiaries and controlled and affiliated entities are complex and beyond the scope of this publication. A brief description of the accounting for investments in insurance company affiliates is discussed in the RBC



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chapter of this publication (see *Chapter 19. Risk-Based Capital*), where accounting background is needed on the accounting for determination of the asset risk charge.

The valuation of preferred stock of unaffiliated entities is dictated by the form of the instrument and the ratings assigned by the NAIC Securities Valuation Office. The two common forms of preferred stock are redeemable and perpetual preferred stock. Redeemable preferred stock, also known as callable preferred stock, is preferred stock that is redeemable at the option of the issuer at a specified maturity date or after a specific period of notice, for a preset price. Perpetual preferred stock is preferred stock with no maturity date that cannot be redeemed by the issuer. For redeemable preferred stock, the highest two rating categories are recorded at the original purchase price plus acquisition costs; for perpetual preferred stock, the highest two rating categories are recorded at fair value; for redeemable and perpetual preferred stock designated, the lower four rating categories are recorded at the lower of book or fair value.

As with fair value changes, market value changes to common and preferred stock after purchase are also shown in Schedule D, Part 2, Section 2, column 13 as unrealized valuation increases (decreases). Again, when a stock is disposed of, the difference between the consideration received and the original cost is recorded in Schedule D, Part 4, columns 17 and 18 as a realized gain (loss) on disposal and a foreign exchange gain (loss) on disposal (if applicable).

Both common stocks and preferred stocks are subject to impairment charges if there is a decline in fair value that is deemed to be "other than temporary" by the company. This determination must be made by the company based on available information (e.g., published reports, bankruptcy notifications). When impairment is made, it is recorded in Schedule D, Part 2, Section 1, column 17 and Schedule D, Part 2, Section 2, column 14 (as well as Part 4 for stocks that are disposed of during the year). Impairments made in a given year are included in the "Other Realized Adjustments" of the Exhibit of Capital Gains.

Each component of investment income from stocks is included in the Exhibit of Net Investment Income (page 12). Dividends received plus the change in dividends declared but unpaid are shown in the Exhibit of Net Investment income. In the Exhibit of Capital Gains (Losses), the realized gain or loss on disposal is shown in column 1, and the realized foreign exchange gain (loss) on disposal and other than temporary impairments are shown in column 2.

#### *Cash, Cash Equivalents and Short-Term Investments*

This class includes assets that are immediately convertible to cash and have an original maturity of one year or less. Short-term investments are reported in Schedule DA, Part 1, cash is reported in Schedule E, Part 1, and cash equivalents are reported in Schedule E, Part 2.

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The short-term investments presented in Schedule DA, Part 1 are composed of bonds or other securities with a maturity of one year or less (at acquisition) and follow the same reporting and valuation rules as the long-term bonds. When a short-term bond or other investment is purchased, the security is recorded at cost and the premium or discount (if any) is amortized or accreted until maturity. Other than temporary impairments are also possible, though they are less common given the short duration of these investments.

The reporting and valuation of cash and cash equivalents is similar but relatively simpler than short-term investments, as evidenced by the fewer columns that are included in Schedule E, Parts 1 and 2 relative to Schedule DA.

#### *Derivatives*

Derivatives are financial contracts between two parties for which the value depends on the performance of other assets or variables. While derivatives are not a major asset class for most property/casualty insurance companies, they are becoming more common, and they are of heightened importance due to the financial crisis that occurred in the late 2000s. During the financial crisis, one large insurance group nearly collapsed due to derivatives that had been sold by one of its units. Had these additional disclosures that are now required in this exhibit been available at that time, that near-collapse may have been avoided.

A list of outstanding derivatives owned, sold (“written”), and terminated during the year is provided in Schedule DB. Companies that are not involved in any open derivatives may omit Schedule DB.

Schedule DB provides the number of contracts for each derivative and the notional amount, which represents the number of units of the underlying asset that are involved. The original trade date and the maturity or expiration date are also provided. The two prices listed are the transaction price, which is the price that the company agreed to buy or sell at, and the reporting date price, which is the current price.

One common reason a company may buy or sell derivatives is to hedge, or offset, the exposure they have to changes in price for an underlying asset or variable, such as an interest rate. For this reason, Schedule DB includes information on the item that is hedged with each derivative position and on the type of risk being hedged.

If a derivative position is held for hedging purposes and a company can demonstrate that the hedge has sufficiently reduced the risk related to the specific underlying asset or assets (known as a “highly effective” hedge), then that derivative may qualify for hedge accounting. Under hedge accounting, the derivative is accounted for in the same way as the asset that is hedged, which allows for any changes in the value of the hedged asset and the derivative to offset (or be unrecorded in cases where the hedged item is recorded at amortized cost). For instance, if an interest rate swap is held to specifically hedge the value of a bond portfolio and

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that interest rate swap qualifies as a highly effective hedge, then that interest rate swap can be accounted for on an amortized basis to effectively neutralize any changes in the value of the bond portfolio.

If a derivative no longer qualifies for hedge accounting (i.e., is no longer highly effective), then the mark-to-market accounting method should be used, and any changes in the fair value of the derivative should be recorded as unrealized gains (losses) directly to surplus in the current period. The accounting for derivatives used in income-generation transactions depends on the nature of the transaction and the accounting for the covering asset or underlying interest.

Schedule E is also related to derivatives and lists the counterparty exposure for all derivatives that are open at year-end. Counterparty is the person or institution on the other side of a transaction. This is important because it provides information to the regulators and any other users of the financial statements regarding any concentration of exposure to a specific counterparty. If the exposure to a counterparty becomes large enough that it is material relative to the surplus of a company, it should be considered as a potential warning sign.

Derivative accounting is very complex and beyond the scope of this publication. More detail regarding derivative accounting can be found in SSAP 86, *Accounting for Derivative Instruments and Hedging Activities*.

#### *Other Sources of Investment Income*

Although we have covered the largest and most common sources of investment income, there are other sources. For additional information on those other sources, or for additional detail regarding any of the sources discussed here, refer to the corresponding statutory accounting guidance.

#### *Investment Guidelines*

As discussed, there is a variety of investment asset classes available to insurers, and there is a wide range of specific assets within each class. So when purchasing a bond, an insurer needs to make decisions on the type of issuer (e.g., government, corporate, asset-backed), industry, quality, maturity and country. Each company will make these decisions based on a set of investment guidelines, which are governed by state investment laws applicable to insurers. The various states have established investment laws, which provide guidance and limits regarding the investments allowable by the insurers domiciled in their jurisdiction. Although the NAIC has established model laws governing various aspects of insurers' operations (including investments), the laws adopted by individual states may vary from those model laws. For purposes of this discussion, we will focus on the NAIC Model Investment

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Law.<sup>23</sup> The NAIC Model Investment Law allows for two alternative types of investment guidelines, which are referred to as Defined Limits and Prudent Person.

The Defined Limit system of investment guidelines follows a rule-based approach and prescribes specific quantitative limits for the invested assets that a company may hold. Examples of some of the prescribed limits include the following:

- ▶ 5% limit of admitted assets with any single issuer (exceptions for government bonds)
- ▶ 1% limit of admitted assets with any single issuer with rating of NAIC 3
- ▶ 0.5% limit of admitted assets with any single issuer with rating of NAIC 4 or lower
- ▶ 20% limit of admitted assets in all securities rated NAIC 3 or lower
- ▶ 10% limit of admitted assets in all securities rated NAIC 4 or lower
- ▶ 5% limit of admitted assets in all securities rated NAIC 5 or lower
- ▶ 1% limit of admitted assets in all securities rated NAIC 6
- ▶ 25% limit of admitted assets or 100% of surplus in all common stocks

The Prudent Person system of investment guidelines follows a principles-based approach and requires an insurance company to develop its own investment guidelines. If a company chooses to use the Prudent Person approach, it should develop the investment guidelines with the protection of the policyholder in mind, and it should consider the specific investment expertise and resources available.

#### *Measuring Investment Performance*

Although investment income is a critical aspect of an insurer's profitability, it can be difficult to measure investment performance and make comparisons between insurance companies. Several factors to consider are the size of the asset base of a company, the level of risk inherent in a company's investment portfolio and the impact of taxes on a company's investment income. Each of these considerations will be discussed below.

It may be tempting to compare the amount of investment income from one company to another or to create the ratio of investment income to written or earned premium. Neither of these approaches is an accurate measure of investment performance because they ignore the size of a company's invested assets. All things being equal, a company with 10 times the invested assets of another company would also be expected to generate 10 times the investment income. For that reason, one metric to consider is the ratio of the investment income for the year to the average invested assets.

That ratio will provide a basic comparison between two companies and how much investment income they are generating relative to their invested assets. However, this ratio does not consider the inherent risk to the assets that are being held. If one company has a significantly

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<sup>23</sup> NAIC, *Model Regulation Service – January 2012, Index and Model Description*, MDL-280, 282, 283, and 340, [http://www.naic.org/documents/committees\\_models\\_index.pdf](http://www.naic.org/documents/committees_models_index.pdf), 2012.

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higher percentage of its assets in common stocks or lower-rated bonds, it would be expected to achieve a higher investment return during a good year, but the level of risk is significantly higher. While there may not be a single ratio or metric that measures this inherent level of risk, it is at least possible to qualitatively compare the types of assets held by two companies to see if there are significant differences.

Measurement and comparison of investment performance is also difficult due to taxes. As discussed earlier in this chapter, net investment income earned is presented on the income statement before the effects of federal income taxes. On the other hand, net realized capital gain (loss) is presented after capital gains tax. Two companies that had the same net investment income earned may be subject to different taxation. The full implications of the impact of taxes on investment income are beyond the scope of this publication, but a user of the financial statements should be aware of this potential difference and seek input from a tax professional as needed.

#### OTHER INCOME

As shown in the summary of the industry income statement, the other income category is relatively small compared to the other two categories. For that reason, only a few of the significant sources of other income will be discussed below. Although they are not technically considered to be part of other income, dividends to policyholders and federal and foreign income taxes are also discussed below because they are part of the consideration of net income.

##### *Net Gain (Loss) from Agents' or Premium Balances Charged Off (Line 12)*

In *Chapter 7. Statutory Balance Sheet: A Measure of Solvency*, we discussed the assets related to uncollected and deferred agents' balances. If a company determines that a portion of those balances will not be collected, those balances should be charged off as a loss and are recorded as an expense under this category in other income. Conversely, if an agents' balance that was previously written off is recovered, that recovery would be included as a gain in this category. Losses can be used to offset gains that occur during the same period.

##### *Finance and Service Charges not Included in Premiums (Line 13)*

Insurers will often offer financing or payment plans to the insured that allow the insured to spread out premium payment over time. Typically, the insured will pay an additional flat service charge to pay through these financing or payment plans. Those service charges are not recorded as a part of written or earned premium and are instead included in this category under other income.

*Aggregate Write-ins for Miscellaneous Income (Line 14)*

While the amounts included as miscellaneous write-ins are not usually material, several of the common entries are the following:

- ▶ **Gain or Loss on Sale of Equipment:** When furniture, equipment or automobiles are sold, the sale price may differ from the current depreciated cost. That difference may be recorded as either a gain or a loss under other income.
- ▶ **Retroactive Reinsurance:** An insurer may purchase reinsurance on existing liabilities, and the reinsurance premium paid may be more or less than the previously recorded value of the liabilities transferred. That gain or loss is recorded as other income.
- ▶ **Gain or Loss on Foreign Exchange:** When payments are made or received in a foreign currency, the ultimate settlement of the payment may be at a different exchange rate than the exchange rate at which the payment was originally recorded, and the resulting gain or loss is recorded as other income. This does not include changes in investment income due to foreign exchange, which were already discussed.
- ▶ **Corporate Expense:** Some insurers will record some corporate expenses that are not allocable to underwriting or investments, such as national advertising, to other expenses.
- ▶ **Fines and Penalties of Regulatory Authorities:** As per the Annual Statement Instructions, all fines and penalties imposed by regulatory authorities must be disclosed separately, regardless of materiality.

*Dividends to Policyholders (Line 17)*

The board of directors of a mutual insurance company may elect to pay a dividend to the policyholders. A dividend is effectively a return of a portion of the premium that was originally paid by the policyholder, and for a dividend to be paid, there are typically state requirements. When the decision is made to pay a dividend, it is considered to have been “declared,” and payment won’t actually be issued until a later date.

This item on the income statement includes dividends that were actually paid plus the change in accrued dividends.

*Federal and Foreign Income Taxes Incurred (Line 19)*

All foreign and federal income taxes that are incurred during the current year, including amounts related to prior years, are recorded on this line. This amount of income taxes incurred represents an estimate of the current income taxes incurred during the reporting period and excludes any amounts that would be deferred to later years. Further detail on taxation appears in *Chapter 26. Taxation in the U.S.*

## CHAPTER 9. CAPITAL AND SURPLUS ACCOUNT

In addition to various income items that have already been discussed, the Statement of Income within the Annual Statement also includes a section referred to as the “Capital and Surplus Account.” This section is important because it reflects certain changes in surplus that are not recorded in the income statement and it reconciles the beginning surplus to the ending surplus for the reporting period.

In its simplest form, the key components of the Capital and Surplus Account are listed in Table 5 as follows:

$$\begin{aligned} \text{Current Year Surplus (line 39)} &= \\ &\text{Prior Year Surplus (line 21)} \\ &+ \text{Current Year's Net Income (line 22)} \\ &+ \text{Other Surplus Changes (lines 24 through 31)} \\ &+ \text{Additional Capital Contributions (lines 32 and 33)} \\ &+ \text{Stockholder Dividends (line 35)}^{24} \end{aligned}$$

Under Statutory Accounting Principles, certain transactions are recorded directly to surplus, so the Other Surplus Changes component includes a number of important subcomponents. Table 5 is an excerpt of the Capital and Surplus Account for the U.S. property/casualty insurance industry as of December 31, 2011.<sup>25</sup>

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<sup>24</sup> Stockholder dividends represent a charge to surplus for amounts paid during the year plus the change in the amount of dividends declared but unpaid during the year. These amounts are shown as a negative number in line 35 of the Capital and Surplus Account and therefore added, as a negative number, to calculate current year surplus. Table 5 demonstrates this calculation.

<sup>25</sup> Accessed via SNL.com by SNL Financial LC.

TABLE 5<sup>26</sup>

<b>Statement of Income, Capital and Surplus Account Section: Total U.S. Property/Casualty Insurance Industry SNL Briefing Book – U.S. 2011 Statutory Financials, NAIC Format (USD in 000s)</b>		
<u>Line</u>	<u>Description</u>	<u>Amount</u>
21.	Surplus as of December 31 of prior year	571,059,427
22.	Net income	20,123,505
24.	Change in net unrealized capital gains (losses) less capital gains tax	(3,233,712)
25.	Change in net unrealized foreign exchange capital gain (loss)	(380,971)
26.	Change in net deferred income tax	1,074,133
27.	Change in nonadmitted assets	(1,446,063)
28.	Change in provision for reinsurance	262,032
31.	Cumulative effect of changes in accounting principles	(15,121)
32.	Capital changes	30,609
33.	Surplus adjustments	2,896,742
35.	Dividends to stockholders	(27,695,087)
37.	Aggregate write-ins for gains or losses to surplus	365,756
**	Other adjustments to surplus (see footnote)	(947,528)
38.	Changes to surplus for the year (lines 22 through 37 and **)	(8,965,705)
39.	<b>Surplus as regards policyholders, December 31 current year</b>	<b>562,093,722</b>

The first item of Table 5, surplus as of December 31 of prior year, is taken directly from the Capital and Surplus Account from the prior year. Net income comes from the Statement of Income. The remaining rows describe the direct adjustments to surplus. An explanation of some of the important adjustments is below.

#### *Change in Unrealized Capital Gains (Losses) (Line 24)*

We previously discussed the concept of realized and unrealized capital gains in the discussion of investments and investment income. Capital gains (losses) occur when the carrying value of an asset changes, but those capital gains (losses) are only realized when an asset is either disposed of or impaired.

Recall that in the investment income section of the Statement of Income, realized capital gains (losses) are recorded in income, but unrealized capital gains (losses) are not. Unrealized capital gains (losses) occur when the fair values of investments carried at fair value change during the reporting period. Because these unrealized capital gains (losses) are reflected in

<sup>26</sup> The amount contained in the line denoted by \*\* in Table 5 of \$(947,528) is equal to the sum of lines 23, 29, 30, 34 and 36 from the 2011 Statement of Income for the Total U.S. Property/Casualty Insurance Industry accessed via SNL Financial LC, plus a balancing item. The balancing item was added by the authors so that line 38 would reconcile to the amount provided in the dataset accessed via SNL Financial LC. The addition of a balancing item was for this table only and is not a standard practice.



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the balance sheet but not in net income, an adjustment to surplus is required to maintain the Assets - Liabilities = Surplus relationship.

Because the current year's surplus is being calculated with the prior year's surplus as a starting point, the required adjustment is the *change in* net unrealized capital gains (losses) relative to the prior year, not the absolute amount of unrealized capital gains for the current year. This amount can be found in column 4 of the Exhibit of Capital Gains (Losses).

Unrealized capital gains (losses) most frequently occur with respect to stock holdings that are held at fair value because any change in the fair value from year to year affects capital gains (losses). Bonds may also produce unrealized capital gains, but this would typically only occur when a bond is rated National Association of Insurance Commissioners (NAIC) 3 or lower and is therefore recorded at fair value. Perpetual preferred stock and redeemable preferred stock that is rated in the four lowest rating categories could also produce unrealized gains since they also may be recorded at fair value.

#### *Change in Net Unrealized Foreign Exchange Capital Gains (Losses) (Line 25)*

This item is similar to the change in unrealized capital gains (losses), but it is specifically related to unrealized capital gains (losses) due to changes in the foreign exchange rate. When an asset is purchased in a foreign currency, any subsequent change in value due to foreign exchange rates as long as that asset is held are considered to be unrealized capital gains (losses). This amount can be found in column 5 of the Exhibit of Capital Gains.

#### *Change in Net Deferred Income Tax (Line 26)*

Deferred tax assets (DTAs) and deferred tax liabilities (DTLs) were already discussed in the previous discussion of the balance sheet (*Chapter 7. Statutory Balance Sheet: A Measure of Solvency*). DTAs and DTLs can arise for a variety of reasons, but the most common are differences in statutory and tax accounting (such as in the discounting of loss reserves, unrealized gains/losses and unrealized foreign exchange gains/losses) and carryforward of previous operating losses to future tax years. DTAs are only considered admitted assets if a strict admissibility test is met. All surplus adjustments are recorded net of deferred taxes if there is a difference in the treatment of the item for statutory accounting and tax purposes. Similar to unrealized capital gains, net DTAs affect the balance sheet but do not flow through to income. As a result, a direct adjustment is required to surplus to maintain the equality of Assets - Liabilities = Surplus. The change in deferred taxes is determined before consideration of the nonadmitted portion because the change in nonadmitted DTAs is captured with all the other nonadmitted assets.

#### *Change in Nonadmitted Assets (Line 27)*

The concept of nonadmitted assets was introduced in the previous discussion of the balance sheet. Nonadmitted assets are assets that are not allowed to be considered part of surplus for

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the purpose of statutory accounting. This creates a violation of the Assets - Liabilities = Surplus relationship.

As with the previous items, the adjustment required is based on the *change* in nonadmitted assets relative to the prior year, not the current absolute amount. There is a specific exhibit in the Annual Statement, the Exhibit of Nonadmitted Assets (page 13 of the 2011 Annual Statement), which calculates the change in nonadmitted assets relative to last year by asset class and in total. The total change in nonadmitted assets from that exhibit is the source for the amount used as the change in nonadmitted assets in the Capital and Surplus Account.

*Change in Provision for Reinsurance (Line 28)*

Like nonadmitted assets, the provision for reinsurance is a concept that reduces surplus and is unique to statutory accounting. While nonadmitted assets are essentially treated as assets that are excluded from surplus, the provision for reinsurance is treated as an additional liability on the balance sheet (though no real liability exists). The provision for reinsurance is included on the balance sheet, but it does not flow through to the Statement of Income, which is why a direct adjustment to surplus is required.

The Liabilities page of the balance sheet shows the current year and the past year provision for reinsurance, so change in the provision for reinsurance can be calculated from those amounts. The amount of the change in the provision for reinsurance is included in the Capital and Surplus Account.

*Cumulative Effect of Changes in Accounting Principles (Line 31)*

Sometimes a company must adopt changes in accounting principles, either due to new accounting guidance, or a change in accounting policy. When such a change occurs, a company must determine the cumulative effect of the change (as if the accounting principle had always been in place) as of the beginning of the reporting period the change is made. The cumulative effect of the change is recorded as a direct adjustment to surplus.

Although an entry for a cumulative effect of changes in accounting principles could be required for many reasons, here are two examples:

- ▶ Anticipated salvage and subrogation: Companies have the option to record unpaid losses net of anticipated salvage and subrogation. When a company elects to change the recording from gross of salvage and subrogation to net of salvage and subrogation, the cumulative effect of this change should be reported here.
- ▶ Tabular discounting: When companies record loss reserves for life pension reserves, they have the option to discount for interest and mortality according to a prescribed actuarial table and interest rate. This is referred to as tabular discounting. When a

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company makes a change in its use of tabular discounting, the cumulative impact of that change should be recorded here.

*Capital Changes and Surplus Adjustments (Lines 32 and 33)*

The lines for capital changes and surplus adjustments primarily describe inflows and outflows of capital from the new issuance of stock or return of capital, as well as transfers from surplus to capital when stock dividends are issued. When new stock is issued, the portion of the proceeds related to the par value of that stock is recorded as paid-in capital on line 32.1. The portion of the proceeds in excess of the par value is recorded as paid-in surplus on line 33.1.

*Dividends to Stockholders (Line 35)*

The board of directors of an insurance company may elect to pay a dividend to the stockholders, which serves as a return on the stockholders' investment. Stockholder dividends may only be paid out of unassigned surplus, which is surplus that is not assigned to the par value or paid in value of stock, special surplus funds, surplus notes or treasury stock. There are also specific state requirements that must be met for a stockholder's dividend to be paid.

The amount shown as dividends to stockholders equals the actual amount paid during the year plus the change in the amount of dividends declared but unpaid during the year.

SUMMARY

This section described the three sources of income on the Statement of Income (underwriting, investment and other) and discussed the Capital and Surplus Account within the Statement of Income, where total change in surplus is determined.

While actuaries are most familiar with the aspects relating to underwriting income, they should also be familiar with investment income, given the significance of investment income to the pricing and profitability of an insurer. Understanding the various items that affect the change in surplus is also important because this not only provides the link between the profitability and the solvency of a company (or the income statement and the balance sheet), but it also highlights several direct adjustments to surplus that may require input from an actuary.

## CHAPTER 10. NOTES TO FINANCIAL STATEMENTS

We have now covered the numerical aspects of three of the primary financial statements: the balance sheet, income statement, and statement of capital and surplus. For some of the balances, Statutory Accounting Principles (SAP) requires additional qualitative or quantitative information in order to more fully portray the financial condition of an insurer. The Notes to Financial Statements include some of this additional qualitative and quantitative information.

This publication will focus on specific notes that often require direct involvement by actuaries and the notes that are potentially relevant to actuaries. The notes within each of those two categories are described below:

- ▶ Notes often requiring direct involvement by actuaries:
  - ▶ Reinsurance (23)
  - ▶ Change in incurred loss and loss adjustment expense (LAE) (25)
  - ▶ Premium deficiency reserves (30)
  - ▶ Discounting of liabilities for unpaid loss and LAE (32)
  - ▶ Asbestos/environmental reserves (33)
- ▶ Notes that are potentially relevant to actuaries:
  - ▶ Summary of significant accounting policies (1)
  - ▶ Events subsequent (22)
  - ▶ Intercompany pooling (26)
  - ▶ Structured settlements (27)
  - ▶ High deductibles (31)

The numbers listed next to each note above are the numbers corresponding to that note in the 2011 Notes to Financial Statements included in the Annual Statement Blank. These numbers may change from year to year due to the addition or subtraction of the notes that are required, so these numbers will not be used in the rest of this discussion. Examples will be drawn from the 2011 Notes to Financial Statements for Fictitious (referred to as the 2011 Fictitious Notes). It is also suggested that the reader review an example of the Notes to Financial Statements from a current insurance company Annual Statement as they review this section.<sup>27</sup>

For each of the notes described, the following information will be provided:

- ▶ Information contained in the note
- ▶ Importance of the note to actuaries
- ▶ Example of information from the 2011 Fictitious Notes

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<sup>27</sup> The Notes to the Financial Statements are included only in individual company Annual Statements, not in group Annual Statements.

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Readers seeking more detail on any notes listed above or on other notes to financial statements can refer to either the National Association of Insurance Commissioners (NAIC) Annual Statement Instructions or the paper *Notes to the NAIC Property/Casualty Annual Statement* by Sholom Feldblum and Ralph Blanchard (October 2010).

#### NOTES OFTEN REQUIRING DIRECT INVOLVEMENT BY ACTUARIES

These five notes typically require direct input from the actuaries at an insurance company, though in each case the management of the company is ultimately responsible (and in some cases the actuary may be a member of management). Because actuaries will likely be the primary source of input in these cases, readers should review these notes in detail and understand what information is needed to complete them.

##### *Reinsurance*

The loss and LAE reserve liabilities on the balance sheet and the underwriting income on the income statement are expressed net of reinsurance. Given that reinsurance can significantly lower the loss and LAE reserves on the balance sheet and affect the level of surplus, disclosures regarding the reinsurance in place are important to assessing the financial health of a company. Actuaries typically estimate the ceded reserves on reinsurance contracts and are therefore directly involved in the preparation of this note.

In particular, it is important to understand the potential credit risk associated with the assumed reinsurance recoverables (the risk that the reinsurer will not pay). This note provides information on specific liabilities for which the credit risk may be heightened, such as unsecured recoverables, recoverables in dispute and recoverables that have been deemed uncollectible.

In addition to the assessment of credit risk, there are also some specific accounting rules related to reinsurance that require additional disclosure. The note includes several of these matters, namely the commutation of ceded reinsurance, retroactive reinsurance, reinsurance accounted for as a deposit and run-off agreements.

There are eight sections of this note labeled A through H. A brief summary is provided on each of these sections:

- ▶ **Unsecured Reinsurance Recoverables (Section A):** The credit risk related to recoverables with a specific reinsurer is often mitigated by the reinsured having access to a letter of credit, trust agreement or funds withheld. This note discloses reinsurers for which no such security exists, but only in cases where the recoverable from that reinsurer exceeds 3% of the reporting entity's (i.e., the reinsured's) policyholder surplus. The mention of a reinsurer in this note is not necessarily a problem because those reinsurers may be highly rated and financially sound. The

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amounts shown for each include paid losses billed but not yet collected, ceded reserves and ceded unearned premium.

- ▶ Reinsurance Recoverables in Dispute (Section B): Even when a recoverable is secured, it is possible for a reinsurer to dispute (or refuse to pay) a recoverable. A reinsurer may dispute either because they are unwilling to pay due to a disagreement on the coverage or amount or because they are unable to pay due to insolvency. A recoverable is considered to be in dispute once a formal written refusal to pay is received from the reinsurer. In addition to identifying a credit risk, recoverables in dispute might represent attempts by a financially troubled insurer to over-recover from reinsurers.
- ▶ Reinsurance Assumed and Ceded (Section C): Although unclear from the vague naming, this section includes information on ceding commissions to reinsurers related to the ceded unearned premium reserve. These ceding commissions received from reinsurers are treated as revenue by the insurer and therefore benefit the insurers' surplus position. This section helps regulators to identify situations where an insurer may be abusing ceding commissions to artificially enhance its surplus position, and it provides information on ceding commissions that would need to be returned in the event of cancellation. Specific disclosure is also required for contingent ceding commissions.
- ▶ Uncollectible Reinsurance (Section D): If an insurer deems that it is unlikely to collect a specific reinsurance recoverable, it must write off that recoverable as uncollectible and treat it as an expense. This section of the note includes a description of any recoverables that were written off as uncollectible during the course of the year. The disclosures in this note may help an actuary or other user of the financial statements to assess provisions set aside for future uncollectible reinsurance, which is reflected in the Provision for Reinsurance derived in Schedule F.
- ▶ Commutation of Ceded Reinsurance (Section E): A commutation is a "transaction which results in the complete and final settlement and discharge of all, or the commuted portion thereof, present and future obligations between the parties arising out of a reinsurance agreement."<sup>28</sup> This note requires disclosure of any commutations that occurred during the year. This information is important to a user of the financial statements because a commutation may cause a distortion to the income statement and balance sheet because the commutation payment received from the reinsurer may be reflected as a negative paid loss and the net loss reserves may increase to reflect the elimination of the reinsurance.

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<sup>28</sup> SSAP 62.

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- ▶ **Retroactive Reinsurance (Section F):** Retroactive reinsurance refers to reinsurance that is purchased for liabilities that occurred prior to the effective date of the reinsurance contract. Retroactive reinsurance must be accounted for differently than normal prospective reinsurance to avoid distortion of the balance sheet and income statement. Instead of reducing the net loss reserves, retroactive reinsurance reserves are recorded separately as a write-in item on the balance sheet with any gain recorded in the income statement and as a restricted special surplus amount. This section of the note includes disclosure of any retroactive reinsurance, including reserves transferred, consideration paid or received, paid losses reimbursed or recovered, special surplus generated, and other reinsurers involved in the transaction. This section allows a user of the financial statements to verify that retroactive reinsurance is being accurately accounted for and to understand its impact on the financial statements.
- ▶ **Reinsurance Accounted for as a Deposit (Section G):** To be accounted for as reinsurance, a reinsurance contract must meet certain risk transfer criteria. When a reinsurance contract does not qualify for reinsurance accounting, it must be accounted for as a deposit. This means that it is directly accounted for as a deposit asset or liability (depending on if amounts are owed from or to, respectively, other parties under the contract), instead of flowing through underwriting income. If a company has any reinsurance contracts that are accounted for as deposits, a schedule showing the historical changes to the balance since inception of each contract is included.
- ▶ **Disclosures for the Transfer of Property Casualty Run-off Agreements (Section H):** Run-off agreements are reinsurance agreements intended to transfer the risks and benefits of a specific line of business or market segment that is no longer actively marketed by the transferring insurer to a third party. This third party is often another insurance or reinsurance company. If certain criteria are met, a run-off agreement can be accounted for differently than is typically required for retroactive reinsurance. If these criteria are met, the transferring entity records the consideration paid to the assuming entity as a paid loss. If the consideration paid by the transferring entity is less than the loss reserves transferred, the difference is recorded by the ceding entity as a decrease in losses incurred. As noted above, retroactive reinsurance that is not considered a run-off agreement is recorded as a separate item on the balance sheet with no reduction in incurred losses at the time of the transaction.

In summary, this note is helpful to an actuary or other user of the financial statements because it identifies potential credit risks (Sections A, B and D) and identifies types of reinsurance that are subject to specific accounting treatment (Sections C, E, F, G and H). For the sections related to credit risk (A, B and D), the user of the financial statements may ask the following kinds of questions if material balances exist:

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- ▶ Section A (Unsecured Recoverables): Why wasn't security provided? Are there concerns of the financial health of either the reinsurer or the reinsured? Was there a catastrophe that led to a large amount of recoverables? Are all of these unsecured recoverables concentrated with one reinsurer?
- ▶ Section B (Recoverables in Dispute): What is the point of disagreement with the reinsurer? Is the amount in dispute material to either the reinsured or the reinsurer? Are there legal opinions available on the validity of each side's claim?
- ▶ Section D (Uncollectible Reinsurance): What was the reason for the uncollectible reinsurance? Could other outstanding recoverables also be uncollectible in the future for the same or similar reasons? How long did it take the company to write off any uncollectible reinsurance that was disclosed?

The disclosures in this note are of specific interest to an actuary who is opining on a company's loss reserves because several of these items are referred to explicitly in the Statement of Actuarial Opinion (SAO).

A review of the 2011 Fictitious Notes indicates that Fictitious provided disclosures related to unsecured reinsurance, commissions and retroactive reinsurance. The other items were not applicable for the 2011 year.

#### *Change in Incurred Loss and Loss Adjustment Expense*

The total incurred loss and LAE for a year can be thought of in two categories: (1) loss and LAE that were incurred on liabilities occurring during the current accident year and (2) any changes in incurred loss and LAE from previous accident years. This note relates only to the second of these two items. The content of this note should include the amount of the change (i.e., reserve strengthening or weakening) in liabilities for previous accident years, the segments or lines of business that led to that change, and the reason for the change.

The importance of this note to the financial health of an insurance company is two-fold. First, the existence of a material change in prior accident years' incurred losses and LAE affects the current year's underwriting income and could obscure the true underlying experience of the current in-force business. A company that achieved positive underwriting income solely as a result of decreases to prior years' loss and LAE estimates may have profitability issues on their current business.

Second, recurring material changes in prior accident year incurred loss and LAE may be indicative of a bias or problem with a company's reserving process. For instance, if a company consistently experiences significant decreases in their estimates of prior accident years' losses, then there may be inherent conservatism to the company's process for establishing



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loss and LAE reserves. Schedule P provides additional information that may assist in this assessment, and it will be discussed in more detail in *Chapter 15. Schedule P*.

Actuaries should be familiar with the required content of this note so that they are prepared to provide input to management. Also, when reviewing a company's financial statements, actuaries may be in the best position to identify one of the two problems noted above. This note should be consistent to the similar note included in the annual Generally Accepted Accounting Principles financial statements and also to the one-year development column from Schedule P, Part 2 (with the exception of Adjusting & Other Loss Adjustment Expenses, which are included in this note but not in Schedule P, Part 2).

Finally, if the actuary is the Appointed Actuary for the company, the actuary may be called on to understand the difference in estimates underlying the loss reserves since the prior year's estimates and comment on those changes in the Appointed Actuary's Statement of Actuarial Opinion. For that reason, the actuary needs to be aware of the content of this note.

In the case of the 2011 Fictitious Notes, it is disclosed that the prior year-end total loss and LAE reserves developed favorably by \$875,000, and several specific segments were cited as the major drivers of this favorable development. According to Fictitious' income statement, the company's net income in 2011 was \$2.2 million. This tells the user of the financial statements that the favorable reserve development was a significant factor in the financial results of the company for the year. *Chapter 12. Five-Year Historical Data Exhibit* will provide guidance on how to assess whether this favorable development has been occurring consistently over time.

#### *Premium Deficiency Reserves*

Premium deficiency reserves must be recorded when the unearned premium of in-force business is not sufficient to cover the losses, LAE and maintenance expenses that will arise as that premium is earned. Companies have the option to consider investment income when performing this calculation. Also, before performing the calculation, the business should be grouped in a manner that is consistent with how it is marketed, serviced and measured.

Most insurance policies sold by insurance companies are priced with rates that are greater than the expected losses and expenses, especially after consideration of investment income. Furthermore, if there is a segment of the business that is underpriced, it may be a part of a larger grouping where the deficiency in that segment is offset by other more profitable segments. For these reasons, the premium deficiency reserve will be zero for a majority of companies. However, there are cases where a non-zero premium deficiency reserve exists due to regulatory, competitive or other conditions that led to inadequate rates.

When a non-zero premium deficiency reserve does exist, a company may record it as either a write-in liability or a part of the unearned premium reserve on the balance sheet. When it is

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recorded as a part of the total unearned premium reserve liability, Notes to Financial Statements is the only way to identify whether a premium deficiency reserve exists and the amount of the reserve.

In the note relating to premium deficiency reserves, the company must disclose the amount of the premium deficiency reserve. The company also needs to disclose whether investment income was considered in the determination of the premium deficiency reserve (although this is often disclosed in the accounting policy note).

This note is relevant to users of the financial statements because the existence of a premium deficiency reserve is usually a clear indication that issues of rate adequacy exist for at least the affected segment. However, the absence of a non-zero premium deficiency reserve does not necessarily indicate that rates for all business segments are adequate, due to the ability to consider investment income and to group segments into broad categories.

As a result of actuaries' involvement in the pricing and reserving of business, actuaries are in a position to provide input on whether a premium deficiency reserve is necessary and on the amount of the premium deficiency reserve. The analytical approach for this is beyond the scope of this publication, but there are other resources available that provide direction.

In the 2011 Fictitious Notes, the note on premium deficiency reserves indicates that at December 31, 2011, the company had liabilities of \$0 related to premium deficiency reserves, and anticipated investment income was considered in that determination. If an insurer were to elect to change its consideration of investment income from one year to the next for the purposes of calculating the premium deficiency reserve, that change would likely need to be disclosed, along with the amount of the impact, in the Note called "Accounting Changes and Correction of Errors."

#### *Discounting of Liabilities for Unpaid Loss and Loss Adjustment Expenses*

This note indicates whether a company discounts loss reserves, and if so, it also describes the basis for calculating the amount of the discount. There are two types of discounting that need to be disclosed: tabular discounting and non-tabular discounting.

Tabular discounting applies specifically to outstanding annuity-type claims that pay pension benefits. These claims arise most commonly from workers' compensation coverage but may also arise from other types of liability coverage. A tabular discount reflects mortality assumptions according to a specific life table and a defined interest rate. Both the life table and the interest rates may be specified by the state regulator. Not all insurance companies that have these eligible liabilities choose to utilize tabular discounts.

In the first part of this note, the company needs to indicate whether any liabilities are discounted using tabular discounting. If any tabular discounting is used, the company also needs to indicate the basis and assumptions used in calculating the tabular discount. For

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instance, in the 2011 Fictitious Notes, the company disclosed that tabular workers' compensation case reserves were discounted under various state laws, reflected a discount rate of 3.5% or a rate prescribed by the state regulator, and were derived based on a defined set of U.S. life tables.

In the second part of this note, any non-tabular discounting needs to be disclosed and described. This should reconcile to the amount of the non-tabular discount that was disclosed in Schedule P, Part 1, columns 32 and 33. Non-tabular discounting is less common than tabular discounting and is typically only done in specific cases where a company has been permitted by its state regulator to discount a specific type of liability. Two lines of business most commonly used for non-tabular discounting are workers' compensation and medical professional liability.

While tabular discounts are calculated for specific pension claims, non-tabular discounts are typically calculated on the aggregate amount of a specific segment of reserves by using a projected payment pattern and an assumed discount rate. If a company applies any non-tabular discounting, they must disclose that and describe the basis in this note. We can see from the 2011 Fictitious Notes that the company did not apply non-tabular discounting.

The note also requires a company to disclose whether any of the key assumptions used to discount loss reserves (whether for tabular or non-tabular discounting) have changed relative to the prior year.

It is important for actuaries and other users of the financial statement to be familiar with this note because different companies have different discounting policies, and those differences must be considered to make a consistent comparison. Non-tabular discounts may be of particular interest because they usually exist due to a specific exception granted by the regulator, which may relate to the solvency of an insurer. Furthermore, an actuary that is opining on the loss reserves of a company must disclose and describe any discounting of loss reserves in the SAO.

#### *Asbestos/Environmental Reserves*

Asbestos and environmental liability reserves have developed adversely over the past several decades. Therefore, exposure to asbestos or environmental liabilities can represent a significant source of uncertainty in a company's loss and LAE reserves. Furthermore, asbestos and environmental liabilities have consistently developed adversely over the past several decades. For these reasons, specific qualitative and quantitative disclosure is required regarding a company's asbestos and environmental reserves.

This note requires a company to disclose whether it has identified a potential exposure to asbestos or environmental reserves. These disclosures specifically exclude exposures relating to policies that were issued specifically to cover asbestos and environmental exposure. If the

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company answers affirmatively for either asbestos or environmental exposures, it must disclose the lines of business affected, the nature of the exposures and the reserving methodology used to estimate the liability. In addition to those qualitative disclosures, the company must complete a table that provides the following information for each of the past five years:

- ▶ Beginning loss and LAE reserves
- ▶ Incurred loss and LAE
- ▶ Calendar year payments for losses and LAE
- ▶ Ending loss and LAE reserves

This information must be provided separately for asbestos and environmental reserves on a direct, assumed and net of reinsurance basis. The company must also disclose the amount of the reserves that relate to unreported claims (i.e., pure incurred but not reported (IBNR)).

This note is important to the users of the financial statements because it discloses the existence of asbestos and environmental exposure, the magnitude of that exposure and the recent development of that exposure. In cases where these liabilities are material relative to a company's overall reserves and/or have consistently been developing adversely, it should serve as a potential warning sign to the financial health of the company.

Actuaries at insurance companies are often directly involved in the estimation, monitoring and reporting of asbestos and environmental reserves. In situations where the financial statements of a company are under financial review, actuaries may also be in the best position to evaluate the disclosures made here for potential impact on the financial health of the company.

In the 2011 Fictitious Notes, the company acknowledged exposure related to asbestos and environmental liabilities. The company then described its process for identifying, monitoring and estimating these exposures.

The excerpt below in Table 6 shows an example of the five-year history of the calendar year incurred and paid asbestos losses and LAE on a net of reinsurance basis for Fictitious. In this case, we see that the net asbestos liability as of December 31, 2011, was \$3.28 million. We also see that there was adverse development in Fictitious' asbestos reserves from 2008 through 2011, as evidenced by the incurred losses and LAE each year.

TABLE 6

<u>Net of Ceded Reinsurance Basis – Asbestos</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
a. Beginning reserves	\$5,450,000	\$5,023,000	\$3,920,000	\$3,709,000	\$3,426,000
b. Incurred losses and LAE	–	\$49,000	\$249,000	\$188,000	\$236,000
c. Calendar-year payments for losses and LAE	\$427,000	\$1,153,000	\$459,000	\$471,000	\$382,000
d. Ending reserves	\$5,023,000	\$3,919,000	\$3,710,000	\$3,426,000	\$3,280,000

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The excerpt below in Table 7 includes the information on the portion of these reserves that relates to unreported claims.

TABLE 7

Ending Loss and LAE Reserves for Unreported Claims Included in Part A Above	
1. Direct basis	\$3,116,000
2. Assumed reinsurance basis	\$0
3. Net of ceded reinsurance basis	\$2,782,000

From Tables 6 and 7 we see that \$2.78 million out of the total \$3.28 million in asbestos reserves (85%) related to unreported claims. The strong majority of the liability that is related to unreported claims underscores the high level of uncertainty in these liabilities.

## NOTES THAT MAY BE POTENTIALLY RELEVANT TO ACTUARIES

In addition to the five notes described above, there are several other notes that may be potentially relevant to actuaries. Actuaries should be familiar with these notes and their significance, and they may need to review them when they are evaluating the reserves for a company (particularly if they are the opening actuary).

*Summary of Significant Accounting Policies*

This note describes the accounting rules used to produce the Annual Statement, including:

- ▶ The source of the accounting rules (typically the NAIC *Accounting Practices and Procedures Manual*)
- ▶ Any exceptions that were made in applying those rules and the basis for those exceptions, such as an exception that made with specific state approval
- ▶ Additional detail on the company's significant accounting policies

Where exceptions are made to the rules in the NAIC *Accounting Practices and Procedures Manual*, they must typically be either prescribed or permitted. "Prescribed" refers to practices that are required by state law, and "permitted" refers to approval by the state regulator.

An actuary who is evaluating the reserves of a company will want to review this note to identify prescribed or permitted practices or other accounting policies that relate to loss reserves. Any unexpected deviations described in this note should be evaluated for their impact on the reserves and general financial health of the insurance company.

The following provides an excerpt of this note as provided in the 2011 Annual Statement for Fictitious:

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES.

A. Fictitious Insurance Company prepares its statutory financial statements in conformity with accounting practices prescribed or permitted by the state of Florida. The state of Florida requires that insurance companies domiciled in Florida prepare their statutory basis financial statements in accordance with the National Association of Insurance Commissioners (NAIC) Accounting Practices and Procedures Manual, subject to any deviations prescribed or permitted by the Florida Insurance Commissioner. The impact of any permitted accounting practices on policyholder surplus of the Company is not material.

As shown in this excerpt, the company prepared its statutory financial statements in conformity with the practices prescribed or permitted by the State of Florida and with the NAIC *Accounting Practices and Procedures Manual*, subject to deviations prescribed or permitted by the Florida Insurance Commissioner. Further, the note indicates that the impact of any permitted practices on policyholder surplus was not material.

*Events Subsequent*

Subsequent events are broadly defined as events that occur between the accounting date of the financial statements (for instance, December 31) and the date that the financial statements are issued (for instance, March 1). Within the broad category of subsequent events, there are also two specific types that should be defined:

- ▶ Type 1 (Recognized Subsequent Events) subsequent events provide “additional evidence with respect to conditions that existed as of the date of the Balance Sheet.” An example of this type of information would be if updated information was received on a large claim on January 15, when that claim had already been reported and known of prior to December 31, and the company deemed that insufficient IBNR was carried to cover the additional needed reserve.
- ▶ Type 2 (Nonrecognized Subsequent Events) subsequent events provide “evidence with respect to conditions that did not exist at the time of the Balance Sheet.” An example of a Type 2 subsequent event would be if a new large claim occurred on January 15 and was not previously known.

Type 1 subsequent events should already be reflected in the recorded amounts of the financial statements because the financial statements should reflect all information that is known up until the day that the financial statements are issued relating to the conditions that existed as of the accounting date. Disclosure is not needed unless it is “necessary to keep the financial statements from being misleading.” For example, if the booked reserves could not be adjusted in time to incorporate the revised reserve amount necessary to reflect the Type 1 event, this note would disclose the amount by which the reserves need to be adjusted. Note

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that changes that are made to reserves due to their normal continual review are not considered Type 1 events.

Type 2 subsequent events are not already, and should not be, reflected in the financial statement. However, they should be described in this note if they “may have a material effect on the financial condition of the company.” The guidance says “may have,” which means that even if a company has determined that the impact is not material, it should still be disclosed as long as it “may have” a material impact. Type 2 subsequent event disclosure, of course, requires use of management’s judgment.

An actuary or other user of the financial statement may consider reviewing this note to verify whether there are any material subsequent events that are not reflected in the financial statements. This is of specific importance to an actuary that is opining on a company’s loss reserves because the opining actuary will need to determine whether a subsequent event is material to the estimate of the loss reserves and whether that subsequent event should be considered.

Review of the 2011 Fictitious Notes indicates that no subsequent events were disclosed.

#### *Intercompany Pooling*

Intercompany pooling is a common arrangement among companies in a group in which each of the participants fully cedes all of its business to the pool leader, and then each participant assumes back a specific percentage of the total.

In these situations, it is important for a regulator or any other user of the financial statements to understand the pooling arrangement to assess the solvency of the group as a whole. This note discloses the existence of the pooling arrangement and also describes the cessions and assumptions that occur. Typically, this includes identification of each company in the group, the lead company and the pooling percentages for each participant.

In cases where pooling exists, it will affect the various aspects of the Annual Statement in different ways. Some examples include the following:

- ▶ The Underwriting and Investment Exhibit will show direct business written by each company and the amounts ceded to the lead company in the pool and the portion of the pool assumed specifically by affiliates.
- ▶ Schedule F will show the cessions to the lead company as ceded reinsurance in Part 3 and the assumed business in Part 1.
- ▶ Schedule P will show only the pool member’s share of the pooled results.

The 2011 Fictitious Notes indicate that this company did not participate in any intercompany pooling.

### *Structured Settlements*

A structured settlement refers to a situation where an insurance company settles a claim by purchasing an annuity on behalf of a claimant. This is most commonly observed on workers' compensation or general liability claims, and the annuity is usually purchased from a life insurance company.

When the annuity is purchased, it is recorded as a paid loss by the original insurance company, and the claim is considered to be closed. However, if the life insurance company providing the annuity was ever to become insolvent, it is possible that the original insurer could still be liable for the remaining portion of the annuity payments.

The purpose of this note is to disclose the total amount of structured settlement payments for which an insurer could be held liable. Furthermore, if the amount of these remaining payments from a single life insurance company exceeds 1% of surplus, specific disclosure of the amount and the company from which the structured settlement was purchased is required.

This note is relevant to users of the financial statements because it describes a potential liability, or credit risk, that is not reflected on the balance sheet. The identification of life insurers that provide coverage for remaining payments exceeding 1% of surplus allows for further review of their financial condition to identify any significant issues.

Review of this note in the 2011 Fictitious Notes indicates that in total the company purchased structured settlements with a statement value of \$4.3 million.

### *High Deductibles*

High-deductible policies are commercial insurance policies that have a significant deductible, such as \$250,000, giving the insured a substantial retention on each claim. Under these high-deductible policies, the insurer pays the full amount of the claim and then seeks reimbursement from the insured for the portion within the deductible. These types of policies are most commonly seen in workers' compensation but also may be used for liability business. Similar to the situation with structured settlements, these policies can present a credit risk to the insurer that is not apparent in the financial statements. For unpaid claims, the portion of the unpaid amount within the deductible is not included within the insurance company's booked loss reserve in the Annual Statement. The treatment for both paid and unpaid deductible losses creates a credit risk for the insurer due to the possibility that the insured will not reimburse them for the deductible portion of the loss.

This note requires disclosure of the following:

- ▶ The amount of reserve credit (i.e., the amount of case reserves established for the deductible portion of a loss) recorded by the company for unpaid claims.



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- ▶ The amount of billed but not yet collected deductible reimbursements for paid claims.

To understand the potential impact of this credit risk, an actuary or other user of the financial statements who is reviewing the financial health of a company can consider the total amount of credit risk relative to the total unpaid claims and to the company's surplus.

As noted in the Notes to Financial Statements for Fictitious, Fictitious does not issue any policies with high deductible plans.

#### SUMMARY

Notes to financial statements provide additional qualitative and quantitative disclosure to support the numerical information provided in the statutory financial statements. The Notes provide additional detail to assist the user of the financial statement in understanding the numerical exhibits and provide a source of publically available information on off-balance sheet items.

## CHAPTER 11. GENERAL INTERROGATORIES

In the previous chapter we discussed the Notes to Financial Statements. These notes provide additional information at the end of the financial statements in the interest of full disclosure of a company's financial condition. The notes address accounting policy and provide explanatory data and supplemental information to the financial statements. They assist the reader in interpreting some of the more complex items within a company's financial statements by expanding upon and adding clarity to specific items contained in the balance sheet and income statement. In contrast, the General Interrogatories are a series of questions within the statutory Annual Statement that the insurance company is required to respond to. The questions are divided into two parts:

- ▶ Part 1, Common Interrogatories, provides general questions applicable to life, health and property/casualty insurers.
- ▶ Part 2 provides questions that are specific to the type of insurance company (e.g., life, health or property/casualty). In the Property/Casualty Annual Statement, this section is Property & Casualty Interrogatories.

Similar to the Notes to Financial Statements, the responses provided in the General Interrogatories provide additional clarity to the reader of the Annual Statement but also serve to identify additional areas that warrant closer review by regulatory officials.

### COMMON INTERROGATORIES

Part 1 contains of the following subheadings: General, Board of Directors, Financial, Investment and Other. The purpose of each section is to give the reader an understanding of the company's operations, business practices, and the types of internal and external controls in place.

#### *General*

The General subsection asks questions pertaining to the following topics:

- ▶ Holding company relationships
- ▶ Latest regulatory financial examinations
- ▶ Excessive sales commission levels
- ▶ Merger activity
- ▶ Suspension of licenses
- ▶ Foreign control
- ▶ Exemptions from required regulations
- ▶ Whether senior management is subject to a code of ethics

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Answers to these questions provide the reader with additional information about the company and its discipline in following the “rules.” For example, if a company has suspended licenses or does not comply with recommendations from the latest financial examinations, there may be a lack of internal discipline, and this company would therefore be looked at with further scrutiny by external parties. Likewise, further inquiry may be appropriate if a company reports excessive commission levels, as this might be a sign that the company is conceding on commission to maintain business or achieve growth.

The General subsection also provides the name and address of the independent certified public accountant (CPA) or accounting firm (the auditor) conducting the annual audit and the appointed actuary.

While important to peruse all the interrogatories, knowledge of the auditor, appointed actuary and latest financial exam(s) are of particular relevance to the property/casualty actuary.

**Audit firm:** The CPA opines as to whether the insurance company’s financial statements are free of material misstatement and prepared in accordance with the accounting principles used. The audit firm is responsible for reconciling figures contained in a company’s financial statements to detailed underlying balances and confirming amounts due to or from third parties.

It is important for the actuary to be aware of any misstatements in the financial statements or errors in the underlying data relied upon. Further, in accordance with National Association of Insurance Commissioners (NAIC) data testing requirements,<sup>29</sup> a company’s independent accountant and appointed actuary are required to communicate so the accountant can determine which data relied upon by the actuary should be subject to audit testing procedures.

**Actuary:** The name, address and affiliation of the appointed actuary are provided in the General Interrogatories. The appointed actuary is the actuary explicitly appointed by the insurance company’s board of directors, or equivalent body, to opine on the loss and loss adjustment expense (LAE) reserves reported in the company’s Annual Statement. It is important for the user of the Annual Statement to know who the appointed actuary is; questions pertaining to the Statement of Actuarial Opinion should be addressed to the appointed actuary.

**Latest financial examination:** The General Interrogatories also provide information regarding the latest financial examination performed by state regulatory officials. The interrogatories include:

- ▶ The date of the latest financial exam

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<sup>29</sup> 2011 NAIC Annual Statement Instructions Property/Casualty, page 19.

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- ▶ The date through which financial statements were evaluated
- ▶ The release date of the examiner's report
- ▶ The name of the department performing the exam
- ▶ Whether the insurance company has complied with all adjustments and recommendations from the examination report

Regulatory examination reports are generally available to the public through the state insurance department in which the exam was performed. The examination report will provide the state's findings with respect to the adequacy of the company's loss and LAE reserves.

#### *Board of Directors*

The Board of Directors subsection of the Common Interrogatories focuses on the board's role in overseeing the company's operations. In particular, it includes questions regarding the board's approval of the purchase or sale of investments and whether the company has a process in place to notify the board of conflicts of interest within the company's senior management. The company is also asked whether permanent records of board proceedings are retained; this enables tracking and monitoring of the board's oversight role.

#### *Financial*

While it is generally assumed that the Annual Statement is performed under Statutory Accounting Principles (SAP), the first question within the Financial subsection asks if the statement was performed using another basis (e.g., Generally Accepted Accounting Principles). The basis of accounting is important for users of the statement and should probably be read first when opening an Annual Statement. If it is assumed that the Annual Statement is performed under SAP, yet it is performed under a different accounting basis, then the user may misinterpret individual figures and ultimately a company's financial position.

The questions within the remainder of the Financial subsection pertain to loans made to senior leadership and other stakeholders of the company, assets that the company was obliged to transfer to another party that were not reported as a liability in the statement, assessments other than those to a guaranty fund or guaranty association, and amounts due from affiliates. The purpose is to understand if the company has financial obligations that have not previously been reported in the Annual Statement and/or if the company is providing financial support or a lifeline to stakeholders or affiliates.

#### *Investment*

The Investment subsection has the most questions within the General Interrogatories (more than 30). They cover control over assets and investment decisions, security lending programs

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and associated collateral, hedging programs, mandatorily convertible preferred stocks or bonds, and compliance with the *Purposes and Procedures Manual* of the NAIC Securities Valuation Office, among other topics. Here again, the questions pertain to the level of control the company has over its operations and compliance with the rules.

#### *Other*

*The Other* subsection captures information about payments made to trade associations, service organizations, statistical or rating bureaus, attorneys or others in connection with legislative or regulatory matters. Examples of such organizations include the Insurance Services Office and A.M. Best Company. The company is required to list the names of organizations where payment exceeded 25% of the subtotal so that the reader can get an idea of the amount of influence or reliance that the company has on a particular organization, bureau or legislative matter.

#### PROPERTY & CASUALTY INTERROGATORIES

Part 2 of the General Interrogatories is specific to property/casualty insurers and provides more details about the company's exposures that are not readily determinable based on the quantitative information contained in the schedules and exhibits within the Annual Statement. Many of these questions focus on specific exposures that are not generally dealt with by the property/casualty actuary on a daily basis, such as those pertaining to Medicare supplement insurance, health lines of business or health savings accounts. However, other questions are of major interest to actuaries. For example, certain questions center on the company's exposure to catastrophic events and excessive loss, the process by which probable maximum loss is determined and the level of reinsurance protection afforded to protect the company's net results against catastrophic losses. These questions (requests) include the following:

- ▶ "What provision has this reporting entity made to protect itself from an excessive loss in the event of a catastrophe under a workers' compensation contract issued without limit of loss?"<sup>30</sup>
- ▶ "Describe the method used to estimate this reporting entity's probable maximum insurance loss, and identify the type of insured exposures comprising that probable maximum loss, the locations of concentrations of those exposures and the external sources (such as consulting firms or computer software models), if any, used in the estimation process."<sup>31</sup>
- ▶ "What provision has this reporting entity made (such as a catastrophic reinsurance program) to protect itself from an excessive loss arising from the types and

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<sup>30</sup> 2011 *Property/Casualty Annual Statement*, General Interrogatory 6.1 (Part 2 Property & Casualty Interrogatories).

<sup>31</sup> *Ibid.*, General Interrogatory 6.2 (Part 2 Property & Casualty Interrogatories).

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concentrations of insured exposures comprising its probable maximum property insurance loss?"<sup>32</sup>

- ▶ "Does the reporting entity carry catastrophe reinsurance protection for at least one reinstatement, in an amount sufficient to cover its estimated probable maximum loss attributable to a single loss event or occurrence?"<sup>33</sup>
- ▶ "If no, describe any arrangements or mechanisms employed by the reporting entity to supplement its catastrophe reinsurance program or to hedge its exposure to unreinsured catastrophic loss."<sup>34</sup>

Although the General Interrogatories are not included for Fictitious Insurance Company, the aforementioned questions would be of particular interest to users of Fictitious' Annual Statement in light of the company's catastrophic loss experience in 2011. Review of answers to the above questions in conjunction with the information provided in Schedules F and P about Fictitious' reinsurers and ceded loss ratios would assist the user in evaluating the adequacy of Fictitious' reinsurance protection relative to its catastrophe exposures. Other questions within the Property & Casualty Interrogatories that are of interest include those pertaining to the use of finite reinsurance. Finite reinsurance was a hot topic in the property/casualty insurance industry in 2005 when several large insurance companies were fined by the Securities and Exchange Commission for accounting for finite reinsurance deals in a way to bolster their financial position.

In its simplest form, finite reinsurance does not transfer underwriting risk; rather it is a play on interest. Assume an insurance company knows it will have to pay a fixed amount in losses, say \$10 million, in two years. Under a finite reinsurance deal, the insurance company could take the present value of \$10 million and give it to a reinsurance company as "premium," in exchange for an agreement that the reinsurer pay the \$10 million in losses two years from now. The amount the reinsurer will have to pay is fixed (\$10 million), and the time the reinsurer will have to pay the losses is fixed (two years); there is no underwriting or timing risk involved in the transaction.

Using a simplified example, assuming a 5% rate of interest, if the insurance company were to account for this contract as reinsurance, its balance sheet would show a reduction of approximately \$9 million in cash for premium paid (the present value of \$10 million at 5% interest per year for two years) in return for a corresponding reduction of \$10 million in loss reserves, resulting in a net increase to surplus of approximately \$1 million. However, since there is no underwriting or timing risk, this is more akin to a deposit, such as one with a bank, and this is how such contracts must be accounted for. There is no surplus relief as a result of this contract; the insurer still has to pay \$10 million in two years.

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<sup>32</sup> Ibid., General Interrogatory 6.3 (Part 2 Property & Casualty Interrogatories).

<sup>33</sup> Ibid., General Interrogatory 6.4 (Part 2 Property & Casualty Interrogatories).

<sup>34</sup> Ibid., General Interrogatory 6.5 (Part 2 Property & Casualty Interrogatories).

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Several high-profile insurance companies engaged in finite reinsurance arrangements in the early 2000s to boost their financial results through improper accounting. This behavior prompted the NAIC to adopt additional disclosure requirements, including an expansion of the Property & Casualty Interrogatories. One such interrogatory requires insurers to answer affirmatively if they ceded reinsurance that:

1. Resulted in underwriting gain (or loss) of more than 5% of prior year surplus or ceded premiums or loss and LAE reserves of more than 5% of surplus.
2. Was accounted for as reinsurance rather than as a deposit.
3. Had one or more of the following features ("or other features that would have similar results"<sup>35</sup>):
  - a. Duration of at least two years and is non-cancelable during the term.
  - b. Limited cancellation provisions such that the ceding company is required to enter into a new contract with the same reinsurer or its affiliate.
  - c. Aggregate stop loss coverage.
  - d. The right by either party to commute, unless triggered by a downgrade in the credit rating of the other party.
  - e. The ability to report or pay losses less frequently than quarterly.
  - f. Delayed timing of reimbursement to the ceding company.<sup>36</sup>

A following interrogatory requires insurers to answer affirmatively if they have entered any ceded reinsurance contracts where ceded premium is 50% or more than the insurer's gross written premium, or 25% or more of the ceded written premium is retroceded to the insurer. Reinsurance ceded to entities other than captives under the insurer's control or approved pooling arrangements is excluded from this interrogatory.<sup>37</sup>

If either interrogatory is answered affirmatively by the insurance company, the insurer is required to file the Reinsurance Summary Supplemental Filing to the Annual Statement. This filing is due on March 1. Within this filing the insurer is required to disclose:

1. The financial impact on the balance sheet and statement of income if such contracts were excluded (i.e., the restatement of assets, liabilities, surplus and net income gross of the reinsurance contract(s)).
2. A summary of the applicable terms of the contract(s) that triggered the affirmative response.
3. The reasons management entered into the contract, including the expected financial gain.<sup>38</sup>

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<sup>35</sup> Ibid., General Interrogatory 9.1 (Part 2 Property & Casualty Interrogatories).

<sup>36</sup> Ibid., General Interrogatory 9.1 (Part 2 Property & Casualty Interrogatories).

<sup>37</sup> Ibid., General Interrogatory 9.2 (Part 2 Property & Casualty Interrogatories).

<sup>38</sup> 2011 NAIC Annual Statement Instructions Property/Casualty, page 440.

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The intent of these additional interrogatories and the supplemental filing is to identify those contracts that may be accounted for improperly and therefore warrant further review by regulatory officials. Knowledge of such contracts is relevant to the actuary as the accounting treatment may impact the actuary's evaluation of unpaid claims. If a ceded contract is accounted for as reinsurance, it will serve to reduce the unpaid claim liabilities; if accounted for as a deposit, it will not.

Examples of other items addressed within the Property & Casualty Interrogatories that tend to be a focus of the actuary include:

- ▶ Whether there are specific limiting provisions within reinsurance contracts, guaranteed policies and retrospectively rated policies, as these features may affect the actuary's evaluation of unpaid claims.<sup>39</sup>
- ▶ Any releases of liability under reinsured policies, such that the company could reassume liability and potentially have its surplus position weakened as a result.<sup>40</sup>
- ▶ Exposure to warranty business, whereby the adequacy of the unearned premium reserve would be the focus of attention as the contract terms, and therefore exposure, tends to continue beyond 12 months.<sup>41</sup>

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<sup>39</sup> 2011 *Property/Casualty Annual Statement*, General Interrogatory 7.1 (Part 2 Property & Casualty Interrogatories).

<sup>40</sup> *Ibid.*, General Interrogatory 8.1 (Part 2 Property & Casualty Interrogatories).

<sup>41</sup> *Ibid.*, General Interrogatory 16.1 (Part 2 Property & Casualty Interrogatories).



## CHAPTER 12. FIVE-YEAR HISTORICAL DATA EXHIBIT

### OVERVIEW

Most other exhibits and schedules within the Annual Statement provide only one or two years of financial data for a company. The Five-Year Historical Data exhibit is valuable because it provides a summarization of key financial figures and statistics from historical Annual Statements going back five years: the current and prior four. Key line items from the balance sheet and income statement are included. Also included are operating ratios and ratios showing one- and two-year development in loss reserves relative to policyholders' surplus. This compilation facilitates the identification of trends when evaluating the health of a property/casualty insurance company.

Following is a brief overview of content that actuaries tend to focus on within this exhibit, with illustrations using data from Fictitious' 2011 Annual Statement where deemed relevant.

### WRITTEN PREMIUM

The first page of the Five-Year Historical Data exhibit begins with the insurance company's revenue. For an insurance company, revenue is in the form of written premium. Gross and net written premium information is provided. Gross and net amounts are summarized into the following five lines of business categories:

1. Liability
2. Property
3. Property and liability combined
4. All other
5. Non-proportional reinsurance

A sixth line contains the totals.

This information shows how the company's premium volume, use of reinsurance and business mix have changed over time. Things to look out for when assessing the health of an insurance company include rapid growth or decline in revenue, increases or decreases in the use of reinsurance protection, and changes in business mix toward riskier or unprofitable lines. Observations such as these would prompt additional inquiry through review of other schedules, exhibits and notes within the Annual Statement and a meeting with company management. For example, if a company significantly increased its use of ceded reinsurance, we would want to understand the quality of the reinsurance. The Notes to Financial Statements and Schedule F provide additional information on the company's reinsurers.

Total gross and net written premium figures from Fictitious' Five-Year Historical Data exhibit are displayed in Table 8.

TABLE 8

Data from Fictitious Insurance Company 2011 Five-Year Historical Data (USD)					
	2011	2010	2009	2008	2007
6. Gross premiums written	28,634,000	28,085,000	29,519,000	31,238,000	31,670,000
	2%	-5%	-6%	-1%	
12. Net premiums written	26,752,000	25,936,000	25,521,000	25,583,000	25,363,000
	3%	2%	0%	1%	
Net/gross ratio	93%	92%	86%	82%	80%

Fictitious experienced an approximate 5% decline in gross writings in 2009 and 2010. This could have been attributed to many things, including a decrease in concentration in a certain line of business or risk class, the continued softening of the market observed over this time period or a decrease in the amount of coverage purchased. Gross written premiums increased by 2% in 2011, which again could have been a function of the economy or insurance prices starting to rebound or both.

Over the same period, net written premium volume was relatively flat and even slightly positive. Calculation of the net-to-gross ratio shows that the company's net retention had been growing since 2007, from 80% in 2007 to 93% in 2011. This means that the company was ceding fewer premium dollars to its reinsurers. This could have been attributed to either a decision by the company to retain more business or a softening in reinsurance prices over the period or both. Observations such as these would warrant further inquiry of company management to fully understand the cause for changes in the company's direct, assumed and ceded business volume.

Table 9 shows the gross written premium figures by line of business segment as reported by Fictitious, below which the corresponding distribution of gross written premium by segment is shown.

TABLE 9

Data from Fictitious Insurance Company 2011 Five-Year Historical Data (USD)					
<u>Gross premiums written (GPW)</u>	<u>2011</u>	<u>2010</u>	<u>2009</u>	<u>2008</u>	<u>2007</u>
1. Liability lines	13,281,000	13,843,000	15,075,000	16,422,000	16,815,000
2. Property lines	5,566,000	4,990,000	5,436,000	5,925,000	6,155,000
3. Property and liability lines	9,649,000	8,936,000	8,651,000	8,544,000	8,355,000
4. All other lines	138,000	316,000	357,000	347,000	345,000
5. Non-proportional reinsurance lines	-	-	-	-	-
<b>6. Total</b>	<b>28,634,000</b>	<b>28,085,000</b>	<b>29,519,000</b>	<b>31,238,000</b>	<b>31,670,000</b>
<u>Distribution of GPW</u>	<u>2011</u>	<u>2010</u>	<u>2009</u>	<u>2008</u>	<u>2007</u>
Liability lines	46%	49%	51%	53%	53%
Property lines	19%	18%	18%	19%	19%
Property and liability lines	34%	32%	29%	27%	26%
All other lines	0%	1%	1%	1%	1%
Non-proportional reinsurance lines	0%	0%	0%	0%	0%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

For Fictitious, the lines of business flowing into the segments identified in Table 9 are as follows:<sup>42</sup>

1. Liability lines: workers' compensation, other liability and automobile liability
2. Property lines: fire and auto physical damage
3. Property and liability lines: homeowners and commercial multiple peril
4. All other lines: fidelity

Fictitious does not write any non-proportional reinsurance (line 5).

Over the five-year period ending in 2011, Fictitious' writings declined in the liability lines (line 1) and grew in the property and liability lines (line 3). Writings in the straight property lines (line 2) remained consistent over the period.

Property lines tend to be short-tailed in nature; property claims are reported and paid relatively quickly when compared to liability claims. Shifts from liability to property lines would tend to result in a reduction in uncertainty surrounding the company's loss and loss adjustment expense (LAE) reserves. However, shifts to the property lines increase uncertainty due to the exposure to catastrophe loss.

A similar analysis can be performed on Fictitious' net written premium data.

<sup>42</sup> Written premium by line of business is shown in Part 1B, Premiums Written, of the U&IE.

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## STATEMENT OF INCOME

The Five-Year Historical Data exhibit also provides summarized information from the Statement of Income that is useful in identifying components of changes in a company's net income (e.g., whether attributed to underwriting or investments or other income). Table 10 shows this data for Fictitious.

TABLE 10

Data from Fictitious Insurance Company 2011 Five-Year Historical Data (USD)					
<u>Statement of Income</u>	<u>2011</u>	<u>2010</u>	<u>2009</u>	<u>2008</u>	<u>2007</u>
13. Net underwriting gain (loss)	(2,133,000)	1,488,000	2,544,000	1,883,000	2,773,000
14. Net investment gain (loss)	4,305,000	4,415,000	2,850,000	3,993,000	4,747,000
15. Total other income	33,000	47,000	38,000	143,000	47,000
16. Dividends to policyholders	46,000	32,000	23,000	29,000	31,000
17. Federal and foreign income taxes incurred	(20,000)	963,000	1,489,000	1,378,000	1,304,000
18. Net income	2,179,000	4,955,000	3,920,000	4,612,000	6,232,000
Increase/(decrease) year-over-year	(2,776,000)	1,035,000	(692,000)	(1,620,000)	
Percentage increase/(decrease) year-over-year	-56%	26%	-15%	-26%	

We see that Fictitious' net income was been positive in each of the years 2007 through 2011, with growth achieved in 2010 over 2009 after two years of decline. The \$1 million (+26%) growth observed in 2010 was predominantly attributed to improvements in the financial markets and a reduction in taxes. Investment gains improved in 2010 to levels near where they were prior to the 2008 financial crisis and remained at that level in 2011.

Despite the rebound in the investment market, the company experienced a 56% decline in net income in 2011 over 2010 due to a net underwriting loss of \$2 million. Given what we know about the company's shift toward property lines over the period 2007 through 2011, and consequential increase in exposure to catastrophe losses, we can hypothesize that the underwriting loss in 2011 was due to the high frequency of catastrophe events during the year. Investigation of other statements and exhibits within Fictitious' Annual Statement can help us validate our theory.

As discussed in *Chapter 8. The Statutory Income Statement: Income and Changes to Surplus*, the Statement of Income on page 4 of the Annual Statement provides the components of net underwriting gain (loss), net investment income gain (loss) and other income, and each component can be further investigated through various supporting schedules. For example, as displayed in the Statement of Income for Fictitious, the net underwriting loss of \$2 million was primarily driven by an increase in losses incurred during 2011 (\$17 million in 2011 versus \$13 million in 2010, per line 2 of the Statement of Income).

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We can drill down further by looking at the one-year development line (Development in estimated losses and loss expenses incurred prior to current year) within the five-year exhibit to see whether this increase was attributed to prior-year development or current-year incurred losses.

TABLE 11

Data from Fictitious Insurance Company 2011 Five-Year Historical Data (USD in 000s)					
	2011	2010	2009	2008	2007
73. Development in estimated losses and loss expenses incurred prior to current year (Schedule P, Part 2, Summary, Line 12, Column 11)	(875)	(1,354)	(1,618)	(1,959)	(918)

As displayed in the one-year development line, loss and defense and cost containment (DCC) development in 2011 on prior accident years was *negative* \$875,000.<sup>43</sup> This means that the company experienced favorable development in 2011 on the prior years in the aggregate. As a result, the underwriting loss in 2011 must have been due to current (2011) accident year incurreds, providing further evidence that catastrophes were the cause. A review of accident year 2011 loss and DCC experience per Schedule P can confirm this.

Turning to Schedule P, Part 2, Summary, we see that accident year 2011 incurred loss and DCC was \$19 million, approximately \$3 million higher than it had been in the company's 10-year history. Later in Schedule P, the line of business detail shows that the company experienced higher incurred loss and DCC on the homeowners/farmowners line (roughly \$4 million on accident year 2011 versus \$2.5 million on accident year 2010). This further suggests that Fictitious, like the rest of the insurance industry, was adversely impacted by the natural catastrophes in 2011.

With respect to investment gains in 2010, a line-by-line comparison of the Exhibit of Net Investment Income within the company's current-year and prior-year Annual Statements can provide further details on changes in the company's investment income, as can a line-by-line comparison of changes in amounts by asset class within the Exhibit of Capital Gains (Losses). While these two exhibits are not included in the Annual Statement excerpts provided for Fictitious, a study of the changes in net investment income can be made by reviewing these exhibits for one of the (real) insurance companies on the CAS Exam 6 U.S. Syllabus.

Absent these exhibits for Fictitious, we expect that the growth in investment income in 2010 was most likely due to a rebound in the financial markets post crisis.

<sup>43</sup> We acknowledge that Schedule P, Part 2, Summary, provides both loss and DCC, while we are focusing on the change in incurred losses only. However, as shown in the Statement of Income, loss adjustment expenses have not changed significantly in dollar terms. We therefore feel this comparison is reasonable for illustration purposes.

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As displayed in the Five-Year Historical Data exhibit for Fictitious, the decline in taxes in 2011 is directionally consistent with what one would expect with a decline in income. However, the decrease in taxes between 2009 and 2010 by approximately \$0.5 million (from \$1,489,000 to \$963,000) is somewhat counterintuitive. Generally, one would expect to pay more taxes the higher the income. While not included in the Annual Statement excerpts provided for Fictitious, the note in the financial statements titled "Income Taxes" (number 9 in the Notes to Financial Statements of the 2011 Annual Statement) can be helpful in explaining movements in taxes from year to year, such as that which occurred for Fictitious. This note provides details on deferred tax assets and losses and shows what taxes would have been if a straight 35% statutory tax rate was used. It also provides the reasons for differences between the total recorded income tax and taxes at the statutory rate, which might in turn explain higher or lower taxes paid in a particular year.

#### BALANCE SHEET

The balance sheet section of the Five-Year Historical Data exhibit contains summarized information that is useful in identifying components of changes in surplus (e.g., whether attributed to changes in assets or certain liability items) over time.

Only two major asset categories are provided: (1) total admitted assets and (2) premiums and considerations. However, the distribution of assets by class is provided further along in the exhibit (percentage distribution of cash, cash equivalents and invested assets). For trend analysis, the distribution of assets by class is more useful than the actual dollar amounts. When analyzing the health of a property/casualty insurer, things to look out for include large holdings in risky asset classes or changes in mix to riskier classes. However, the user would also look to the company's use of hedging vehicles to mitigate increased holdings in riskier investments, such as derivative instruments (see *Chapter 8. The Statutory Income Statement: Income and Changes to Surplus*).

The remaining lines within the balance sheet section of the exhibit are summarized items from the Liabilities, Surplus and Other Funds page. Of most relevance to the property/casualty actuary is the level of loss and LAE reserves, unearned premiums, and surplus relative to the actuary's knowledge of the underlying business and the changes therein.

A review of Fictitious' data shows no significant changes in these items other than a dip in surplus in 2008 (6% decrease from 2007) and 2010 (12% decrease from 2009). The capital and surplus account within the Statement of Income shows that the large decrease in 2010 was attributed to sizeable dividends paid to stockholders during the year (approximately \$10 million). This can also be seen in the Capital and Surplus Account section of the Five-Year Historical Data exhibit. This section provides two sources of the change in surplus: that due to unrealized capital gains (losses) and that resulting from dividends paid by the company to its stockholders.

## RISK-BASED CAPITAL

We will discuss Risk-Based Capital (RBC) in detail in *Chapter 19. Risk-Based Capital*. It is a solvency framework developed by the National Association of Insurance Commissioners from which an amount of capital is determined formulaically based on the application of specified factors to an insurance company's recorded assets and liabilities as of year-end. The calculated capital, or RBC, is compared to the total adjusted capital recorded by the insurance company at year-end to determine the level, if any, of company or regulatory action required from a solvency perspective.

The components of the RBC ratio are provided in the Five-Year Historical Data exhibit but not the RBC ratios themselves. However, the user can calculate the RBC ratios from the information provided in the Five-Year Historical Data exhibit. Table 12 provides the figures shown in lines 28 and 29 of Fictitious Insurance Company's 2011 Five-Year Historical Data, below which we show the RBC ratios that we calculated from lines 28 and 29.

TABLE 12

Data from Fictitious Insurance Company 2011 Five-Year Historical Data (USD)					
Risk-Based Capital analysis	2011	2010	2009	2008	2007
28. Total adjusted capital	31,024,000	31,608,000	35,793,000	32,572,000	34,567,000
29. Authorized control level RBC	5,552,000	6,097,300	5,854,000	5,685,000	6,517,000
Total adjusted capital as a percent of ACL (= Line 28 / Line 29)	559%	518%	611%	573%	530%
Total adjusted capital as a percent of RBC (= Line 28 / (Line 29*2))	279%	259%	306%	286%	265%
Reduction in capital to next RBC level (= Line 28 - (Line 29*2))	19,920,000	19,413,400	24,085,000	21,202,000	21,533,000

Table 69 of this publication provides the various levels of company and/or regulatory action in response to a company's calculated RBC ratios. For Fictitious, the percentage of adjusted capital to authorized control level (ACL) ranged between 518% to 611% over the five-year period 2007 through 2011, which is 2.6 to 3.1 times the first level requiring action (company action level, which is equal to 200% of ACL). This means that Fictitious' capital in 2011 could have been reduced by \$20 million before any action was required under the RBC requirements. This was computed by taking the total capital in line 28 and subtracting from it the upper bound of the range of the first action level of RBC requirements (150% to 200%).<sup>44</sup>

In establishing a materiality standard for Statement of Actuarial Opinion purposes, some actuaries look at the impact on surplus from a change in RBC levels. In these circumstances, an increase in reserves by an amount that would cause the company (or regulator) to take

<sup>44</sup> \$19.920 million = \$31.024 million - (2 \* \$5.552 million).

action under RBC is thought to be material. This is discussed further in *Chapter 16. Statement of Actuarial Opinion*.

#### OPERATING PERCENTAGES

Operating percentages provide the distribution of earned premium into its components of loss, LAE, other underwriting expenses and the profit (loss) from underwriting (net underwriting gain (loss)) that remains. For Fictitious, the ratios were reasonably consistent over the five-year period with the exception of 2011. The high loss ratio in 2011 relative to prior years highlights the spike in losses in 2011 and resulting loss from underwriting.

Spikes or changes in other underwriting expenses directly impact profitability and would be investigated further as to whether such costs were necessary and/or indicative of costs to be incurred by the company in the future.

#### ONE- AND TWO-YEAR LOSS DEVELOPMENT

Actuaries, in particular those that work in the reserving area, pay considerable attention to the last four lines of the Five-Year Historical Data exhibit (lines 73 through 76 of 2011 Five-Year Historical Data exhibit), as this information shows how the company's prior-year loss and DCC reserves have developed over one- and two-year time horizons.

We already presented the one-year development line (line 73) when interpreting the cause of the underwriting loss incurred by the company in 2011. The subsequent line (line 74) shows the relationship of one-year loss and DCC development to the company's surplus as recorded in the prior year's balance sheet. The purpose is to show the impact of adverse or favorable reserve development on policyholders' surplus. That is, it shows the percentage of surplus that would have been absorbed (enhanced) as a result of adverse (favorable) loss development.

In a perfect world, development would be nil. However, loss reserves represent estimates made by a company's management based on information available as of a certain point in time. It is expected that actual loss emergence will differ from expected, and company management will revise its estimates each year as additional information becomes available. As a result, it's not often that \$0 is observed in the one-year (or two-year) development line. The issue here is not that a company experiences development in its loss reserves, but rather how big the development is and its significance to surplus.

Stakeholders tend to be concerned when large positive numbers are shown in the development lines as this means that the prior-year reserves were deficient. The question is whether the increase is attributed to an anomaly or if it is symptomatic of a trend of under-reserving. Further investigation could be made within the Annual Statement by reading the Notes to Financial Statements, specifically the note on changes in incurred loss and LAE, and looking at Schedule P, Part 2, which may show that the adverse development is coming from



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a particular year or line of business. Oftentimes, such development is also discussed in public reports by and on behalf of the company (e.g., 10-K for public companies or the AMB Credit Report for the company published by A.M. Best). However, nothing supplants discussion with company management.

Table 13 provides both the one-year development line and the relationship of one-year development to prior-year surplus (line 74) for Fictitious.

TABLE 13

Data from Fictitious Insurance Company 2011 Five-Year Historical Data					
	<u>2011</u>	<u>2010</u>	<u>2009</u>	<u>2008</u>	<u>2007</u>
73. Development in estimated losses and loss expenses incurred prior to current year (Schedule P, Part 2, Summary, Line 12, Column 11); <i>USD in 000s</i>	(875)	(1,354)	(1,618)	(1,959)	(918)
74. Percent of development of losses and loss expenses incurred to policyholders' surplus of prior year-end (line 73 divided by Page 4, Line 21, Column 1 x 100)	(2.8)	(3.8)	(5.0)	(5.6)	(2.6)

During 2011, Fictitious' booked net ultimate loss and DCC estimates on accident years 2010 and prior developed favorably by \$0.9 million (line 73). This means that, with the benefit of one year's hindsight, the net loss and DCC reserves recorded by the company as of December 31, 2010, were overstated by \$0.9 million. That overstatement represented 3% of the company's surplus as of December 31, 2010 (line 74).

Going back a year, with the benefit of one year's hindsight, recorded net loss and DCC reserves as of December 31, 2009, were overstated by \$1.4 million, or 4% of surplus.

We can continue going back and observe development in years 2007 through 2009 on prior-year reserves. For Fictitious, the result was consistent over the five-year period; recorded loss and DCC reserves (or ultimate loss and DCC estimates) developed favorably in the following year. This implies that the company was relatively conservative in establishing its reserve estimates.

While stakeholders and regulators of insurance companies tend to be more concerned when development is adverse, large favorable development also raises an issue with certain parties. For example, the Internal Revenue Service pays close attention to favorable emergence as overstatements in reserves reduce the amount of taxable income. Additionally, investors would be concerned that the company is accumulating funds that could be better invested elsewhere, thereby suppressing the investor's rate of return.

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The two-year development lines show similar information as contained in the one-year lines, with the exception that development over a two-year period is provided. For example, Fictitious' recorded net loss and DCC reserves as of year-end 2009 developed favorably by \$2.6 million in 2010 and 2011. This represents 7.3% of surplus recorded at the end of 2009.

TABLE 14

Data from Fictitious Insurance Company 2011 Five-Year Historical Data					
	2011	2010	2009	2008	2007
75. Development in estimated losses and loss expenses incurred two years before the current year and prior year (Schedule P, Part 2, Summary, Line 12, Column 12); USD in 000s	(2,602)	(2,906)	(3,680)	(2,544)	(1,059)
76. Percent of development of losses and loss expenses incurred to policyholders' surplus of second prior year-end (Line 75 divided by Page 4, Line 21, Column 2 x 100)	(7.3)	(8.9)	(10.6)	(7.3)	(3.0)

This information enables the actuary to see whether the development tends to be isolated to the first year of development or continues to the next. In Fictitious' case, the favorable development continued through year two. For example, one-year development on year-end 2009 reserves developed by \$1.4 million in 2010 (line 73) and then another \$1.2 million in 2011 (per line 75, computed by taking \$2.6 million and subtracting the one-year development of \$1.4 million).

## CHAPTER 13. OVERVIEW OF SCHEDULES AND THEIR PURPOSE

### OVERVIEW

#### *Schedules A through E*

The first eight schedules (Schedules A through E) of the Annual Statement provide further transparency of the company's assets, as displayed in the balance sheet of the statutory financial statements. The purpose of these schedules is to assist stakeholders and regulators in identifying and analyzing risks inherent in those assets, changes in those assets and differences in their valuation.

The following outlines the contents of Schedules A through E:

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TABLE 15

Schedule	Part	Title
A	1	Real Estate Owned December 31 of Current Year
A	2	Real Estate Acquired and Additions Made During the Year
A	3	Real Estate Disposed During the Year
B	1	Mortgage Loans Owned December 31 of Current Year
B	2	Mortgage Loans Acquired and Additions Made During the Year
B	3	Mortgage Loans Disposed, Transferred or Repaid During the Year
BA	1	Other Long-Term Invested Assets Owned December 31 of Current Year
BA	2	Other Long-Term Invested Assets Acquired and Additions Made During the Year
BA	3	Other Long-Term Invested Assets Disposed, Transferred or Repaid During the Year
D	Part 1	Long-Term Bonds Owned December 31 of Current Year
D	Part 2 - Section 1	Preferred Stocks Owned December 31 of Current Year
D	Part 2 - Section 2	Common Stocks Owned December 31 of Current Year
D	Part 3	Long-Term Bonds and Stocks Acquired During Current Year
D	Part 4	Long-Term Bonds and Stocks Sold, Redeemed or Otherwise Disposed of During Current Year
D	Part 5	Long-Term Bonds and Stocks Acquired During the Year and Fully Disposed of During Current Year
D	Part 6 - Section 1	Valuation of Shares of Subsidiary, Controlled or Affiliated Companies
D	Part 6 - Section 2	Valuation of Shares of Lower Tier Company
DA	Part 1	Short-Term Investments Owned December 31 of Current Year
DB	Part A - Section 1	Options, Caps, Floors, Collars, Swaps and Forwards Open December 31, of Current Year
DB	Part A - Section 2	Options, Caps, Floors, Collars, Swaps and Forwards Terminated During Current Year
DB	Part B - Section 1	Futures Contracts Open December 31 of Current Year
DB	Part B - Section 2	Futures Contracts Terminated During Current Year
DB	Part C - Section 1	Company's positions in replication (synthetic asset) transactions Open December 31 of Current Year
DB	Part C - Section 2	Company's positions in replication (synthetic asset) transactions Terminated During Current Year
DB	Part D	Counterparty Exposure for Derivative Instruments Open December 31 of Current Year
DL	Part 1	Securities Lending Collateral Assets (Reinvested Collateral Assets Owned December 31 Current Year)
DL	Part 2	Securities Lending Collateral Assets (Reinvested Collateral Assets Owned December 31 Current Year)
E	Part 1	Cash
E	Part 2	Cash Equivalents
E	Part 3	Special Deposits

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There is considerable information within each schedule, including a description of each asset, its value and the basis for valuation. We do not intend to provide all the details of each asset schedule. As discussed previously, most property/casualty actuaries will not need to have a deep understanding of all of the asset classes on the balance sheet. Therefore, we only provide a brief description of each schedule and show how the reader can source the items listed in the asset side of the balance sheet (page 2 of the Annual Statement) to these schedules.

While we will present each of Schedules A through E in order of presentation in the Annual Statement, keep in mind the distribution of admitted assets by class for the property/casualty industry as a whole, as was provided in *Chapter 7. Statutory Balance Sheet: A Measure of Solvency*. Table 16 provides a comparison of the distribution for the industry to that of Fictitious Insurance Company as of December 31, 2011.

TABLE 16<sup>45</sup>

Summary of Net Admitted Assets (column 3) on Page 2 of the Annual Statement				
<u>Assets</u>	<u>Line Number per Page 2</u>	<u>Schedule Reference</u>	<u>Property Casualty Industry</u>	<u>Fictitious Insurance Company</u>
Investments				
Bonds	1	D - Part 1	56.7%	58.7%
Preferred stocks	2.1	D - Part 2 - Section 1	0.7%	0.0%
Common stocks	2.2	D - Part 2 - Section 2	14.4%	19.3%
Mortgage loans	3.1 + 3.2	B	0.3%	0.2%
Real estate	4.1 + 4.2 + 4.3	A	0.7%	3.8%
Cash and short-term investments	5	E, DA	4.6%	1.0%
Contract loans	6		0.0%	0.0%
Derivatives	7	DB	0.0%	0.0%
Other investments	8 + 9 + 10 + 11	BA, DL	7.0%	4.7%
<b>Total cash and investments</b>	<b>12</b>		<b>84.4%</b>	<b>87.8%</b>
<b>Total assets</b>	<b>28</b>		<b>100.0%</b>	<b>100.0%</b>

Note: Contract loans are loans on contracts issued by the insurance company. They typically pertain to life insurance contracts. There is no schedule within the Annual Statement that pertains to or provides additional disclosure about contract loans.

The assets detailed in Schedules A through C and E make up a relatively small portion of the total admitted assets of the property/casualty insurance industry at year-end 2011 (less than 15%). This relationship has remained relatively consistent over the years. Property/casualty insurers tend to invest in relatively short-term, fixed assets of low risk given their need to be able to pay claims emanating from short-term contracts (as opposed to long-term life insurance contracts). As a result, the largest holding of a property/casualty insurer tends to

<sup>45</sup> The distribution of assets by class within this table is based on admitted assets. Schedules A through E provide supporting detail for total assets, including amounts that become nonadmitted in column 2 of the asset side of the statutory balance sheet.

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be in bonds, followed by common stocks. Therefore, Schedule D tends to be the most populated of the asset schedules within the Annual Statement.

In assessing the financial health of an insurance company, it is important to understand differences in the distribution of assets by class relative to the industry. In particular, large concentrations in riskier asset classes would warrant additional scrutiny. The information contained in Schedules A through E and in the notes and interrogatories within the Annual Statement will provide some level of quantitative and qualitative detail to aid in the assessment. However, enhanced understanding will come through inquiries of management as to its investment policy, including any hedging strategies that have been implemented to mitigate investments in higher-risk asset classes.

### *Schedules F and P*

Property/casualty actuaries tend to spend more time focusing on page 3 (Liabilities) of the balance sheet than on page 2 (Assets). Therefore, of all the schedules within the Annual Statement, property/casualty actuaries tend to spend the most time with Schedules F and P, in particular Schedule P. Schedule F pertains to reinsurance accounting, and Schedule P pertains to loss and loss adjustment expense reserves. We will devote much of our attention to these Annual Statement schedules in separate chapters for each (*Chapter 14. Schedule F* and *Chapter 15. Schedule P*).

### *Schedules T and Y*

The remaining two schedules, Schedule T and Schedule Y, will be discussed at the end of this chapter. These schedules provide details on the insurance company's premium writings by state and organizational structure, respectively.

## SCHEDULE A

Schedule A provides information on real estate directly owned by the insurance company. Schedule A, Part 1 provides a detailed listing of all real estate owned by the company as of December 31 of the current year, while Parts 2 and 3 provide a detailed listing of real estate acquired and disposed during the year, respectively.

Schedule A, Part 1, column 9, Book/Adjusted Carrying Value Less Encumbrances, is the source of the information provided in line 4 of the asset side of the balance sheet. Amounts are provided for each property that the reporting entity owns, grouped in the same three parts as shown in line 4 of page 2:

- 4.1 Properties occupied by the company
- 4.2 Properties held for the production of income
- 4.3 Properties held for sale

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All figures are shown less the amount of any encumbrances, which include items such as a lien on the company's property or outstanding principal balance of a mortgaged property.

Consistent with the rest of the property/casualty insurance industry (1%), real estate was a small asset class for Fictitious in 2011, representing less than 4% of its total assets. Although small, actuaries will look at the level of an insurance company's investment in long-term assets and associated cash flows relative to the cash outflows of its liabilities. For example, a property/casualty insurer writing short-tailed lines of business (e.g., homeowners) will require relatively liquid and continual flows from its assets to pay its claims. A large proportion of this company's assets in real estate holdings, or other longer-term assets that do not have constant outflows, might raise questions about liquidity of the company's assets. This is particularly true during unstable economic times when the real estate market is at a low and the seller may not be able to dispose of the investment let alone get the expected value. Schedule A, Part 3 shows what the reporting entity was able to sell real estate investments for over the past year, relative to the value of the investment as shown in the entity's prior-year statement.

#### SCHEDULE B

Schedule B provides information on mortgage loans owned by the insurance company that are secured by real estate. These are instances where the insurance company has issued a mortgage loan to another party.

Schedule B is organized in the same three parts as Schedule A. Part 1 provides a detailed listing of all mortgage loans owned by the company as of December 31 of the current year, while Parts 2 and 3 provide a detailed listing of mortgage loans acquired and disposed during the year, respectively. Part 3 includes mortgage loans transferred or repaid during the year.

Part 1 is the source of the information provided in line 3 of the asset side of the balance sheet. Line 3 of the asset side of the balance sheet is broken up into two parts:

- 3.1 First liens
- 3.2 Other than first liens

The source of the figures provided in line 2 is column 8, book value/recorded investment excluding accrued interest, of Schedule B, Part 1. The figures in column 8 reconcile to the amounts in lines 3.1 and 3.2 on the asset side of the balance sheet. However, it is not evident from Schedule B as to which loans are first liens.

Part 1 provides a detailed listing of mortgage loans owned by the company in the following groupings:

- ▶ Mortgages in good standing, which are those loans where the terms are being met by borrowers.

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- ▶ Restructured mortgages, which are those loans where the terms have been restructured in 1986 or subsequent due to delinquency.
- ▶ Mortgages with interest more than 90 days due and not in the process of foreclosure.
- ▶ Mortgages in the process of foreclosure.

Issuing mortgages is not a core business strategy of a property/casualty insurance company. Further, mortgage loans are relatively illiquid assets. Therefore, insurers don't have large holdings in Schedule B assets. However, for those insurance companies that do invest in mortgage loans, the groupings provided in Schedule B provide the reader with a sense of the risk associated with the company's mortgage loan investments. For example, investments in mortgages in the process of foreclosure are riskier than those in good standing.

Only 0.2% of Fictitious' assets were invested in mortgage loans on real estate as of December 31, 2011, as compared to 0.3% for the industry.

#### SCHEDULE BA

Schedule BA provides information on other long-term invested assets owned by the insurance company. These are assets not included in any of the other invested asset schedules, such as real estate that is not owned directly by the insurance company and therefore excluded from Schedule A. Other examples of BA assets include joint ventures, partnership interests and surplus debentures.

Schedule BA, Part 1 provides a detailed listing of other long-term invested assets owned by the company as of December 31 of the current year, while Parts 2 and 3 provide a detailed listing of other long-term invested assets acquired and disposed during the year, respectively. Part 3 includes other long-term invested assets transferred or repaid during the year.

The total in column 12, book/adjusted carrying value less encumbrances, of Schedule BA, Part 1, is the source of the figure provided in line 8 of the asset side of the balance sheet.

As with real estate investments, actuaries will look at the level of cash flows from a company's long-term invested assets relative to the duration of its liabilities for liquidity purposes.

As displayed in Table 17, Fictitious had only 5% of its assets invested in Schedule BA assets at year-end 2011. Schedule BA assets are included within the other investments line. Other investments also include receivables for securities, securities lending reinvested collateral assets and aggregate write-ins for invested assets.



TABLE 17

Current-Year Assets, 2011 Annual Statement Page 2, Column 1 (USD)	
8. Other invested assets (Schedule BA)	4,726,000
28. Total assets	101,454,000
Percentage of total assets (Row 8 / Row 28)	4.7%

## SCHEDULE D

Schedule D provides information on bonds and stocks owned by the insurance company. It is broken into six parts, 1 through 6. The amounts shown on the assets side of the balance sheet for bonds and stocks comes from the book/adjusted carrying value column, within Schedule D, Parts 1 and 2.

*Part 1*

Part 1 provides a detailed listing of the long-term bonds and certificates of deposit (CDs) *owned* by the insurance company as of December 31 of the current year. The term “long-term” is intended to exclude bonds and CDs with maturity or repurchase dates one year or less from the date acquired and cash equivalents with maturities of three months or less. Bonds that are not long term are reported in other schedules. Bonds with maturities of one year or less are reported in Schedule DA. CDs with maturities of one year or less are reported in Schedule E, Part 1. Cash equivalents are reported in Schedule E, Part 2. Schedules DA and E are discussed in subsequent sections of this chapter.

The source of the balance sheet figure for bonds is the total in column 11 (Book/Adjusted Carrying Value) of Schedule D, Part 1.

In Part 1, bonds are separated into the following categories:

- ▶ U.S. governments
- ▶ All other governments
- ▶ U.S. states, territories and possessions (direct and guaranteed)
- ▶ U.S. political subdivisions of states, territories and possessions (direct and guaranteed)
- ▶ U.S. special revenue and special assessment obligations and all non-guaranteed obligations of agencies and authorities of governments and their political subdivisions
- ▶ Industrial and miscellaneous (unaffiliated)
- ▶ Hybrid securities
- ▶ Parent, subsidiaries and affiliates

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Within each of the aforementioned categories, there are issuer obligations, residential mortgage-backed securities (MBS), commercial MBS, and other loan-back and structured securities, with subtotals for each.

In addition to book/adjusted carrying value, the columns within Part 1 enable the user to obtain an understanding of fluctuations in value over the past year and time to maturity of each bond. As noted, users of the Annual Statement consider time to maturity, and therefore liquidity, relative to liability duration.

*Part 2*

Part 2 provides a detailed listing of the stocks *owned* by the insurance company as of December 31 of the current year. Preferred stocks are in Section 1 of Schedule D, Part 2, and Common stocks are in Section 2.

Schedule D, Part 2 is the source of the information provided within line 2 of the asset side of the balance sheet titled "Stocks (Schedule D)."

The source of the balance sheet figure for preferred stocks is the total in column 8, Book/Adjusted Carrying Value, of Schedule D, Part 2, Section 1, whereas the source for common stocks is the total in column 6, Book/Adjusted Carrying Value, of Schedule D, Part 2, Section 2.

In Part 2, Section 1 of Schedule D, preferred stocks are separated into the following categories:

- ▶ Industrial and miscellaneous (unaffiliated)
- ▶ Parent, subsidiaries and affiliates

Part 2, Section 2 has the additional categories for common stocks of:

- ▶ Mutual funds
- ▶ Money market mutual funds

*Parts 3 through 6*

Part 3 provides a detailed listing of long-term bonds and stocks *acquired during the current year* and still owned by the company as of December 31 of the current year. Those acquired and disposed of during the current year are only provided in subtotal in Part 3, with the details reported in Part 5.

Part 4 provides a detailed listing of long-term bonds and stocks that were *owned as of the beginning of the current year* and disposed of during the year through sale, redemption or

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other means. Those acquired and sold during the current year are provided in detail in Part 5, with only subtotals in Part 4.

Part 6 provides a detailed listing of preferred and common stocks in affiliated companies. This is particularly relevant in the calculation of the  $R_0$  charge in the RBC calculation, as we will see in *Chapter 19. Risk-Based Capital*.

#### SCHEDULE DA

Schedule DA provides information on short-term investments owned by the insurance company. According to the 2011 National Association of Insurance Commissioners (NAIC) *Annual Statement Instructions Property/Casualty*, this schedule is to “include all investments whose maturities (or repurchase dates under repurchase agreement) at the time of acquisition were one year or less except those defined as cash or cash equivalents in accordance with Statement of Statutory Accounting Principles No. 2, Cash, Drafts, and Short-term Investments.”<sup>46</sup>

Schedule DA, Part 1 provides a detailed listing of short-term investments by the company as of December 31 of the current year. This is the source of the information provided within line 5 of the asset side of the balance sheet.

Short-term investments can include the following asset classes:

- ▶ Bonds
- ▶ Mortgage loans and other short-term invested assets for parent, subsidiaries and affiliates
- ▶ Mortgage loans
- ▶ Exempt money market mutual funds
- ▶ Class one money market mutual funds
- ▶ Other short-term invested assets

Fictitious had less than 1% of its assets invested in short-term investments in 2011.

#### SCHEDULE DB

Schedule DB provides information on derivative instruments owned by the insurance company. It is broken into four parts, A through D. Part A provides the company's positions in options, caps, floors, collars, swaps and forwards. Part B provides the company's positions in futures contracts. Part C provides the company's positions in replication (synthetic asset) transactions. And in Part D, the company reports counterparty exposure for derivative instruments open December 31 of the current year. Counterparty exposure is the exposure to credit risk.

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<sup>46</sup> 2011 NAIC *Annual Statement Instructions Property/Casualty*, page 367.

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Parts A and B are further broken into two sections. Section 1 provides open positions during the year, and Section 2 provides positions terminated during the year.

Schedule DB, Parts A and B are the source of the information provided within line 7 of the asset side of the balance sheet, Derivatives (Schedule DB).

While property/casualty insurance companies do not invest much in the derivatives market, derivatives are used to hedge the mismatch between the timing and payment of assets and liabilities. A company investing in a greater proportion of risky assets than the industry (say a higher proportion in common stocks than bonds), would be expected by its stakeholders to have a hedging strategy in place to mitigate those risks.

As displayed on line 7 of the asset side of its balance sheet, Fictitious did not use derivatives in its investment strategy in 2011.

#### SCHEDULE DL

Schedule DL provides information on securities lending collateral assets. Schedule DL is a fairly new schedule in the Annual Statement, added in 2010 as a result of the financial crisis.<sup>47</sup>

Securities lending received a lot of publicity during the financial crisis of September 2008. Securities lending involves a company lending securities that it does not actively trade to another party for a fee. The borrower will generally sell the borrowed security, in anticipation of repurchasing it at a lower price before returning it to the lender. The difference between the sale price and repurchase price is profit to the borrower.

The borrower is required to post collateral with the lender. This collateral may in turn be invested by the lender; however, the lender needs to have the collateral available for return when the borrower decides to return the borrowed security. These arrangements tend to be for less than a year, and the borrower generally can return the security on relatively short notice. Therefore, a prudent investment strategy would call for investment of the collateral by the lender in short-term, low-risk, liquid markets. Investment in long-term, riskier securities is one of the causes of the financial crisis in 2008.

According to an article by the NAIC and The Center for Insurance Policy and Research,<sup>48</sup> American International Group (AIG) was involved in securities lending whereby securities owned were loaned in exchange for fee and cash collateral. During the period 2005 through 2007, investments of the collateral were made in long-term subprime residential MBS, which subsequently experienced significant declines in market value. When the borrowers came

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<sup>47</sup> NAIC and The Center for Insurance Policy and Research, Capital Markets Special Report, *Securities Lending in the Insurance Industry*, [http://www.naic.org/capital\\_markets\\_archive/110708.htm](http://www.naic.org/capital_markets_archive/110708.htm), (July 11, 2011)

<sup>48</sup> Ibid.

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back to AIG to exchange the borrowed securities for the cash collateral they had provided, AIG was experiencing liquidity constraints. The demand for cash from securities lending counterparties put further constraints on AIG, resulting in regulators and the U.S. government stepping in to help alleviate the liquidity issue and reduce strains on AIG's capital.

While securities lending was not the main cause of the financial crisis in 2008, one of the many lessons learned was the lack of transparency in the securities lending market. Schedule DL was created to provide further transparency by providing detailed information on the collateral assets that are reinvested by the insurance company, including the fair value and book value and the date the agreements mature. As the length of the agreement term increases, so does the risk to the insurance company. If borrowers in the company's securities lending program were to return the borrowed securities and request their collateral back with short notice, the company may have difficulty meeting the cash (collateral) demand.<sup>49</sup>

Schedule DL, Part 1 contains those collateral assets that are not included in other investment schedules within the Annual Statement (e.g., Schedule A, B, BA, D, DA and E). Part 2 contains those that are reported in the other asset schedules. Therefore, Part 1 is the source of the information provided in line 10 of the asset side of the balance sheet.

The total in column 6, Book/Adjusted Carrying Value, of Schedule DL, Part 1, is the source of line 10 of the asset side of the balance sheet.

As displayed in Table 18, Fictitious had an immaterial securities lending program relative to total assets and policyholders' surplus at year-end 2011. As a result, sudden demand to return collateral to a borrower would not have had a significant impact on Fictitious' balance sheet.

TABLE 18

Current-Year Assets, 2011 Annual Statement Page 2, Column 1 (USD)	
10. Securities lending reinvested collateral assets (Schedule DL)	79,000
28. Total assets	101,454,000
Percentage reinvested collateral assets (Row 10 / Row 28)	0.08%
Total PHS	31,024,000
Percentage reinvested collateral assets	0.25%

SCHEDULE E

Schedule E provides information on the insurance company's cash and cash equivalents.

Schedule E, Part 1 provides:

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<sup>49</sup> Regulators became aware of this strategy as a result of the financial examination process, which occurs only once every three to five years.

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- ▶ A detailed listing of cash on deposit with banks, trust companies, and savings and loan and building and loan associations
- ▶ Totals for cash held in the company's offices
- ▶ CDs maturing one year or less (long-term CDs are reporting in Schedule D)

Part 2 provides a detailed listing of investments in what are referred to as cash equivalents and are therefore three months or less.

Part 3 provides a detailed listing of special deposits, which include assets reported in the various asset schedules within the Annual Statement but are segregated for a special purpose, such as bail bonds, workers' compensation, property and casualty insurance, collateral and escrow.

Column 6, Balance, of Schedule E, Part 1, is the source of the cash amount included in line 5 of the asset side of the balance sheet. Column 6, book/adjusted carrying value of Schedule E, Part 2, is the source of the amount of cash equivalents, which are also included in line 5.

Table 19 shows that Fictitious had less than 1% of its assets in cash and cash equivalents at year-end 2011.

TABLE 19

<b>Current-Year Assets, 2011 Annual Statement Page 2, Column 1 (USD)</b>	
5. Cash (\$153,000, Sch. E-Part 1), cash equivalents (\$0, Sch. E-Part2) and short-term investments (\$829,000, Sch. DA)	983,000
28. Total assets	101,454,000
Percentage of total assets (Row 5 / Row 28)	1.0%

SCHEDULE T

Schedule T has two parts:

1. Exhibit of Premiums Written
2. Interstate Compact – Exhibit of Premiums Written

Each part is arranged showing its content by U.S. state (50); the District of Columbia; five U.S. territories (American Samoa, Guam, Puerto Rico, U.S. Virgin Islands and Northern Mariana Islands); Canada; and a line for aggregate other alien territories.<sup>50</sup>

The following provides a general description of the content of each part and their use(s).

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<sup>50</sup> According to the glossary in the textbook *Property-Casualty Insurance Accounting* issued by Insurance Accounting & Systems Association, Inc., Eighth Edition (2003), First Addendum (2006), an alien insurance company is defined as "An insurer or reinsurer domiciled outside the U.S. but conducting an insurance or reinsurance business in the U.S."

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*Exhibit of Premiums Written*

The purpose of this schedule is to apportion premiums, losses and other items amongst the states or territories in which the company writes business.

The first column shows the “active status” of the company for each state/territory. Active status is denoted by:

- L: Licensed insurance carrier or domiciled Risk Retention Group (RRG)
- R: Registered – non-domiciled RRGs
- Q: Qualified or accredited reinsurer
- E: Eligible – reporting entities eligible or approved to write surplus lines in the state
- N: None of the above – not allowed to write business in the state

The total line of this column shows the number of states/territories that the company is licensed in.

Direct losses, premiums and other information are required to be allocated by state/territory regardless of the active status reported. The information requested includes:

- ▶ Written premiums
- ▶ Earned premiums
- ▶ Policyholder dividends
- ▶ Paid losses
- ▶ Incurred Losses
- ▶ Unpaid losses
- ▶ Finance and service charges
- ▶ Direct premiums written for federal purchasing groups

The complicated part of completing this schedule is figuring out how to allocate the foregoing items by state/territory. The NAIC *Annual Statement Instructions Property/Casualty* looks for the premiums to be reported “based on the physical location of the insured risk (except individual and group health insurance).”<sup>51</sup> Losses are to be reported to the states where the associated premium is allocated.

For example, an insurer writes workers' compensation insurance for an organization that has employees located across the country. The foregoing items need to be allocated to each state/territory based on primary workplace of each employee. Table 20 shows additional examples of the basis for allocating premiums and losses by state/territory, according to the NAIC instructions.

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<sup>51</sup> 2011 NAIC *Annual Statement Instructions Property/Casualty*, page 241.

TABLE 20

Line of Business	Basis for Allocation by State
Property lines, such as fire, homeowners, boiler and machinery	Location of property
Marine coverages, where property is in transit	Beginning state location
Automobile lines	Location of principal garage of each automobile
Liability lines (other than auto) where premium determined per location	Location of principal office of operation

Companies are required to describe the basis for the allocation in the footnote of Schedule T.

Schedule T is useful to actuaries in several instances, such as the following:

- ▶ Actuaries use this schedule to learn where the company writes its business to further research and consider the insurance laws of those states. This is particularly important for workers' compensation insurers where estimates of unpaid claims depend on each state's laws.
- ▶ Actuaries also look to this schedule over a series of historical Annual Statements to see if the company has changed geographic concentration or is growing in a particular state. In addition to regulatory differences by state, changes in geographic mix have an impact on the exposures. For example, for a company writing in California or among fault lines, consideration should be made of the company's exposure to earthquakes.
- ▶ For a company where industry loss development factors are used in reserving, actuaries may look to this schedule for a distribution of losses by state to determine weights to apply to industry factors by state.

In addition, as we shall see in *Chapter 18. Insurance Expense Exhibit*, the totals in Schedule T are used as a means of reconciling items contained in the Insurance Expense Exhibit.

#### *Interstate Compact – Exhibit of Premiums Written*

There is another part to Schedule T that is less well-known to property/casualty actuaries: Interstate Compact – Exhibit of Premiums Written and Allocated by States and Territories. Part 2 only pertains to property/casualty insurers that also write life insurance, annuities, disability income and long-term care insurance products. The purpose of Part 2 is for regulators to monitor writings in these products for consumer protection purposes.



## SCHEDULE Y

Schedule Y, Information Concerning Activities of Insurer Members of a Holding Company Group, has two parts:

1. Organizational chart
2. Summary of insurer's transactions with any affiliates

The following provides a brief description of the content and purpose of each.

### *Part 1 – Organizational Chart*

Part 1 is required for those companies that file a registration statement under the Insurance Holding Company System Regulatory Act of the company's domiciliary state.<sup>52</sup>

This part provides exactly what its name says, an organizational chart. In simplest terms, it is similar to a family tree, showing a pictorial representation of where the company lies within an organization and its relationship to the other members of the organization.

We often hear the phrases "sister company," "parent company" and "holding company," but until you see the schematic, it can be difficult to understand where a company fits within an organization. Knowing this and the company's purpose relative to its affiliates is important. For example, the company may have an affiliated managing general agent or other agency that produces its business, or it may have an affiliated claims administrative organization. Consideration of the affiliate's underwriting philosophy and/or claims handling practices is significant in estimating unpaid claims and establishing reserves for the company's liabilities, including those for adjusting expenses.

Sometimes this part is provided in list form as opposed to an actual chart due to the number of companies involved.

### *Part 1A – Detail of Insurance Holding Company System*

This part must be completed by members of a holding company system. The purpose is to provide information about the relationship between the reporting entity and any parent, subsidiary(ies) and/or affiliate(s). The relationship is identified in Part 1A as either:

- ▶ Upstream direct parent (UDP)
- ▶ Upstream indirect parent (UIP)
- ▶ Downstream subsidiary (DS)
- ▶ Insurance affiliate (IA)
- ▶ Non-insurance affiliate (NIA)

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<sup>52</sup> Ibid., page 247.

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- ▶ Other, which requires an explanation of the relationship in the footnotes to this part (OTH)

Additionally, the controlling entity in the relationship is provided, along with the type of control that the entity has over the other:

- ▶ Control through ownership
- ▶ Control at the board of directors level
- ▶ Control through management
- ▶ Control by acting as the attorney-in-fact
- ▶ Controlling influence
- ▶ Other

If the reporting entity is a member of a holding company system, the reporting entity must include the above items for each parent, subsidiary or affiliate of the reporting entity whose names are listed in column 8 of Schedule Y.

According to the NAIC 2011 *Annual Statement Instructions Property/Casualty*, which references the Insurance Holding Company System Regulatory Act, "Control shall be presumed to exist if any person, directly or indirectly, owns, controls, holds with the power to vote, or holds proxies representing, ten percent (10%) or more of the voting securities by another person."<sup>53</sup>

As we shall see in *Chapter 19. Risk-Based Capital*, this information is particularly useful in determining the RBC R<sub>0</sub> charge for investments in insurance affiliates.

*Part 2 – Summary of Insurer's Transactions With Any Affiliates*

Schedule Y, Part 2, provides a listing of transactions among members of the holding company system where an insurance affiliate was a party to the transaction. Examples include:

- ▶ Shareholder dividends
- ▶ Capital infusions
- ▶ Purchases/sales of loans or real estate
- ▶ Management agreements and service contracts
- ▶ Income (disbursements) incurred under reinsurance contracts and reinsurance recoverable (only those transactions that took place during the reporting period are included)

The purpose of this part of Schedule Y is to assist regulators in monitoring monetary flows in and out of insurance company affiliates. This schedule is the same for all members of an

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<sup>53</sup> Ibid., page 249.

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insurance holding company system. Therefore, the totals all balance to zero, as an outflow from one company is offset by the inflow to another.

**CHAPTER 14. SCHEDULE F**

## OVERVIEW

As noted in the previous *Chapter 13. Overview of Schedules and Their Purpose*, Schedule F and Schedule P are two of the Annual Statement schedules that property/casualty actuaries tend to use most. In this chapter we will focus on Schedule F; Chapter 15 focuses on Schedule P.

Schedule F provides details underlying an insurance company's reinsurance transactions on prospective contracts<sup>54</sup> that meet the conditions for reinsurance accounting as defined in SSAP No. 62R. It includes the names of the counterparties to the transactions and the premium, loss and expense amounts that emanate from those transactions as of December 31 of the reporting year. This information is important to actuaries for several reasons:

- ▶ Loss and loss adjustment expense (LAE) reserves recorded by an insurance company include business assumed by the company. Knowledge of the source and amount of assumed reinsurance provides valuable information to an actuary in assessing the reasonableness of the gross and net loss and LAE reserve balances. Schedule F, Part 1 provides a listing of assumed premiums and losses by ceding company.
- ▶ Loss and LAE reserves recorded on an insurance company's statutory balance sheet are net of reinsurance. Considerable focus is placed on the collectibility of that reinsurance by users of the Annual Statement, particularly regulators. In fact, the NAIC Instructions to the Statement of Actuarial Opinion require the Appointed Actuary to provide relevant comment paragraphs to address reinsurance. According to the NAIC Instructions, "Before commenting on reinsurance collectibility, the actuary should solicit information from management on any actual collectibility problems, review ratings given to reinsurers by a recognized rating service, and examine Schedule F for the current year for indications of regulatory action or reinsurance recoverable on paid losses over 90 days past due."<sup>55</sup>

Schedule F, Part 3 provides the name of each of the company's reinsurers, a listing of liability amounts ceded to each reinsurer and the amount of collateral held by the insurance company in support of those liabilities. Using this information, research can be done on the financial ratings of the reinsurers as a measure of the quality of the reinsurance.

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<sup>54</sup> According to page 62R-7 of SSAP No. 62R, "Prospective reinsurance is defined as reinsurance in which a reinsurer agrees to reimburse a ceding entity for losses that may be incurred as a result of future insurable events covered under contracts subject to the reinsurance."

<sup>55</sup> 2011 NAIC Annual Statement Instructions Property/Casualty, page 13.

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Schedule F, Part 4 provides the aging of ceded reinsurance. An assessment can be made of the company's exposure to collectibility issues in light of the reinsurer's payment history and the amount of collateral the company holds in support of its reinsured balances, as shown in Schedule F, Part 5.

- ▶ The Statement of Actuarial Opinion also requires the Appointed Actuary to comment on and disclose the amount of net reserves for the insurance company's participation in underwriting pools and associations. Schedule F, Part 1 provides a source for this information. In fact, regulators expect there to be a reconciliation of the amount disclosed in the Statement of Actuarial Opinion to Schedule F.<sup>56</sup>

Schedule F also provides the derivation of the provision for reinsurance, which is included as a liability on the statutory balance sheet (page 3, line 16 of the 2011 Annual Statement). While Statutory Accounting Principles (SAP) requires insurance companies to record loss and LAE reserves net of reinsurance, SAP also presumes that a portion of that reinsurance is not collectible. The provision for reinsurance provides "a minimum reserve for uncollectible reinsurance with an additional reserve required if an entity's experience indicates that a higher amount should be provided. The minimum reserve Provision for Reinsurance is recorded as a liability, and the change between years is recorded as a gain or loss directly to unassigned funds (surplus). Any reserve over the minimum amount shall be recorded on the statement of income by reversing the accounts previously utilized to establish the reinsurance recoverable."<sup>57</sup>

This minimum reserve is computed in Schedule F, Part 7. It reflects the conservative nature of statutory accounting since the entire provision may ultimately be collected.

Finally, Schedule F also provides a view of the reporting entity's balance sheet on a gross of reinsurance basis. Ceded reinsurance is a valuable means for insurance companies to mitigate insurance risk. Schedule F, Part 8 enables the user to observe the amount of protection afforded to the company's balance sheet through the use of reinsurance.

Note that retroactive reinsurance does not flow through Schedule F.<sup>58</sup> Ceding companies record loss and LAE reserves gross of retroactive reinsurance and assuming companies

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<sup>56</sup> American Academy of Actuaries Committee on Property and Liability Financial Reporting, "Statements of Actuarial Opinion on Property and Casualty Loss Reserves 2012," Appendix 9a, "Regulatory Guidance On Property and Casualty Statutory Statements of Actuarial Opinion for the Year 2012 Prepared by the NAIC's Casualty Actuarial and Statistical (C) Task Force," page 99.

<sup>57</sup> SSAP No. 62R, Property & Casualty Reinsurance, paragraph 55.

<sup>58</sup> According to page 62R-7 of SSAP No. 62R, "Retroactive reinsurance is defined as reinsurance in which a reinsurer agrees to reimburse a ceding entity for liabilities incurred as a result of past insurable events covered under contracts subject to the reinsurance." Note that there are exceptions for property/casualty run-off agreements whereby the entire risk for a line of business or segment (e.g., asbestos liabilities) is retroactively transferred by a ceding company to a reinsurer. We will not get into the specifics in this publication, but note that the accounting for this type of contract can be found in SSAP No. 62R, pages 62R-15 and 16.

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exclude the retroactive reinsurance from loss and LAE reserves. The same is true for Schedule P<sup>59</sup>; retroactive reinsurance does not flow through Schedule P.

STRUCTURAL ORGANIZATION OF SCHEDULE F

Schedule F is arranged in the following eight parts:

Part 1 Assumed Reinsurance as of December 31, Current Year (000 Omitted)

Part 2 Premium Portfolio Reinsurance Effected of (Canceled) during Current Year

Part 3 Ceded Reinsurance as of December 31, Current Year (000 Omitted)

Part 4 Aging of Ceded Reinsurance as of December 31, Current Year (000 Omitted)

Part 5 Provision for Unauthorized Reinsurance as of December 31, Current Year (000 Omitted)

Part 6 Provision for Overdue Authorized Reinsurance as of December 31, Current Year (in whole dollars)

Part 7 Provision for Overdue Reinsurance as of December 31, Current Year (in whole dollars)

Part 8 Restatement of Balance Sheet to Identify Net Credit for Reinsurance

Parts 1, 3 and 7 provide details underlying the reinsurance items on a company's balance sheet. There is one asset item and three liability items on an insurance company's balance sheet that come directly from Schedule F.

The asset item is "amounts recoverable from reinsurers" (Assets, page 2, line 16.1). It includes amounts the insurance company has already paid in loss and LAE to its claimants that are recoverable from its reinsurers. The first of the liability items provide this balance from the reinsurer's perspective (Liabilities, Surplus and Other Funds, page 3, line 2).

The other two liability items that come directly from Schedule F include funds held by the company under reinsurance agreements (Liabilities, Surplus and Other Funds, page 3, line 13) and the provision for reinsurance (Liabilities, Surplus and Other Funds, page 3, line 16). Schedule F, Parts 4, 5 and 6, as well as Part 3, are used to derive the provision for reinsurance in Part 7.

The following illustrates how the amounts in the balance sheet map to those in Schedule F using the 2011 Annual Statement for Fictitious Insurance Company<sup>60</sup>:

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<sup>59</sup> SSAP No. 62R, page 62R-8 and 9.

<sup>60</sup> In gaining an understanding of the interplay between the Financial Statements and various Schedules within the Annual Statement, it is important to remember that the amounts in Schedule F, Parts 1 and 3 are displayed in

TABLE 21

Company: Annual Statement for the year:			Fictitious Insurance Company 2011				
<b>Assets, page 2</b>			<b>Schedule F Source</b>				
<u>Line</u>	<u>Item</u>	<u>Current Year</u>	<u>Part</u>	<u>Column</u>	<u>Item</u>	<u>Row</u>	<u>Amount</u>
16.1	Amounts recoverable from reinsurers	426,000	3	7 + 8	Reinsurance recoverable on paid losses and paid LAE	Totals	426
<b>Liabilities, Surplus and Other Bunds, page 3</b>			<b>Schedule F Source</b>				
<u>Line</u>	<u>Item</u>	<u>Current Year</u>	<u>Part</u>	<u>Column</u>	<u>Item</u>	<u>Row</u>	<u>Amount</u>
2.	Reinsurance payable on paid losses and loss adjustment expenses	-	1	6	Reinsurance on paid losses and loss adjustment expenses	Totals	-
13.	Funds held by company under reinsurance treaties	170,000	3	19	Funds held by Company under reinsurance treaties	Totals	170
16.	Provision for reinsurance	283,000	7		Provision for reinsurance	6.	283,000

While relevant, Parts 2 and 8 tend to get less attention by actuaries. As the name suggests, Schedule F, Part 2 provides the user with a detailed listing of all portfolio reinsurance transactions entered into or canceled during the current year.

Schedule F, Part 8 provides a summarized form of the balance sheet with adjustments to restate it on a gross of ceded reinsurance basis. The assets are adjusted to remove any expected recoverables from the company's reinsurer, while the liabilities are restated to remove any anticipated recoveries or payables.

Given the limited level of focus on Parts 2 and 8 by property/casualty actuaries, we will provide only a brief description of their contents and use. We will devote the majority of this chapter on the contents of the other parts of Schedule F and the calculation of the provision for reinsurance.

#### SCHEDULE F – PART 1: ASSUMED REINSURANCE AS OF DECEMBER 31, CURRENT YEAR (000 OMITTED)

##### *Overview*

Part 1 provides the total amount of the insurance company's assumed reinsurance balances by reinsured. It enables the user to obtain additional understanding of the amounts at stake and risks associated with an insurance company's assumed reinsurance transactions as of the current year.

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thousands of U.S. dollars, whereas amounts on the balance sheet, as well as in Schedule F, Part 7, are in whole dollars.

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With Part 1, each reinsured is separated into the following groups or categories, with subtotals at the end of each category and group<sup>61</sup>:

- ▶ Affiliated Insurers:
  - ▶ U.S. Intercompany Pooling
  - ▶ U.S. Non-Pool
  - ▶ Other (non-U.S.)
- ▶ Other U.S. Unaffiliated Insurers
- ▶ Pools and Associations:
  - ▶ Mandatory Pools
  - ▶ Voluntary Pools
- ▶ Other Non-U.S. Insurers

Knowledge of the group or category the reinsurer is in, as well as the name of the reinsurer, provides the user of the Annual Statement with further insight as to the risk associated with the assumed transaction.<sup>62</sup> For example, the reporting entity may have less control over and knowledge of the risks assumed from an unaffiliated non-U.S. insurer than it would of risks assumed from a U.S. affiliate.

In terms of its structure, the first four columns of Part 1 provide the Federal ID number, NAIC company code, name of the reinsured and the reinsured's domiciliary jurisdiction. The remaining 11 columns provide the dollar amounts pertaining to the assumed reinsurance transactions, including premiums, loss and LAE liabilities, contingent commissions, and collateral or funds held by the ceding company to secure balances owed to it by the reporting entity.

### *Premiums*

The amount of written premium assumed by the insurance company from the reinsurer during the year is shown in column 5. The totals in column 5 (000 omitted) will reconcile to the sum of the totals in columns 2 (reinsurance assumed from affiliates) and 3 (reinsurance assumed from non-affiliates) in Part 1B of the Underwriting and Investment Exhibit (shown in whole dollars).

Assumed premiums receivable, less commissions payable, are shown in column 10. The amount of commissions payable does not include contingent commissions, which are shown in column 9 and discussed below. The amount considered in column 10 is for fixed commissions. For example, if the reporting entity wrote a reinsurance contract for premium of \$500,000 with a fixed ceding commission of 25%, all of which was unpaid at the end of the year, the

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<sup>61</sup> Each ceding company is listed except for other U.S. unaffiliated insurers, mandatory pools and associations, voluntary pools and associations, and other non-U.S. insurers, where the paid plus case outstanding losses and LAE balances are less than \$100,000 in total. These reinsureds are grouped together in one line item.

<sup>62</sup> Reinsurance assumed from pools and associations is generally reported by the name of the pool or association rather than the individual insurers that comprise the organization. As a result, it is difficult to gain insight about the underlying risks of the pool(s) and/or association(s) that the insurer participates in from Schedule F alone.



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figure in column 10 would be the \$500,000 of assumed premium receivable less \$125,000 of commissions payable, for a total of \$375,000.

The total in column 10 (000 omitted) is included as a part of agent's balances in line 15 (premiums and considerations) of page 2. As we will see later, this is considered in the profit calculation in the IEE.

Unearned premium on assumed business is provided in column 11. This is a liability to the insurance company and is included within line 9 of page 3, entitled unearned premiums, as well as the unearned premium reserves contained in Parts 1 and 1A of the Underwriting and Investment Exhibit. The unearned premium reserves on page 3 and in the Underwriting and Investment Exhibit are net of reinsurance. As such, the assumed unearned premium reserves listed in column 11 of Schedule F, Part 1 make up only one piece of these net amounts.

The amount in Column 11 (000 omitted) should reconcile directly to item (1) within the "Reinsurance" note of the "Notes to Financial Statements" titled "Reinsurance Assumed and Ceded" (shown in whole dollars; Notes 23C of Fictitious' 2011 Annual Statement).

#### *Loss and LAE liabilities*

Known liabilities owed by the reporting entity (i.e., the insurance company) to the reinsured (i.e., ceding company) as of December 31 of the current year are displayed in columns 6 and 7, with column 8 being the sum of the two.

- ▶ Column 6 (reinsurance recoverable on paid losses and LAE) represents losses and LAE that the ceding company has already paid but for which the insurance company has yet to pay to the reinsured.
- ▶ Column 7 (reinsurance recoverable on known case losses and LAE) provides losses and LAE reported by the ceding company as case reserves and for which the reporting entity has included in its direct plus assumed case reserves stated on Schedule P, Part 1 and its net loss and LAE reserves stated on page 3 of the balance sheet.<sup>63</sup>

The above information is valuable to the actuary in assessing the reasonableness of unpaid claims. The actuary can reconcile the case reserves relied upon in the actuarial analysis to Schedule F, Part 3 and determine where the ceded loss reserves are coming from. However, Part 1 does not provide assumed IBNR. While a ceding company may report IBNR figures to its reinsurer, the reinsurer is responsible for recording assumed IBNR.

As shown in Table 21, the total in column 6 (reinsurance recoverable on paid losses and LAE; 000 omitted) reconciles to the amount on page 3, line 2 (reinsurance payable on paid losses and LAE, displayed in whole dollars). However, the total in column 7 (000 omitted) does not

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<sup>63</sup> This is only true for those companies that do not participate in intercompany pooling. A discussion of the treatment of intercompany pooling in Schedule P is provided *Chapter 15. Schedule P* of this publication.

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reconcile directly to any exhibits or schedules within the Annual Statement. Known case reserves for losses are a part of the reported losses included in Column 2 of the Underwriting and Investment Exhibit, Part 2A; however LAE would need to be added to this balance to reconcile to the amount in Schedule F, Part 1, column 7.

*Contingent commissions*

Column 9 provides a listing of contingent commissions payable. Reinsurers pay ceding companies a commission for the premium income generated under the reinsurance contract. Contingent commissions payable are profit commissions generated from assumed reinsurance contracts that have yet to be paid as they are “contingent” on the profitability of the underlying reinsurance arrangement. The total amount listed in column 9 (000 omitted) is included within the amount on page 3, line 4, entitled *Commissions payable, contingent commissions and other similar charges*. The amount in column 9 (000 omitted) should reconcile to item (2) within the “Reinsurance” note of the “Notes to Financial Statements” titled “Reinsurance Assumed and Ceded” (Note 23C of the 2011 Annual Statement), which provides the amount of additional or return commission contingent upon loss experience or other forms of profit sharing arrangement as a result of existing contracts (shown in whole dollars).

Let’s go back to the example we used in our explanation of column 10 (assumed premiums receivable), but this time, let’s assume that the 25% ceding commission is on a one-to-one sliding scale basis instead of being fixed. The 25% ceding commission assumes a 75% loss ratio. If the loss ratio is worse than expected and ends up being 80%, then the ceding commission drops to 20%. If the loss ratio turns out to be better than expected and is 65%, for example, then the ceding commission increases by 10 points to 35%.

The amount of commissions payable in column 10 would be \$500,000, and the contingent commissions payable in column 9 would be \$125,000, which is the amount of expected commission at the onset of the contract. Let’s fast-forward to the end of the following year and assume that the \$500,000 in premium was paid by the ceding company (reinsured) to the reporting entity (reinsurer), and the \$125,000 in ceding commission was paid by the reporting entity to the ceding company. However, based on actual loss experience to date, the reporting entity now knows that the loss ratio is 65% as opposed to the 75% originally expected. This means that the reporting entity will owe the ceding company 10 more points of commission, or \$50,000. The \$50,000 would be shown in column 9 as a positive number and is a liability to the reporting entity. Of course, since the \$500,000 in premium has already been received by the reporting entity, the amount shown in column 10 would be \$0.

### *Security*

The remaining columns of Schedule F, Part 1 (columns 12 through 15) provide forms of security that ceding companies often require of their reinsurers to avoid credit risk or an insolvency problem with the reinsurer.

#### Funds held

Funds held by or deposited with reinsured companies (column 12) represent an asset to the reinsurance company and a liability to the ceding company. It represents a provision within a reinsurance contract under which a portion of the premium due to the reinsurer is withheld by the ceding company to pay claims. There is usually a limit to the funds-held balance; however, it is replenished as (or when) it is absorbed.

Not only do the funds held reduce credit risk, but they also serve to reduce the administrative burden of the reinsured having to go to the reinsurance company to collect each time it makes a loss payment. This provision is often beneficial to the reinsurer as the funds withheld are credited for interest, the rate of which is determined in the contract. Given the benefit, this is one provision that is considered in the evaluation of whether a reinsurance contract transfers underwriting risk.

#### Letters of credit

The dollar amount underlying any letters of credit that the reporting entity is required to post to benefit the reinsured is shown in column 13. Letters of credit are issued by a bank in favor of the reinsured in the event that the reinsurer is unable to meet its obligations. Reinsureds tend to favor this form of credit because it is not part of the estate of an insolvent reinsurer and therefore not tied up or subject to degradation in bankruptcy or liquidation proceedings. However, letters of credit can be very costly to the reinsurer. First, banks charge the reinsurer a fee, and this fee can be very high in uncertain economic times, as experienced during 2008 and several years thereafter. Second, letters of credit serve as a reduction to the reinsurer's line of credit with a bank and therefore reduce the amount of collateralization available on its debt obligations.

#### Amount of assets pledged or collateral held in trust

Broadly speaking, these are amounts not otherwise included within the funds-held provision. Unlike the other two types of security (funds held and letters of credit), these assets or collateral amounts are under the control of the reinsurer.

As we will see in Schedule F, Part 5, the funds-held provision and letters of credit serve to reduce a ceding company's liability for unauthorized reinsurance.

### *Schedule F – Part 1 for Fictitious Insurance Company*

Because Fictitious Insurance Company does not have any assumed reinsurance, these balances are \$0 within Fictitious' 2011 Annual Statement. However, a reconciliation of these

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balances could be made within the Annual Statement for another company on the Exam 6 U.S. Syllabus.

SCHEDULE F – PART 2: PREMIUM PORTFOLIO REINSURANCE EFFECTED OR (CANCELED) DURING CURRENT YEAR

*Overview*

Part 2 provides a detailed listing of portfolio reinsurance transactions effected or canceled during the current year. Portfolio reinsurance is the transfer of policies in force or liabilities remaining on a block of the insurance company's business. Companies tend to enter into these arrangements when they:

- ▶ Want to discontinue writing a certain business
- ▶ Would like to get the risk or uncertainty associated with the liabilities off of their books
- ▶ Need surplus relief, which can come in the form of the discounted premium

However, these transactions come at a price, as the reinsurer will require a risk premium; the benefit of these contracts must be weighed with the cost.

*Schedule F - Part 2 for Fictitious Insurance Company*

Fictitious Insurance Company neither effected nor canceled any portfolio reinsurance during 2011.

SCHEDULE F – PART 3: CEDED REINSURANCE AS OF DECEMBER 31, CURRENT YEAR (000 OMITTED)

*Overview*

Part 3 is one of the most referenced parts within Schedule F and marks the beginning of the remaining parts of Schedule F, which focus on ceded reinsurance. Part 3 provides a comprehensive listing of the company's ceded reinsurance balances by reinsurer. It shows the dollar amounts relating to ceded reinsurance contracts, which enable the user to identify amounts recoverable from each of the company's reinsurers and assess credit risk.

Each reinsurer in Parts 3 is separated into the same groups and categories as Part 1. However, these groups and categories are provided separately for authorized reinsurers and unauthorized reinsurers,<sup>64</sup> with subtotals for each. Additionally, the amount reinsured on protected cells is listed separately,<sup>65</sup> in aggregate. As we shall see, the categorization of

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<sup>64</sup> An authorized reinsurer is one that is licensed or approved to transact insurance business in a jurisdiction; an unauthorized reinsurer is not.

<sup>65</sup> A protected cell company is one that is separated into separate cells, each having its own assets and liabilities, but also having access to a part of the company's overall capital. The liability to each cell is limited such that

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authorized and unauthorized is used in the calculation of the provision for reinsurance, which culminates in Part 7.

With the exception of Part 8, the remaining Parts (3 through 7) of Schedule F each start off with a listing of the Federal ID Number, NAIC Company Code and name of each of the Company's reinsurers. Parts 3 through 5 also include the domiciliary jurisdiction of each reinsurer.

#### *Cessions of 75% or more of subject premium*

By definition, an insurance company is a risk-bearing entity. So when an insurance company decides to cede most, if not all, of the risk under a contract, regulators need to understand why an insurer writes business and then cedes a large portion of it to another insurer. Column 5 identifies, through an indicator of the number 2 in the relevant row, each individual reinsurance contract whereby 75% or more of the subject direct written premiums are ceded. The purpose of column 5 is to identify situations where the reporting entity may be acting as a fronting carrier for another company (the reinsurer) in a particular state where the reinsurer is not licensed to transact business. The concern on behalf of the regulator is that the reinsurer is using the fronting company to avoid regulatory oversight.

We often see this in the case of workers' compensation insurance due to the strict licensing requirements. For example, Insurer A may wish to write workers' compensation for a retail organization with locations along the west coast of the U.S. However, Insurer A may not be licensed to write workers' compensation insurance in California. So Insurer A may turn to Insurer B, which is licensed in California, to write the policy on Insurer A's behalf. In turn, Insurer B would cede 100% of the exposure to Insurer A. Insurer B would require a fronting fee to provide this service to Insurer A.

Certain reinsurance transactions are exempt from this requirement, as they are not fronting arrangements and their purpose is not to avoid regulatory oversight. These transactions include:

- ▶ Intercompany cessions with affiliates, as these are used to share risks across related companies
- ▶ Cessions to a group, association, pool or organization of insurers that underwrite jointly and are subject to examination by any state regulatory authority or that operate pursuant to any state or federal statutory or administrative authorization, such as a workers' compensation or auto assigned risk pool
- ▶ Those where the gross annual premium ceded is less than 5% of policyholder surplus, as these transactions are deemed immaterial and may represent situations where an insurance company is exiting a line of business as opposed to a fronting arrangement

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creditors to one cell cannot look to another cell or the company as a whole for assets. Only certain jurisdictions currently have insurance legislation pertaining to protected cell companies.

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- ▶ Cessions to captive insurance companies, which are regulated in their domiciliary state (captive insurance companies are used by parent companies (non-insurance) to keep commercial insurance costs down)

Many of the remaining columns are mirror images (albeit with different column numbers) to the corresponding contents of Part 1 for assumed reinsurance and pertain to premiums ceded, reinsurance recoverable, reinsurance payable and funds held by the reporting entity. In our discussion of the remaining columns of Part 3, we provide parenthetical references to amounts in Schedule F of Fictitious Insurance Company's 2011 Annual Statement where applicable.

*Premiums ceded*

The amount of written premium that is ceded to each of the company's reinsurers during the year is shown in column 6. The total amount in column 6 (\$1,882; 000 omitted) should reconcile to the total of columns 4 plus 5 in Part 1B of the Underwriting and Investment Exhibit (shown in whole dollars).

*Reinsurance recoverable*

Columns 7 and 8 provide recoverables on paid losses and LAE (\$426; 000 omitted). These are booked as an asset on the insurance company's balance sheet (\$426,000 on page 2, line 16.1) because the company is awaiting receipt of a recovery from its reinsurer on payments that the insurance company already made to the claimant.

Columns 9 through 12 provide recoverable on unpaid loss and LAE. The totals of column 9 (\$5,343; 000 omitted) will reconcile to the Underwriting and Investment, Part 2A, column 3 (shown in whole dollars). And, the totals of column 11 (\$4,038; 000 omitted) will reconcile to the Underwriting and Investment, Part 2A, column 7 (shown in whole dollars).

For companies that do not participate in intercompany pooling, Schedule F, Part 3, columns 9 through 12 are equal to the amount of ceded reserves that are netted against the gross loss and LAE reserves, which result in the net loss and loss adjustment expense reserves shown on page 3 of the balance sheet in rows 1 plus 3. Columns 9 through 12 should also reconcile to the sum of the totals in columns 14, 16, 18, 20 and 22 of Schedule P, Part 1 - Summary as follows:

- ▶ The totals in Schedule F, Part 3, columns 9 and 11 (\$5,343 and \$4,038) should reconcile directly to the total amounts in Schedule P, Part 1, columns 14 and 16 (\$5,343 and \$4,038), respectively.<sup>66</sup>

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<sup>66</sup> Differences due to rounding within the Annual Statement for Fictitious Insurance Company.

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- ▶ Similarly, Schedule F, Part 3, column 10 (\$258) should reconcile to Schedule P - Part 1, column 18 (\$258), since the NAIC Annual Statement Instructions require column 10 of Schedule F, Part 3 to exclude Adjusting and Other expenses.
- ▶ The total in Schedule F, Part 3, column 12 (\$503) should reconcile to the sum of the totals in columns 20 and 22 of Schedule P, Part 1 (\$503).<sup>67</sup>

Even if the company does participate in intercompany pooling the recoverables on known case and IBNR loss reserves should match columns 3 (reported losses recoverable from authorized and unauthorized companies) and 7 (IBNR losses on reinsurance ceded) of the Underwriting and investment Exhibit Part 2A.

Note that Part 3 provides IBNR reserves, as these are amounts determined and recorded by the reporting entity. Recall that Part 1 does not provide IBNR. Part 1 provides case reserve amounts reported by the assuming company from the ceding company. While the ceding company may report IBNR to the assuming company, it is the assuming company's responsibility to book what it believes to be its best estimate.

Column 13 represents the amount of unearned premium that will be ceded to an insurance company's reinsurers (\$920; 000 omitted). This should equal to the parenthetical amount on page 3, line 9 of the balance sheet (\$920,000), which provides the reduction to gross unearned premium for the amount ceded. This is a contra liability to the ceding company. It should also reconcile directly to the amount in item (1) within the "Reinsurance" note of the Notes to Financial Statements titled "Reinsurance Assumed and Ceded" (shown in whole dollars; Note 23C of the 2011 Annual Statement).

Column 14 is similar to Schedule F, Part 1, column 9 (contingent commissions payable), but column 14 is from the view point of the reporting entity as a ceding company (reinsured) as opposed to the reporting entity as the reinsurer. Schedule F, Part 3, column 14 represents the amount of contingent commissions receivable from the reporting entity's reinsurers. The amount in column 14 (\$12; 000 omitted) should reconcile to item (2) within the "Reinsurance" note of the Notes to Financial Statements titled "Reinsurance Assumed and Ceded" (shown in whole dollars; Note 23C of the 2011 Annual Statement), which provides the amount of additional or return commission contingent upon loss experience or other forms of profit sharing arrangement under the reporting entity's existing reinsurance contracts. In the case of Fictitious, this amount is positive, which means that Fictitious expects to receive additional commission from the companies it cedes business to (specifically Good Reinsurer and Slightly Overdue Reinsurer) as a result of favorable loss experience. However, the amount can also be negative, which would mean that the reinsurer's experience as has been worse than anticipated under the contract and the reporting entity is expected to return some of the commission already received.

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<sup>67</sup> Differences due to rounding within the Annual Statement for Fictitious Insurance Company.

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Column 15 provides a sum of reinsurance recoverables, whether on paid (an asset) or unpaid losses (a reduction to liabilities), a reduction to unearned premiums, or contingent commissions receivable.

*Reinsurance payable*

Columns 16 and 17 provide other amounts payable by the insurance company to the reinsurer. All other commissions receivable that are not included in column 14 are netted with ceded balances payable in column 16. Column 16 (\$440; 000 omitted) should reconcile to page 3, line 12, "Ceded reinsurance premiums payable (net of ceding commissions) (\$440,000). Amounts in column 17 (\$0) represent miscellaneous liabilities owed to the reinsurer under the ceded contracts, excluding funds held by the company under the terms of the contracts with its reinsurers. Funds held are provided for separately in column 19.

Column 18 (\$11,061; 000 omitted) represents the net amount recoverable from reinsurers and is equal to column 15 reduced by columns 16 and 17.

*Funds held*

Column 19 provides the liability for funds held by company under reinsurance treaties (\$170; 000 omitted) and reconciles to page 3, line 13 (\$170,000). This provision is the mirror image of that reported by the reinsurer in a transaction, as described in Part 1. It is used by the reporting entity to protect balances due from the reinsurer under the terms of the reinsurance contract. As we will see in Schedule F, Part 5, this provision enables the insurance company to reduce its liability for unauthorized reinsurance.

*Footnotes to Part 3*

There is a required footnote at the end of Part 3 that is particularly relevant from a regulatory perspective. The footnote requires disclosure of the top five provisional commission rates under the reporting entity's reinsurance contracts where the ceded premium is greater than \$50,000. This note is read in conjunction with column 14 (contingent commissions receivable) and the aforementioned Note to Financials on reinsurance assumed and ceded.

The purpose of these items is to identify companies that may be using reinsurance as a means to conceal high operating leverage. As we shall see in Appendix I of this publication, one purpose of the Insurance Regulatory Information System (IRIS) ratios is to identify companies that may be taking on more business and more risk than they can handle relative to their surplus. Specifically, IRIS Ratio 2 provides the ratio of net written premium to policyholders' surplus. Unusual values triggering regulatory attention are those in excess of 300% on a net basis. The 300% ratio on a net basis corresponds to the age-old generally accepted benchmark that insurers remain within the 3-to-1 range in terms of writings relative to surplus.



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Companies growing rapidly may use reinsurance as a means to reduce pressure on its surplus. This is known as “surplus relief.” All else being equal, an increase in the amount of ceded premiums will reduce the amount of net premiums and reduce the premium to surplus ratio (IRIS Ratio 2). This is perfectly legitimate; the purpose of reinsurance is to spread and manage insurance risk.

For example, consider a company that has \$150 million of direct written premium and surplus of \$25 million. The premium-to-surplus ratio is 600%, well above the 300% benchmark. Let’s say this company decides to purchase a 30% quota share reinsurance contract with a fixed ceding commission of 35%. The company’s net written premium would be:

$$\begin{aligned} & \text{Direct written premium} * (1 - \text{ceding percentage}) \\ &= \$150 \text{ million} * (1 - 0.30) \\ &= \$105 \text{ million.} \end{aligned}$$

At the onset of the contract, the company’s surplus would grow by the amount of ceding commission:

$$\begin{aligned} & \text{Direct written premium} * \text{ceding percentage} * \text{ceding commission} \\ &= \$150 \text{ million} * 30\% * 35\% \\ &= \$15.75 \text{ million} \end{aligned}$$

The resulting surplus would be \$40.75 million (\$25 million current surplus plus \$15.75 million in ceding commission). The purchase of this contract would reduce the company’s premium-to-surplus ratio below the 300% “usual” value benchmark, from 600% to 258%.

However, consider the situation where the commission is instead offered on sliding scale basis such that a one-point increase in loss ratio from 65% would result in a one-point decrease in the 35% commission rate. The premium-to-surplus ratio at the onset of this contract would be the same as that under the situation where the commission rate is fixed (258%). However, if the actual loss ratio turns out to be 80%, then the company will have to return \$6.75 million of the original \$15.75 million in ceding commission. Instead of receiving 35% of ceded premium in commission, the company (reinsurer) will end up getting only 20%. If a 20% fixed commission rate was considered at the onset, the premium-to-surplus ratio would have been 309%, triggering an unusual value for IRIS Ratio 2.

Schedule F, Part 3 and the reinsurance note to the financial statements identify reinsurance contracts with high provisional commission rates so that the regulator may investigate these contracts and determine if they are being used to mask high operating leverage.

We note that IRIS Ratio 4 (surplus aid to policyholders surplus) is another statistic that can identify companies that rely heavily on reinsurance for surplus relief. As explained in Appendix I of this publication, IRIS Ratio 4 provides the ratio of surplus aid to policyholders

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surplus. Surplus aid is the amount of surplus enhancement in the current year attributed to ceding commission (both fixed and contingent) that has been taken into income on ceded unearned premium. Ratios of surplus aid to policyholders surplus in excess of 15% are considered unusual and trigger regulatory scrutiny.

In either of our examples (with the 35% ceding commission being either fixed or provisional), IRIS Ratio 4 would be computed as 39% at the onset of the contract, well in excess of the 15% benchmark.<sup>68</sup> This further illustrates the company's heavy use of reinsurance as surplus relief, masking considerable growth and uncertainty in results.

SCHEDULE F – PART 4: AGING OF CEDED REINSURANCE AS OF DECEMBER 31, CURRENT YEAR (000 OMITTED)

Part 4 is titled "Aging of Ceded Reinsurance as of December 31, Current Year (000 Omitted)." It provides a breakdown by age of the paid loss and LAE amounts recoverable from the insurance company's reinsurers that are shown in columns 7 (reinsurance recoverable on paid loss) and 8 (reinsurance recoverable on paid LAE) of Schedule F, Part 3. The reinsurers are grouped and categorized in the same authorized/unauthorized segments as Part 3.

This schedule provides one of the items that is considered in determining the provision for reinsurance in Part 7, and columns 8 and 9 (amounts greater than 90 days overdue) are used directly in Part 5.

Paid loss and LAE recoverables are provided in the following age categories:

- ▶ Current (column 5)
- ▶ 1 to 29 days (column 6)
- ▶ 30 to 90 days (column 7)
- ▶ 91 to 120 days (column 8)
- ▶ Over 120 days (column 9)

The total amount of paid loss and LAE recoverable that is overdue (columns 6 through 9) is provided in column 10. The total amount of paid loss and LAE recoverable that is due (current in column 5 plus overdue in column 10) is provided in column 11. The amount in column 11 (\$426 in total; 000 omitted) reconciles to the amount in column 7 (recoverable on paid loss) plus column 8 (recoverable on paid LAE) in Schedule F, Part 3 (\$426 + \$0 = \$426 in total; 000 omitted) and Page 2, line 16.1 (amounts recoverable from reinsurers; \$426,000). As stated previously, paid loss and LAE recoverables are assets of the reporting entity.

According to the NAIC Annual Statement Instructions, the age of the recoverable is based on the following:

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<sup>68</sup> IRIS Ratio 4 is computed as the unearned premium reserve of \$45 million multiplied by the 35% ceding commission and divided by policyholders surplus of \$40.75 million.

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- ▶ The terms of the reinsurance contract as to when claims are to be paid by the reinsurer, if specified
- ▶ The terms of the reinsurance contract as to when claims are to be reported by the insurance company to the reinsurer, if specified
- Or
- ▶ The date when the amount recoverable exceeds \$50,000 for a particular reinsurer and is entered in the insurance company's financial accounts as a paid recoverable

If the amount recoverable is less than \$50,000, and the aforementioned paid/reported dates are not specified in the contract, then the recoverable is reported in column 5 as currently due.

Note that recoverables from mandatory pools and associations are reported in Column 5 as currently due.

Columns 12 and 13 of Part 4 provide percentages of the overdue balances to total amounts due. Column 12 provides the percentage overdue relative to the total due (column 10 divided by column 11), and column 13 provides the percentage overdue greater than 120 days to the total due (column 9 divided by column 11). These percentages are used in the calculation of the provision for reinsurance.

SCHEDULE F – PART 5: PROVISION FOR UNAUTHORIZED REINSURANCE AS OF DECEMBER 31, CURRENT YEAR (000 OMITTED)

As explained in the "Overview" section of this chapter, the provision for reinsurance is a minimum reserve that is calculated under SAP to reflect an estimate of recoveries under the reporting entity's reinsurance contract(s) that it will not be able to collect. The provision is calculated on Schedule F, Part 7 and comprises two elements:

1. Provision for unauthorized reinsurance, which comes from Part 5, column 20
2. Provision for overdue authorized reinsurance, which itself comprises two components, one coming from Part 6 and the other from Part 7:
  - ▶ Part 7 provides the provision for what Sholom Feldblum refers to as "slow-paying" authorized reinsurers.<sup>69</sup> These are reinsurers where the ratio of reinsurance recoverable on paid losses and LAE more than 90 days overdue represents greater than 20% of total reinsurance recoverable on paid losses and LAE plus amounts received in the 90 days prior to December 31, current year.
  - ▶ Part 6 provides the provision for authorized insurers where the aforementioned ratio is less than 20%.

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<sup>69</sup> Feldblum, S., "Reinsurance Accounting: Schedule F," CAS Exam Study Note, April 2003, 8<sup>th</sup> Edition, page 22.

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There is more to come on the provision for overdue authorized reinsurance when we discuss Parts 6 and 7. For now we will focus on the provision for unauthorized reinsurance that is computed in Schedule F, Part 5.

#### *Provision for unauthorized reinsurance*

The provision for unauthorized reinsurance requires that the insurance company establish a liability to protect against the inability to collect on amounts due from a reinsurer not authorized by the insurance company's jurisdiction to write business and therefore not regulated by that jurisdiction. The liability is determined equal to the sum of:

- ▶ The total amount of reinsurance recoverable from each reinsurer, offset by any forms of security (or other allowable offsets such as trust funds) for that reinsurer (i.e., unsecured recoverable)
- ▶ The lesser of the offsets and 20% of amounts recoverable on paid losses that are more than 90 days overdue not in dispute (i.e., the late payers)
- ▶ The lesser of the offsets and 20% of the amount of recoverables in dispute

To put it another way, the liability is equal to total recoverable from unauthorized reinsurers, reduced for allowable offsets only to the extent that there are no amounts in dispute or more than 90 days due (and not in dispute). Otherwise, the allowable offsets are reduced by 20% of amounts due from late payers and 20% of amounts recoverable that are in dispute. Late payers and those that dispute coverage are more likely not to pay than those unauthorized reinsurers that have a history of paying on time and where no amounts are currently in dispute. For each reinsurer, the liability is capped at the total amount of reinsurance recoverable from that reinsurer. However, according to the Annual Statement Instructions, a higher amount could be entered if the insurance company's experience suggests that a higher amount is appropriate.

We note that the Appointed Actuary comments on the collectability of reinsurance in the Statement of Actuarial Opinion. However, a large provision for reinsurance would not always mean there is a collectability issue. Just because a reinsurer is not authorized to transact business in the jurisdiction in which the reporting entity operates doesn't mean that the reinsurer is not viable and will not pay claims owed under the terms of the reinsurance contract.

The following provides the calculation of the Provision for Unauthorized Reinsurers for several reinsurers included in Schedule F, Part 5 of the 2011 Annual Statement for Fictitious Insurance Company. Note that the recoverable amounts in dispute provided in the footnotes to Schedule F, Part 5 relate to Reinsurer C. There are no other recoverables in dispute with any of Fictitious' other reinsurers.

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The first example is Reinsurer A, which is an unaffiliated unauthorized reinsurance company of Fictitious located in the U.S. Reinsurer A is more than 90 days late in reimbursing Fictitious for \$5,000 in paid loss and LAE. We have mimicked the calculation of the provision for unauthorized reinsurance (Part 5, Column 20) for Reinsurer A in the following table. To illustrate the calculations for a single reinsurer, we show the Schedule F columns in rows.

TABLE 22

<b>Schedule F – Part 5</b>		
<b>Provision for Unauthorized Reinsurance as of December 31, Current Year (000 omitted)</b>		
Example #1: Reinsurer A from Schedule F – Part 5 of the 2011 Annual Statement for Fictitious Insurance Company		
<u>Col. #</u>	<u>Heading</u>	<u>Amount</u>
5	Reinsurance Recoverable on all Items, Schedule F, Part 3, Col. 15	42
6	Funds Held By Company Under Reinsurance Treaties, Schedule F, Part 3, Col. 19	20
7	Letters of Credit	–
11	Ceded Balances Payable, Schedule F, Part 3, Col. 16	–
12	Miscellaneous Balances	–
13	Other Allowed Offset Items	–
14	Cols. 6 + 7 + 11 + 12 + 13 but not in Excess of Col. 5	20
15	Subtotal Col. 5 minus Col. 14	22
16	Recoverable on Paid Losses & LAE Expenses Over 90 Days Past Due not in Dispute	5
17	20% of Amount in Col. 16	1
18	Smaller of Col. 14 or Col. 17	1
19	Smaller of Col. 14 or 20% of Amount in Dispute Included in Col. 5	–
20	Total Provision for Unauthorized Reinsurance Smaller of Col. 5 or Cols. 15 + 18 + 19	23

As displayed above, included within Fictitious Insurance Company's Total provision for unauthorized reinsurance in Column 20 of Schedule F, Part 5 is \$23,000 for Reinsurer A. This was computed by taking all items recoverable of \$42,000 and reducing by the amount of offsets, which in this case are funds held by Fictitious of \$20,000, plus 20% of the amount of recoverable on paid loss and LAE over 90 days past due (and not in Dispute).

Reinsurer C is also an unauthorized U.S. reinsurer of Fictitious. The difference between Reinsurer A and Reinsurer C is that Reinsurer C is not late in paying Fictitious, but is in dispute with Fictitious over \$50,000 of the \$148,000 of recoverable. The following shows how the provision for unauthorized reinsurance is calculated for Reinsurer C.

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TABLE 23

<b>Provision for Unauthorized Reinsurance as of December 31, Current Year (000 omitted)</b>		
Example #2: Reinsurer C from Schedule F – Part 5 of the 2011 Annual Statement for Fictitious Insurance Company		
<u>Col. #</u>	<u>Heading</u>	<u>Amount</u>
5	Reinsurance Recoverable on all Items, Schedule F, Part 3, Col. 15	148
6	Funds Held By Company Under Reinsurance Treaties, Schedule F, Part 3, Col. 19	20
7	Letters of Credit	–
11	Ceded Balances Payable, Schedule F, Part 3, Col. 16	3
12	Miscellaneous Balances	–
13	Other Allowed Offset Items	–
14	Cols. 6 + 7 + 11 + 12 + 13 but not in Excess of Col. 5	23
15	Subtotal Col. 5 minus Col. 14	125
16	Recoverable on Paid Losses & LAE Expenses Over 90 Days Past Due not in Dispute	–
17	20% of Amount in Col. 16	–
18	Smaller of Col. 14 or Col. 17	–
19	Smaller of Col. 14 or 20% of Amount in Dispute Included in Col. 5	10
20	Total Provision for Unauthorized Reinsurance Smaller of Col. 5 or Cols. 15 + 18 + 19	135
<b>Footnotes:</b>		
1.	Amounts in dispute totaling \$50,000 are included in Column 5.	50
2.	Amounts in dispute totaling \$.....0 are excluded in Column 13.	–

As with Reinsurer A, the calculation starts by reducing the \$148,000 total reinsurance recoverables by the amount of allowable offsets, which in this case are funds held totaling \$20,000 and ceded balances payable by Fictitious to Reinsurer C of \$3,000. Added to this balance is 20% of the amount that Fictitious and Reinsurer C are in dispute over, \$50,000. The total provision for Reinsurer C is \$135,000.

Remember, the total provision for unauthorized reinsurance in Column 20 is capped at the total amount of Reinsurance Recoverables in Column 5 for any given unauthorized reinsurer. If, for example, Fictitious did not hold any funds on behalf of Reinsurer C, then the offsets would only be \$3,000, and the addition for amounts overdue and in dispute (totaling \$10,000) would cause the provision to be in excess of the total recoverable. In this case, the provision for unauthorized reinsurance would be capped at the \$148,000.

Reinsurer E is unauthorized to transact business in the U.S.; however, the provision for unauthorized reinsurance is \$0 in this case. The reason is that Reinsurer E has allowable offsets that in total equal the amount of reinsurance recoverable (\$170,000). Further, Reinsurer E is not overdue in any of its payments to Fictitious and is currently believed to be in agreement with the amount of recoverable. The calculation of the provision for unauthorized reinsurance for Reinsurer E is displayed below.

TABLE 24

<b>Provision for Unauthorized Reinsurance as of December 31, Current Year (000 omitted)</b>		
Example #3: Reinsurer D from Schedule F – Part 5 of the 2011 Annual Statement for Fictitious Insurance Company		
<u>Col. #</u>	<u>Heading</u>	<u>Amount</u>
5	Reinsurance Recoverable on all Items, Schedule F, Part 3, Col. 15	170
6	Funds Held By Company Under Reinsurance Treaties, Schedule F, Part 3, Col. 19	100
7	Letters of Credit	68
11	Ceded Balances Payable, Schedule F, Part 3, Col. 16	2
12	Miscellaneous Balances	–
13	Other Allowed Offset Items	–
14	Cols. 6 + 7 + 11 + 12 + 13 but not in Excess of Col. 5	170
15	Subtotal Col. 5 minus Col. 14	0
16	Recoverable on Paid Losses & LAE Expenses Over 90 Days Past Due not in Dispute	–
17	20% of Amount in Col. 16	–
18	Smaller of Col. 14 or Col. 17	–
19	Smaller of Col. 14 or 20% of Amount in Dispute Included in Col. 5	–
20	Total Provision for Unauthorized Reinsurance Smaller of Col. 5 or Cols. 15 + 18 + 19	0

#### SCHEDULE F – PART 6: PROVISION FOR OVERDUE AUTHORIZED REINSURANCE AS OF DECEMBER 31, CURRENT YEAR

##### *Provision for overdue authorized reinsurance*

We just discussed one element of the provision for reinsurance, that being the provision for unauthorized reinsurance. Here we will begin the discussion of the other element, the provision for overdue authorized reinsurance. The provision for overdue authorized reinsurance comprises two components, one coming from Part 6 and the other from Part 7.

Similar to that for overdue unauthorized reinsurance, for purposes of calculating the provision for overdue authorized reinsurance, “overdue” reinsurance is that for which the amount of paid loss and LAE recoverable is over 90 days past due for reasons other than dispute between the insurance company and the reinsurer. Part 6 only includes those authorized reinsurers in Part 4 where the amount of paid recoverable is overdue.

The piece of the provision for overdue authorized reinsurance that comes from Part 6 comprises overdue authorized reinsurance that represents *less than 20%* the total recoverable on paid loss and LAE (plus amounts received by the insurance company from that reinsurer in the prior 90 days). For these reinsurers, most of the payments are less than three months late. This of course is not as great of a concern from a collectibility standpoint as is the situation where the majority of the amount overdue from a reinsurer is greater than 90 days (i.e., the “slow payers”); the likelihood of the reinsurer reimbursing the insurance company is less as time goes on. Schedule F, Part 7 provides the provision for slow payers

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(i.e., authorized reinsurers where the amount of paid loss and LAE recoverable more than 90 days overdue represents more than 20% of the total recoverable on paid).

Column 11 of Part 6 provides the provision for overdue authorized reinsurance as of December 31, current year, for authorized reinsurers where the amount of recoverable on paid loss and LAE more than 90 days overdue represents *less than 20%* of the total recoverable on paid loss and LAE (plus amounts received by the insurance company from that reinsurer in the prior 90 days). The provision for overdue authorized reinsurance in column 11 of Part 6 is calculated as 20% of (1) the amount of reinsurance recoverable on paid more than 90 days overdue plus (2) amounts in dispute excluded from the recoverable on paid more than 90 days overdue for those authorized reinsurers where the amount overdue represents less than 20% of the total. This is equal to 20% of the amount reported in column 8 plus the amount reported in column 10.

Notice for authorized reinsurers where the payments are more than 90 days past due, the provision in column 11 focuses on paid losses and LAE, or slow payers. This contrasts with unauthorized reinsurers, where the provision is based on the total recoverable (i.e., that for slow payers and for unpaid loss and LAE).

For Fictitious Insurance Company, "Slightly Overdue Reinsurer" is the only authorized reinsurer for which loss and LAE payments are overdue in 2011 *and* for which the overdue amount represents *less than 20%* the total recoverable on paid. The following provides the calculation of the provision for overdue authorized reinsurance for Slightly Overdue Reinsurer as per the 2011 Schedule F, Part 6 of Fictitious Insurance Company.



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TABLE 25

<b>Provision for Overdue Authorized Reinsurance as of December 31, Current Year</b>		
Example: Reinsurer "Slightly Overdue" from Schedule F – Part 6 of the 2011 Annual Statement for Fictitious Insurance Company		
<u>Col. #</u>	<u>Heading</u>	<u>Amount</u>
4	Reinsurance Recoverable on Paid Losses and LAE More Than 90 Days Overdue (a)	1,000
5	Total Reinsurance Recoverable on Paid Losses and Paid LAE (b)	59,850
6	Amounts Received Prior 90 Days	–
7	Col. 4 divided by (Cols. 5 + 6)	1.7%
8	Amounts in Col. 4 for Companies Reporting less than 20% in Col. 7	1,000
9	Amounts in Dispute Excluded from Col. 4 for Companies Reporting less than 20% in Col. 7	4,000
10	20% of Amount in Col. 9	800
11	Amount Reported in Col. 8 x 20% + Col. 10	1,000
<b>Footnotes:</b>		
(a)	From Schedule F – Part 4 Columns 8 + 9, total authorized, less \$4,000 in dispute.	–
(b)	From Schedule F – Part 3 Columns 7 + 8, total authorized, less \$4,000 in dispute.	–

As displayed in column 7, 1.7% of the total amounts recoverable from Slightly Overdue Reinsurer on paid loss and LAE are more than 90 days overdue. As a result, 20% of overdue payments (20% of \$1,000, or \$200) plus 20% of the amounts in dispute excluded from the overdue paid (20% of \$4,000, or \$800) is included in the provision for overdue authorized reinsurance.

#### SCHEDULE F – PART 7: PROVISION FOR OVERDUE REINSURANCE AS OF DECEMBER 31, CURRENT YEAR

The purpose of Part 7 is twofold:

1. To calculate the provision for overdue authorized reinsurers for slow payers (i.e., where recoverable on paid losses are greater than 90 days past due represents greater than 20% of total reinsurance recoverable on paid losses and LAE plus amounts received in the 90 days prior to December 31, current year) in line 2 (\$45,000)
2. To calculate the total liability recorded by the insurance company for the provision for reinsurance, both authorized and unauthorized, in line 6 that is recorded on page 3, line 16 (\$283,000)

Part 7, line 2 is computed as 20% of the amount in line 1, which in turn is equal to the total in column 12. Column 12 is computed as the maximum of (1) reinsurance recoverable on all items less offsets and (2) the amount recoverable on paid losses and LAE greater than 90 days past due. Similar to Part 6, the provision for overdue authorized reinsurers in Part 7 considers reinsurance recoverables on paid loss and LAE greater than 90 days overdue.

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However, Part 7 also considers all recoverables from the reinsurer, less allowable offsets. In Part 7, the greater of all items recoverable, less offsets, and paid recoverables more than 90 days due, is used in the calculation of the provision.

Lines 1 through 6 of Fictitious' Schedule F, Part 7 are shown below.

TABLE 26

1.	Total	225,000
2.	Line 1 x .20	45,000
3.	Schedule F – Part 6 Col. 11	1,000
4.	Provision for Overdue Authorized Reinsurance (Lines 2 + 3)	46,000
5.	Provision for Unauthorized Reinsurance (Schedule F Part 5, Col. 20 x 1,000)	237,000
6.	Provision for Reinsurance (Sum Lines 4 + 5) (Enter this amount on page 3, line 16)	283,000

The following tables provide a listing of the column headings within Schedule F, Part 7, along with the calculation of the provision for overdue authorized reinsurance for Fictitious' two slow-paying reinsurers: "Overdue Reinsurer" and "Foreign Authorized."

TABLE 27

<b>Example #1: Overdue Reinsurer from Schedule F – Part 7 of the 2011 Annual Statement for Fictitious Insurance Company</b>		
<u>Col. #</u>	<u>Heading</u>	<u>Amount</u>
4	Reinsurance Recoverable on all Items, Schedule F, Part 3, Col. 15 *1,000	745,000
5	Funds Held By Company Under Reinsurance Treaties, Schedule F, Part 3, Col. 19 *1,000	-
6	Letters of Credit	515,000
7	Ceded Balances Payable, Schedule F, Part 3, Col. 16 * 1,000	13,000
8	Other Miscellaneous Balances	-
9	Other Allowed Offset Items	-
10	Sum of Cols. 5 through 9 but not in Excess of Col. 4	528,000
11	Subtotal Col. 4 minus Col. 10	217,000
12	Greater of Col. 11 or Schedule F - Part 4 Cols. 8 + 9	217,000

TABLE 28

Example #2: Foreign Authorized from Schedule F – Part 7 of the 2011 Annual Statement for Fictitious Insurance Company		
Col. #	Heading	Amount
4	Reinsurance Recoverable on all Items, Schedule F, Part 3, Col. 15 *1000	2,411,000
5	Funds Held By Company Under Reinsurance Treaties, Schedule F, Part 3, Col. 19 *1000	-
6	Letters of Credit	2,500,000
7	Ceded Balances Payable, Schedule F, Part 3, Col. 16 * 1000	255,000
8	Other Miscellaneous Balances	-
9	Other Allowed Offset Items	-
10	Sum of Cols. 5 through 9 but not in Excess of Col. 4	2,411,000
11	Subtotal Col. 4 minus Col. 10	-
12	Greater of Col. 11 or Schedule F - Part 4 Cols. 8 + 9	8,000

As displayed in Tables 27 and 28, included within Fictitious Insurance Company's Total provision for overdue authorized reinsurance in column 12 and line 1 of Schedule F, Part 7 of \$225,000 is \$217,000 for Overdue Authorized and \$8,000 for Foreign Authorized. These reinsurers are on this schedule because the amount of reinsurance recoverables on paid more than 90 days overdue represents over 20% of total recoverable from each (100% and 23.5% , respectively as calculated by dividing the sum of columns 8 and 9 by column 11 on Schedule F, Part 4).

To illustrate in words, the provision for overdue authorized reinsurers for Overdue Reinsurer is computed taking the maximum of the total reinsurance recoverable of \$745,000 reduced for allowable offsets totaling \$528,000, and the amount of recoverable on paid more than 90 days overdue totaling \$9,945 per Schedule F, Part 6, column 4 and Schedule F, Part 4, columns 8 plus 9 (multiplied by 1,000). The corresponding formulas are as follows:

$$= \text{Maximum [Total reinsurance recoverable on all items - Allowable offsets; Recoverable on paid loss and LAE more than 90 days overdue]}$$

$$= \text{Maximum [\$745,000 - \$528,000 = \$217,000; \$9,945]}$$

The sum of the amounts for authorized slow payers is multiplied by 20% prior to inclusion in the total provision for reinsurance. That is, the provision for Overdue Reinsurer of \$217,000, and the provision for Foreign Authorized of \$8,000 are added together and multiplied by 20% to obtain the provision for authorized slow payers of \$45,000 (20% \* \$225,000), per line 2 of Schedule F, Part 7.

The final provision for reinsurance in line 6 of Schedule F, Part 7, which is equal to the recorded on Liabilities, Surplus and Other Funds on Page 3, line 16 (\$283,000) of the Annual

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Statement, is equal to the sum of the following two items, which are displayed on Schedule F, Part 7:

1. Provision for overdue authorized reinsurance (totaling \$46,000 per line 4)
2. Provision for unauthorized reinsurance (totaling \$237,000 per line 5, which is derived in Column 17 of Schedule F - Part 5 multiplied by 1,000)

The provision for overdue authorized reinsurance (totaling \$46,000 per line 4) is equal to the provision for overdue authorized for slow payers from Part 7 (\$45,000) plus the provision for all other overdue authorized reinsurers (those where recoverable on paid more than 90 days overdue represents less than 20% of total recoverables on paid) from Part 6 (\$1,000).

The provision for reinsurance is a series of intricate calculations. The following provides a formulaic version of the provision to provide a more simplified view of the calculations. The formulas are provided separately for each of the three major components of the calculations (unauthorized, authorized non-slow paying and authorized slow paying). The calculations are performed separately for each reinsurer within each component. The sum of the results of each component provides the total provision.

Unauthorized reinsurer (Schedule F, Part 5, column 20, total):

$$= \text{Minimum} [(A) \text{ and } [(A) - (B)]] \\ + \text{Minimum} [(B) \text{ and } 20\% * (C)] \\ + \text{Minimum} [(B) \text{ and } 20\% * (D)]$$

All other overdue authorized reinsurers (non-slow paying; Schedule F, Part 6, column 11, total):

$$= 20\% * [(C) + (D)]$$

Overdue authorized slow-paying reinsurers (Schedule F, Part 7, line 2):

$$= 20\% * \text{Maximum} [(A) - \text{Minimum} [(A) \text{ and } (B)] \text{ and } (E)]$$

Where,

- (A) = Total reinsurance recoverable on all items (Schedule F, Part 3, column 15)
- (B) = Allowable offsets (Schedule F, Part 5, column 14 for unauthorized; Schedule F, Part 7, sum of columns 5 through 9 for authorized slow paying)
- (C) = Recoverable on paid loss and LAE greater than 90 days overdue, excluding amounts in dispute (Schedule F, Part 4, columns 8 + 9, excluding (D) as applicable)
- (D) = Recoverable on paid loss and LAE in dispute (per footnotes to the associated parts of Schedule F)
- (E) = Recoverable on paid loss and LAE greater than 90 days overdue, including amounts in dispute (Schedule F, Part 4, columns 8 + 9)

SCHEDULE F – PART 8: RESTATEMENT OF BALANCE SHEET TO IDENTIFY NET CREDIT FOR REINSURANCE

Part 8 of Schedule F provides a summarized form of the balance sheet with adjustments to restate it on a gross of ceded reinsurance basis. That is, Part 8 provides a snapshot of the balance sheet as if the company had no reinsurance protection.

Part 8 is one page and displays the assets followed by the liabilities. Both the assets and liabilities are in a compressed format for ease of presentation and computation. There are three columns, providing balances for each of the following asset and liability line items:

- Column 1: As Reported (Net of Ceded)  
This provides the amounts included on page 2 of the Annual Statement, which are net of reinsurance.
- Column 2: Restatement Adjustments  
This provides the adjustments necessary to put the net amounts in column 1 on a gross of reinsurance basis in column 3.
- Column 3: Restated (Gross of Ceded)  
This is equal to the sum of columns 1 and 2 and shows the corresponding asset and liability figures on a gross of reinsurance basis.

*Adjustments to assets*

The asset side of the balance sheet is generally easier to adjust because there are fewer items that require adjustment. This is because certain items relate to direct or assumed business only, and/or certain items are not impacted by the amount of ceded reinsurance a company has. In general, no adjustment is made to the following asset items within Part 8:

- ▶ Cash and invested assets (line 1 of Schedule F, Part 8; line 12 of page 2), as these represent balances that the company has on hand or invested, regardless of its ceded reinsurance
- ▶ Premiums and considerations (line 2 of Schedule F, Part 8; line 15 of page 2), as these represent uncollected or deferred balances relating to direct written premiums
- ▶ Funds held by or deposited with reinsured companies (line 4 of Schedule F, Part 8; line 16.2 of page 2), as these represent balances for business assumed by the company, not ceded
- ▶ Other assets (line 5 of Schedule F, Part 8; representing the balance of page 2 not separately identified), as these represent balances that would not change regardless of ceded reinsurance balances, such as title plants, furniture and electronic data equipment

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- ▶ Protected cell assets (line 7 of Schedule F, Part 8; line 27 of page 2), as these are not related to ceded reinsurance

The only two lines that are affected by the reinsurance adjustments are line 3, reinsurance recoverable on loss and loss adjustment expense payment, and line 6, net amount recoverable from reinsurers. The adjustment in line 3 is simply a reversal of the amount of reinsurance recoverable on loss and LAE such that the balance gross of reinsurance ceded is \$0 for this asset. The adjustment for line 6 is a balancing item such that the total adjustments on the liabilities side of the balance sheet equal those on the asset side.

*Adjustments to liabilities*

With respect to the Liability side of the balance sheet, generally no adjustment is made to the following line items in Part 8:

- ▶ Taxes, expense, and other obligations (line 10 of Schedule F, Part 8; lines 4 through 8 of page 3), as these are generally applied to direct writings
- ▶ Advance premium (line 12 of Schedule F, Part 8; line 10 of page 3), as this represents balances that the company has received in advance on its direct writings
- ▶ Dividends declared and unpaid (line 13 of Schedule F, Part 8; line 11.1 and 11.2 of page 3), as dividends are not affected by the ceded reinsurance balances
- ▶ Amounts withheld or retained by company for account of others (line 16 of Schedule F, Part 8; line 14 of page 3), as these balances are not related to ceded reinsurance
- ▶ Other liabilities (line 18 of Schedule F, Part 8; representing the balance of the liabilities on page 3 not separately identified), as these are unrelated to ceded reinsurance

Adjustments are made for the following lines:

- Line 9: Losses and LAE (lines 1 through 3 of page 3)  
These balances are stated net on a company's statutory balance sheet. The adjustment puts the balances on a gross of reinsurance basis. For companies that are not involved in intercompany pooling arrangements, the adjustment equals the ceded case and IBNR figures from Schedule P, Part 1, Summary, total, columns 14, 16, 18, 20 and 22.
- Line 11: Unearned premiums (line 9 of page 3)  
These balances are stated net on a company's statutory balance sheet. The adjustment puts the balances on a gross of reinsurance basis. The source of the ceded unearned premium reserve is Schedule F, Part 3, column 13, multiplied by 1,000. The ceded balance is also provided within the

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parenthetical reference on the Liabilities, Surplus and Other Funds page of the Annual Statement (page 3) on line 9.

- Line 14: Ceded reinsurance premiums payable (line 12 of page 3)  
If we ignore ceded reinsurance, as is the purpose of Part 8, then the company will not have any ceded reinsurance premiums payable. The adjustment reverses the amount in column 1.
- Line 15: Funds held by company under reinsurance treaties (line 13 of page 3)  
Similarly, if we don't have any ceded reinsurance treaties, then the company won't have any funds held related to these treaties. The adjustment reverses the amount in column 1.
- Line 17: Provision for reinsurance (line 16 of page 3)  
This is the Schedule F "penalty," as computed in Schedule F, Part 7. If the company is assumed to have no reinsurance protection in Part 8, then there will be no provision for reinsurance. The adjustment reverses the amount in column 1.

*Surplus*

Surplus remains unadjusted in Part 8, as such, the adjustment amount is shown as "XXX" in column 2 and the amount in column 3 equals that in column 1.

*Totals*

The totals shown in column 1, line 22 of Part 8, balance to the totals shown on line 38 of page 3 of the Annual Statement. The total is equal to the difference between the total assets and total liabilities of the company. This calculation follows through to column 3, with the new total being on gross of reinsurance basis.

The following provides Schedule F, Part 8 for Fictitious Insurance Company.

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TABLE 29

<b>Schedule F – Part 8</b>			
<b>Annual Statement for the year 2011 of the Fictitious Insurance Company</b>			
<b>Restatement of Balance Sheet to Identify Net Credit for Reinsurance</b>			
	1	2	3
	As Reported (Net of Ceded)	Restatement Adjustments	Restated (Gross of Ceded)
<b>Assets (page 2, Col. 3)</b>			
1. Cash and invested assets (Line 12)	87,825,000	0	87,825,000
2. Premiums and considerations (Line 15)	7,990,000	0	7,990,000
3. Reinsurance recoverable on loss and loss adjustment expense payments (Line 16.1)	426,000	(426,000)	0
4. Funds held by or deposited with reinsured companies (Line 16.2)	0	0	0
5. Other assets	3,759,000	0	3,759,000
6. Net amount recoverable from reinsurers	0	10,595,000	10,595,000
7. Protected cell assets (Line 27)	0	0	0
8. Totals (Line 28)	<u>100,000,000</u>	<u>10,169,000</u>	<u>110,169,000</u>
<b>Liabilities (page 3)</b>			
9. Losses and loss adjustment expenses (Lines 1 through 3)	51,557,000	10,142,000	61,699,000
10. Taxes, expenses, and other obligations (Lines 4 through 8)	1,932,000	0	1,932,000
11. Unearned premiums (Line 9)	11,895,000	920,000	12,815,000
12. Advance premiums (Line 10)	0	0	0
13. Dividends declared and unpaid (Lines 11.1 through 11.2)	1,562,000	0	1,562,000
14. Ceded reinsurance premiums payable (net of ceding commissions) (Line 12)	440,000	(440,000)	0
15. Funds held by company under reinsurance treaties (Line 13)	170,000	(170,000)	0
16. Amounts withheld or retained by company for account of others (Line 14)	308,000	0	308,000
17. Provision for reinsurance (Line 16)	283,000	(283,000)	0
18. Other liabilities	829,000	0	829,000
19. Total liabilities excluding protected cell business (Line 26)	<u>68,976,000</u>	<u>10,169,000</u>	<u>79,145,000</u>
20. Protected cell liabilities (Line 27)	0	0	0
21. Surplus as regards policyholders (Line 37)	31,024,000	0	31,024,000
22. Totals (Line 38)	<u>100,000,000</u>	<u>10,169,000</u>	<u>110,169,000</u>

As displayed above, the asset items are adjusted in column 2 for:

- ▶ Reinsurance recoverable on loss and LAE payments in line 3, totaling \$426,000
- ▶ The net amount recoverable from reinsurers in line 6, totaling \$10,595,000



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The amount in line 6, column 2, is simply a reversal of the balance shown in column 1, and therefore the asset side of the balance sheet. The amount in line 6 is computed as the “plug,” such that the total adjustment to the assets in line 8 equals the total adjustment to the liabilities in line 19.

The liability items are adjusted in column 2 for:

- ▶ Loss and LAE in line 9, totaling \$10,142,000
- ▶ Unearned premiums in line 11, totaling \$920,000
- ▶ Ceded reinsurance premiums payable in line 14, totaling \$440,000
- ▶ Funds held by company under reinsurance treaties in line 15, totaling \$170,000
- ▶ Provision for reinsurance in line 17, totaling \$283,000

The amount in line 9, column 2, is equal to the amount of ceded loss and LAE reserves per Schedule P, Part 1, Summary, of Fictitious’ 2011 Annual Statement (sum of the totals in columns 14, 16, 18, 20 and 22).<sup>70</sup>

For companies that do not participate in intercompany pooling, this is equal to the ceded reserve loss and LAE reserve balance in Schedule P, Part 1, Summary. For those that operate in an intercompany pooling arrangement, we note that Schedule P is prepared net of pooling on both a gross and net of external reinsurance basis, whereas Schedule F considers all assumed and ceded reinsurance, including intercompany pooling. As such, it makes it difficult to have full visibility into the loss and LAE reserve balances shown in column 2 of Schedule F, Part 8 for companies participating in intercompany pooling.

The amount in line 11, column 2 is equal to the amount of gross unearned premium reserves that are ceded, as displayed in the total line of Schedule F, Part 3, column 13, multiplied by 1,000.

The amounts in column 2 for lines 14, 15, and 17 represent a reversal of the amount in column 1.

As displayed above, there is no adjustment to surplus; therefore, the amount in column 1 equals that in column 3 (\$31,024,000).

#### CHANGES TO SCHEDULE F IN 2012<sup>71</sup>

As noted, the annual statement instructions referenced and relied upon in this publication are those from 2011. In 2012, the NAIC added a new Part 6 to Schedule F and shifted the former Parts 6 through 8 to Parts 7 through 9, respectively.

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<sup>70</sup> Schedule P is prepared net of intercompany pooling on both a gross and net of external reinsurance basis, whereas Schedule F considers all assumed and ceded reinsurance, including intercompany pooling. As such, it makes it difficult to have full visibility into the loss and LAE reserve balances shown in column 2 of Schedule F, Part 8 for companies participating in intercompany pooling arrangements.

<sup>71</sup> NAIC, *Annual Statement Instructions Property/Casualty*, 2012, pages 207-232.

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In 2012, the NAIC added a third facet to the “authorized” and “unauthorized” categorization of reinsurers in Schedule F, called “certified.” Certified reinsurers are reinsurers that were previously categorized as unauthorized, but since have applied for an attained certification from the reporting entity’s domiciliary state as a certified reinsurer. In attaining certification, consideration is made for the reinsurer’s jurisdiction, financial position, amount of capital and surplus, regulatory history, financial strength rating(s) from recognized rating agency(ies), among other factors. Once certified, the reinsurer is given a rating that ranges from 1 to 6, called the Certified Reinsurer Rating. A reinsurer with a rating of 1 is considered most secure from a financial strength perspective; a reinsurer with a rating of 6 is considered vulnerable.

The rating defines the amount of collateral that the reinsurer is required to post with the reporting entity. The more secure the certified reinsurer, the less collateral required. For example, a reinsurer with a rating of 1 is not required to post any collateral; a reinsurer with a rating of 6 is required to post 100% of total recoverable due to the reporting entity in collateral. The rating and collateral are used in the calculation of the provision for reinsurance in the new Part 8 of Schedule F (formerly Part 7).

The obvious benefits of this new “certified” category are twofold: (1) the reporting entity does not get “penalized” as much as an unauthorized reinsurer in the provision for reinsurance, and (2) the reinsurer does not have to post as much security with the ceding company.

The new Part 6 has two sections. Section 1 provides the provision for reinsurance ceded to certified reinsurers due to collateral deficiency. This provision is equal to total recoverables from certified reinsurers (from Schedule F, Part 3, column 18) in excess of the amount of credit permitted for recoverables based on the Certified Reinsurer Rating. The amount of credit permitted is based on the amount of collateral actually posted by the reinsurer relative to the amount of collateral required based on its Certified Reinsurer Rating. For example, if a certified reinsurer has a rating of 6, then the reinsurer is required to post 100% of the recoverable in collateral. However, if the reinsurer only posts 75% of the total collateral required, then the reporting entity would record a provision for reinsurance in Section 1 equal to 25% of the recoverables. The 25% represents the deficiency in collateral; 75% represents the amount of credit permitted.

Section 2 of Part 6 provides the provision for overdue reinsurance ceded to certified reinsurers. As with authorized and unauthorized reinsurers, overdue reinsurance ceded is defined as recoverable on paid losses and LAE more than 90 days overdue per columns 8 and 9 of Schedule P, Part 4. The provision is calculated as:

$$= \text{Minimum} [\text{Maximum} [20\% * (C) + 20\% * (D) \text{ and } 20\% \text{ of } (F)] \text{ and } (G)],$$

where (C) and (D) are as defined previously in this chapter and:

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- (F) = net<sup>72</sup> unsecured recoverable for slow payers for which credit is permitted (Schedule F, new Part 6, Section 2, column 11 minus column 12); and  
 (G) = amount of credit permitted for net recoverable (Schedule F, new Part 6, Section 1, column 22).

The new Part 8 in 2012 (formerly Schedule F, Part 7) has two more lines in the calculation of the provision for reinsurance (lines 6 and 7) to account for the provision for certified reinsurers, as displayed below.

TABLE 30

Schedule F, Part 8, lines 1 through 8	
1	Total (Schedule F-Part 8, Col. 12, Total
2	Line 1 x .20
3	Schedule F-Part 7 Col. 11
4	Provision for Overdue Authorized Reinsurance (Lines 2 + 3)
5	Provision for Unauthorized Reinsurance (Schedule F-Part 5, Col. 20 x 1,000)
6	Provision for Reinsurance Ceded to Certified Reinsurers (Schedule F, Part 6, Section 1, Col. 23 x 1,000)
7	Provision for Overdue Reinsurance Ceded to Certified Reinsurers (Schedule F, Part 6, Section 2, Col. 15 x 1,000)
8	Provision for Reinsurance (sum Lines 4 + 5 + 6 + 7) (Enter this amount on Page 3, Line 16)

Reporting entities that have certified reinsurance need to bifurcate ceded balances pre- and post-certification periods in the new Schedule F. The amount of collateral and Schedule F penalty are determined separately based on the pre- and post-certification balances and requirements for each reinsurer. The amounts pre-certification will be reported within Part 5 as unauthorized reinsurance, and the amounts post-certification will be reported in Part 6.

As of the summer of 2013, not all states have enacted the NAIC model laws, which permit consideration for certified reinsurers: Credit for Reinsurance Model Law (#785) and Credit for Reinsurance Model Regulation (#786). Schedule F, Part 6 is only used by those reporting entities whose domiciliary state has adopted the model law(s); all other reporting entities will report "NONE" in Part 6. Given its newness, and the fact that the NAIC model laws for certified reinsurers have not been adopted in every state, Part 6 was not applicable for many companies in 2012. Accordingly, our discussion and description has been relatively brief.

<sup>72</sup> Net recoverable from Schedule F, Part 3, column 18 is used in the calculations in Part 6. Column 18 is equal to the total recoverable from Part 3, column 15, less reinsurance payable on ceded balances payable (Part 3, column 16) and reinsurance payable on other amounts due to reinsurers (Part 3, column 17).

### SUMMARY

As we have seen, Schedule F is not only important to actuaries in assessing net loss and LAE reserves, but it is also an important tool to the many users of the Annual Statement in solvency monitoring because it:

- ▶ Identifies the amount of gross losses that emanate from the reporting entity's assumed reinsurance transactions
- ▶ Provides an estimate of the significance of the reporting entity's assumed and ceded reinsurance transactions to its surplus
- ▶ Enables further inquiry into the financial strength of the reporting entity's reinsureds and reinsurers
- ▶ Identifies those of the reporting entity's reinsurers that may require further scrutiny because they are either slow at paying claims or are not regulated.

Yet, Schedule F is only one of many tools used to monitor solvency by regulators. And as we have stressed throughout this publication, no one tool can be used blindly.

Further, while Schedule F is valuable, it has received some criticism as to how well it meets the regulatory objectives of monitoring solvency for the protection of policyholders.<sup>73</sup> The following are a few of those criticisms:<sup>74</sup>

- ▶ The provision for reinsurance is strictly formulaic, potentially masking the true estimate of uncollectible reinsurance that would be determined by company management based on their knowledge of the reinsurers and terms of each contract.
- ▶ There is no statistical, historical or actuarial basis for the formula, and its application may not adequately represent an insurer's exposure to collectibility risk.
- ▶ Unauthorized reinsurance may provide more and/or higher-quality reinsurance at a lower price than a competing authorized reinsurer.
- ▶ Slow payers who are financially strong eventually pay, whereas a reinsurer that is current in its payments may not be able to withstand a stress scenario to its financials.
- ▶ The numerous calculations and detail involved in determining the provision for reinsurance can lead to a false level of precision such that the true issue of collectibility risk is overlooked.
- ▶ The costs associated with collateral requirements may be passed down to the primary policy, thereby costing the policyholder more for insurance.
- ▶ The provisions within Schedule F can limit competition to the U.S. market as a result of the penalty that the European reinsurers bring given that they are unauthorized.

Schedule F does not directly tell us anything about the reinsurer's solvency, which is really the source of collectibility risk.

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<sup>73</sup> Statutory Accounting Principles Preamble, paragraph 27.

<sup>74</sup> Feldblum, S., "Reinsurance Accounting: Schedule F," April, 2003, pages 40-47.

## CHAPTER 15. SCHEDULE P

### OVERVIEW

Schedule P is probably the most important schedule within the Annual Statement to property/casualty actuaries. Schedule P provides details underlying the recorded loss and loss adjustment expense (LAE) reserves on the reporting entity's statutory balance sheet, including 10 years of the company's historical loss and defense and cost containment (DCC) experience. Because the Annual Statement is a public document, Schedule P tends to be a means for outside parties to evaluate the adequacy of recorded reserves, absent loss and LAE data provided directly by the company. And even when detailed data is provided by the company, oftentimes outside parties look to Schedule P for purposes of providing a check on the reasonableness of the recorded balances. However, there are cautions to using this information, and we have presented several within this chapter.

Schedule P has numerous other uses in addition to providing support for the recorded loss and LAE reserves. For example, Schedule P:

- ▶ Supports and provides necessary disclosures for the Statement of Actuarial Opinion, including:
  - ▶ Direct plus assumed and net loss and expense reserves
  - ▶ The amount of anticipated salvage and subrogation (S&S) that the reporting entity takes credit for in its reserves
  - ▶ The amount of tabular and non-tabular discount that the reporting entity takes credit for in its reserves
- ▶ Shows how loss reserves have developed over time and enables the reader to decipher whether development is attributed to a specific year or line of business
- ▶ Provides the source of a company's payment patterns for purposes of discounting reserves for federal income tax
- ▶ Shows the split between a company's reserves for known claims and those actuarially determined (i.e., IBNR reserves)
- ▶ Provides historical claim count data to facilitate review of trends in claim frequency and severity, as well as changes in claims handling and reserving
- ▶ Provides information necessary to compute the loss sensitive discount in the RBC calculation

We will discuss some of these additional uses within this chapter.

### ORGANIZATIONAL STRUCTURE

There are seven parts to Schedule P plus interrogatories, as described below.

Part 1 summarizes a company's loss and LAE experience as of December 31 of the current year. It displays a company's loss and LAE reserves, after adjustment for tabular discount if

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applicable, and then separately shows the reserves net of all discounts (both tabular and non-tabular). These are the loss and LAE reserves that are recorded on a company's statutory balance sheet (page 3 of the Annual Statement).

For those companies that participate in intercompany pooling, Part 1 displays the pooling percentage.

Part 2 provides a historical display of a company's net ultimate loss and DCC estimates. This enables the user to see how the company's ultimate loss and DCC estimates have developed over time. In a perfect world, the company's ultimate estimate of the cost of incurred claims would remain the same at each evaluation point. However, these are estimates, and therefore have the potential to develop upward or downward as the claims mature. The information provided in Part 2 feeds into the one-year development test in the Five-Year Data Exhibit and is also used in computing IRIS ratios 11, 12 and 13.

Part 3 shows a historical array of the company's net paid loss and DCC experience as of each of the past 10 years. Actuaries can use this information to project unpaid claims using methods such as the paid loss development technique.

The difference between Part 2 (ultimates) and Part 3 (pays) provides a historical array of the company's net loss and DCC reserves as of each of the past 10 years. These amounts are provided *before* tabular discount.

Part 4 displays a company's recorded net IBNR for loss and DCC *before* tabular discount. The difference between Parts 2 and 4 provides a historical array of the company's net reported loss and DCC experience as of each of the past 10 years. This information can be used by actuaries to project unpaid claims using methods such as the case incurred loss development technique.

Part 5 provides a historical array of claim counts as of each of the past 10 years, including claims closed with payment, open claims and reported claims.

Part 6 displays the earning of premium over time, separately on a direct plus assumed and ceded basis. Like the information provided in Parts 2 through 4, the earned premium data is provided in a triangular format enabling the monitoring of premium adjustments over time.

Part 7 provides loss and premium data on loss sensitive contracts, separately for primary and reinsurance contracts, for those lines of business where such contracts are written.

All dollar amounts presented in Schedule P are in thousands (i.e., 000 omitted).

Within the remaining sections of this chapter, we will provide an overview of each part of Schedule P, focusing on those of most relevance to the property/casualty actuary. We will then get into details of those parts, providing relevant examples from the 2011 Schedule P for Fictitious Insurance Company.

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## SCHEDULE P – PART 1

Part 1 is shown in summary format for all lines of business combined, followed by separate schedules (Parts 1A through 1T) in the same format as Part 1 - Summary, but by Schedule P line of business. The data in Part 1 is provided on a direct plus assumed (gross) and ceded basis and includes premiums earned, paid loss and LAE, case outstanding loss and DCC reserves, and IBNR for loss and LAE. Additionally, incurred loss and LAE ratios are displayed on a gross, ceded and net of reinsurance basis.

One item that is not included in Schedule P is the segregation of gross data into its direct and assumed components. Oftentimes actuaries look for this information separately in performing analyses of unpaid claims however it is not provided in Schedule P. As noted in *Chapter 14. Schedule F*, certain of this information can be provided in Schedule F, Part 1, including assumed case reserves.

*Line of Business Segmentation in Part 1*

Parts 1A through 1T provide the same information as in Part 1 - Summary, except separately by line of business. The line of business segmentations are as follows:

- A - Homeowners/Farmowners
- B - Private Passenger Auto Liability/Medical
- C - Commercial Auto Liability/Medical
- D - Workers' Compensation
- E - Commercial Multiple Peril
- F - Section 1 - Medical Professional Liability - Occurrence
- F - Section 2 - Medical Professional Liability - Claims-Made
- G - Special Liability (Ocean Marine, Aircraft (All Perils), Boiler & Machinery)
- H - Section 1 - Other Liability - Occurrence<sup>75</sup>
- H - Section 2 - Other Liability - Claims-Made
- I - Special Property (Fire, Allied Lines, Inland Marine, Earthquake, Burglary & Theft)
- J - Auto Physical Damage
- K - Fidelity/Surety
- L - Other (Including Credit, Accident and Health)
- M - International
- N - Reinsurance - Nonproportional Assumed Property<sup>76</sup>
- O - Reinsurance - Nonproportional Assumed Liability<sup>77</sup>

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<sup>75</sup> Business reported as an aggregate write-in for other lines of business in the State Page is included here (either as occurrence or claims-made, depending on the coverage written).

<sup>76</sup> Property includes fire, allied, ocean marine, inland marine, earthquake, group, credit and other A&H, auto physical damage, boiler and machinery, burglary and theft and international property.

<sup>77</sup> Liability includes farmowners, homeowners and commercial multiperil; medical professional liability workers' compensation; other liability; products liability; auto liability; aircraft (all peril); and international liability.

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- P - Reinsurance - Nonproportional Assumed Financial Lines<sup>78</sup>
- R - Section 1 - Products Liability - Occurrence<sup>79</sup>
- R - Section 2 - Products Liability - Claims-Made
- S - Financial Guaranty/Mortgage Guaranty
- T - Warranty

The definitions of these lines correspond to those on the Exhibit of Premiums and Losses (Statutory Page 14), with the exception of the three nonproportional reinsurance assumed lines (Parts N, O and P), which are not included in Statutory Page 14, as it provides information on a direct basis only. Nonproportional reinsurance assumed is generally excess of loss reinsurance, whereas proportional is generally a form of quota share reinsurance. Proportional reinsurance is included within its respective line(s) of business segments. For example, premiums and losses associated with assumed commercial property reinsurance under a quota share contract would be included within Schedule P, Part 1I. Whereas the same risk assumed on an excess of loss basis would be included within Schedule P, Part 1N.

Only two accident years and a “prior years” row are shown for the following lines due to the limited amount of loss development beyond two years:

- I - Special Property (Fire, Allied Lines, Inland Marine, Earthquake, Burglary & Theft)
- J - Auto Physical Damage
- K - Fidelity/Surety
- L - Other (Including Credit, Accident and Health)
- S - Financial Guaranty/Mortgage Guaranty
- T - Warranty

That is, claims for the aforementioned lines of business are expected to be reported and paid within a relatively short period of time after the occurrence of a claim. Consider the Special Property line of business. If a commercial property is damaged due to fire, the insured will report the claim rather quickly to get the building repaired or rebuilt in order to continue operations. Payments may continue to the insured while the commercial property is being repaired due to business interruption; however, the insured will generally be back in business within the year in which the loss occurred. As a result, losses will develop for 12 to 24 months after the beginning of the accident year (January 1) in which the loss occurred, but typically the claim will be closed by the end of 24 months.

To illustrate the “bucketing” of claims, consider a complete fire loss to a paper mill on December 19, 2011. Assume the building is rebuilt and the insured is back in business on September 4, 2012. This claim would be recorded as an accident year 2011 claim, with loss

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<sup>78</sup> Financial includes financial guaranty, fidelity, surety, credit, and international financial.

<sup>79</sup> There is no Part Q.



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payments extending into the second year of development (24-month period) until the claim is closed on September 4.

Despite only two years being shown in the Schedule P line of business parts, all 10 years are included in Schedule P - Part 1 - Summary. Therefore the insurer is required to retain data for these lines in a similar 10-year format as all other lines of business in Schedule P.

Many have argued that the two-year reporting convention is not necessarily appropriate for the aforementioned lines of business due to the tail on lines such as Fidelity/Surety. These opponents would vote for including all 10 years, as is shown for the other Schedule P lines, arguing further that all 10 years are already produced for purposes of forming the summaries in Schedule P.

#### *Yearly Reporting Convention*

Part 1 provides information related to earned premiums and cumulative loss and LAE data at the current evaluation date (i.e., December 31 of the current year) for the last 10 years in which premiums are earned and losses incurred. Earned premiums are shown by calendar year, and once they are entered in Schedule P, they do not change for retrospective premium adjustments or other adjustments. Losses are shown by:

- ▶ Accident year for occurrence policies
- ▶ Report year for claims-made policies
- ▶ Policy year for tail policies
- ▶ Discovery year for fidelity and surety policies

Accident year is defined as the calendar year in which accidents occur and/or losses are incurred. For example, a claim with a date of loss of November 13, 2011, would be a 2011 accident year claim. This reporting convention is used for occurrence-basis policies, where the trigger of coverage is the occurrence of a loss. With occurrence policies, a claim can be reported at any time after the loss occurs, subject to statutes of limitation, as long as the loss occurs during the policy term. For example, an injury that occurred 15 years ago can be reported to the insurer today, and any coverage for that injury would be provided by the terms and conditions of the policy that was in effect 15 years ago.

Report year represents the calendar year in which losses are reported. This is typically used for claims-made policies, as the trigger of coverage is the reporting of a claim or incident to the insurance carrier. In their most basic format, claims-made policies cover claims that are first made during the policy term. As a result, if a claim occurs during the policy period but is not reported by the insured during the policy term, the claim is not covered by the insurance company under the terms and conditions of the policy that was in force at the time the claim occurred. This significantly reduces the uncertainty for the insurance carrier, both for pricing and reserving, since the policy that is in effect at the time the claim is made will be the policy

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providing the coverage for the claim, regardless of how long ago the incident took place (provided there is no retroactive date on the policy).

A claims-made policy may have a retroactive date that is before the effective date of the policy, the same as the effective date of the policy or it may have no retroactive date. The retroactive date is the date on or after which the incident must occur in order for it to be covered under the claims-made policy. An incident that occurs before the retroactive date will not be covered by the claims-made policy even if it is first reported during the policy period.

These types of policies are generally issued for medical malpractice, other liability, or products liability coverages because claims covered by these types of policies tend to have a long latency period. It becomes very difficult for insurance companies to project the claim frequency as well as the severity of claims and therefore difficult to price and reserve for an occurrence that will result in a claim many years in the future.

To illustrate the concept of claims-made coverage and the concept of report year, assume a young surgeon purchases a medical malpractice policy on a claims-made basis for the term beginning July 1, 2011, and expiring on June 30, 2012. Assume that the surgeon performs a procedure on his patient on October 21, 2011, and complications arise during the surgery. If the surgeon reports the incident to his insurance carrier before June 30, 2012, and subsequently the surgeon is sued and a claim materializes, he will be covered under his policy in effect from July 1, 2011, through June 30, 2012. This would be a 2011 report year claim for Schedule P reporting purposes. If the surgeon does not report the incident because the patient did not become aware of the complications until a year later, and the claimant decides to sue the physician on August 22, 2012, the surgeon reports this claim to his carrier on August 23, 2012. He would not be covered by the policy in effect from July 1, 2011, through June 30, 2012, as the claim was not reported during the policy term. If the surgeon renewed the claims made policy, the renewal policy that is in effect from July 1, 2012, through June 30, 2013, would be the policy that covers the claim.

In general, the people or companies that purchase claims-made policies do not like to leave themselves exposed to the risk of being uninsured, despite the cost savings of a claims-made policy as compared to an occurrence policy. As a result, they generally purchase something called an extended reporting period or "tail coverage." Tail coverage extends the reporting period of a claims-made policy for an additional period of time, which may be one to five years or an unlimited period of time past the expiration of the claims-made policy. A claims-made policy plus an unlimited extended reporting period essentially turns the claims-made policy into an occurrence policy. To illustrate using our previous example, let's assume that the surgeon does not renew his claims-made policy and therefore purchases unlimited tail coverage on July 1, 2012, when the policy expires. This means that any accident or loss that occurred as a result of error by the surgeon during the period July 1, 2011, through June 30, 2012, would be a covered claim by the insurance company that issued the claims-made

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policy regardless of when in the future the surgeon first reports the claim. Without the tail coverage, the surgeon would have no coverage for claims that he learns about on or after July 1, 2012.

Premiums and losses associated with tail policies are included in Schedule P with their associated line on an occurrence basis.

Discovery year is generally used for fidelity and surety policies, as it is difficult to determine the actual date the “loss” occurs. As the name suggests, discovery year represents the calendar year in which a loss or damage is discovered.

For simplicity, and because it is most common, we will use the term accident year in the remainder of our discussion of Schedule P, unless explicitly stated otherwise.

Note that there is also a prior years row in Schedule P, which accumulates loss and expense information into one row within each of the schedules. The prior years row shows paid (received) activity *during* the current year (i.e., calendar year activity) and ending reserves *as of* the evaluation date of the Statement. Within this chapter we provide examples of how to calculate the prior years row; it is a bit trickier than this brief explanation suggests.

#### *Loss Adjustment Expenses*

Losses are provided separately from LAE, which is separated into two components: DCC expenses and Adjusting and Other (A&O) expenses. DCC generally includes defense, litigation and medical cost containment expenses, whether internal or external, and A&O includes all expenses associated with adjusting and recording policy claims, other than those included with DCC.<sup>80</sup> The following table summarizes the types of expenses by category.

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<sup>80</sup> Per the Official NAIC Annual Statement Instructions for 2011, DCC are defined as “those that are correlated with the loss amounts,” and A&O are defined as “those expenses that are correlated with claim counts or general loss adjusting expenses.”

TABLE 31

DCC	A&O
Surveillance expenses	Fees of adjusters and settling agents
Fixed amounts for medical cost containment	
Litigation management expenses (e.g., audit of bills)	
LAE for voluntary and involuntary pools if reported by accident year	LAE for voluntary and involuntary pools if reported by calendar year
Fees/salaries for: <ul style="list-style-type: none"> <li>▶ Appraisers</li> <li>▶ Private investigators</li> <li>▶ Hearing representatives</li> <li>▶ Reinspectors</li> <li>▶ Fraud investigators</li> </ul> (If working in defense of a claim)	Fees/salaries for: <ul style="list-style-type: none"> <li>▶ Appraisers</li> <li>▶ Private investigators</li> <li>▶ Hearing representatives</li> <li>▶ Reinspectors</li> <li>▶ Fraud investigators</li> <li>▶ Attorneys</li> </ul> (If working in the capacity of an adjuster)
Fees/salaries for rehabilitation nurses, if not included with losses	
Attorney fees incurred owing duty to defend	Attorney fees incurred in determination of coverage
Cost of engaging experts, if not included with losses	

The NAIC Instructions to the Annual Statement indicate that DCC should be assigned to accident year in accordance with the associated losses, while for A&O, *“in any justifiable way, ... [t]he preferred way is to apportion these expenses in proportion to the number of claims reported, closed, or outstanding each year.”*<sup>81</sup> The following table illustrates this using Fictitious’ commercial automobile liability line of business as an example. Fictitious allocates its unpaid A&O for commercial automobile liability by applying the distribution of outstanding claim counts by accident year to total unpaid A&O.

<sup>81</sup> 2011 NAIC Annual Statement Instructions Property/Casualty, page 226.

TABLE 32

Years in Which Premiums Were Earned and Losses Were Incurred	Number of Claims Outstanding Direct and Assumed	Distribution of Outstanding Claims	Direct and Assumed Adjusting & Other Unpaid
1. Prior	1	1%	2
2. 2002	1	1%	2
3. 2003	1	1%	2
4. 2004	1	1%	2
5. 2005	1	1%	2
6. 2006	1	1%	2
7. 2007	2	3%	4
8. 2008	4	5%	8
9. 2009	7	9%	15
10. 2010	13	18%	27
11. 2011	42	57%	89
Totals	74	100%	156

Disclosure of the methodology used to allocate A&O by year is required in the interrogatories to Schedule P.

LAE wasn't always segregated between DCC and A&O. Prior to 1988, LAE were stated as either allocated LAE (ALAE) and unallocated LAE (ULAE) in the Annual Statement. ALAE is defined as claim expenses that can be specifically assigned to a particular claim, and ULAE as those that cannot. ULAE is generally associated with the cost of administering claims. The terms ALAE and ULAE are still used in practice. In fact, for reserving purposes many companies perform actuarial analyses on an ALAE/ULAE basis.

#### *Salvage and Subrogation*

Most insurance policies require the insured to transfer the right to S&S recovery upon payment of a covered claim to an insured. Salvage is typically received by insurance companies in the case of automobile claims, when the vehicle incurs physical damage that is beyond repair. Here the insurance company can sell usable parts of the vehicle, such as tires, hubcaps and engine parts, to companies that salvage damaged vehicles.

Subrogation is typically received in the case of liability policies. For example, an insurance carrier paying a claimant for liability associated with a product manufactured by an insured, may in turn attempt to recover part or all of the amount paid to the claimant from the company that made a part used in manufacturing the product.

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The paid loss figures provided in columns 4 (direct and assumed loss payments) and 5 (ceded loss payments) are net of S&S received, and the unpaid losses provided in columns 13 through 16 are net of anticipated S&S, if the company reduces its reserves for anticipated S&S. We typically find that when companies take credit for anticipated S&S, they do so in the “bulk and IBNR”<sup>82</sup> amounts as opposed to the “case basis” reserves. It is difficult enough to estimate reserves for known claims, let alone the amount that will be recovered for salvage and/or subrogation on those claims.

For statutory reporting purposes, insurance companies can take credit for S&S received, as well as that anticipated in its loss reserves. This means that companies can reduce their reserves by estimates of recoveries that they expect to receive in the future.

The S&S figures displayed in columns 10 (received) and 23 (anticipated) are for informational purposes only. As displayed in the formula for total net paid loss and LAE in column 11, S&S received in column 10 is not subtracted from the paid loss and LAE amounts in columns 4 through 9, as they are already reduced by the S&S received. The following illustrates the calculation on total net paid loss and LAE using data from the total line from Schedule P, Part 1 - Summary of the 2011 Annual Statement for Fictitious Insurance Company.

TABLE 33

Data from 2011 Schedule P – Part 1 – Summary for Fictitious Insurance Company (000 omitted)			
Column	Item	Amount	Notes
4	Direct and assumed loss payments	116,277	
5	<u>Ceded loss payments</u>	<u>16,875</u>	
	Net loss payments	99,402	= Column 4 – Column 5
6	Direct and assumed DCC payments	10,266	
7	<u>Ceded DCC payments</u>	<u>1,067</u>	
	Net DCC payments	9,199	= Column 6 – Column 7
8	Direct and assumed A&O payments	10,830	
9	<u>Ceded A&amp;O payments</u>	<u>417</u>	
	Net A&O payments	10,413	= Column 8 – Column 9
11	Total net paid	119,014	= (Columns 4 + 6 + 8) – (Columns 5 + 7 + 9)

The S&S received figure in column 10 of Schedule P, Part 1 - Summary (\$5,283 in total; 000 omitted) does not enter the above calculation, as the loss payments shown in columns 4 and 5 have already been reduced by this amount. The amount shown in column 11 is net of the S&S received amount shown in column 10.

The same goes for the total net loss and LAE unpaid in column 24; anticipated S&S in column 23 is not subtracted from the case and IBNR figures in columns 13 through 22, as it is already

<sup>82</sup> Hereafter we will refer to “bulk and IBNR” simply as “IBNR.”

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displayed net of anticipated S&S. The following provides a similar illustration using total unpaid amounts from Fictitious' 2011 Schedule P, Part 1 - Summary.

TABLE 34

Data from 2011 Schedule P – Part 1 – Summary for Fictitious Insurance Company (000 omitted)			
Column	Item	Amount	Notes
13	Direct and assumed case basis losses	24,945	
14	<u>Ceded case basis losses</u>	<u>5,343</u>	
	Net case basis losses	19,602	= Column 4 – Column 5
15	Direct and assumed IBNR losses	26,330	
16	<u>Ceded IBNR losses</u>	<u>4,038</u>	
	Net IBNR losses	22,292	= Column 6 – Column 7
17	Direct and assumed case basis DCC	2,424	
18	<u>Ceded case basis DCC</u>	<u>258</u>	
	Net case basis DCC	2,166	= Column 8 – Column 9
19	Direct and assumed IBNR DCC	5,401	
20	<u>Ceded IBNR DCC</u>	<u>499</u>	
	Net IBNR DCC	4,902	= Column 8 – Column 9
21	Direct and assumed A&O unpaid	2,599	
22	<u>Ceded A&amp;O unpaid</u>	<u>4</u>	
	Net A&O unpaid	2,595	= Column 8 – Column 9
24	Total net losses and expenses unpaid	51,557	= (Columns 4 + 6 + 8) – (Columns 5 + 7 + 9)

Column 23, which provides anticipated S&S (\$1,363 in total; 000 omitted), is not included in the above calculation as the amounts in loss columns are provided on a net basis.

*Composition of Loss and LAE Reserve Figures Provided in Schedule P, Part 1*

The case and IBNR reserves provided in Part 1 are net of tabular<sup>83</sup> discounting and gross of non-tabular discounting, up until columns 32 and 33. The amount of non-tabular discount is shown separately for loss and LAE in columns 32 and 33, respectively. For Fictitious, the amounts shown in columns 32 and 33 are zero because the Company does not discount non-tabular reserves. This is confirmed in part B of the Note to Financial Statements titled “Discounting of Liabilities for Unpaid Losses or Unpaid Loss Adjustment Expenses” (Note 32B in the 2011 Annual Statement).

The reserves shown on the Balance Sheet are provided in columns 35 and 36 for loss and LAE, respectively. These figures are on a net of reinsurance basis, and net of all discounting,

<sup>83</sup> Tabular reserves are defined on page 159 of the 2011 NAIC Annual Statement Instructions to Note 32 of the Financial Statements as “indemnity reserves that are calculated using discounts determined with reference to actuarial tables that incorporate interest and contingencies such as mortality, remarriage, inflation, or recovery from disability applied to a reasonably determinable payment stream. This definition shall not include medical loss reserves or any loss adjustment expense reserves.”

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if applicable. The sum of columns 35 and 36 will reconcile to the amount shown in column 24 reduced by the amount of discount shown in columns 32 and 33.

TABLE 35a

Data from 2011 Schedule P - Part 1 - Summary for Fictitious Insurance Company (000 omitted)			
Column	Item	Amount	Notes
	Total net losses unpaid	41,894	Columns (13 + 15) - Columns (14 + 16)
	Total net expenses unpaid	<u>9,663</u>	Columns (17 + 19 + 21) - Columns (18 + 20 + 22)
24	Total net losses and expenses unpaid	51,557	
32	Nontabular discount on losses	XXX	
33	Nontabular discount on loss expense	<u>XXX</u>	
	Total nontabular discount	XXX	= Column 32 + Column 33
35	Net balance sheet loss reserves after discount	41,894	Columns (13 + 15) - Columns (14 + 16 + 32)
36	Net balance sheet loss expense reserves after discount	<u>9,663</u>	Columns (17 + 19 + 21) - Columns (18 + 20 + 22 + 33)
	Total net losses and expenses unpaid after discount	51,557	= Column 35 + Column 36

As we shall see in *Part IV. Statutory Filings to Accompany the Annual Statement* of this publication, Schedule P, Part 1 - Summary provides the source of the recorded reserve amounts that the Appointed Actuary opines upon in the Statement of Actuarial Opinion on behalf of the insurance company. The Appointed Actuary opines on the loss and LAE reserve amounts provided in columns 35 and 36, respectively, on a net of reinsurance basis, and columns 13 plus 15 and columns 17 plus 19 plus 21, respectively, on a gross of reinsurance basis. For Fictitious Insurance Company, the amounts shown in Exhibit A to the 2011 Statement of Actuarial Opinion, on which the Appointed Actuary has provided his opinion, are as follows.



TABLE 35b

<b>Fictitious Insurance Company 2011 Statement of Actuarial Opinion Loss and LAE Reserve Amounts Per Exhibit A</b>	
<u>Loss and LAE Reserves:</u>	<u>Amount</u>
1. Reserve for Unpaid Losses (Liabilities, Surplus and Other Funds page, Col 1, Line 1)	\$41,894,000
2. Reserve for Unpaid LAE (Liabilities, Surplus and Other Funds page, Col 1, Line 3)	\$9,663,000
3. Reserve for Unpaid Losses - Direct and Assumed (Should equal Schedule P, Part 1, Summary, Totals from Cols. 13 and 15, Line 12 * 1,000)	\$51,275,000
4. Reserve for Unpaid LAE - Direct and Assumed (Should equal Schedule P, Part 1 - Summary, Totals from Cols. 17, 19 and 21, Line 12 * 1,000)	\$10,424,000

The figures shown in Schedule P are net of intercompany pooling. As suggested by the “XXX” in column 34, Fictitious does not participate in any intercompany pooling arrangements. This can be confirmed by a reading of the Notes to the Financial Statements titled “*Intercompany Pooling Arrangements*” (Note 26 in the 2011 Annual Statement) for an insurance company. We will discuss the effect of intercompany pooling on Schedule P reporting in a separate section at the end of this chapter.

#### *Incurred loss and LAE*

The other items of interest in Schedule P, Part 1 are the total losses and loss expense incurred columns (26 through 28) and resulting loss and LAE ratios columns (29 through 31). The loss ratio columns are useful in assessing historical performance of the business separately on a direct and assumed, ceded and net basis. For companies with non-proportional reinsurance, the loss ratios will differ on a direct and net basis, and one can get a sense if the company is paying relatively more for the reinsurance than the direct risk. Using Fictitious as an example, we see that its incurred loss and LAE ratios differ on a direct plus assumed, ceded and net of reinsurance basis.

TABLE 36

Years in Which Premiums Were Earned and Losses Were Incurred		Loss and Loss Expense Percentage (Incurred/Premiums Earned)		
		29 Direct and Assumed	30 Ceded	31 Net
1	Prior			
2	2002	66.9	71.9	65.6
3	2003	57.7	44.3	61.3
4	2004	52.9	52.6	53.0
5	2005	61.8	106.5	54.3
6	2006	52.1	53.4	51.9
7	2007	54.9	52.2	55.2
8	2008	66.5	65.0	66.6
9	2009	62.8	62.3	62.8
10	2010	68.2	52.5	69.5
11	2011	78.9	72.6	79.4

Since 2007, the Company's ceded loss and expense ratios have been lower than its direct plus assumed ratios, thereby resulting in higher net loss ratios.

We should note that the amounts shown as "incurred" in columns 26 through 31 are on an "ultimate incurred" basis. This is an important definitional distinction from "case incurred," and people often get the two confused, so we will walk through the definitions here.

The following equations are different ways of presenting ultimate incurreds:

Ultimate incurred loss

$$\begin{aligned}
 &= \text{Paid loss} + \text{case outstanding loss} + \text{IBNR loss} \\
 &= \text{Reported loss} + \text{IBNR loss} \\
 &= \text{Paid loss} + \text{unpaid loss}
 \end{aligned}$$

Paid losses represent those amounts paid by the insurance carrier. Case outstanding losses represent the reserve for known claims, which is generally established by the company's claims administrators/adjusters. IBNR represents the reserve for claims Incurred But Not Reported. IBNR includes a provision for:

- ▶ Development on known claims ("case development")
- ▶ Pure IBNR, or those claims that are incurred but not yet reported to the insurance carriers
- ▶ Reopened claims

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Case development is intended to cover upward and downward movements in the reserves established by the adjusters as additional information becomes available about the claim. For example, an adjuster may establish an initial reserve for a workers' compensation claim based on the initial injury reports from the employer or claimant's doctor. However, subsequent medical examinations may uncover that the injury is worse than originally expected, resulting in additional cost and the need for an increase in the case reserve estimate to reserve the claim to its ultimate value.

Reported loss is equal to the amount of paid plus case outstanding; it represents the dollar value of loss known to the insurance company. The term "case incurred" is synonymous with "reported" and represents the reported value of known cases.

Unpaid loss (or loss reserve) equals the amount of case outstanding plus IBNR reserves. It represents the remaining amount expected to be paid on claims incurred by the insurance company.

Actuaries often derive an ultimate loss estimate using triangular projection methods. The amount unpaid (or loss reserve) can be derived using the above formulas by subtracting paid losses from the ultimate estimate. Similarly, IBNR can be determined by subtracting reported losses from the ultimate estimate.

Data used in actuarial projections can be derived from the information contained in Parts 2 through 4 of Schedule P, as will be discussed later in this chapter under the heading "Actuarial Projections" within the section "SCHEDULE P - PARTS 2 THROUGH 4."

#### *Claim Count Information in Part 1*

Certain line of business subparts of Part 1 also provide claim count information that is not included in Part 1 - Summary because such information is not captured for all lines. Column 12 provides the number of claims reported, direct plus assumed. However, this column only applies to certain lines and may be left blank for others, including the Summary. The applicable lines are:

- ▶ Homeowners/Farmowners
- ▶ Private Passenger Auto Liability/Medical
- ▶ Commercial Auto Liability/Medical
- ▶ Workers' Compensation
- ▶ Commercial Multiple Peril
- ▶ Medical Professional Liability
- ▶ Other Liability
- ▶ Auto Physical Damage
- ▶ Products Liability
- ▶ Warranty

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Further, column 25 provides the number of claims outstanding, direct plus assumed. This column is completed for all lines except the nonproportional reinsurance assumed lines (Parts N, O and P) and therefore the Summary.

For those lines, including the Summary, where claim count information is not included, the corresponding columns are filled in with "XXX."

Claim count data can be used to explore changes in ultimate loss and LAE or reserve levels or to identify changes in claims settlement or reserving philosophy. We will provide more details in our discussion of Schedule P, Part 5; however, for now we will show the meaningful relationships that can be derived from Schedule P, Part 1 for Fictitious' Homeowners/Farmowners lines of business (Part 1A).

First, it is generally assumed that net claim counts are equal to direct and assumed counts, unless 100% of the business is ceded. The theory is that a direct claim results in a net claim, even if the value of the net claim is \$0. Therefore, all ratios that we show below, both on a gross and net of reinsurance basis, are in relation to direct plus assumed counts.

Data from Schedule P, Part 1 can be used to calculate reported claim frequency, which is the relationship of reported claim counts as of December 31, 2011, to earned premium.

TABLE 37

Data From Schedule P – Part 1 – Homeowners & Farmowners (000 omitted)						
Average Reported Claim Frequency						
Years in Which Premiums Were Earned and Losses Were Incurred	Earned Premium		Number of Claims Reported Direct and Assumed (Col. 12)	Average Reported Claim Frequency		
	Direct and Assumed (Col. 1)	Net (Col. 3)		Direct and Assumed Counts/Earned Premium	Direct and Assumed Counts/Net Earned Premium	
1	Prior	XXX	XXX	XXX	XXX	XXX
2	2002	1,931	1,763	242	0.125	0.137
3	2003	2,251	2,084	253	0.113	0.122
4	2004	2,721	2,612	219	0.081	0.084
5	2005	3,123	3,000	217	0.069	0.072
6	2006	3,307	3,231	216	0.065	0.067
7	2007	3,609	3,507	194	0.054	0.055
8	2008	3,816	3,713	300	0.079	0.081
9	2009	4,003	3,895	296	0.074	0.076
10	2010	4,294	4,178	325	0.076	0.078
11	2011	4,550	4,445	427	0.094	0.096
12	Totals	XXX	XXX	XXX	XXX	XXX

Table 37 can help us identify trends in claim frequency over the accident years. It is not a complete picture because claim counts are on a reported basis, as opposed to ultimate. However, for a short-tailed line of business such as homeowners, where losses are generally reported within the year in which they are incurred (i.e., accident year), it is not a bad approximation. As expected, reported claim frequency appears to have increased in 2011 relative to both gross and net earned premiums (e.g., frequency in 2011 of 0.094 per \$000 of gross earned premium versus 2010 of 0.076). This is most likely due to the high frequency of weather-related and catastrophe claims incurred by the Company during 2011.

We note that the interpretation of frequency trends using earned premium can be misleading due to the effect of rate changes. In our example, the increasing trend in Fictitious' claim frequency relative to earned premium may be partly attributed to soft market conditions in addition to the number of catastrophe claims. Viewing claim frequency in terms of exposures (e.g., house years for homeowners) would provide a clearer comparison and enhance the ability to understand observed trends. Regardless, when investigating trends in claim frequency, consideration should be made for changes over time in a company's mix of business (e.g., by types of exposures, geography), policy limits, reinsurance attachment points and limits, as well as the way the company counts its claims.

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We can also compute the average value of reported claims by year, with each year evaluated as of December 31, 2011, using Schedule P, Part 1 data, as shown below.

TABLE 38

Data From Schedule P – Part 1 – Homeowners & Farmowners (000 omitted)								
Average Reported Loss and DCC Severity								
Reported Loss and DCC				Average Reported Loss & DCC		Trend in Average Reported \$		
Years in Which Premiums Were Earned and Losses Were Incurred	Direct and Assumed (Cols. 4 + 6 + 13 + 17)	Net (Direct - Ceded per Cols. 5 + 7 + 14 + 18)	Number of Claims Reported Direct and Assumed (Col. 12)	Direct and Assumed Reported \$/Counts *1000	Net Reported \$/Direct and Assumed Counts *1000	Direct and Assumed Severity in Accident Year 20XX+1 divided by 20xx	Net Severity in Accident Year 20XX+1 divided by 20xx	
1	Prior	6	6	XXX	XXX	XXX	XXX	XXX
2	2002	1,021	942	242	4,219	3,893		
3	2003	1,170	1,107	253	4,625	4,375	10%	12%
4	2004	1,450	1,381	219	6,621	6,306	43%	44%
5	2005	1,644	1,368	217	7,576	6,304	14%	0%
6	2006	1,350	1,349	216	6,250	6,245	-18%	-1%
7	2007	1,407	1,405	194	7,253	7,242	16%	16%
8	2008	2,186	2,185	300	7,287	7,283	0%	1%
9	2009	2,214	2,208	296	7,480	7,459	3%	2%
10	2010	2,421	2,419	325	7,449	7,443	0%	0%
11	2011	3,372	3,369	427	7,897	7,890	6%	6%
12	Totals	18,241	17,739	XXX	XXX	XXX	XXX	XXX

We see that there hasn't been much of a trend in the average cost per reported claim since 2008, until we get to 2011. The relatively flat trend from 2008 through 2010 is most likely due to economic factors during the time period and general flattening of costs associated with the repair and rebuilding of damaged properties. Similar to the increase in frequency in 2011, the increase in claim costs is primarily attributed to an increase in the size of claims due to the catastrophic events of 2011.

Here again, the comparison does not provide a complete picture because we are comparing accident year data at different levels of maturity rather than evaluating the reported loss and claims counts at their ultimate values. As we shall see, comparisons at the ultimate level can be made by developing loss and DCC data provided in Parts 2 through 4 and claim count data provided in Part 5.

Finally, we can also show the average cost of open claims as of December 31, 2011, using Part 1 data, as provided in the Table 39:

TABLE 39

Data From Schedule P – Part 1 – Homeowners & Farmowners (000 omitted)						
Average Case Outstanding Loss and DCC Severity						
Years in Which Premiums Were Earned and Losses Were Incurred	Case Basis Loss and DCC		Number of Claims Outstanding Direct and Assumed (Col. 25)	Average Case O/S Loss & DCC		
	Direct and Assumed (Cols. 13 + 17)	Net (Direct - Ceded per Cols. 14 + 18)		Direct and Assumed Case Basis \$/Counts *1,000	Net Case Basis \$/Direct and Assumed Counts *1,000	
1	Prior	4	4	1	4,000	4,000
2	2002	0	0	1	0	0
3	2003	1	1	1	1,000	1,000
4	2004	2	2	1	2,000	2,000
5	2005	3	0	1	3,000	0
6	2006	8	8	1	8,000	8,000
7	2007	18	18	1	18,000	18,000
8	2008	40	40	1	40,000	40,000
9	2009	61	61	1	61,000	61,000
10	2010	124	124	3	41,333	41,333
11	2011	366	366	21	17,429	17,429
12	Totals	627	624	33	19,000	18,909

What we see in Table 39 table is that the case outstanding reserve values and number of open claims generally decrease with maturity (ignoring the prior years row, which is a compilation of all prior years into one line). This makes sense, as eventually all claims will be closed and the outstanding reserves will be \$0.<sup>84</sup> We also see that the average case reserves increase in maturity to a certain point, at which they decrease (ignoring the prior years row). This suggests that the claims that remain open after 24 months (accident year 2010 in this case) tend to be the larger dollar-valued claims. Put another way, the claims that cost the least tend to be the easiest to administer and close, while the more costly claims take longer to settle and pay out. This makes sense and is generally the case with property/casualty lines of business. As time goes on, the average case reserve for homeowners claims tends to decrease as the payments decline to closure.

The average case reserve values are lower on accident year 2011 relative to the immediately prior periods. There are still small to midsized claims, in addition to the large dollar-value claims, that remain open on the current accident year. These low-value claims suppress the average.

<sup>84</sup> Sometimes we will see a very high severity in a mature accident year, relative to the surrounding years and the general decreasing trend with maturity. This will happen when there's one or a small number of large dollar-valued claims outstanding.

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SCHEDULE P – PARTS 2 THROUGH 4

Parts 2 through 4 provide a historical array of incurred, paid and IBNR loss and DCC, respectively. The data is provided on a net of reinsurance and net of S&S (as applicable) basis.

Similar to Part 1 - Summary, the information in the Summary of Parts 2 through 4 is provided for each of the past 10 years in which losses were incurred using the aforementioned definitions depending on the type of policies (e.g., occurrence, claims-made, tail, or fidelity and surety). The data is evaluated as of December 31 for each of the last 10 years.

Details are provided by line of business in the same breakdowns as in Part 1, with 10 accident years shown for all lines except for those lines previously mentioned (e.g., Special Property, Auto Physical Damage).

*Discounting*

Parts 2 through 4 of Schedule P are gross of all discounting. Therefore, the reserve amounts shown in Parts 2 through 4 will not reconcile to those provided in Part 1 for companies that discount nontabular reserves. The amount of discount is reported in the Notes to Financial Statements, which enables reconciliation between Part 1 and Parts 2 through 4.

We can illustrate this using Schedule P, Parts 1, 2 and 3, Summary for Fictitious. As displayed in Table 40b, the difference between the total net loss and DCC reserve reported in Schedule P, Part 1 and the amount indicated by subtracting the figures in column 10 of Parts 2 and 3 provides the \$1.365 million of reduction for tabular discount taken in Schedule P, Part 1.



TABLE 40a

Data from 2011 Annual Statement for Fictitious Insurance Company			
Years in Which Losses Were Incurred	Net Loss and DCC at Year End per Schedule P (000 omitted)		
	Net Incurred Part 2 Summary	Net Paid Part 3 Summary	Net Unpaid Part 2 – Part 3 Summary
Prior	46,022	30,210	15,812
2002	13,387	12,202	1,185
2003	13,540	12,238	1,302
2004	12,099	10,933	1,166
2005	12,321	10,919	1,402
2006	11,679	9,804	1,875
2007	12,895	10,503	2,392
2008	15,635	12,130	3,505
2009	14,745	10,332	4,413
2010	16,345	9,774	6,571
2011	19,364	8,660	10,704
Total	188,032	137,705	50,327

TABLE 40b

Net Unpaid Loss and DCC Reserves Per Schedule P – Part 1 – Summary (000 omitted)	
Column 24, Total Net Losses and Expenses Unpaid, Line 12, Totals:	51,557
Column 21, Direct and Assumed A&O Unpaid, Line 12, Totals:	2,599
Column 22, Ceded A&O Unpaid, Line 12, Totals:	4
Column 25 – (Column 21 – Column 22), Total Net Losses and DCC Unpaid:	48,962
<b>Difference, Schedule P – Part 2 minus Part 3 and Schedule P – Part 1:</b>	<b>1,365</b>
<b>Note to Financial Statement on Discounting (in whole dollars)</b>	
Workers' Compensation Cases:	495,000
Workers' Compensation IBNR:	664,000
Other Liability Cases:	21,000
Other Liability IBNR:	15,000
Other Liability – Structured Payments IBNR:	170,000
Total Amount of Tabular Discount per Notes to Financial Statements:	1,365,000
<b>Total Amount of Tabular Discount per Notes to Financial Statements, divided by 1,000:</b>	<b>1,365</b>

The amount of tabular discount included in Schedule P, Part 1 should reconcile to the amount disclosed in the Note titled “Discounting of Liabilities for Unpaid Losses or Unpaid Loss Adjustment Expenses” (Note 32 of the 2011 Annual Statement).

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*Actuarial Projections*

The format of Parts 2 through 4 is conducive for loss development projection methods used by actuaries to assess a company's reserve adequacy. However, actuaries tend to view the data in a slightly different format than that presented in Parts 2 through 4. Shifting all of the cells to the left so that each accident year starts with figures in column 1 transforms the data into standard triangular format used in the loss development (or "chain ladder") method. The paid loss triangle comes directly from Schedule P, Part 3, and the case incurred loss triangle can be derived by subtracting the IBNR in Part 4 from the incurreds in Part 2. The following provides the calculation of the net case incurred (reported) triangle for Fictitious Insurance Company.

TABLE 41a

<b>Data from 2011 Annual Statement for Fictitious Insurance Company, Schedule P – Part 2 – Summary</b>											
<b>Incurred Net Losses and Defense and Cost Containment Expenses Reported at Year-End (000 omitted)</b>											
<b>Years in Which Losses Were Incurred</b>	<b>12 Months</b>	<b>24 Months</b>	<b>36 Months</b>	<b>48 Months</b>	<b>60 Months</b>	<b>72 Months</b>	<b>84 Months</b>	<b>96 Months</b>	<b>108 Months</b>	<b>120 Months</b>	<b>120 Months</b>
Prior	XXX	35,994	38,360	41,784	43,601	44,861	45,378	45,947	45,884	45,845	46,022
2002	14,249	13,109	13,545	13,763	13,842	13,778	13,722	13,657	13,408	13,387	
2003	14,434	13,651	14,040	13,994	14,032	14,042	13,748	13,617	13,540		
2004	15,733	14,265	13,630	13,209	12,726	12,485	12,288	12,099			
2005	15,982	14,733	14,195	13,210	12,768	12,445	12,321				
2006	13,501	13,051	12,370	12,056	11,837	11,679					
2007	13,938	13,629	13,303	13,265	12,895						
2008	15,980	16,106	16,015	15,635							
2009	14,917	14,851	14,745								
2010	15,972	16,345									
2011	19,364										
		<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
Ending		50,243	65,903	84,713	101,651	114,561	127,581	141,626	154,924	169,543	188,032
Check:		-	-	-	-	-	-	-	-	-	-

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TABLE 41b

Data from 2011 Annual Statement for Fictitious Insurance Company, Schedule P – Part 4 – Summary Bulk and IBNR Net Losses and Defense and Cost Containment Expenses Reported at Year-End (000 omitted)											
Years in Which Losses Were Incurred	12 Months	24 Months	36 Months	48 Months	60 Months	72 Months	84 Months	96 Months	108 Months	120 Months	120 Months
Prior	XXX	17,126	14,330	13,764	12,807	12,285	11,632	10,529	9,752	8,907	8,088
2002	7,093	3,349	2,393	1,821	1,445	1,249	1,121	1,010	728	677	
2003	7,149	3,583	2,544	1,799	1,479	1,370	1,016	814	713		
2004	8,512	4,667	3,068	2,149	1,505	1,122	864	651			
2005	7,337	4,644	3,505	2,131	1,522	1,030	876				
2006	6,333	4,175	2,757	1,959	1,440	1,114					
2007	6,022	3,756	2,640	2,018	1,459						
2008	6,400	3,932	2,810	1,850							
2009	6,008	3,544	2,511								
2010	5,817	3,682									
2011	6,422										
		<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
Ending		24,219	24,828	28,252	29,176	29,574	30,211	29,569	28,961	27,972	28,043
Check:		-	-	-	-	-	-	-	-	-	-

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TABLE 41c

Difference between Schedule P – Part 2 – Summary and Part 4 – Summary Case Incurred (Reported) Net Losses and Defense and Cost Containment Expenses Reported at Year-End (000 omitted)											
Years in Which Losses Were Incurred	12 Months	24 Months	36 Months	48 Months	60 Months	72 Months	84 Months	96 Months	108 Months	120 Months	120 Months
Prior	XXX	18,868	24,030	28,020	30,794	32,576	33,746	35,418	36,132	36,938	37,934
2002	7,156	9,760	11,152	11,942	12,397	12,529	12,601	12,647	12,680	12,710	
2003	7,285	10,068	11,496	12,195	12,553	12,672	12,732	12,803	12,827		
2004	7,221	9,598	10,562	11,060	11,221	11,363	11,424	11,448			
2005	8,645	10,089	10,690	11,079	11,246	11,415	11,445				
2006	7,168	8,876	9,613	10,097	10,397	10,565					
2007	7,916	9,873	10,663	11,247	11,436						
2008	9,580	12,174	13,205	13,785							
2009	8,909	11,307	12,234								
2010	10,155	12,663									
2011	12,942										
		<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
Ending		26,024	41,075	56,461	72,475	84,987	97,370	112,057	125,963	141,571	159,989
Check:		-	-	-	-	-	-	-	-	-	-

The “ending” rows simply provide the sum of each of the diagonals of data, thereby showing the ending balances as of December 31 of the respective years.

The following provides the net paid loss and DCC triangle for Fictitious in the same triangular format as shown above for reported loss and DCC.

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TABLE 42

Data from 2011 Annual Statement for Fictitious Insurance Company, Schedule P – Part 3 – Summary											
Cumulative Paid Net Losses and Defense and Cost Containment Expenses Reported at Year-End (000 omitted)											
Years in Which Losses Were Incurred	12 Months	24 Months	36 Months	48 Months	60 Months	72 Months	84 Months	96 Months	108 Months	120 Months	120 Months
Prior	XXX	000	9,061	13,830	18,110	21,281	23,728	26,341	27,752	29,108	30,210
2002	3,881	6,637	8,297	9,620	10,627	11,289	11,686	11,961	12,108	12,202	
2003	4,121	7,109	9,011	10,142	11,035	11,552	11,847	12,070	12,238		
2004	4,061	6,981	8,385	9,439	10,067	10,485	10,772	10,933			
2005	4,376	7,649	8,904	9,766	10,329	10,724	10,919				
2006	4,208	6,630	7,898	8,803	9,481	9,804					
2007	4,591	7,325	8,821	9,846	10,503						
2008	6,026	9,265	10,971	12,130							
2009	5,626	8,740	10,332								
2010	6,278	9,774									
2011	8,660										
		<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
Ending		3,881	19,819	33,297	48,098	62,292	75,616	90,661	104,889	120,098	137,705
Check:		-	-	-	-	-	-	-	-	-	-

*Cautions When Using Schedule P to Assess Reserve Adequacy*

Age-to-age loss development factors can be computed from the above triangles and projections of ultimate loss and DCC made. However, we note several issues that we have observed in practice with blindly using Schedule P data to assess the adequacy of an insurance company's reserves:

- ▶ While there are Instructions to the Annual Statement and third-party companies provide software to assist in insurers in preparing their Schedule P, certain allocations and presentations are left up to interpretation of the person completing Schedule P.
- ▶ Internal pooling or reinsurance agreements may have an impact on the data set, and that impact may not be readily apparent from Schedule P. For example, we have seen pooling and reinsurance arrangements on a calendar year basis, as opposed to accident or policy year, which distorts Schedule P since it is on a net (or after pool) basis.

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- ▶ Schedule P contains experience from a company's participation in voluntary and involuntary pools and/or associations. Many underwriting pools report IBNR reserves as case reserves, thereby distorting analytics and projections that use case base reserves. Further, a company's level of participation in the pool may have changed over time.
- ▶ Schedule P only contains data for the last 10 accident years. Most casualty lines have experienced loss development significantly longer than 10 years. Tail development factors have to be estimated using other (external) sources, thereby increasing the uncertainty of the projections.
- ▶ Commutations of reinsurance agreements can also distort an analysis of loss development using Schedule P. Commutations represent an agreement between a reinsurer and the reinsured to release all obligations under a reinsurance contract. Typically, the reinsurer will pay a lump sum to the reinsured to extinguish all future liabilities. The reinsurer's case and IBNR reserves for the assumed contract will drop to \$0 upon paying the lump sum, while the ceding company's net reserves should increase since the ceding company can no longer take credit for the reinsurance and "reassumes" the liability.
- ▶ The data triangles in Parts 2 through 4 include DCC expenses, potentially masking trends in the loss or DCC components that may impact reserve needs.
- ▶ Analytics of the data, including a review of loss ratios, claim closure rates from Part 5 data, and average severities from data contained in Parts 2 through 5 can provide observations regarding trends. However, the underlying cause for these trends, and determination of their impact on future claim payments, can only be obtained through discussion with company management, including interviews with management in the pricing, underwriting and claims departments of the insurance company. Care should be taken in the interpretation of these trends absent these discussions.

This list is not intended to be all-inclusive, but rather illustrate that care should be taken when drawing conclusions about a company's recorded reserves using Schedule P data alone.

As with any unpaid claim analysis, consideration should be made for changes in the company's business, including but not limited to retentions, claims settlement and reserving, business mix, and underlying exposures. One of the Schedule P Interrogatories helps to address this. Interrogatory 7 asks for further explanation regarding *"any especially significant events, coverage, retention or accounting changes that have occurred that must be considered"* in using Schedule P data to assess reserve adequacy.

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*Hindsight Tests from Part 2*

Part 2 represents ultimate incurred loss and DCC by accident year, recorded by the company at the end of each of the last 10 years. Part 2 is particularly useful as it shows how the company's estimates of ultimate loss and DCC have fared over the past year and past two years, as displayed in columns 11 and 12, respectively. The figures in column 11 provide the change in ultimates over the past year (column 10 minus column 9) for all accident years prior to the current accident year. Column 12 provides the change in ultimates over the past two years (column 10 minus column 8) for all but the most recent two accident years.

The totals of the figures in columns 11 and 12 of Part 2 - Summary reconcile directly to the current calendar year figures in column 1, lines 73 and 75 respectively, of the Five-Year Historical Data exhibit within the Annual Statement. This is illustrated below for Fictitious Insurance Company using the 2011 Annual Statement:

TABLE 43a

<b>Data from 2011 Annual Statement for Fictitious Insurance Company Schedule P – Part 2 – Summary (000 omitted) Incurred Net Losses and Defense and Cost Containment Expenses Reported at Year-end</b>		
<b>Years in Which Losses Were <u>Incurred</u></b>	<b>Development</b>	
	<b><u>One Year</u></b>	<b><u>Two Year</u></b>
Prior	177	138
2002	(21)	(270)
2003	(77)	(208)
2004	(189)	(386)
2005	(124)	(447)
2006	(158)	(377)
2007	(370)	(408)
2008	(380)	(471)
2009	(106)	(172)
2010	73	XXX
2011	XXX	XXX
Total	(875)	(2,601)

TABLE 43b

Five-Year Historical Data (000 omitted)	
	<u>2011</u>
73. Development in estimated losses and loss expenses incurred prior to current year (Schedule P, Part 2 – Summary, Line 12, Col. 11)	(875)
75. Development in estimated losses and loss expenses incurred 2 years before the current year and prior year (Schedule P, Part 2-- Summary, Line 12, Col. 12)	(2,602)

While the absolute dollar amount of development is useful, it is valuable to view loss development in relation to prior year reserves from which the development has emerged, as well as on prior year surplus. For Fictitious, the \$0.875 million of favorable development represents less than 1.8% of prior year reserves totaling \$49.445 million.<sup>85</sup> This means that, with perfect hindsight, company management would have established reserves at \$48.570 million (\$49.445 million minus \$0.875 million).

In *Part IV. Statutory Filings to Accompany the Annual Statement* of this publication, we discuss loss development as a ratio to surplus in further detail. This is a measure used by the NAIC Insurance Regulatory Information System (IRIS). For now, we will simply state that the \$0.875 million of favorable development represents less than 2.8% of policyholders' surplus as of December 31, 2010, totaling \$31.608 million per column 2, line 37 of page 3 of the company's 2011 Annual Statement.

A benefit of Part 2 is that it provides further insight into the observed development. The development across all accident years may be negligible in aggregate; however, there may be large increases or decreases in certain accident years or lines of business that warrant further investigation.

As displayed above, Fictitious Insurance Company experienced favorable development in 2011, totaling \$0.875 million on prior accident years. We see that the favorable development on accident years 2002 through 2009 was somewhat offset by adverse development on the prior accident years and the current accident year. This is where the actuary becomes a detective to uncover the cause of the development.

- ▶ First, when we see adverse development in the prior accident years, we might first look to the longer-tailed casualty lines as the culprit. Schedule P, Parts 2A through 2T

<sup>85</sup> The net loss and DCC reserve of \$49.4 million as of December 31, 2010, was computed by subtracting column 9 in Schedule P, Part 2 – Summary from column 9 in Schedule P, Part 3 – Summary (i.e., ultimate incurred minus paid = unpaid). This was done to put the reserve amount on the same basis as the development amount, both of which are undiscounted.



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provide net incurred loss and DCC development for each of the Schedule P lines of business.

- ▶ Second, when we see adverse development on the “all prior” years, and then a consistent trend of favorable development, we question the difference between the exposures in the prior accident years versus those in the subsequent accident years. Generally speaking, if the exposures underlying the prior years were consistent with those in subsequent accident years, we would expect the adverse development to flow through to the current years as well.

Once we identify the line of business, we could look to other areas of the Annual Statement for guidance. For example, we can turn to the Notes to the Financial Statements, in particular “Changes in Incurred Losses and Loss Adjustment Expenses” (Note 25 of the 2011 Annual Statement) for further details. This Note provides management’s explanation for development during the year. This may lead to review of additional notes, such as the note titled “Asbestos/Environmental Reserves.” Oftentimes when we see adverse development isolated to the prior years row, we look to see if it stems from asbestos and environmental (A&E) claims activity.<sup>86</sup>

While the line of business details in Parts 2A through 2T and Notes to the Financials provide further insight into the source of loss development, they do not substitute the value of a conversation with management of the insurance company. Management can provide further color around the causes of development that pure numbers and notes cannot.

#### *Prior Years Row*

The calculation of the prior years row in Schedule P, Parts 2 through 4 can be a bit cumbersome and confusing. The easiest way to explain the calculation is to start backwards, providing the source of the prior years row for Schedule P, Part 4, and then work our way to the details underlying the computation of Part 3, and then Part 2.

#### *Prior Years Row - Part 4*

The prior row in Part 4 is the most straightforward. It is simply the amount recorded by the company for bulk and IBNR reserves for all accident years prior to the most recent 10. This amount is determined by the company’s management and recorded in Part 4, as are the amounts for all subsequent accident years.

One can reconcile the prior year balances at each evaluation date (i.e., across the columns) to Schedule P, Part 1 of the current and prior year Annual Statements. Specifically, the amount in column 15 (direct and assumed bulk + IBNR loss) minus 16 (ceded bulk + IBNR loss) plus 19

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<sup>86</sup> There is considerable uncertainty around the reserving for these types of claims due to the length of time between exposure to manifestation of disease that gives rise to a claim. As such, the industry has experienced considerable adverse development on reserves established for these claims over the years.

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(direct and assumed bulk + IBNR DCC) minus 20 (ceded bulk + IBNR DCC) of Schedule P, Part 1, should equal the last number in column 10 of the prior row in Part 4 after adjusting for any tabular discount. The following provides the calculation for Fictitious for 2011.

TABLE 44a<sup>87</sup>

<u>Prior years row</u>	<u>Sch P Part 1 Column</u>	<u>Amount \$000s</u>
Direct plus assumed bulk + IBNR loss	15	7,719
minus Ceded bulk + IBNR loss	16	1,416
plus direct plus assumed bulk + IBNR DCC	19	1,545
minus Ceded bulk + IBNR DCC	20	138
Net bulk + IBNR loss & DCC (net of tabular discount)		7,710
plus tabular discount		378
Net bulk + IBNR per Schedule P, Part 4	2011	8,088

The entire prior years row for Part 4 is provided below.

TABLE 44b

Bulk and IBNR Reserves on Net Losses and Defense Cost Containment Expenses Reported at Year End (000 omitted)										
Years in Which Losses Were Incurred	1 2002	2 2003	3 2004	4 2005	5 2006	6 2007	7 2008	8 2009	9 2010	10 2011
1. Prior	17,126	14,330	13,764	12,807	12,285	11,632	10,529	9,752	8,907	8,088

*Prior Years Row - Part 3*

As discussed previously, Part 3 provides cumulative paid loss and DCC for the latest 10 accident years, evaluated as of the end of each of those years. The prior row for Part 3 also provides cumulative paid data; however, it does not start with the cumulative payments from the first year that the company wrote business. Rather, it shows the payments that have occurred on loss and DCC reserves as of the earliest evaluation date in the table, for all prior accident years. Only payments made subsequent to the establishment of reserves as of the earliest evaluation date in the table are shown. The 2011 Annual Statement for Fictitious shows the prior row for Part 3 as the following.

<sup>87</sup> The amount of tabular discount shown in the table is derived from the data in Fictitious' Schedule P by taking the bulk and IBNR in the prior years row from Part 4 minus the corresponding amount in Part 1.

TABLE 45

Data from 2011 Annual Statement for Fictitious Insurance Company, Schedule P – Part 3 – Summary										
Cumulative Paid Net Losses and Defense and Cost Containment Expenses Reported at Year-End (000 omitted)										
Years in Which Losses Were Incurred	1	2	3	4	5	6	7	8	9	10
	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
1. Prior	000	9,061	13,830	18,110	21,281	23,728	26,341	27,752	29,108	30,210

The amount of \$9,061 in column 2 represents net amounts paid in 2003 on net loss and DCC reserves established by the Company as of December 31, 2002. The amount shown in column 3 of \$13,830 represents net amounts paid *since* year-end 2002 on net loss and LAE reserves as of December 31, 2002, for all prior accident years. This continues all the way until 2011, where the amount of \$30,210 represents net amounts paid since year-end 2002 (through year-end 2011) on net loss and DCC reserves as of December 31, 2002, for all prior accident years.

Only loss and DCC payments on reserves evaluated as of the earliest evaluation date (December 31, 2002, in our example) are shown in the prior row. As a result, the balance in the first column is always zero.

The calculation of the prior row in Part 3 is done by computing the incremental payments subsequent to the earliest evaluation date (2002 in our example) for both the prior and first subsequent accident year from the previous year's Schedule P, Part 3 (2011 in our example). The following provides this calculation using Part 3 from the 2010 Schedule P for Fictitious.

TABLE 46

Data from 2010 Annual Statement for Fictitious Insurance Company, Schedule P – Part 3 – Summary										
Cumulative Paid Net Losses and Defense and Cost Containment Expenses Reported at Year-End (000 omitted)										
Years in Which Losses Were Incurred	1	2	3	4	5	6	7	8	9	10
	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>
Prior	000	8,238	14,960	18,129	21,279	23,817	25,840	28,163	29,380	30,519
2001	4,680	8,297	10,637	12,236	13,367	13,999	14,424	14,714	14,908	15,124

Calculation to Transition 2010 Part 3 Prior Row to 2011 Schedule P, Part 3										
Current Column minus 2002 Column (Column 2) in 2010 Part 3										
Years in Which Losses Were Incurred	1	2	3	4	5	6	7	8	9	10
	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>
Prior		-	6,722	9,891	13,041	15,579	17,602	19,924	21,142	22,281
<u>2001</u>		-	<u>2,340</u>	<u>3,939</u>	<u>5,070</u>	<u>5,702</u>	<u>6,127</u>	<u>6,417</u>	<u>6,611</u>	<u>6,828</u>
Sum		-	9,062	13,830	18,110	21,282	23,729	26,342	27,753	29,108

Data from 2011 Annual Statement for Fictitious Insurance Company, Schedule P – Part 3 – Summary										
Cumulative Paid Net Losses and Defense and Cost Containment Expenses Reported at Year-End (000 omitted)										
Years in Which Losses Were Incurred	1	2	3	4	5	6	7	8	9	10
	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
Prior	000	9,061	13,830	18,110	21,281	23,728	26,341	27,752	29,108	30,210

As displayed above, the starting point for the calculation is the first two rows (prior and 2001) of Part 3 of Fictitious 2010 Annual Statement. To calculate the prior years row for Part 3 of Fictitious' 2011 Annual Statement, the difference between amounts in each column and the amounts in column 2 (2002) is computed. The prior and subsequent accident year (2001) payments are then added together to produce the new prior row for Part 3 of the Company's 2011 Schedule P.

For example, cumulative net paid loss and DCC for column 2 (2003) are calculated as:

$$14,960 - 8,238 + 10,637 - 8,297 = 6,722 + 2,340 = 9,061^{88}$$

<sup>88</sup> Minor differences due to rounding.

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As another example, the cumulative net paid loss and DCC for column 10 (2010) are calculated as:

$$30,519 - 8,238 + 15,124 - 8,297 = 22,281 + 6,827 = 29,108^{89}$$

*Prior Years Row - Part 2*

As discussed previously, Part 2 provides cumulative ultimate incurred loss and DCC for the latest 10 accident years, evaluated as of the end of each of those years. The prior row for Part 3 also provides cumulative incurred data; however, it does not start with the cumulative incurreds from the first year that the company wrote business. Rather, it starts with the net loss and DCC reserves recorded by the Company as of the earliest evaluation date in the table and includes this amount in column 1 of Schedule P, Part 2. For example, using Schedule P, Parts 2 through 4, Summary, of the 2010 and 2011 Annual Statements for Fictitious Insurance Company, we see that column 1 of the prior row in the 2011 Schedule P, Part 2, is equal to the sum of the following amounts in column 2 (labeled "2002") from the 2010 Annual Statement (USD in 000s).

TABLE 47

<u>Data from 2010 Annual Statement</u>	<u>2002</u>	<u>Source</u>
Case outstanding:		<i>Schedule P, Part 2-Summary minus Part 3 – Summary minus Part 4 – Summary</i>
Prior Years row	15,123	<i>Line 1</i>
<u>2001 row</u>	<u>3,745</u>	<i>Line 2</i>
Sum	18,868	
Bulk and IBNR:		<i>Schedule P, Part 4-Summary</i>
Prior Years row	13,241	<i>Line 1</i>
<u>2001 row</u>	<u>3,886</u>	<i>Line 2</i>
Sum	17,127	
Total Unpaid:		
Prior Years row	28,365	<i>Sum of above (case outstanding plus bulk and IBNR)</i>
<u>2001 row</u>	<u>7,630</u>	<i>Sum of above (case outstanding plus bulk and IBNR)</i>
Sum	<b>35,995</b>	<i>Sum of above (case outstanding plus bulk and IBNR)</i>
	↓	
<u>2011 Annual Statement</u>	<u>2002</u>	<u>Source</u>
Schedule P – Part 2 – Summary, Prior Years row	<b>35,994</b>	<i>Line 1</i>

As displayed above, the amount in column 1 of the prior row in 2011 Schedule P, Part 2, Summary is \$35,994.

<sup>89</sup> Minor differences due to rounding.

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Then, amounts in columns 2 and subsequent are equal to the ending reserves (case plus bulk plus IBNR reserves) as of each corresponding year-end, plus the paid from the corresponding prior row in Schedule P, Part 2. This is shown below for Fictitious:

TABLE 48

Data from 2011 Annual Statement for Fictitious Insurance Company, Schedule P – Parts 2 through 4 – Summary										
Prior Years Row, Net Loss & DCC										
Years in Which Losses Were Incurred	1	2	3	4	5	6	7	8	9	10
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Prior Paid from Part 3	000	9,061	13,830	18,110	21,281	23,728	26,341	27,752	29,108	30,210
Prior Case Outstanding from Part 2 – Part 3 – Part 4	XXX	14,969	14,190	12,684	11,295	10,018	9,077	8,380	7,830	7,724
Prior Bulk + IBNR from Part 4	<u>17,126</u>	<u>14,330</u>	<u>13,764</u>	<u>12,807</u>	<u>12,285</u>	<u>11,632</u>	<u>10,529</u>	<u>9,752</u>	<u>8,907</u>	<u>8,088</u>
Total Prior Unpaid (Case + Bulk + IBNR)		29,299	27,954	25,491	23,580	21,650	19,606	18,132	16,737	15,812
Prior Incurred Loss = Paid + Unpaid	35,994	38,360	41,784	43,601	44,861	45,378	45,947	45,884	45,845	46,022

Data from 2011 Annual Statement for Fictitious Insurance Company, Schedule P – Part 2 – Summary										
Incurred Net Losses and Defense and Cost Containment Expenses Reported at Year-End (000 omitted)										
Years in Which Losses Were Incurred	1	2	3	4	5	6	7	8	9	10
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Prior	35,994	38,360	41,784	43,601	44,861	45,378	45,947	45,884	45,845	46,022

As displayed above, the case outstanding plus bulk plus IBNR reserves in the prior rows, derived from Parts 2 through 4, are summed and then added to the corresponding cumulative paid since 2003. This produces the “incurred” on all prior accident years, as shown in Schedule P, Part 2.

All the examples above are provided for the Summary of Schedule P, Parts 2 through 4, with the calculation being the same for all of the lines of business in Parts 2A through 2T.

*Prior Years Row - Fictitious 2010 Annual Statement*

For completion, and so that a reconciliation can be made of the amounts shown in Table 48 for 2010, the following provides the prior years and 2001 rows from Schedule P, Parts 2 and 4 from Fictitious' 2010 Annual Statement.

TABLE 49

Data from 2010 Annual Statement for Fictitious Insurance Company, Schedule P – Part 2 – Summary										
Incurred Net Losses and Defense and Cost Containment Expenses Reported at Year-End (000 omitted)										
Years in Which Losses Were Incurred	1	2	3	4	5	6	7	8	9	10
	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>
Prior	31,760	36,602	38,321	41,474	43,475	44,539	45,113	45,607	45,605	45,706
2001	15,976	15,927	16,574	16,844	16,661	16,856	16,799	16,875	16,814	16,673

Data from 2010 Annual Statement for Fictitious Insurance Company, Schedule P – Part 4 – Summary										
Bulk and IBNR Net Losses and Defense and Cost Containment Expenses Reported at Year-End (000 omitted)										
Years in Which Losses Were Incurred	1	2	3	4	5	6	7	8	9	10
	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>
Prior	14,550	13,241	11,605	11,986	11,610	11,089	10,606	9,506	8,852	8,191
2001	7,241	3,885	2,725	1,778	1,197	1,196	1,026	1,023	900	716

As a reminder, Part 3 from Fictitious' 2010 Annual Statement is shown in Table 46.

### *Claim Counts*

Part 3 also provides the number of claims closed with and without loss payment in columns 11 and 12, respectively. These figures are provided only for those lines where this information is provided in Part 5 (see below); these figures are not shown in the Summary.

### SCHEDULE P – PART 5

Part 5 is provided in the following three sections, which are provided by accident year as of the last 10 year-end evaluations on a direct plus assumed basis:

- Section 1: Cumulative number of claims closed with loss payment
- Section 2: Number of claims outstanding
- Section 3: Cumulative number of claims reported

Part 5 is provided for the following lines of business:

- A - Homeowners/Farmowners
- B - Private Passenger Auto Liability/Medical
- C - Commercial Auto Liability/Medical
- D - Workers' Compensation

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- E - Commercial Multiple Peril
- F - Section A<sup>90</sup> - Medical Professional Liability - Occurrence
- F - Section B - Medical Professional Liability - Claims-Made
- H - Section A - Other Liability - Occurrence<sup>91</sup>
- H - Section B - Other Liability - Claims-Made
- R - Section A - Products Liability - Occurrence
- R - Section B - Products Liability - Claims-Made
- T - Warranty

No summary is provided for Part 5.

As noted, claim counts can assist the user in identifying trends or changes in the way claims are settled and reserved. However, caution should be made in relying solely on the analytics without discussion with company management, ideally management within the claims department of the insurance company. There is inconsistency in the way that companies record and report claim counts, and sole reliance on the data without confirmation with management can be misleading. One known inconsistency is that some companies record claims on a per-claim basis and others on a per-claimant basis. As we shall see later in this chapter, the Interrogatories of Schedule P require that companies disclose the method for recording claim counts.

Actuaries can derive many statistics from the data contained in Part 5. In the following paragraphs we discuss the most common claim count statistics used by actuaries, as well as other uses of Part 5.

#### *Claim Closure Rates*

These represent the ratio of closed claims to total reported claims. The ratio can be computed as all closed claims, or only those claims closed with payment, divided by reported claims. This relationship, in particular when viewed in the current accident year in comparison to prior accident years during the first 12 months of a development, helps to identify any changes in the rate at which claims are settled (closed).

We often hear claims adjusters say “the best claim is a closed claim,” the reason being that the longer a claim stays open, the greater the likelihood it will develop adversely and cost the insurer more money. A closed claim significantly reduces that potential, in most cases to zero.<sup>92</sup> Closed claims also benefit the insured by allowing the insured to receive medical

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<sup>90</sup> The line of business section headings change from 1 and 2 to A and B in Part 5, due to the naming of Sections 1 through 3 herein.

<sup>91</sup> Business reported as an aggregate write-in for other lines of business in the State Page is included here (either as occurrence or claims-made, depending on the coverage written).

<sup>92</sup> There is always the chance that a claim could reopen.



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treatment, repair damaged property and recover from the loss. Claims departments look for ways to increase claim settlement rates to achieve this mutual benefit.

Despite the benefits of such improvements, they can have an adverse effect on the projection of unpaid claims if not explicitly taken into consideration. Take for example the situation where a company has implemented a new strategy to increase claim settlement rates in the current year. This will result in higher than average claim payments being made in the current year and will cause the paid loss development factors at the latest evaluation date (i.e., last diagonal) to be higher than in prior evaluation dates along the diagonals. Giving weight to this higher factor in the application of loss development factors to paid losses (that are themselves higher than normal) will result in the over-projecting of ultimate losses and therefore the overestimate of unpaids.

Similarly, a claims department may also experience a reduction in claim settlement rates for numerous reasons, such as reductions in staffing levels, growth in a book without a commensurate increase in claim staff, or influx of claims resulting from the occurrence of a catastrophe, among others. A reduction in claim settlement rates could result in underestimating unpaid claims because the last diagonal of loss development factors and current evaluation of paid losses are suppressed relative to prior years.

A review of claim closure rates will help to identify these trends, thereby enabling the actuary to consider the impact on the analysis of unpaid claims.

Table 50 shows the triangle of claim closure rates for Fictitious' homeowners line of business.

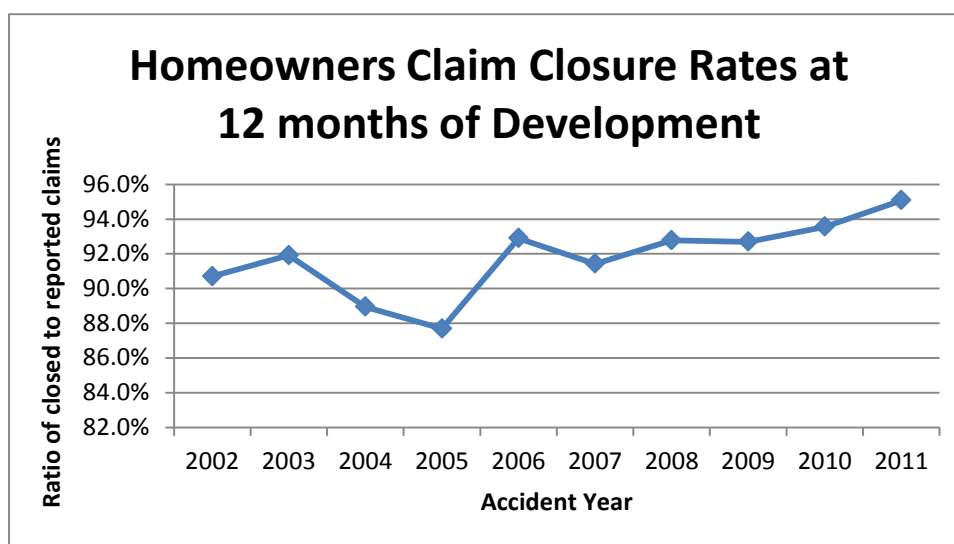
TABLE 50

Data from 2011 Annual Statement for Fictitious Insurance Company, Data from Schedule P – Part 5A – Homeowners/Farmowners Calculation of Claim Closure Rate (Total Claims Closed from Section 3 minus Section 2, divided by Total Reported Claim Counts from Section 3)										
Years in Which Losses Were Incurred	12 Months	24 Months	36 Months	48 Months	60 Months	72 Months	84 Months	96 Months	108 Months	120 Months
2002	90.7%	97.9%	98.8%	98.8%	99.2%	99.6%	99.6%	99.6%	99.6%	99.6%
2003	91.9%	98.4%	99.2%	99.6%	99.6%	99.6%	99.6%	99.6%	99.6%	
2004	88.9%	97.7%	99.1%	99.5%	99.5%	99.5%	99.5%	99.5%		
2005	87.7%	98.1%	98.6%	99.5%	99.5%	99.5%	99.5%			
2006	92.9%	98.6%	99.5%	99.5%	99.5%	99.5%				
2007	91.4%	98.4%	99.0%	99.5%	99.5%					
2008	92.8%	98.7%	99.3%	99.7%						
2009	92.7%	99.0%	99.7%							
2010	93.6%	99.1%								
2011	95.1%									

The above was computed by taking total reported counts in Section 3 of Part 5A and subtracting the open counts in Section 2 to compute a triangle of closed counts. We then took the resulting closed count triangle and divided by the reported count triangle in Section 3.

Depending on the line of business, generally, only the first two to three columns are relevant to the actuary, as claim adjusters tend to have the biggest impact on claim settlement in the first couple of years of development. After that, it is often difficult to have a widespread effect on the open claims. For a short-tailed line of business such as homeowners, actuaries will tend to focus on the first 12 months in the above triangle. The following provides a graphic depiction of the first 12 months of settlement rates.

TABLE 51



From the chart we see a slight uptick in the claim settlement rates since 2009. While the change is relatively benign, it would be important to talk to Fictitious' management to see if there are any internal or external changes that might impact the rate at which homeowners claims are being settled. Additionally, it would be interesting to inquire as to the changes that occurred in 2004 and 2005, as there appears to have been a large drop in the rate at which claims were being closed. We know 2005 was marred by Hurricanes Katrina, Rita and Wilma, and it may be that Fictitious' claims department had some difficulties keeping pace with the large number of claims reported during 2005.

#### *Closed With Pay (CWP) Ratios*

These represent the ratio of CWP claims to total closed claims. Companies may experience changes in the rate that claims are closed without payment. It is important for the actuary to understand the implications of changes in CWP rates on the unpaid claim analysis. While a

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decreasing trend in CWP rates is generally a good sign, it may result in increases in reopened claims in the future or have other effects that are not easily discernible in the loss data.

Table 52 provides the ratio of claims closed without payment to total closed claims for Fictitious. While we can show the ratio of CWPs as well, which is simply one minus the ratios shown within Table 52, we thought the ratios of closed without pay more clearly highlights some changes in the Company's experience.

TABLE 52

Data from 2011 Annual Statement for Fictitious Insurance Company, Data from Schedule P – Part 5A – Homeowners/Farmowners Ratio of Claims Closed Without Payment to Total Closed Claims											
Years in Which Losses Were Incurred	12 Months	24 Months	36 Months	48 Months	60 Months	72 Months	84 Months	96 Months	108 Months	120 Months	120 Months
2002	1%	16%	15%	15%	15%	15%	16%	16%	16%	16%	
2003	14%	14%	14%	14%	14%	13%	13%	13%	13%		
2004	16%	16%	16%	16%	16%	16%	16%	16%			
2005	13%	13%	13%	13%	13%	13%	12%				
2006	9%	9%	9%	9%	9%	9%					
2007	8%	9%	8%	8%	8%						
2008	8%	8%	8%	8%							
2009	9%	9%	9%								
2010	8%	8%									
2011	6%										

As displayed above, there appears to have been a drop in claims closed without pay between the 2004 and 2006 accident years from around the 15% level at 12 months of development to about the 8% level for accident years 2006 through 2010 at 12 months. There seems to be a further decline in accident year 2011, although to a much lesser degree. Inquiries would have to be made of company management to understand the cause for these trends and ascertain the impact on future loss and LAE development.

*Claim Frequency*

The rate of claim frequency can be determined using Schedule P data by dividing claim counts in Part 5 by earned premiums in Part 1. This can be useful in identifying changes in the rate claims are closed and reported relative to the exposure. However, we note that the exposure here is influenced by rate changes. Therefore, similar to loss ratios, these rates can go up or down depending on pricing changes. Schedule P does not provide the raw exposure base (e.g., home years for homeowners, car years for auto, payroll or employee count for workers' compensation). As a result, one cannot identify pure loss cost trends using this data without making manual adjustments for changes in rate.

*Average Claim Severities*

In addition to providing statistics based solely on counts, the actuary can also analyze severities using the loss data from Parts 2 through 4 and the count data in Part 5. The actuary can analyze the following:

- ▶ Average closed claim severities, which are computed as the ratio of net paid loss and DCC to direct plus assumed claims closed with payment (or total closed claim counts). The numerator in the equation comes from Schedule P, Part 3, and the denominator comes from Schedule P, Part 5, Section 1 (or Section 3 minus Section 2 for total closed claim counts).
- ▶ Average case outstanding severities, which are computed as the ratio of net case outstanding loss and DCC to direct plus assumed open counts. The numerator in the equation comes from Schedule P, Part 2 minus Part 3 minus Part 4, and the denominator comes from Schedule P, Part 5, Section 2.
- ▶ Average reported claim severities, which are computed as the ratio of net reported loss and DCC to direct plus assumed reported counts. The numerator in the equation comes from Schedule P, Part 2 minus Part 4, and the denominator comes from Schedule P, Part 5, Section 3.

The above enables the actuary to identify trends in the cost of insurance claims. Such trends may be inflationary, a result of law changes, attributed to one-time catastrophic claims, due to changes in deductibles or retentions, or caused by internal factors, among others.

As with claim counts, actuaries generally look for changes in the first few years of development, as these changes tend to have the biggest impact on reserve levels.

A review of average case reserves is particularly useful to the reserving actuary. Changes in case reserve levels may be a sign that the company has strengthened or weakened its case reserves. For example, if we were to compute a triangle of average case outstanding severities and observe a decrease along the last diagonal relative to the prior diagonal, then that may be a sign that the company has weakened its case reserves.<sup>93</sup> Of course, this observation would warrant discussion with the company's claims department. However, assuming there was a weakening in case reserves, use of the reported loss development method to project unpaid loss, without adjustment to reflect the weakening, may understate the reserve need.

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<sup>93</sup> The last diagonal represents average case outstanding reserves corresponding to the accident years in the left most column, as of the current evaluation date, which is December 31, 2011 for Fictitious. The prior diagonal is one year prior to the current evaluation (i.e., December 31, 2010 for Fictitious).

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To be more specific, loss development methods assume that the past is predictive of the future. When a company weakens reserves, the reported losses are at a lower level than they had been at the past. Therefore application of prior average loss development factors to current, lower loss amounts, will tend to understate the ultimate loss estimate and therefore the reserve need. The effect is similar to what happens to development methods using paid loss data when there has been a change in the rate claims are being closed. A decrease in claim settlement rates (i.e., “slowdown”) along the last diagonal will result in an understatement of the reserve need absent adjustment to the paid loss triangle or paid loss development methods. And, the opposite can happen when there has been a strengthening in case reserves or a speed-up in claim settlement. While not the topic of this publication, there are loss reserving methods that explicitly adjust for changes in case reserve adequacy and claim closure rates, such as those described in the Berquist-Sherman paper.<sup>94</sup>

Table 53 provides the average case outstanding reserves for Fictitious’ homeowners line of business:

TABLE 53

Data from 2011 Annual Statement for Fictitious Insurance Company, Data from Schedule P – Parts 2 through 5 – Homeowners/Farmowners											
Average Net Case Outstanding Loss and DCC Severities (Net Case Outstanding Loss and DCC / Open Claim Counts)											
Years in Which Losses Were Incurred	12 Months	24 Months	36 Months	48 Months	60 Months	72 Months	84 Months	96 Months	108 Months	120 Months	120 Months
2002	7,350	10,800	10,677	6,000	5,000	7,000	5,000	2,000	1,000	-	
2003	9,053	16,750	19,000	21,000	12,000	7,000	5,000	2,000	1,000		
2004	8,636	18,600	23,500	25,000	14,000	9,000	5,000	2,000			
2005	9,360	13,750	8,667	9,000	11,000	12,000	-				
2006	14,571	30,333	45,000	26,000	15,000	8,000					
2007	18,333	37,000	30,500	34,000	18,000						
2008	14,684	32,250	37,500	40,000							
2009	15,789	42,000	61,000								
2010	16,789	41,333									
2011	17,429										
		<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
Ending			10,966	10,844	11,243	14,833	17,920	17,071	17,774	19,194	18,909
Annual Trend				-1%	4%	32%	21%	-5%	4%	8%	-1%

The bottom row shows the trend across all accident years combined, over each evaluation year. We see that in 2009 and 2010, average reserve levels increased by about 4% and 8%,

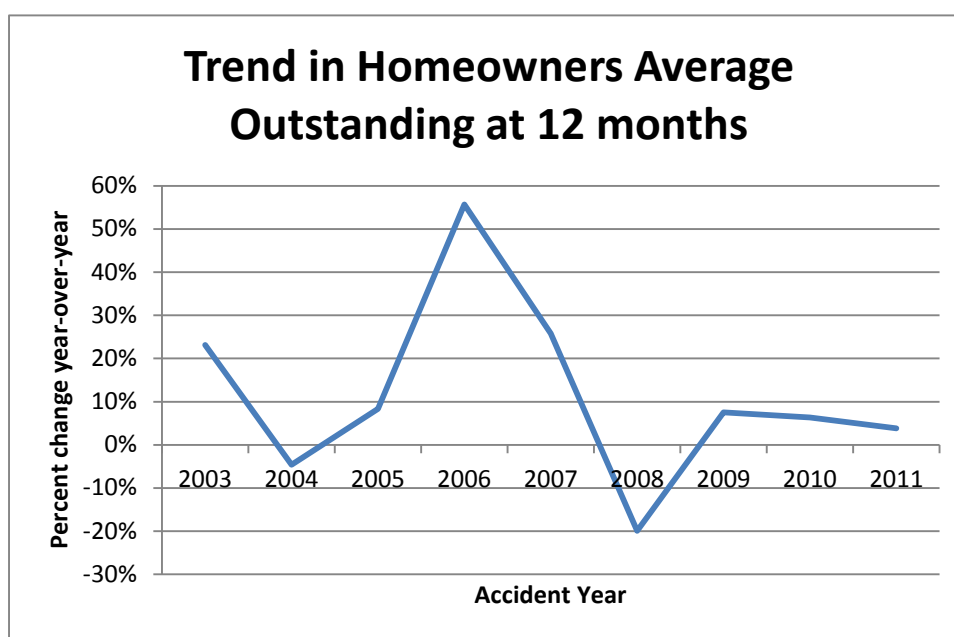
<sup>94</sup> Berquist, J.R.; and Sherman, R.E., “Loss Reserve Adequacy Testing: A Comprehensive, Systematic Approach,” Proceedings of the Casualty Actuarial Society (PCAS) LXIV, 1977, pp.123-184.

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respectively. However, in 2011, reserve levels decreased by 1%. As a result of this decline, the actuary may see ultimate loss and DCC estimates based on reported methods coming in lower than the ultimate loss and DCC estimates based on paid methods.

Looking down the column at the first 12 months, we see a significant increase in case reserve between 2005 and 2006. This is a bit more obvious graphically. The following provides the change in average case reserves, from one accident year to the next, going down the 12 month development column.

TABLE 54



A large spike is seen in 2006. The approximate 56% increase was computed by taking the average case outstanding severity for accident year 2006 of \$14,571 and dividing by the average for accident year 2005 of \$9,360 to obtain the year-over-year change of 1.56 (+56%).

Despite the large increase in 2006 and subsequent sharp decline in 2008, the year-over-year trend rates in the first 12 months of development appear to have been on a slight decline from 8% to 4% between 2009 and 2011.

As previously mentioned, the value of these analytics is to identify trends and generate discussion with management so that the actuary can appropriately consider them in the analysis of unpaid claims.

### *Reasonableness Tests*

In addition to the raw trends, actuaries also use Part 5 data to provide checks on the reasonableness of unpaid claim estimates. For example, actuaries can compute the following statistics and compare the results to see if the trends across the accident years are in alignment with what they expect:

- ▶ Average claim frequency – the ratio of the ultimate claim count estimate by accident year to the corresponding earned premium
- ▶ Average ultimate severity – the ratio of the ultimate loss and DCC estimate by accident year to the corresponding estimate of ultimate claim counts
- ▶ Average unpaid claim severity – the ratio of the unpaid loss and DCC estimate by accident year to the corresponding estimate of unpaid claims

The above can be computed using direct plus assumed loss and DCC estimates in addition to the net estimates.

### *Uses of Part 5 in Estimating Unpaid Claims*

Before turning to Part 6, we should add that actuaries also use Part 5 for purposes of projecting ultimate loss and DCC estimates. These methods are referred to as “counts and averages” methods. Projections are made by developing average paid and reported loss severities to ultimate and applying them to estimates of ultimate claim counts using closed and reported claims count development methods. These methods can be valuable when adjusting for observed trends in each of their specific components.

### SCHEDULE P – PART 6

Part 6 provides cumulative premiums earned as of December 31 for each of the last 10 calendar years. The first year of report includes premiums earned in the calendar year. Moving left to right, subsequent years show premiums earned after positive or negative adjustments from premium audits, retrospectively rated policies, lags in reporting or accounting for premiums, among others. Part 6 provides the information needed to develop earned premium to its ultimate amount using methods similar to those used to develop ultimate loss and DCC (i.e., using traditional, triangular development methods). Part 6 is provided for the following lines of business, as these lines tend to be the ones subject to the aforementioned adjustments:

- C - Commercial Auto Liability/Medical
- D - Workers' Compensation
- E - Commercial Multiple Peril

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- H - Section A - Other Liability - Occurrence<sup>95</sup>
- H - Section B - Other Liability - Claims-Made
- M - International
- N - Reinsurance - Nonproportional Assumed Property<sup>96</sup>
- O - Reinsurance - Nonproportional Assumed Liability<sup>97</sup>
- P - Reinsurance - Nonproportional Assumed Financial Lines<sup>98</sup>
- R - Section A - Products Liability - Occurrence
- R - Section B - Products Liability - Claims-Made

The premium displayed in Part 1 of Schedule P is that which is earned at the end of each specified year and is not updated for subsequent adjustments. It is equal to the left-most diagonal in Part 6. Adjustments made after the first year of report come through in the remaining columns of Part 6.

Workers' compensation provides a good example of a line that is subject to premium adjustment. At inception, the premium charged for a workers' compensation policy is determined by applying a rate to an estimate of the payroll (exposure) for the policy term. At the end of the year, or shortly thereafter, the actual payroll is known. The insurance carrier, however, has determined its premium earnings on the basis of the estimated premium. As a result, the premium figure will change from its initial amount, and this change is recorded in Part 6.

Additionally, the exposure base used to determine the premium can be subject to audit by the insurance carrier. For example, an insurance company can verify that payroll amounts used in determining an insured's workers compensation premium, or revenue figures used in computing an insured's general liability premium, are accurate and complete. Differences uncovered through these audits will emerge as premium development in Part 6.

The one area where we tend to see the most development on earned premium is retrospectively rated insurance policies. Under these policies, the insured is charged a base premium that is adjusted over time based on the insured's loss experience based on a formula. The formula incorporates tax multipliers and expense factors and typically imposes a minimum and maximum premium amount.

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<sup>95</sup> Business reported as an aggregate write-in for other lines of business in the State Page is included here (either as occurrence or claims-made, depending on the coverage written).

<sup>96</sup> Property includes fire, allied, ocean marine, inland marine, earthquake, group, credit and other A&H, auto physical damage, boiler and machinery, burglary and theft and international property.

<sup>97</sup> Liability includes farmowners, homeowners and commercial multiperil; medical professional liability workers' compensation; other liability; products liability; auto liability; aircraft (all peril); and international liability.

<sup>98</sup> Financial includes financial guaranty, fidelity, surety, credit and international financial.



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Insurance companies record the claim experience associated with retrospectively rated insurance policies within Schedule P, and the loss reserve estimates typically include a provision for these claims. Without adjustment for the additional premium income expected under these policies, a company's surplus would be understated. This adjustment comes in as an asset on line 15.3 of page 2 of the Annual Statement titled "Accrued Retrospective premium."

Estimates of future premium can be determined by developing the earned premiums in Part 6 using development methods. However, as with reliance on the rest of Schedule P for projection purposes, exclusive reliance on Part 6 should not be made without having a good understanding of its contents.

#### SCHEDULE P – PART 7

Part 7 is optional and completed only by those companies using the loss sensitive adjustment in the RBC calculation. It provides premium and loss information on loss sensitive contracts. It is broken into two parts: A for Primary Contracts (i.e., direct written business) and B for Reinsurance Contracts (i.e., assumed business). Parts A and B each have the same five sections:

- ▶ Section 1 provides net loss and LAE unpaid and net written premium on loss sensitive contracts, relative to all contracts written by the company, for each Schedule P line of business in total.
- ▶ Section 2 provides incurred loss and DCC reported at year-end on loss sensitive contracts in the same format as Schedule P, Part 2.
- ▶ Section 3 provides loss and DCC IBNR at year-end on loss sensitive contracts in the same format as Schedule P, Part 4.
- ▶ Section 4 provides net earned premiums reported at year-end on loss sensitive contracts in the same format as Schedule P, Part 6.
- ▶ Section 5 provides net reserves for premium adjustments and accrued retrospective premiums at for each of the last 10 years in which the policies were issued, evaluated at each of the last 10 years.

The information provided in Part 7 is on a policy year basis.

As noted, the primary use of this exhibit is for RBC purposes. The Reserve RBC and Written Premium RBC are adjusted to reflect the fact that loss experience under loss sensitive contracts is shared in whole or in part with the insured. As such, the risk of adverse loss development is also shared with the insured. The insurance company receives a discount to its RBC reserve charge to reflect this reduction in risk. This discount is computed separately by line of business. Columns 3 and 6 of Schedules A and B provide the percentage of loss and LAE reserves and written premiums by line of business for loss sensitive contracts. Column 3

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provides the distribution of reserves, and column 6 provides the distribution of net written premium.

Examples of how this information is used in computing RBC are contained in *Part IV. Statutory Filings to Accompany the Annual Statement* of this publication.

#### SCHEDULE P INTERROGATORIES

The Schedule P Interrogatories are a series of seven questions that the insurance company is required to answer to provide further insight into the information reported in Schedule P. We will briefly discuss those interrogatories that are most widely referred to by property/casualty actuaries.

Question 1 pertains to extended reporting endorsements (EREs) arising from death, disability or retirement (DDR). EREs essentially turn a medical professional liability claims-made policy into an occurrence policy upon the policyholder's death, disability or retirement. In the 1990s, DDR endorsements were issued for free and known as "free tail coverage" as a marketing effort by medical insurers to attract physicians. Many such DDR extended reporting period endorsements are still offered for free.

Question 1 has six parts, the first of which pertains to whether the company issues such endorsements for free or at a reduced rate. The remaining five parts serve to identify where and how the company reports the DDR reserve: as unearned premium or loss reserve, claims-made or occurrence, etc. The main point is to make sure these policies have been reserved for somewhere in the company's financial statements, either as losses or unearned premium.

Question 2 asks whether LAE are reported as DCC and A&O as per the definitional change effective January 1, 1998. This is relevant to the actuary or other user who may be relying on Schedule P data to perform reserve adequacy tests.

Question 4 requires disclosure on whether the company's recorded loss and LAE reserves are net of non-tabular discount and reminds the preparer of the Annual Statement that:

- ▶ Disclosure of non-tabular discount must be included in the Notes to Financial Statements.
- ▶ Discounting is only allowed if the company has permission from its state insurance regulator.
- ▶ Schedule P must be prepared gross of non-tabular discounts, with the amount of discount reported in Schedule P - Part 1, Columns 32 and 33.
- ▶ Support for the amount of discount must be available for regulatory review upon request.

In question 6, the company is required to indicate whether the company reports claim counts on a per-claim or per-claimant basis in Schedule P. This, along with whether the reporting

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convention has changed over time, is relevant in interpreting trends in claim frequency and severity. It is also relevant when assessing reserve adequacy using counts and averages (frequency and severity) methods.

Question 7 is the most important and aligns most directly with the use of Schedule P. It asks if there are any changes or if there is anything special that the user should be aware of if the user decides to rely on the data provided in Schedule P to assess the adequacy of the recorded loss and LAE reserves. If the answer is yes, disclosure of such is required.

## INTERCOMPANY POOLING AND SCHEDULE P

It is important to know that intercompany pooling differs from intercompany reinsurance. Intercompany reinsurance is accounted for in the same way as third-party reinsurance, subject of course to statutory accounting rules. Very broadly, cessions to affiliated reinsurers under straight reinsurance agreements serve to reduce gross premiums and losses.

Under intercompany pooling, the treatment is different in Schedule P; gross losses are combined or “pooled” and then shared based on the pooling percentage of each company within the group of affiliates that participates in the intercompany arrangement. Net losses are treated in the same manner in that they are first pooled and then shared based on each company’s pooling percentage. Very simply, assume Companies A, B and C participate in intercompany reinsurance, with 60%, 20% and 20% participation, respectively. If each company has \$100 of loss reserves on a direct basis and cedes \$30 to outside reinsurers, the recorded reserves in Schedule P of Companies A, B and C would be \$180, \$60 and \$60 on a gross of reinsurance basis and \$126, \$42 and \$42 on a net of reinsurance basis, respectively. That is, the pooled gross (\$300) and net amounts (\$210) are shared based on each company’s participation rates. This is summarized in Table 55.

TABLE 55

Reporting in Schedule P				
	Company A (Lead)	Company B (Non-Lead)	Company C (Non-Lead)	Total
Total Gross	180	60	60	300
Total Net	126	42	42	210

While Schedule P for companies that operate under an intercompany pooling arrangement is prepared on a pooled basis, as exemplified above, other schedules and exhibits within the Annual Statement treat intercompany pooling as if it is a typical reinsurance arrangement. Therefore, using the above example, if Company A were the lead in the intercompany pool, then Company A would have \$100 in direct loss reserves, plus \$70 assumed from each of

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Companies B and C, for a total of \$240 in gross reserves. The \$70 in assumed loss reserves from each non-lead company is after cessions to outside reinsurance.

For each non-lead company, the amount of gross loss reserves is \$100 in direct reserves plus the amount assumed after the lead company cedes through the intercompany reinsurance relationship. The amount of business in the intercompany pool is \$300 of direct loss reserves minus \$90 ( $=\$30 \times 3$ ) of ceded business, for a total of \$210 net reserves. The \$210 pooled net loss reserve is shared 60%, 20%, 20%, so each non-lead gets \$42. Thus, the total gross loss reserves for each non-lead is \$100 in direct plus \$42 of intercompany pooled loss reserves for a total of \$142. These amounts are summarized in Table 56.

TABLE 56

Reporting in Annual Statement Exhibits and Schedules other than P				
	Company A (Lead)	Company B (Non-Lead)	Company C (Non-Lead)	Total
Total Gross	240	142	142	524
Total Net	126	42	42	210

Notice that on a net basis, the amounts are the same in all of the exhibits and schedules within the Annual Statement. However, on a gross basis, exhibits and schedules other than Schedule P essentially double count the cessions to intercompany pooling, whereas Schedule P nets them out.

The fact that Schedule F does not show IBNR on an assumed basis, the double counting effect of pooling, as well as the fact that some companies have other intercompany reinsurance relationships outside the intercompany pooling relationship, complicates the reconciliation between Schedules within the Annual Statement to Schedule P. This is the main reason we have not used Fictitious in our examples.

We used loss reserves in our example. However, it is important to note that pooling percentages apply to the premium, loss, expense and claim count data within Schedule P. Therefore, all figures provided in Part 1 and the triangles provided in Parts 2 through 7 are provided after intercompany pooling. If one wanted to determine total premium, loss, expense and/or claim count data for the pool in aggregate, all one would need to do is divide the figures in Schedule P for a pool member by its intercompany pooling percentage in Schedule P, Part 1, column 34.

Intercompany pooling percentages can change over time, based on a particular group's strategy. The Schedule P for a particular company is generally restated retroactively when there is a change in intercompany pooling.

## PART IV. STATUTORY FILINGS TO ACCOMPANY THE ANNUAL STATEMENT

### INTRODUCTION TO PART IV

Insurance companies are required to file numerous documents with state insurance regulators each year, either included within or supplemental to the Property/Casualty Annual Statement. These annual filings include those listed in the Official NAIC *Annual Statement Instructions Property/Casualty*,<sup>99</sup> such as the Statement of Actuarial Opinion SAO, Actuarial Opinion Summary Supplement (AOS), Supplemental Compensation Exhibit, Insurance Expense Exhibit (IEE), Supplemental Investment Risks Interrogatories, Financial Guaranty Insurance Exhibit and others such as the National Association of Insurance Commissioners (NAIC) Insurance Regulatory Information System (IRIS) ratio and Risk-Based Capital (RBC) ratio results. Many of these filings serve as a means for regulators to obtain a relatively quick view of an insurance company's financial health, thereby enabling regulators to prioritize those insurance companies requiring immediate attention.

This section addresses the filings that tend to be used the most by property/casualty actuaries, namely:

- ▶ SAO
- ▶ AOS
- ▶ IEE
- ▶ RBC
- ▶ IRIS

We will discuss the purpose and important aspects of each filing. Many of these filings are addressed in considerable detail in other publications, and the NAIC has issued instructions, manuals and/or software applications that provide the preparer of these filings with authoritative guidance. This section is not intended to replace those readings or provide instructions on how to prepare those filings. Rather, we will limit our discussion to the purpose of each and a general overview of how they are prepared.

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<sup>99</sup> 2011 NAIC *Annual Statement Instructions Property/Casualty*, pages i-v.

## CHAPTER 16. STATEMENT OF ACTUARIAL OPINION

### OVERVIEW

The Statement of Actuarial Opinion (SAO) provides the opinion of a qualified actuary on the reasonableness of the loss and loss adjustment expense (LAE) reserves recorded by a property/casualty insurance company as of December 31 each year. It is filed with the Annual Statement, either included or attached to page 1 of the Annual Statement. The SAO must be prepared by a qualified actuary, as defined by the National Association of Insurance Commissioners (NAIC),<sup>100</sup> who is appointed by the company's board and then referred to as the appointed actuary.<sup>101</sup>

Certain companies may qualify for an exemption from the SAO requirement. Possible exemptions include the following:

- ▶ Size of the insurer (less than \$1 million of total gross written premiums during a calendar year and less than \$1 million of total gross loss and LAE reserves at year-end)
- ▶ Insurers under supervision or conservatorship
- ▶ Nature of business written
- ▶ Insurers under financial hardship (if the cost of the SAO is greater than either 1% of surplus or 3% of gross written premiums during the calendar year within which the exemption is requested)

Simply meeting one of the above criteria does not provide automatic exemption. To qualify, the insurer has to file for exemption with its domiciliary commissioner. It is at the discretion of the domiciliary commissioner to decide whether to exempt a company from the SAO requirement.

The main purposes of the SAO are the following:

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<sup>100</sup> A qualified actuary is defined by the NAIC as "a person who meets the basic education, experience and continuing education requirements of the Specific Qualification Standard for Statements of Actuarial Opinion, NAIC Property and Casualty Annual Statement, as set forth in the *Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States*, promulgated by the American Academy of Actuaries, and is either: (i) A member in good standing of the Casualty Actuarial Society, or (ii) A member in good standing of the American Academy of Actuaries who has been approved as qualified for signing casualty loss reserve opinions by the Casualty Practice Council of the American Academy of Actuaries" *2011 NAIC Annual Statement Instructions Property/Casualty*, page 9.

<sup>101</sup> The *2011 NAIC Annual Statement Instructions Property/Casualty* go on further by saying that the requirements of the company's domiciliary state may permit individuals to issue the SAO despite not meeting the definition of qualified actuary per the NAIC. In these instances a letter from the state must be attached to the SAO indicating that the individual meets the state's requirement to issue SAOs. Throughout this text we will use the terms "qualified actuary" and "appointed actuary" to encompass these individuals.

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- ▶ Provide the appointed actuary's opinion on the reserves specified within the scope of the SAO.
- ▶ Inform the reader, in particular regulators, of significant risk factors and/or uncertainties with respect to those reserves.
- ▶ Advise whether those risks and uncertainties are reasonably expected to lead to material adverse deviation in the reserves.

There is considerable guidance for the actuary in issuing the SAO. Every appointed actuary should read and be familiar with the most current versions of the following:

- ▶ Qualification Standards, as set forth by the American Academy of Actuaries (AAA)
- ▶ NAIC Instructions for the SAO
- ▶ AAA Committee on Property and Liability Financial Reporting (COPLFR) *Practice Note on Statements of Actuarial Opinion on Property and Casualty Loss Reserves* (COPLFR P/C Practice Note)
- ▶ NAIC *Regulatory Guidance On Property and Casualty Statutory Statements of Actuarial Opinion* Prepared by the NAIC's Casualty Actuarial and Statistical (C) Task Force<sup>102</sup>
- ▶ Actuarial Standards of Practice (ASOP), including but not limited to:
  - ▶ ASOP No. 20. *Discounting of Property/Casualty Unpaid Claim Estimates* (September 2011)
  - ▶ ASOP No. 23. *Data Quality*
  - ▶ ASOP No. 36. *Statement of Actuarial Opinion Regarding Property/Casualty Loss and LAE Reserves*
  - ▶ ASOP No. 41. *Actuarial Communications*
  - ▶ ASOP No. 43. *Property/Casualty Unpaid Claim Estimates*
- ▶ Applicable state laws, in particular with respect to reserve requirements, SAO requirements, discounting, etc. (the Property/Casualty Loss Reserve Law Manual published annually by the AAA provides a compilation of this material)<sup>103</sup>
- ▶ SSAP No. 62 *Property and Casualty Reinsurance*
- ▶ SSAP No. 65 *Property and Casualty Contracts*

The SAO is organized into four required sections:

1. Identification
2. Scope
3. Opinion
4. Relevant comments

Each section must be included and clearly identified within the SAO.

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<sup>102</sup> This is updated annually and typically included as an appendix to COPLFR P/C Practice Note.

<sup>103</sup> Applicable laws and regulations supersede any applicable ASOPs.

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The SAO also contains two exhibits, A and B. Exhibit A provides the recorded amounts associated with the items identified in the scope section, generally on a direct plus assumed and net basis. Exhibit B provides relevant disclosure items with respect to the *net* reserves identified in the scope section, as identified in the relevant comments section. For example, loss and LAE reserves for asbestos are disclosed in Exhibit B on a net of reinsurance basis. There is no separate exhibit within the SAO showing asbestos reserves on a gross of reinsurance basis. Differences between the net and gross (direct plus assumed) amounts reported in Exhibit B may be discussed in the relevant comments section.

While there are other publications on the CAS Exam 6 U.S. Syllabus of Basic Education that cover the SAO, there is not a “real” SAO on the Syllabus to bring the instructions to life for the student. As a result, we have created a SAO for Fictitious Insurance Company to illustrate the application of the SAO instructions in practice. Fictitious’ SAO was issued by an imaginary actuary named Mr. William H. Smith, who is a consulting actuary with the make-believe firm, WS Actuarial Consulting. Smith’s opinion is included in of this publication and should be read side-by-side with this chapter.

The Fictitious SAO is the author’s interpretation of the NAIC instructions as they might apply to Fictitious. It should not be taken as authoritative guidance on format or content of the SAO.

The following provides a summarized view of each of the four sections of the SAO and how Fictitious’ appointed actuary responded to each required section in his 2011 SAO for the company.

### IDENTIFICATION

The identification section of the SAO provides the actuary’s name and credentials, the actuary’s qualifications for issuing the SAO, the actuary’s relationship to the company, and the date the actuary was appointed by the company’s board of directors (or its equivalent) to issue the opinion. This section typically includes a statement identifying the intended purposes and users of the opinion, consistent with ASOP 36 requirements.

For Fictitious, the 2011 SAO was issued by Mr. William H. Smith, who is a Fellow of the Casualty Actuarial Society and Member, American Academy of Actuaries, and is associated with the firm of WS Actuarial Consulting. He was appointed by the company’s board of directors on September 7, 2011. At the time of issuance of his opinion (February 24, 2012), Smith met the qualification standards to issue SAOs.

The intended purpose of Smith’s opinion was to satisfy the requirements of the NAIC. The intended users were the company’s management, the directors of its board and state regulatory officials.



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SCOPE

The scope section identifies the reserve items upon which the actuary is giving an opinion as well as the accounting basis for those reserves. The reserve items include:

- ▶ Loss and LAE reserves
- ▶ Retroactive reinsurance assumed reserves
- ▶ Unearned premium reserves for long-duration contracts
- ▶ Unearned premium reserves for extended reporting endorsements, such as those included in Schedule P Interrogatory No. 1 of the company's Annual Statement
- ▶ Other reserve items for which the actuary is providing an opinion

The scope also identifies the "review date," which is defined in ASOP 36 as "the date (subsequent to the valuation date) through which material information known to the actuary is included in forming the reserve opinion."<sup>104</sup> If no such date is explicitly disclosed, it is likely to be assumed by the reader of the opinion that the review date is the date the opinion is signed.

It also contains a statement regarding who provided the data relied upon by the actuary in forming the opinion and that either the actuary performed a reconciliation of that data, or reviewed a reconciliation prepared by the company, to Schedule P of the company's Annual Statement.

If the company participates in intercompany pooling, the actuary *may wish* to disclose this and the basis for reconciling data used in the actuary's analysis to Schedule P.

Further, regulatory guidance suggests that the scope section for each pooled company provide information about the pooling arrangement, including the intercompany pooling percentage for the company.

There are special requirements for opinions on non-lead companies operating under an intercompany pooling arrangement in which the lead company retains 100% of the pooled reserves. We refer the reader to the NAIC opinion instructions and COPLFR Practice Note for further guidance.

The reserve items on which Smith opined for Fictitious are presented in Exhibit A of his 2011 SAO. As displayed on Exhibit A, Smith opined on net loss and LAE reserves in lines 1 and 2, totaling \$51,557,000 as of December 31, 2011. The amounts in lines 1 and 2 of Exhibit A reconcile to lines 1 and 3, respectively, of the Liabilities, Surplus and Other Funds page of the 2011 Annual Statements.

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<sup>104</sup> Actuarial Standards Board of the American Academy of Actuaries, "Actuarial Standard of Practice No. 36, Statements of Actuarial Opinion Regarding Property/Casualty Loss and Loss Adjustment Expense Reserves," December 2010, page 3.

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Smith also opined on total direct plus assumed (or gross) loss and LAE reserves of \$61,699,000, as shown in lines 3 and 4. The amounts in lines 3 and 4 reconcile to Schedule P, Part 1, Summary, columns 13 plus 15, and columns 17, 19 and 21, respectively.

As disclosed in the Notes to Financial Statements (see *Chapter 10. Notes to Financial Statements*) and displayed in Exhibit A of the SAO, Fictitious did not have any retroactive reinsurance assumed as of December 31, 2011. Nor were there any other loss reserve items on which Smith expressed an opinion.

Smith disclosed his “review date” as January 28, 2012. This means that information received through January 28, 2012, was relevant to his analysis of unpaid claims and his opinion on the company’s loss and LAE reserves. Information after that date, to the time he signed the opinion on February 24, 2012 (see the signature line of the opinion), was not relied on by Smith in forming his opinion.

The scope section also provides a statement from Smith that he reconciled the data that he relied upon for purposes of forming his opinion to Schedule P, Part 1, of Fictitious’ 2011 Annual Statement.

### OPINION

The opinion section provides exactly what the name says, the actuary's opinion with respect to the reserves identified in the scope section. The actuary has five options in terms of the type of opinion, as outlined in ASOP 36. These are:

1. Reasonable: if the recorded reserve lies within the actuary’s range of reasonable unpaid claim estimates
2. Inadequate or deficient: if the recorded reserves are below what the actuary deems to be reasonable
3. Excessive or redundant: if the recorded reserves are above what the actuary deems to be reasonable<sup>105</sup>
4. Qualified: if the actuary is unable to issue an opinion on certain items and those items are believed to be material
5. No opinion: if the actuary is unable to conclude on the reasonableness of the recorded reserves

Note that in accordance with ASOP 36, the actuary should disclose the minimum amount that he or she deems reasonable when issuing an inadequate or deficient opinion.<sup>106</sup> Similarly, the actuary should disclose the maximum amount deemed to be reasonable when issuing an excessive or redundant opinion.

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<sup>105</sup> Ibid., page 9.

<sup>106</sup> Ibid., page 10.

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The actuary is also required to state whether the recorded reserves identified in the scope section meet the requirements of the insurance laws of the state the company is domiciled in and are computed in accordance with actuarial standards.

Additionally, if use was made of the work of another actuary, such as for pools and associations, for a subsidiary, or for special lines of business, in forming the SAO, the other actuary must be identified by name and affiliation within the opinion section. The appointed actuary cannot simply rely on another actuary's opinion. The appointed actuary needs to perform enough analysis on the other actuary's work to issue an unqualified opinion on the total reserve amounts listed in Exhibit A. A situation where the actuary may make use of another's work is for reserves assumed by the company for its participation in underwriting pools and associations. ASOP No. 36 provides the relevant guidance, and the COPLFR P/C Practice Note provides good examples of how to handle this situation in practice.<sup>107</sup>

The 2011 SAO for Fictitious states the following:

"In my opinion, the amounts carried in Exhibit A on account of the items identified:

- ▶ Make a reasonable provision for all unpaid losses and loss adjustment expenses, gross and net as to reinsurance ceded, under the terms of the Company's contracts and agreements
- ▶ Are computed in accordance with accepted standards and principles
- ▶ Meet the requirements of the insurance laws of Florida"<sup>108</sup>

Note that Smith opined on the loss and LAE reserves in Exhibit A, items 1 through 6. These reserves include "Retroactive Reinsurance Reserve Assumed," which in the case of Fictitious totaled \$0.

Unless otherwise disclosed, the Appointed Actuary will generally opine on the loss and LAE reserves including the amount of retroactive reinsurance assumed, despite the fact that the amount of retroactive reinsurance is not accounted for within lines 1 and 3 of page 3 of the Annual Statement under SAP. This treatment is in accordance with the NAIC instructions. Retroactive reinsurance assumed is a liability, and regulators look for assurance that this balance is reasonable.

The reserves for retroactive reinsurance ceded are not separately listed on Exhibit A and are therefore not explicitly opined on by the actuary. The absence of this reserve from Exhibit A is not because regulators don't care about the reasonableness of the balance. Rather, the reserve for retroactive reinsurance ceded is already included as a component of the gross

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<sup>107</sup> Committee on Property and Liability Financial Reporting, American Academy of Actuaries, "Property and Casualty Practice Note, Statements of Actuarial Opinion on P&C Loss Reserves as of December 31, 2011," page 50.

<sup>108</sup> See Appendix I of this publication for the Statement of Actuarial Opinion for Fictitious Insurance Company.

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loss and LAE reserves, which are opined on by the actuary.<sup>109</sup> An overstatement or understatement of retroactive reinsurance ceded would impact gross and ceded reserves equally and have no impact on the net reserve balance.

#### RELEVANT COMMENTS

The relevant comments section provides commentary and disclosures relative to the reserves opined on to assist the reader in understanding the context and composition of those reserves. Commentary is required on the following items:

- ▶ The actuary's materiality standard for purposes of addressing the risk of material adverse deviation
- ▶ Significant risks and uncertainties that could result in material adverse deviation
- ▶ The significance of items listed in Exhibit B, including:
  - ▶ Anticipated net salvage and subrogation
  - ▶ Nontabular discounting
  - ▶ Tabular discounting
  - ▶ Net reserves for the company's share of voluntary and involuntary pools and associations
  - ▶ Net reserves for asbestos and environmental liabilities
  - ▶ Claims-made extended loss and LAE reserve reported as unearned premium and as loss reserves
- ▶ Retroactive or financial reinsurance
- ▶ Uncollectible reinsurance
- ▶ The results of IRIS ratios 11, 12 and 13 and explanation for exceptional values
- ▶ Changes in methods and assumptions from those employed in the most recent prior opinion that are deemed to have a material effect on the recorded reserve or actuary's unpaid claim estimate
- ▶ Unearned premium reserves for long duration contracts

With respect to the risk of material adverse deviation, the NAIC Instructions requires the appointed actuary to make an explicit statement as to whether or not he/she believes there are significant risks and/or uncertainties that could result in material adverse deviation.

Smith addresses the above items within the 2011 SAO for Fictitious, as applicable. We will not discuss each item but rather provide further details on some to assist in reading this section of the opinion.

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<sup>109</sup> Recall from *Chapter 10. Notes to Financial Statements*, a company's gross reserves are not reduced for retroactive reinsurance ceded. Rather, retroactive reinsurance ceded is recorded separately as a write-in item on the balance sheet.

## Part IV. Statutory Filings to Accompany the Annual Statement

## MATERIALITY STANDARD

There are numerous ways an actuary can establish his or her materiality standards, and examples are provided in the COPLFR Practice Note. Common methods are based on a percentage of reserves, surplus and movements in Risk-Based Capital (RBC) levels, among others. Materiality standards such as 10% of loss and LAE reserves or anywhere from 10% to 20% of surplus are commonly used. However, some actuaries establish materiality standards using a set dollar amount based on the actuary's particular knowledge of the company's operations. As an extreme example, for a company operating with limited surplus and/or under regulatory intervention, a deviation in loss and LAE reserves greater than \$0 might be considered material.

Regardless, there is no "one size fits all" in terms of formulaic materiality standards. The standard is based on the actuary's personal opinion as to what he or she considers material in relation to the company's reserves and surplus. As noted in Appendix 7 of the COPLFR Practice Note, "Although certain quantitative measures can be suggested for consideration in certain circumstances, no formulaic approach to a quantitative materiality standard can be developed."<sup>110</sup>

Smith considered a deviation in net loss and LAE reserves of more than:

1. 10% of net loss and LAE reserves, which he calculated as:

$$10\% \text{ of } \$51.557 \text{ million} = \$5.156 \text{ million}$$

2. 20% of policyholders' surplus, which he calculated as:

$$20\% \text{ of } \$31.024 \text{ million} = \$6.205 \text{ million}$$

Or

3. The reduction in surplus that would result in additional action per the NAIC RBC formula, which he calculated as the difference between the following:
  - ▶ The company's total adjusted capital of \$31.024 million,<sup>111</sup> which produces an RBC ratio of 559% based on authorized control level (ACL) RBC of \$5.552 million per the Five-Year Historical Data exhibit
  - ▶ Adjusted capital at the next RBC level of \$11.104 million, which is equal to two times ACL

<sup>110</sup> American Academy of Actuaries Committee on Property and Liability Financial Reporting, "Statements of Actuarial Opinion on Property and casualty Loss Reserves 2011," Appendix 7, "CAS VFIC Note on Materiality and ASOP No. 36: Considerations for the Practicing Actuary," page 77.

<sup>111</sup> Differences from above due to immaterial rounding errors that may occur in the Annual Statement.

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The difference between \$31.024 million and \$11.104 million is \$19.920 million.

For purposes of establishing his materiality standard, Smith selects the smallest of the three balances, which in this case happens to be 10% of net loss and LAE reserves (\$5.156 million).

#### MAJOR RISK FACTORS

Once materiality is defined, the actuary determines whether there are significant risks or uncertainties that could result in material adverse deviation in the company's loss and LAE reserve. According to the NAIC instructions to the SAO, "If such risk exists, the actuary should include an explanatory paragraph to describe the major factors, combination of factors, or particular conditions underlying the risks and uncertainties that the actuary reasonably believes could result in material adverse deviation."<sup>112</sup> Examples of risk factors are provided in the COPLFR Practice Note.

Note that the actuary is not expected to list all risks that the company is exposed. Rather, only those major risk factors that could result in the reserves developing adversely by an amount that is material relative to the actuary's materiality standard. To illustrate, Smith identifies and provides details about major risk factors that materially affect the variability of the reserves held by Fictitious Insurance Company. The major risk factors identified are mass tort claims; so-called "Chinese drywall" claims; cumulative injury losses; claims from large deductible workers' compensation policies; and claims related to catastrophic weather events, including wildfires, tornadoes and hurricanes. The uncertainty associated with these types of claims adds to the variability in the company's recorded reserves.

#### RISK OF MATERIAL ADVERSE DEVIATION

The actuary is required to make a clear statement within the SAO as to whether or not there are significant risks or uncertainties that could result in material adverse deviation. That determination is based on the major risk factors identified by the actuary, the actuary's professional opinion of the variability inherent in the unpaid claim estimates and the actuary's materiality standard.

In the case of Fictitious, Smith concludes that there are significant risks that could result in the net reserve amount deviating adversely from that recorded by the company by a material amount. This conclusion was determined in part quantitatively, by comparing the distance between the company's net recorded loss and LAE reserve and the high end of Smith's range to his materiality standard.

As shown in the Smith's Actuarial Opinion Summary for the company, he has developed a range of reasonable unpaid loss and LAE claim estimates on a net of reinsurance basis of \$43

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<sup>112</sup> 2011 NAIC Annual Statement Instructions Property/Casualty, page 13.

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million to \$57 million with a point estimate of \$50 million. The distance between the company's recorded reserve of \$51.556 million and the high end of Smith's range is \$5.443 million. Smith's materiality standard is \$5.156 million, which is less than the distance between the high end of his range and the recorded reserve. This means that a deviation of \$5.156 million is reasonably expected by Smith, as it lies within his range relative to the recorded balance. The compilation of these figures is shown in Table 57.

TABLE 57

	WS Actuarial Consulting			Fictitious Carried	Carried + Materiality Standard
	<u>Low</u>	<u>Point</u>	<u>High</u>		
Reserve estimates	43,000	50,000	57,000	51,557	56,713

Stated differently, Smith reasonably expects that the company's carried reserve could deviate by an amount equal to the materiality standard since the carried reserve plus the materiality standard lies within his range of reasonable unpaid claim estimates. The results of his quantitative analysis, coupled with his knowledge of the significant risks and uncertainties inherent in the company's reserves, lead Smith to conclude that there are significant risks and uncertainties that could result in material adverse deviation in the recorded reserves.

It is important to note that there is no requirement for an actuary to provide a range. And even when a range is provided, the actuary may believe there are significant risks and uncertainties that could result in material adverse deviation despite the results of the calculation described above. For example, a company might have a significant portion of its gross loss and LAE reserves ceded to a reinsurer of relatively weak financial strength. In this case, the carried net reserve plus materiality standard might exceed the high end of the actuary's range (assuming all reinsurance was considered valid and collectible in determining the range). However, the risk that the company may not be able to recover a portion of its gross reserves due to the financial strength of one of its reinsurers may be considered significant by the actuary, and lead him/her to conclude the carried net reserves could deviate adversely by a material amount. Therefore, both qualitative and quantitative considerations should be considered in determining whether there are significant risks that could result in material adverse deviation.

## REMAINING RELEVANT COMMENTS

The remaining relevant comments in Smith's opinion speak to the disclosure items in Exhibit B, addressing the fact that the company anticipates salvage and subrogation in its reserves totaling \$1.363 million and discounts its reserves for certain workers' compensation and other liability claims on a tabular basis, the amount of which totals \$1.365 million.

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According to Smith, the company does not have claims-made extended reporting endorsement loss and expense reserves, participate in any underwriting pools or associations or write material amounts of long-duration policies.

As noted, retroactive and financial reinsurance is addressed in the relevant comments section. The liability for the one retroactive reinsurance assumed contract that the company has is deemed immaterial to Smith.

Finally, Smith has disclosed in his opinion that IRIS ratios 11, 12 and 13 did not produce unusual values for the company. We have confirmed this statement in our recalculation of Fictitious' IRIS ratios in Appendix I of this publication.

SIGNATURE OF THE APPOINTED ACTUARY

The SAO closes with an affirmative statement that an actuarial report supporting the SAO will be provided to the company and retained for a period of seven years at its administrative offices and will be made available for regulatory examination, if requested.

The SAO is signed and dated by the actuary for delivery along with the Annual Statement by March 1 of the year following the Annual Statement date (December 31). Note that some states require an original signature on each signed opinion, as opposed to a photocopy. The signature line includes the actuary's address (both postal and email).

Smith signed the opinion on February 24, 2012.



## CHAPTER 17. ACTUARIAL OPINION SUMMARY SUPPLEMENT

### OVERVIEW

The Actuarial Opinion Summary Supplement (AOS) is required to be filed by the company with its domiciliary state by March 15 of the year following the Annual Statement date (December 31). This is a confidential document containing the appointed actuary's range of unpaid claim estimates and/or point estimate, as calculated by the actuary, in comparison to the company's recorded reserves on a net and gross of reinsurance basis. Due to its confidential nature, it is filed separately from the public Annual Statement document, which is due on March 1.

Non-domiciliary states that provide evidence of the ability to preserve the confidential nature of the document may request a copy.

The AOS also provides a statement regarding whether the company has experienced one-year adverse development in excess of 5% of surplus in three or more of the past five years. The amount of adverse development is computed in Schedule P, Part 2, Summary, and is also provided in the one year development line of the Five-Year Historical Data exhibit within the Annual Statement. If the company has experienced adverse development in excess of 5% of surplus in three or more of the past five years, an explanatory paragraph is required so that the regulator can determine what additional review, if any, is required.

Prior to 2011, the actuary had the choice of providing his or her range, point estimate, or both, regardless of whether the actuary calculated both. In 2011, the instructions changed, requiring the actuary to include the point estimate and range, if both are calculated. If only one is calculated, the actuary would need only to provide one.

Because the AOS document is confidential, it is not available for public review, unlike the Statement of Actuarial Opinion (SAO). As a result, the student will not be able to find the AOS for the companies listed on the Casualty Actuarial Society *Syllabus of Basic Education*. However, we created an AOS for Fictitious Insurance Company, which is provided in Appendix I of this publication and should be read side by side with this chapter of the publication.

Like the SAO, the AOS is signed and dated by the actuary. In the case of Fictitious, this is Mr. William H. Smith. As we see in items A and B, Smith has produced a range and point estimate in his independent analysis of unpaid claims supporting the SAO. Items A and B include his range and point estimate on a net and gross of reinsurance basis, as displayed in Table 58.

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TABLE 58

	<u>Net Reserves (USD in 000s)</u>			<u>Gross Reserves (USD in 000s)</u>		
	<u>Low</u>	<u>Point</u>	<u>High</u>	<u>Low</u>	<u>Point</u>	<u>High</u>
A. Actuary's range of reserve estimates	43,000		57,000	52,000		68,000
B. Actuary's point estimate		50,000			60,000	

Item C provides the company's carried loss and loss adjustment expense (LAE) reserves on which the actuary has based his opinion. Item D highlights the company's position within the actuary's range by showing the difference between the carried loss and LAE reserves and the actuary's range and point estimate. In Table 59 we see that Fictitious' recorded reserves lie above Smith's point estimate.

TABLE 59

	<u>Net Reserves (USD in 000s)</u>			<u>Gross Reserves (USD in 000s)</u>		
	<u>Low</u>	<u>Point</u>	<u>High</u>	<u>Low</u>	<u>Point</u>	<u>High</u>
C. Company carried reserves		51,557			61,699	
D. Difference between Company carried and Actuary's estimate (C. - A. and C. - B., if applicable)	8,557	1,557	(5,443)	9,699	1,699	(6,301)

It is not surprising that Fictitious' recorded reserves lie within the high end of the actuary's range given that the Fictitious' recorded loss and LAE reserves have developed favorably over time. This favorable development is seen in the one-year development line of the Five-Year Historical Data exhibit within Fictitious' 2011 Annual Statement. At the risk of being repetitious (see Table 13), we show the one-year development line again in Table 60.

TABLE 60

<b>Data from Fictitious Insurance Company 2011 Five-Year Historical Data</b>					
	<u>2011</u>	<u>2010</u>	<u>2009</u>	<u>2008</u>	<u>2007</u>
73. Development in estimated losses and loss expenses incurred prior to current year (Schedule P, Part 2 – Summary, Line 12, Column 11); <i>USD in 000s</i>	(875)	(1,354)	(1,618)	(1,935)	(1,918)
74. Percent of development of losses and loss expenses incurred to policyholders' surplus of prior year end (Line 73 divided by Page 4, Line 21, Column 1 x 100)	(2.8)	(3.8)	(5.0)	(5.6)	(2.6)

While the AOS only displays the company's current position within the actuary's range, the AOS Instructions require that the actuary state whether the company has experienced one-

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year adverse development in excess of 5% of surplus in three or more of the past five years. This and an explanation are provided in Item E of the AOS. The information contained in Item E enables the regulator to obtain an understanding of why the company's recorded reserves continue to show adverse development over time. The concern, of course, is whether the company is consistently understating reserves and therefore overstating surplus. Depending on the result, the information provided in Item E could trigger additional regulatory review in assessing the company's financial health. As shown in Table 60, Fictitious' loss and LAE reserves have developed favorably in each of the past five years. As a result, Smith has responded with the following in Item E of his AOS:

- E. The Company has not had 1-year adverse development in excess of 5% of surplus in at least three of the last five calendar years, as measured by Schedule P, Part 2 Summary, and disclosed in the Five-Year Historical Data, on line 74, of the Company's December 31, 2011 statutory-basis Annual Statement.

In those cases where there has been adverse development in excess of 5% of surplus in three or more of the last five years, we have seen explanations in Item E vary from providing vague detail to very specific reasons for the changes. The more detail that can be provided as to the root cause, the easier time the regulator will have in his or her review.

To illustrate we have provided sample wording in the 2011 AOS of a fictional company that experienced one-year development in excess of 5% of surplus during 2008 through 2010:

The company had one-year adverse development in excess of 5% of statutory surplus in three of the past five years. The exceptional values occurred in years 2008 through 2010. The exceptional values resulted from a strengthening in loss reserves made by management to reflect unexpected trends in asbestos and environmental claims on excess liability policies written by the company from 1968 to 1986.

These trends include increased likelihood of exposure to higher-layer policies as a result of greater than expected emergence of reported claims on underlying policies, and efforts by insureds to expand coverage periods and expose additional policies.

It should be noted that in 2011 the company entered into a retroactive reinsurance agreement whereby 100% of this run-off business is ceded to an unaffiliated reinsurance company. Going forward, this reinsurance agreement will mitigate the impact of adverse development of loss reserves on the company's statutory surplus.

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The regulator reading the above will determine whether additional steps are necessary to understand the cause of the adverse development and impact on the company's financial health. While the regulator may gain comfort that the company's balance sheet is protected against future adverse development as a result of the new reinsurance agreement, we expect that the regulator would want to understand the impact of such development on the financial health of the company's unaffiliated reinsurer.

## CHAPTER 18. INSURANCE EXPENSE EXHIBIT

### OVERVIEW

As discussed in *Chapter 4. Primary Financial Statements*, the Statement of Income within the Annual Statement provides a view of an insurance company's profitability over the past year on a net of reinsurance basis, but only on an aggregate level for all lines of business combined. The Insurance Expense Exhibit (IEE) enables a deeper review of an insurance company's profitability by showing the components of statutory profit (loss) by line of business on a direct and net of reinsurance basis.

The IEE is required to be filed by April 1 of the year following the Annual Statement date (December 31). It contains three parts plus interrogatories. Part I provides an allocation of the other underwriting expense category within Part 3, Expenses, of the Underwriting and Investment Exhibit (U&IE) of the Annual Statement. Parts II and III allocate pretax profit by line of business, on a net and direct written basis, respectively. All dollars are shown in thousands within the IEE, either by rounding or truncating.

The uses of the IEE are numerous. The following provides some examples:

- ▶ Regulators use the IEE as a means for monitoring financial health. Changes or historical trends in an insurance company's profitability at the line of business level may put a strain on the company's surplus in total, thereby threatening solvency.
- ▶ Regulators also use the IEE as a means to monitor rate adequacy. Inadequate rates also threaten an insurance company's financial health. Conversely, excessive rates are also a concern to the regulator as they are unfair to the consumer.
- ▶ Stakeholders in general use the IEE as a means to identify those lines of business that have performed profitably and those that have not in order to make informed business decisions, such as where to deploy capital and/or where the company should grow.
- ▶ An investor might look at the IEE in light of the company's future growth plans to make decisions as to how much to invest in the company. Growth into unprofitable lines might lead the investor to reduce his or her level of investment in the company.
- ▶ Actuaries use the IEE as a publicly available source of premium, loss and expense data for benchmarking company performance by line of business.

As we shall see, there are cautions to using the IEE as described above, and we have presented several within this chapter.

Throughout our discussion of the IEE, we will continue to use Fictitious Insurance Company in our examples.

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PART I – ALLOCATION TO EXPENSE GROUPS

The National Association of Insurance Commissioners (NAIC) instructions to the Property/Casualty Annual Statement provide directions for classifying expenses to the 22 operating expense categories provided in Part 3, Expenses, of the U&IE within the Annual Statement. The instructions provide uniformity in classification of expenses among property/casualty insurance companies.

The 22 operating expense categories are as follows, by line number per the U&IE, Part 3, Expenses:

1. Claims adjustment services
2. Commission and brokerage
3. Allowances to managers and agents
4. Advertising
5. Boards, bureaus and associations
6. Surveys and underwriting reports
7. Audit of assureds' records
8. Salary and related items
9. Employee relations and welfare
10. Insurance
11. Directors' fees
12. Travel and travel items
13. Rent and rent items
14. Equipment
15. Cost or depreciation of Electronic Data Processing (EDP) equipment and software
16. Printing and stationery
17. Postage, telephone and telegraph, exchange and expenses
18. Legal and auditing
20. Taxes, licenses and fees
21. Real estate expenses
22. Real estate taxes
24. Miscellaneous

Amounts for the above operating expenses are each allocated into the following three categories (column headings) within the U&IE:

1. Loss Adjustment Expenses
2. Other Underwriting Expenses
3. Investment Expenses

Part 1 of the IEE further allocates other underwriting expenses into the following three components (column headings):

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1. Acquisition, Field Supervision and Collection Expenses
2. General Expenses
3. Taxes, Licenses and Fees

The allocation of other underwriting expenses from the U&IE, Part 3, Expenses, into Part I of the IEE is as follows:

- ▶ All commission and brokerage expenses from line 2 of U&IE, Part 3 should be allocated to acquisition, field supervision and collection expenses in column 2 of Part I of the IEE.
- ▶ All taxes, licenses and fees from line 20 of U&IE, Part 3 should be allocated to taxes, licenses and fees in column 4 of Part I of the IEE.
- ▶ The remaining operating expenses from lines 3 through 18 of the IEE can be allocated to acquisition, field supervision and collection expenses in column 2 or general expenses in column 3 of Part I of the IEE, as applicable.

Part 1 of the IEE looks like Part 3, Expenses, of the U&IE within the Annual Statement, except:

1. There are three columns under the other underwriting expenses heading, rather than one in total.
2. The operating expense classification line items end with line 25, total expenses incurred, and therefore do not include amounts unpaid, amounts relating to uninsured plans or total expenses paid (lines 26 through 30 of U&IE, Part 3).
3. Amounts are reported in thousands of dollars in the IEE rather than in whole dollars as in the U&IE.

The totals in column 4 of the U&IE, Part 3, line 25 should equal the totals in column 6 of Part I of the IEE multiplied by 1,000.

Table 61 provides the other underwriting expenses column from Part 3, Expenses, of the U&IE from Fictitious' 2011 Annual Statement, with the allocation to acquisition, field supervision and collection expenses, general expenses, and taxes licenses and fees, as in Part I of the company's 2011 IEE.

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TABLE 61

	Annual Statement	Insurance Expense Exhibit		
	Underwriting and Investment Exhibit	Other Underwriting Expenses (USD in 000s)		
	Part 3 - Expenses	Part 1 - Allocation to Expense Groups		
	Column 2	Column 2	Column 3	Column 4
Operating Expense Classifications	Other Underwriting Expenses	Acquisition, Field Supervision and Collection Expenses	General Expenses	Taxes, Licenses and Fees
2. Commission and brokerage				
2.1 Direct excluding contingent	4,759,000	4,759		
2.2 Reinsurance assumed, excluding contingent	-	-		
2.3 Reinsurance ceded, excluding contingent	816,000	816		
2.4 Contingent - direct	121,000	121		
2.5 Contingent - reinsurance assumed	-	-		
2.6 Contingent - reinsurance ceded	9,000	9		
2.7 Policy and membership fees	-	-		
2.8 Net commission and brokerage (2.1 + 2.2 - 2.3 + 2.4 + 2.5 - 2.6 + 2.7)	4,055,000	4,055	-	-
3. Allowances to manager and agents	4,000	1	3	
4. Advertising	208,000	75	133	
5. Boards, bureaus and associations	106,000	38	68	
6. Surveys and underwriting reports	99,000	36	63	
7. Audit of assureds' records	-	-	-	
8. Salary and related items:				
8.1 Salaries	1,845,000	664	1,181	
8.2 Payroll taxes	115,000	41	74	
9. Employee relations and welfare	293,000	105	188	
10. Insurance	23,000	8	15	
11. Directors' fees	-	-	-	
12. Travel and travel items	95,000	34	61	
13. Rent and rent items	133,000	48	85	
14. Equipment	42,000	15	27	
15. Cost or depreciation of EDP equipment and software	330,000	119	211	
16. Printing and stationery	19,000	7	12	
17. Postage, telephone and telegraph, exchange and express	112,000	40	72	
18. Legal and auditing	14,000	5	9	
19. Totals (Lines 3 to 18)	3,438,000	1,236	2,202	-
20. Taxes, licenses and fees:				
20.1 State and local insurance taxes deducting guaranty association credits of \$1,103	791,000			791
20.2 Insurance department licenses and fees	53,000			53
20.3 Gross guaranty association assessments	(2,000)			(2)
20.4 All other (excluding federal and foreign income and real estate)	18,000			18
20.5 Total taxes, licenses and fees (20.1 + 20.2 + 20.3 + 20.4)	860,000	-	-	860
21. Real estate expenses	-			
22. Real estate taxes	-			
23. Reimbursements by uninsured plans	-			
24. Aggregate write-ins for miscellaneous expenses	130,000	47	83	
25. Total expenses incurred	8,483,000	5,338	2,285	860



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PART II – ALLOCATION TO LINES OF BUSINESS NET OF REINSURANCE

Part II provides the components of total profit (loss) on a pretax basis, net of reinsurance, and additional information needed to calculate net profit (loss) for the line of business segments used in the U&IE of the Annual Statement. The line of business segments differ slightly from the U&IE in the following ways:

- ▶ Allied lines are broken down into further components in the IEE as:
  - 2.1 Allied lines
  - 2.2 Multiple peril crop
  - 2.3 Federal flood
- ▶ Commercial multiple peril is broken down into further components in the IEE as:
  - 5.1 Commercial multiple peril (non-liability portion)
  - 5.2 Commercial multiple peril (liability portion)
- ▶ Medical professional liability occurrence and claims-made lines are combined in the IEE into line 11, as are the corresponding product liability lines into line 18.
- ▶ Auto physical damage is broken down into further segments in the IEE as:
  - 21.1 Private passenger auto physical damage
  - 21.2 Commercial auto physical damage
- ▶ Reinsurance lines 31 through 33 are summed in the IEE.

Line 35 of the IEE provides the totals for all lines of business in lines 1 through 34.

Similar to the U&IE, the line of business segments are displayed in the first column of the IEE, with the components of profit (loss) and additional items in the remaining columns, providing the amounts (or percentages) for each line of business. These components and additional items are as follows:

- ▶ Net premiums written
- ▶ Net premiums earned
- ▶ Dividends to policyholders
- ▶ Incurred:
  - ▶ Loss
  - ▶ Defense and cost containment (DCC)
  - ▶ Adjusting and other (A&O) expenses
- ▶ Unpaid:
  - ▶ Loss
  - ▶ DCC
  - ▶ A&O expenses

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- ▶ Unearned premium reserves
- ▶ Agents' balances
- ▶ Other underwriting expenses:
  - ▶ Commission and brokerage expenses incurred
  - ▶ Taxes, licenses and fees incurred
  - ▶ Other acquisitions, field supervision and collection expenses incurred
  - ▶ General expenses incurred
- ▶ Other income less other expenses
- ▶ Pre-tax profit or loss excluding all investment gain
- ▶ Investment gain on funds attributable to insurance transactions
- ▶ Profit or loss excluding investment gain attributable to capital and surplus
- ▶ Investment gain attributable to capital and surplus

The above items are organized in two columns: the first containing the dollar amount and the second providing the ratio of the dollar amount to premiums earned. There are 42 columns: 21 provide dollar amounts (odd-numbered columns) and 21 provide percentages to earned premium (even-numbered columns).

Total profit (loss) is calculated using the same components as in the Statement of Income, with the exception that the IEE is on a pretax basis. *Most* of the aforementioned components used to compute pretax profit (loss) either reconcile directly to exhibits within the Annual Statement, or are reasonably straightforward for companies to compute.<sup>113</sup> However, the calculation of investment gain is not straightforward, as the allocation of investment gain by line of business is not intuitive.

We will discuss the computation of each component (odd-numbered columns), reconciling to Annual Statement exhibits, and provide example(s) as to how to calculate investment gain. We will not address the even-numbered columns, other than to say that they represent the ratio of the dollar amount to net earned premium, on a line-by-line basis.

There are numerous ways to estimate profit by line of business; the approach used by the NAIC for the IEE is only one of them. The NAIC approach is a retrospective one. It allocates total profit that has emerged rather than providing an estimate of future profit, as is used in pricing insurance policies.

Further, the allocation of surplus by line of business does not consider how much surplus is needed to support the line, as is the intention in pricing insurance policies and capital

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<sup>113</sup> According to page 419 of the *2011 NAIC Annual Statement Instructions Property/Casualty*, "In instances where the reporting entity cannot allocate amounts to lines of business by direct and accurate allocation, the methods of allocation stated in the Uniform Classification of Expenses found in the Appendix of the *NAIC Annual Statement Instructions* must be used. Where the instructions do not define means of allocation, a reasonable method of allocation must be applied and disclosed in Interrogatory 4."

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modeling. Rather, as we shall see, the entire amount of surplus is allocated by line based on the level of the company's reserves (loss and unearned premium) and earned premium, which do not necessarily measure the inherent risk of a particular line of business. Good examples are catastrophe-exposed short-tailed lines, such as homeowners. In non-catastrophe years, the reserves for these lines may be relatively small because claims are reported and paid out relatively quickly when compared to longer-tailed casualty lines. However, as the property/casualty insurance industry observed in 2011, this short-tailed line of business is exposed to considerable risk. We shall see this in our examples for Fictitious. Therefore, caution should be made when reviewing and placing reliance on the results of the IEE calculations of surplus and profit by line of business for pricing or capital allocation purposes.

*Columns 1 through 32*

The following components or items within Part II reconcile directly to the U&IE within the Annual Statement by line of business as follows:

TABLE 62

IEE Part II		Reconciles to	U&IE		
Column Number	Heading		Part	Heading	Column Number
1	Premiums Written	----->	1B	Net Premiums Written	6
3	Premiums Earned	----->	1	Premiums Earned During Year	4
7	Incurred Loss	----->	2	Losses Incurred Current Year	7
13	Unpaid Losses	----->	2A	Net Losses Unpaid	8
19	Unearned Premium Reserves	----->	1A	Total Reserve for Unearned premiums	5

Dividends to policyholders in column 5 reconcile in total to the amount in the Statement of Income of the Annual Statement, line 17. The allocation by line of business is based on the policies eligible and receiving dividends or on a company's formulaic determination if the line of business per the policy does not correspond directly to a line of business in the Annual Statement.<sup>114</sup>

Loss adjustment expense (LAE), provided separately for DCC and A&O expenses incurred and unpaid, in columns 9, 11, 15 and 17 of the IEE, cannot be found within the Annual Statement for the line of business breakdowns required in the IEE. However, insurance companies track expenses by line of business and therefore know which expenses are allocated to which lines. In total, the LAE incurred amounts in columns 9 plus 11 reconcile to the Statement of Income, line 3, column 1 (current year) and Part 3 of the U&IE, line 25, column 1. The LAE unpaid

<sup>114</sup> Feldblum, S., "The Insurance Expense Exhibit and the Allocation of Investment Income" (Fifth Edition), CAS Study Note, May 1997, page 32.

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amounts reconcile to page 3 of the Annual Statement, line 3, column 1 (current year) and Part 2A of the U&IE, line 35, column 9.

Like policyholder dividends, insurance companies know which lines agents' balances stem from and therefore can allocate the amounts directly in column 21. The amounts should agree to balances included within lines 15.1 plus 15.2, column 3 of the Assets page of the Annual Statement.

Other underwriting expenses in columns 23, 25, 27 and 29 reconcile directly to Part I of the IEE.

Other income less other expenses in column 31 of the IEE reconciles in total to line 15 minus line 5 of the Statement of Income. Line 15 of the Statement of Income provides total other income incurred, and line 5 provides aggregate write-ins for underwriting deductions. The allocation by line is performed directly by accumulating the sources of other income and underwriting deductions on specific policies and mapping the income/deductions by policy to the Annual Statement lines of business.

*Calculation of Pretax Profit or Loss Excluding All Investment Gain (Column 33)*

Column 33 provides pretax profit (loss) excluding all investment gains and is calculated from the information contained in the previous columns of Part II of the IEE as follows:

Pretax profit (loss) excluding all investment gains =

- Premiums earned (column 3)
- Dividends to policyholders (column 5)
- Incurred loss (column 7)
- DCC expenses incurred (column 9)
- A&O expenses incurred (column 11)
- Commission and brokerage expenses incurred (column 23)
- Taxes, licenses and fees incurred (column 25)
- Other acquisitions, field supervision and collection expenses incurred (column 27)
- General expenses incurred (column 29)
- + Other income less other expenses (column 31).

Simply put, pretax profit equals inflows of earned revenue minus outflows of incurred expenses.

The total amount in column 33 reconciles to line 18 (net income after dividends to policyholders, after capital gains tax and before all other federal and foreign income taxes) *minus* line 11 (net investment gain (loss)) of the Statement of Income.

Table 63 demonstrates the calculation of column 33 of Part II of the IEE *in total* and shows the reconciliation to the Statement of Income within the Annual Statement for Fictitious in

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2011. Recall that figures in the IEE are provided in thousands; any differences from the Statement of Income are due to rounding errors.

TABLE 63

Data from Fictitious Insurance Company 2011 IEE (USD in 000s) for All Lines of Business			
Column Number	IEE Part II Column Heading	Total Line 35	Statement of Income Reference
3	Premiums Earned	26,512	Line 1
5	Dividends to Policyholders	46	Line 17
7	Incurred Loss	16,907	Line 2
9	Defense and Cost Containment Expenses Incurred	1,671	
11	<u>Adjusting and Other Expenses Incurred</u>	<u>1,585</u>	
	Subtotal Loss Adjustment Expenses Incurred	3,256	Line 3
23	Commissions and Brokerage Expenses Incurred	4,055	
25	Taxes, Licenses and Fees Incurred	860	
	Other Acquisitions, Field Supervision and Collection Expenses Incurred	1,283	
29	<u>General Expenses Incurred</u>	<u>2,285</u>	
	Subtotal Other Underwriting Expenses Incurred	8,483	Line 4
31	<u>Other Income Less Other Expenses</u>	<u>33</u>	Line 15 minus Line 5
33	Pre-Tax Profit or Loss Excluding All Investment Gain	(2,147)	= Line 1 - Lines 17, 2, 3, 4 + Line 15

As displayed in Table 63, Fictitious operated at a pretax loss (before any gains or losses from investments) of \$2.1 million in 2011, most of which was due to underwriting (underwriting loss totaled \$2.1 million as per line 8 of the Statement of Income). Net incurred loss and LAE during 2011 was \$4.4 million higher than that incurred in 2010, with less than \$1 million more in net earned premium. As previously explained, this was due to the high frequency of catastrophe losses incurred by Fictitious in 2011.

Of the \$2.1 million pretax loss (before investment gain), \$1.2 million stems from the homeowners of business. Homeowners is the largest line of business written by the company in terms of net written premium volume (\$4.6 million per column 1 of the IEE, Part II). Further, the homeowners line was hit hardest by the unprecedented catastrophe losses in 2011. Given its significance to the 2011 results, we will use homeowners as the line of business example for computing total profit or loss for Fictitious.

The remaining columns, columns 35 through 41, are determined formulaically and are the crux of Part II of the IEE.

### *Overview of the Calculation of Total Profit or Loss (Column 41)*

Column 41 provides total profit (loss) on a pretax basis to an insurance company for each line of business. It is computed by taking pretax profit (loss) *before* any investment gain and adding investment gains.

Column 41 of the IEE is equal to net income as calculated in the Statement of Income within the Annual Statement, except all amounts in the IEE are gross of taxes. Column 41 reconciles

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to line 18 (net income after dividends to policyholders, after capital gains tax and before all other federal and foreign income taxes) *plus* the amount of capital gains tax provided in line 10 (Net realized capital gains (losses) less capital gains tax) of the Statement of Income. Capital gains taxes are added back to the calculation simply because total profit is shown on a pretax basis.

Table 64 demonstrates the calculation of column 41 of Part II of the IEE *in total* and shows the reconciliation to the Statement of Income within the Annual Statement for Fictitious in 2011.

TABLE 64

Data from Fictitious Insurance Company 2011 IEE (USD in 000s) for All Lines of Business			
Column Number	IEE Part II Column Heading	Total Line 35	Statement of Income Reference
33	Pre-tax Profit or Loss Excluding All Investment Gain	(2,147)	= Line 1 - Lines 17, 2, 3, 4 + Line 15
35	Investment Gain on Funds Attributable to Insurance Transactions	2,663	
39	Investment Gain Attributable to Capital and Surplus	1,741	
	Subtotal Net Investment Gain (Loss) Before Capital Gains Tax	4,404	Line 11 + Capital Gains Tax of \$99 per Line 10
41	Total Profit or Loss	2,257	Line 18 + Capital Gains Tax of \$99 per Line 10

As displayed in Table 64, investment income net of expenses (\$4.4 million) more than offset the Fictitious' underwriting loss in 2011.

The same formula is used to calculate total profit or loss (column 41) for each line of business. The tricky part, of course, is how to allocate investment gain (loss) by line of business and between funds attributable to insurance transactions versus those attributable to capital and surplus. The following provides an overview of the allocation procedure, with details in the subsequent sections.

The first step of the calculation is to determine the ratio of net investment gain (loss) to total investable assets then apply that ratio to investable assets by line of business. This calculation provides net investment gain (loss) by line. The ratio of net investment gain (loss) to total investable assets is called the net investment gain ratio.

The second step is to apply the net investment gain ratio to funds attributable to insurance transactions by line of business. This calculation provides investment gain on funds attributable to insurance transactions in column 35.

Investment gain attributable to capital and surplus in column 39 is computed as the difference between net investment gain (loss) and investment gain on funds attributable to insurance transactions in column 35. Formulaically, for each line of business,

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Investment gain attributable to capital and surplus (column 39) =

$$\begin{aligned} & \text{Net investment gain (loss)}^{115} \\ & - \text{Investment gain on funds attributable to insurance transactions (column 35).} \end{aligned}$$

As indicated, both of the inputs in the calculation of investment gain attributable to capital and surplus (column 39) are determined by applying the ratio of net investment gain (loss) to total investable assets for all lines of business to the applicable investable funds (either in total or attributable to insurance transactions) associated with the particular line of business.

*Net Investment Gain Ratio*

The net investment gain ratio is the ratio of net investment gain (loss) to total investable assets. Total investable assets equal the sum of net loss and LAE reserves, net unearned premium reserves, ceded reinsurance payable and policyholders' surplus, minus agents' balances. These amounts are intended to be a proxy for investable assets as they are amounts that are available for investment by the insurance company.<sup>116</sup> Agents' balances are subtracted in the formula because they are not investable assets.

In the calculation of total investable assets, the mean of the aforementioned amounts are used (i.e., average of the prior year and current year) because investment income during the year is earned on reserves and surplus throughout the year, rather than a fixed point in time.

Formulaically, the net investment gain ratio is calculated as follows, for all lines of business in total:

Net investment gain ratio =

$$\frac{\text{Net investment gain (loss)}}{\text{Total investable assets}}$$

where,

Total investable assets =

$$\begin{aligned} & \text{Mean net loss and LAE reserves} \\ & + \text{Mean net unearned premium reserves} \\ & + \text{Mean ceded reinsurance premiums payable} \\ & + \text{Mean policyholders' surplus} \\ & - \text{Mean agents' balances.} \end{aligned}$$

<sup>115</sup> The calculation of net investment gain (loss) is provided in subsequent paragraphs below.

<sup>116</sup> Going back to basics, assets minus liabilities equals surplus. Or equivalently, assets equals liabilities plus surplus. Reserves and ceded reinsurance payables are liabilities that the insurance carrier must hold. As with surplus, the company can invest these liabilities. They are therefore used in the calculation to represent investable assets.

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Table 65 demonstrates the calculation of the net investment gain ratio based on 2011 Annual Statement data for Fictitious.

TABLE 65

Data from Fictitious Insurance Company 2011 IEE and Annual Statement (USD in 000s)					
<u>All Lines of Business</u>	<u>2011 Current Year</u>	<u>2010 Prior Year</u>	<u>Mean</u>	<u>2011 IEE Part II Total, Line 35</u>	<u>Annual Statement</u>
(1) Net Investment Gain Ratio	5.0%				= (2) current year divided by (3) mean
(2) Net Investment Gain (loss) before Capital Gains Tax	4,404				Statement of Income Page 4, Line 11 plus Capital Gains Tax of \$99 per Line 10
(3) Investable Assets	87,744	87,186	87,465		= (4) + (5) + (6) + (7) + (8) - (9)
(4) Net Loss Reserve	41,894	40,933	41,414	Column (13)	U&IE, Part 2A, Total line, Column 8, divided by 1,000
(5) Net Loss Adjustment Expense Reserve	9,663	9,664	9,664	Column (15) + (17)	U&IE, Part 2A, Total line, Column 9, divided by 1,000
(6) Net Unearned Premium Reserve	11,895	11,557	11,726	Column (19)	U&IE, Part 1A, Total line 38, Column 4, divided by 1,000
(7) Policyholders' Surplus	31,024	31,608	31,316		Liabilities, Surplus and Other Funds, Page 3, Line 37, divided by 1,000
(8) Ceded Reinsurance Premiums Payable	440	608	524		Liabilities, Surplus and Other Funds, Page 3, Line 12, divided by 1,000
(9) Agents' Balances	7,172	7,184	7,178	Column (21)	Equals the portion of Assets Line 15.1 plus 15.2, divided by 1,000, for Agents' Balances

As displayed above, the 2011 investment gain ratio for Fictitious was 5%. This means the company earned 5% on its "investable assets" during 2011.

*Net Investment Gain (Loss) by Line of Business*

Net investment gain (loss) by line of business is determined as the investment gain ratio multiplied by total investable assets for that line of business.



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Net investment gain (loss) for a particular line of business =

Net investment gain ratio (for all lines)

\* Total investable assets for the line of business

where,

Total investable assets for the line of business =

Mean net loss and LAE reserves for the line of business

+ Mean net unearned premium reserves for the line of business

+ Mean ceded reinsurance premiums payable for the line of business

+ Mean policyholders' surplus for the line of business

- Mean agents' balances for the line of business.

Table 66 demonstrates the calculation of the net investment gain for the homeowners line of business based on 2011 Annual Statement and IEE data for Fictitious.

TABLE 66

Data from Fictitious Insurance Company 2011 IEE and Annual Statement (USD in 000s)					
<u>Line of Business: Homeowners Multiple Peril</u>	<u>2011 Current Year</u>	<u>2010 Prior Year</u>	<u>Mean</u>	<u>2011 IEE Part II Total, Line 35</u>	<u>Annual Statement (AS)</u>
(1) Investment Gain for Line of Business	232			Column (35)	= (3) Current Year * (3) Mean
(2) Net Investment Gain Ratio (all lines of business)	5.0%				Calculated in Table 65
(3) Investable Funds for Line of Business			4,603		= (4) + (5) + (6) + (7) - (8) + (9)
(4) Net Loss Reserve for Line of Business	1,311	1,161	1,236	Column (13)	U&IE, Part 2, Line 4, Columns 5 and 6, divided by 1,000
(5) Net Loss Adjustment Expense Reserve for Line of Business	144	170	157	Column (15) + (17)	U&IE, Part 2A, Line 4, Column 9, divided by 1,000; and prior year AS
(6) Net Unearned Premium Reserve for Line of Business	2,401	2,290	2,346	Column (19)	U&IE, Part 1A, Line 4, Column 5, divided by 1,000; and prior year AS
(7) Ceded Reinsurance Premiums Payable for Line of Business	21	3	12		Calculated in Table 67
(8) Agents' Balances for Line of Business	1,901	2,134	2,018	Column (21)	IEE, Column 21, line 4 provided in each of the 2011 and 2010 AS
(9) Surplus Allocable to Line of Business			2,869		Calculated in Table 69

As displayed in Table 66, \$232,000 of the company's total \$4.4 million in net investment gain during 2011 was allocated to the homeowners line using the NAIC's approach.

The net loss and LAE reserves, unearned premium reserves and agents' balances by line of business used in the above calculation come from columns 13, 15, 17, 19 and 21 of the IEE,

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current year and prior year, respectively. Ceded reinsurance premiums payable by line and policyholders' surplus by line, are calculated separately.

#### *Ceded Reinsurance Premiums Payable by Line of Business*

Ceded reinsurance premiums payable are allocated to line of business based on the distribution of ceded written premiums by line. Formulaically, the calculation is as follows:

Ceded reinsurance premiums payable for the line of business =

$$\frac{\text{Ceded written premiums for the line of business}}{\text{Total ceded written premiums}} * \text{Total ceded reinsurance premiums payable.}$$

Table 67 demonstrates the calculation of Fictitious' ceded reinsurance premiums payable for homeowners.

TABLE 67

Data from Fictitious Insurance Company 2010 and 2011 Annual Statement (USD in 000s)					
<u>Line of Business: Homeowners</u> <u>Multiple Peril</u>	<u>2011</u> <u>Current</u> <u>Year</u>	<u>2010</u> <u>Prior</u> <u>Year</u>	<u>Mean</u>	<u>2011 IEE</u> <u>Part II</u> <u>Total,</u> <u>Line 35</u>	<u>Annual Statement (AS)</u>
(1) Ceded Reinsurance Premiums Payable for Line of Business	21	3	12	N/A	= (4) * (5)
(2) Ceded Premiums Written for Line of Business	91	12		N/A	U&IE, Part 1B, Line 4, Columns 4 + 5, divided by 1,000; and prior year AS
(3) Ceded Premiums Written, Total	1,882	2,149		N/A	U&IE, Part 1B, Totals, Columns 4 + 5, divided by 1,000; and prior year AS
(4) Ratio of Ceded Premiums Written for Line of Business to Total	4.8%	0.6%		N/A	= (2) / (3)
(5) Ceded Reinsurance Premiums Payable, Total	440	608		N/A	Liabilities, Surplus and Other Funds, Page 3, Line 12, divided by 1,000

The mean ceded reinsurance payable for homeowners that was used in the calculation of Fictitious' total investable assets for homeowners was \$12 (dollars in thousands).

#### *Policyholders' Surplus by Line of Business*

The NAIC allocates surplus to line of business in proportion to the sum of net loss and LAE reserves, net unearned premium reserves and net earned premium. The mean values are used in the calculation of the balance sheet figures (reserves), while the current-year value is used for the income statement figure (net earned premium).

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The first step in the calculation is to compute the ratio of mean policyholders' surplus to the sum of mean net loss and LAE reserves, mean net unearned premium reserves and current year net earned premiums, in total for all lines combined. This ratio is called the *surplus ratio*.

Surplus ratio =

Mean policyholders' surplus in total *divided by*  
 [Mean net loss and LAE reserves in total  
 + Mean net unearned premium reserves in total  
 + Current year net earned premium in total].

Table 68 demonstrates the calculation of the 2011 surplus ratio for Fictitious.

TABLE 68

Data from Fictitious Insurance Company 2011 IEE and 2010 and 2011 Annual Statement (USD in 000s)					
<u>All Lines of Business</u>	2011 Current Year	2010 Prior Year	Mean	2011 IEE Part II Total, Line 35	<u>Annual Statement (AS)</u>
(1) Surplus Ratio	35.1%				= (2) / [Sum of means of (3) through (5) plus (6) for current year]
(2) Policyholders' Surplus	31,024	31,608	31,316		Liabilities, Surplus and Other Funds, Page 3, Line 37, Columns 1 and 2, respectively, divided by 1,000
(3) Net Loss Reserve	41,894	40,933	41,414	Column (13)	U&IE, Part 2A, Total line, Column 8, divided by 1,000; and prior year AS
(4) Net Loss Adjustment Expense Reserve	9,663	9,664	9,664	Column (15) + (17)	U&IE, Part 2A, Total line, Column 9, divided by 1,000; and prior year AS
(5) Net Unearned Premium Reserve	11,895	11,557	11,726	Column (19)	U&IE, Part 1A, Total line 38, Column 4, divided by 1,000; and prior year AS
(6) Net Earned Premium	26,512			Column (3)	U&IE, Part 1, Total line 35, Column 4, divided by 1,000

The surplus ratio for Fictitious was 35.1% in 2011.

The surplus ratio is then applied to the applicable mean balance sheet amounts and the income statement amount (earned premium) for the current year for the particular line of business to determine the amount of surplus allocated to that line.

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Surplus allocated to line of business =

Mean surplus ratio (for all lines) *multiplied by*  
 [Mean net loss and LAE reserves for the line of business  
 + Mean net unearned premium reserves for the line of business  
 + Current year net earned premium for the line of business].

Table 69 shows the application of the surplus ratio in determining the amount of surplus allocated to Fictitious' homeowners line of business.

TABLE 69

Data from Fictitious Insurance Company 2011 IEE and 2010 and 2011 Annual Statement (USD in 000s)					
<u>Line of Business: Homeowners Multiple Peril</u>	<u>2011 Current Year</u>	<u>2010 Prior Year</u>	<u>Mean</u>	<u>2011 IEE Part II Total, Line 35</u>	<u>Annual Statement (AS)</u>
(1) Surplus Allocable to Line of Business			2,869		= (2) * [ Sum of means of (3) through (5) plus (6) for current year]
(2) Surplus Ratio	35.1%				Calculated in Table 68
(3) Net Loss Reserve for Line of Business	1,311	1,161	1,236		U&IE, Part 2, Line 4, Columns 5 and 6, divided by 1,000
(4) Net Loss Adjustment Expense Reserve for Line of Business	144	170	157		U&IE, Part 2A, Line 4, Column 9, divided by 1,000; and prior year AS
(5) Net Unearned Premium Reserve for Line of Business	2,401	2,290	2,346		U&IE, Part 1A, Line 4, Column 5, divided by 1,000; and prior year AS
(6) Net Earned Premium for Line of Business	4,445			Column (3)	U&IE, Part 1, Line 4, Column 4, divided by 1,000

As displayed in Table 69, \$2.9 million of the Fictitious' total \$31 million in policyholders' surplus at year-end 2011 was allocated to the homeowners line using the NAIC's allocation approach. Stated differently, less than 10% of the company's policyholders' surplus was allocated to homeowners using the IEE allocation. This exemplifies the caution noted earlier in relying on this method for prospective pricing or even retrospective evaluation of profitability. Given the catastrophe risk inherent in this line of business, which is quite evident based on 2011 experience, one might expect more than 10% of the surplus to be allocated to this line. To provide some perspective, in 2011 we saw that homeowners contributed more than 50% of the company's underwriting loss. If the IEE allocation is used in pricing for Fictitious, the rates will be inadequate and could eventually result in the insolvency of Fictitious.

*Investment Gain by Line of Business Attributable to Insurance Transactions*

Investment gain attributable to insurance transactions is allocated to line of business by applying the net investment gain ratio to funds attributable to insurance transactions for the particular line. Funds attributable to insurance transactions for a particular line are equal to

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the sum of mean net loss and LAE reserves, mean net unearned premium reserves and mean ceded reinsurance premiums payable for that line, reduced by agents' balances and the portion of prepaid expenses in the unearned premium reserves.

Funds attributable to insurance transactions for the line of business =

- Mean net loss and LAE reserves for the line of business
- + Mean net unearned premium reserves for the line of business
- + Mean ceded reinsurance premiums payable for the line of business
- Mean agents' balances for the line of business
- Prepaid expenses in the unearned premium reserves.

The elements that go into the calculation of funds attributable to insurance transactions differ from total investable funds in two ways. First, mean policyholders' surplus is not included in the calculation of funds attributable to insurance transactions. This is because here the focus is on funds attributed to insurance transactions and not to capital and surplus. Second, prepaid expenses in the unearned premium reserves are not included in the calculation because they are not an investable asset; they have already been expensed. These expenses were not explicitly removed in the calculation of total investable funds because they are already out of policyholders' surplus, which is a component of the calculation.

Table 70 provides the calculation of investment gain attributable to insurance transactions for Fictitious' homeowners line.

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TABLE 70

Data from Fictitious Insurance Company 2011 IEE and 2010 and 2011 Annual Statement (USD in 000s)					
<u>Line of Business: Homeowners</u> <u>Multiple Peril</u>	2011 Current Year	2010 Prior Year	Mean	2011 IEE Part II Total, Line 35 Column (35)	Annual Statement (AS) = (2) Current Year * (3) Mean
(1) Investment Gain on Funds Attributable to Insurance Transactions for Line of Business	53				
(2) Net Investment Gain Ratio (all lines of business)	5.0%				Calculated in Table 66
(3) Funds Attributable to Insurance Transactions for Line of Business	1,283	829	1,056		= (4) + (5) + (6) + (7) - (9) - [(6) * (8)]
(4) Net Loss Reserve for Line of Business	1,311	1,161	1,236	Column (13)	U&IE, Part 2, Line 4, Columns 5 and 6, divided by 1,000
(5) Net Loss Adjustment Expense Reserve for Line of Business	144	170	157	Column (15) + (17)	U&IE, Part 2A, Line 4, Column 9, divided by 1,000; and prior year AS
(6) Net Unearned Premium Reserve for Line of Business	2,401	2,290	2,346	Column (19)	U&IE, Part 1A, Line 4, Column 5, divided by 1,000; and prior year AS
(7) Ceded Reinsurance Premiums Payable for Line of Business	21	3	12		Calculated in Table 67
(8) Prepaid Expense Ratio	29%				Calculated in Table 71
(9) Agents' Balances for Line of Business	1,901	2,134	2,018	Column (21)	

As displayed in Table 70, \$53,000 of the company's total \$232,000 in net investment gain on the homeowners line was attributed to gains on insurance transactions using the NAIC approach.

*Prepaid Expense Ratio*

The ratio that is used to determine the amount of unearned premium reserves representing prepaid expenses is calculated for each line of business separately. It is the ratio of net acquisition expenses to net written premiums (column 1). Net acquisition expenses are calculated as the sum of commissions and brokerage expenses incurred (column 23); taxes, licenses and fees incurred (column 25); other acquisition, field supervisions and collection expenses incurred (column 27); and half of the general expenses incurred (50% of column 29).

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The prepaid expense ratio for homeowners is calculated for Fictitious in Table 71.

TABLE 71

Data from Fictitious Insurance Company 2011 IEE and 2010 and 2011 Annual Statement (USD in 000s)					
<u>Line of Business: Homeowners</u> <u>Multiple Peril</u>	2011 Current Year	2010 Prior Year	Mean	2011 IEE Part II Total, Line 4	Annual Statement
(1) Prepaid Expense Ratio	29%				= (2) / (7)
(2) Net Acquisition Expenses for Line of Business	1,315				= (3) + (4) + (5) + 50% of (6)
(3) Commissions and Brokerage Expenses Incurred for Line of Business	867			Column (23)	
(4) Taxes, Licenses and Fees Incurred for Line of Business	130			Column (25)	
(5) Other Acquisitions, Field Supervision and Collection Expenses Incurred for Line of Business	169			Column (27)	
(6) General Expenses Incurred for Lines of Business	298			Column (29)	
(7) Net Written Premium for Line of Business	4,555			Column (1)	

The prepaid expense ratio for Fictitious was 29% in 2011.

*Investment Gain by Line of Business Attributable to Capital and Surplus*

The difference between net investment gain (loss) and the amount of investment gain attributed to insurance transactions is the amount of investment gain attributable to capital and surplus. Table 72 provides this calculation for Fictitious.

TABLE 72

Data from Fictitious Insurance Company 2011 IEE (USD in 000s)					
<u>Line of Business: Homeowners</u> <u>Multiple Peril</u>	2011 Current Year	2010 Prior Year	Mean	2011 IEE Part II Total, Line 35	Annual Statement
(1) Investment Gain Attributable to Capital and Surplus for Line of Business	179			Column (39)	= (2) - (3)
(2) Investment Gain for Line of Business	232				Calculated in a Table 66
(3) Investment Gain on Funds Attributable to Insurance Transactions for Line of Business	53			Column (35)	Calculated in Table 70

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As displayed in Table 72, the amount of investment gain attributable to capital and surplus for homeowners was \$179,000.

**Total profit or loss**

Finally, column 41 provides total profit (loss) by line of business. Table 73 demonstrates the calculation of total profit in 2011 for Fictitious' homeowners line. First we will provide the calculation of pretax profit excluding all investment gain for homeowners, as shown in column 33. Then we will add the components of net investment gain in columns 35 and 39 to compute total profit in column 41.

Pretax profit excluding all investment gain is first computed for Fictitious' homeowners line of business as follows in Table 73.

TABLE 73

Data from Fictitious Insurance Company 2011 IEE (USD in 000s) for Homeowners Multiple Peril			
Column Number	IEE Part II Column Heading	Total Line 4	Notes
3	Premiums Earned	4,445	
5	Dividends to Policyholders	-	
7	Incurred Loss	3,789	
9	Defense and Cost Containment Expenses Incurred	74	
11	Adjusting and Other Expenses Incurred	360	
23	Commissions and Brokerage Expenses Incurred	867	
25	Taxes, Licenses and Fees Incurred	130	
27	Other Acquisitions, Field Supervision and Collection Expenses Incurred	169	
29	General Expenses Incurred	298	
31	<u>Other Income Less Other Expenses</u>	<u>1</u>	
33	Pre-Tax Profit of Loss Excluding All Investment Gain	(1,241)	= Column 1 minus Columns 5, 7, 9, 11, 23,25, 27, 29 plus Column 31

As displayed in Table 73, the NAIC allocation formula shows that Fictitious experienced a pretax loss of \$1.2 million on its homeowners book in 2011, nearly all of which came from underwriting (since other income is \$1).

The calculation of column 41 of Part II of the IEE shows that investment gains only offset \$232,000 of the \$1.2 million underwriting loss, such that homeowners showed an overall loss, after investment gain, of \$1.0 million.



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TABLE 74

Data from Fictitious Insurance Company 2011 IEE (USD in 000s) for Homeowners Multiple Peril			
Column Number	IEE Part II Column Heading	Total Line 35	Statement of Income Reference
33	Pre-Tax Profit or Loss Excluding All Investment Gain	(1,241)	
35	Investment Gain on Funds Attributable to Insurance Transactions	53	
39	<u>Investment Gain Attributable to Capital and Surplus</u>	179	
	Subtotal Net Investment Gain (loss) <i>before</i> Capital Gains Tax	232	
41	Total Profit or Loss	(1,009)	
42	%	22.7%	= Column 41 divided by Column 3

Out of the total \$2.3 million in pretax profit for all lines earned by Fictitious in 2011, -\$1.0 million was allocated to homeowners based on the NAIC calculation. This represents -23% of net earned premium in 2011. A review of column 41 of IEE shows that Fictitious also experienced pretax losses in the other liability, automobile physical damage and fidelity lines. Profits were earned in other lines to absorb the losses in these lines of business, the largest of which was achieved in workers' compensation (\$3.3 million). This is why companies diversify insurance risks across property/casualty lines of business; the intent is that any losses would be offset by gains.

## PART III – ALLOCATION TO LINES OF BUSINESS DIRECT

Part III provides the components of direct profit (loss) on a pretax basis, excluding investment gain. Investment gain is not considered because investment income is earned on the actual assets held by the company, which are net of reinsurance.

Different from Part II, the components used to compute profit (loss) in Part III are not readily available from the Annual Statement as presented. Unless assigned with the task of completing the IEE at for their employer, most students will not use the information contained in Part III of the IEE. This publication is not intended to be an instruction manual for completing the IEE. As a result, we will only provide a brief discussion of the computation of each component, reconciling to Annual Statement exhibits when possible.

*Columns 1 through 32*

As with Part II, the even columns of Part III of the IEE provide the percent of the corresponding amounts in the odd-numbered columns to earned premium, in this case on a direct basis.

Direct premiums written in column 1 reconcile to Part 1B, Premiums Written, column 1, of the U&IE. Direct premiums written also reconcile to column 1 of the Exhibit of Premiums and Losses (Statutory Page 14 Data) by line and in total to Schedule T, column 2, line 59.

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Direct premiums earned in column 3 reconcile to column 2 of the Exhibit of Premiums and Losses (Statutory Page 14 Data) by line, for all states plus any alien business, and in total to Schedule T, column 3, line 59.

Dividends to policyholders in column 5 should agree to line 17 of the Statement of Income, excluding dividends associated with business assumed and ceded.

Incurred loss in column 7 reconciles to column 6 of the Exhibit of Premiums and Losses (Statutory Page 14 Data) by line, for all states plus any alien business, and in total to Schedule T, column 6, line 59.

DCC expenses incurred and unpaid in columns 9 and 15, respectively, reconcile to columns 9 and 10, of the Exhibit of Premiums and Losses (Statutory Page 14 Data) by line, for all states plus any alien business. Incurred expenses also reconcile in total to the U&IE, Part 3, Expenses, line 1.1 of column 1.

A&O expenses incurred and unpaid in columns 11 and 17, respectively, cannot be tied directly to amounts presented in the Annual Statement. The NAIC instructions state, "IEE Part III, columns 9, 11, 15 and 17 must agree with IEE Part II, columns 9, 11, 15 and 17, respectively, excluding expenses relating to reinsurance assumed and ceded."<sup>117</sup> An insurance company knows which expenses are allocated to which lines and can therefore complete these columns.

Unpaid losses in column 13 reconcile to column 7 of the Exhibit of Premiums and Losses (Statutory Page 14 Data) by line, for all states plus any alien business, and in total to Schedule T, column 7, line 59.

Unearned premium reserves in column 19 reconcile to column 4 of the Exhibit of Premiums and Losses (Statutory Page 14 Data) by line, for all states plus any alien business.

Agents' balances in column 21 stem from policies written; therefore, companies know the applicable line of business. The amounts should agree to balances included within lines 15.1 plus 15.2, column 3 of the Assets page, excluding balances relating to reinsurance.

Other underwriting expenses in columns 23, 25, 27 and 29 cannot be found in the line of business breakdown of Part III. However, they should reconcile in total to the corresponding amounts in Part I of the IEE excluding amounts relating to reinsurance assumed or ceded. In fact, commissions and brokerage incurred on a direct basis in column 23 should reconcile in total to the sum of the amounts in line 2.1 plus 2.4 of IEE Part I, column 2.

Other income less other expense in column 31 also does not reconcile directly to amounts in the Annual Statement. However, the NAIC instructions note that it should agree in total to

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<sup>117</sup> 2011 NAIC Annual Statement Instructions Property/Casualty, page 422.

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amounts in line 15 minus line 5 of the Statement of Income that apply to direct business only (i.e., “excluding expenses related to reinsurance assumed or ceded”).<sup>118</sup>

*Calculation of Pretax Profit or Loss Excluding All Investment Gain (Column 33)*

Column 33 provides pretax profit (loss) excluding all investment gains and is calculated from the information contained in the previous columns of Part III of the IEE, using the same formulaic approach as in Part II. Specifically,

Pretax profit or loss excluding all investment gains =

Premiums earned (column 3)

- Dividends to policyholders (column 5)
- Incurred loss (column 7)
- DCC expenses incurred (column 9)
- A&O expenses incurred (column 11)
- Commission and brokerage expenses incurred (column 23)
- Taxes, licenses and fees incurred (column 25)
- Other acquisitions, field supervision and collection expenses incurred (column 27)
- General expenses incurred (column 29)
- + Other income less other expenses (column 31).

INTERROGATORIES

The interrogatories to the IEE are actually shown before the Parts I through III. The interrogatories provide explanatory notes on the information contained in Parts I through III, the most important of which is Interrogatory 4, which provides information on the process by which the allocations of expenses and profit are made. Specifically, question 4 asks:

4. The information provided in the Insurance Expense Exhibit will be used by many persons to estimate the allocation of expenses and profit to the various lines of business.
  - 4.1 Are there any items requiring special comment or explanation?
  - 4.2 Are items allocated to line of business in Parts II and III using methods not defined in the instructions?
  - 4.3 If yes, explain.<sup>119</sup>

Questions 4.1 and 4.2 each require “yes” or “no” responses. If the company answers “yes” to either question, the company is required to provide an explanation, so the user can consider differences in the company’s process relative to what is stated in the instructions.

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<sup>118</sup> Ibid., page 422.

<sup>119</sup> 2011 IEE.

## CHAPTER 19. RISK-BASED CAPITAL

### OVERVIEW

The Risk-Based Capital (RBC) system was developed by the National Association of Insurance Commissioners (NAIC) and has been used since 1994 to provide a means for the early detection of insurance company insolvency. It was implemented for property/casualty companies in part in response to reports issued by the federal government in the late 1980s and early 1990s questioning the ability of state governments to regulate insurance companies.<sup>120</sup> These reports emerged in the wake of four of the largest property/casualty insurance company insolvencies in the history of the U.S. insurance industry: Mission Insurance Company, Transit Casualty Company, Integrity Insurance Company and Anglo-American Insurance Company.

The implementation of the RBC system was a significant advancement in solvency monitoring by state governments and has also served as the foundation for many other capital models that followed, including those currently used by rating agencies.

There are two main components to the RBC system:

1. RBC formula: The RBC formula results in a minimum level of required capital determined (the authorized control level benchmark, or ACL) formulaically using an approach that is standard to all insurance companies in a particular industry group (e.g., property/casualty, life and health). The minimum level of required capital is intended to reflect the capital need to support the risks faced by insurance companies. The company's recorded capital is compared to the minimum required capital to produce the RBC ratio.<sup>121</sup> The RBC ratio is compared to a range of values that define the levels of company and regulatory action.
2. RBC Model Act for Insurers:<sup>122</sup> The RBC Model Act, when adopted as law in each state, provides the state insurance regulator with authority to take specific action when a company's RBC ratio falls below certain thresholds.

The RBC system is applied to property/casualty, life and health insurance companies. Certain entities are exempt from the RBC system, including title insurance companies, monoline financial guaranty insurance companies and monoline mortgage guaranty insurance companies. Other exemptions may apply based on individual state rules. This publication will

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<sup>120</sup> The most widely known of these reports was written by the U.S. House of Representatives Subcommittee on Oversight and Investigations of the Committee on Energy and Commerce titled, "Failed Promises – Insurance Company Insolvencies" (see U.S. House of Representatives Subcommittee on Oversight and Investigations of the Committee on Energy and Commerce. "Failed Promises-Insurance Company Insolvencies." 101 Cong., 2rid sess., February 1990. Washington, D.C.: GPO, 1993).

<sup>121</sup> The company's actual capital is adjusted to reflect certain items that will be introduced later in this chapter.

<sup>122</sup> NAIC RBC Model Act for Insurers (Model #312).

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focus on the RBC system as it applies to property/casualty insurance companies. The formulas differ for property/casualty, life and health insurance companies, reflecting differing risk factors for each.

Insurance companies are required to file their RBC report with the NAIC by March 1 based on information evaluated as of the prior year-end (December 31). An insurance company's RBC report provides its RBC formula calculations and management discussion and analysis of the RBC results. The RBC report is confidential; therefore, details of the calculation are not available to the public. However, the summarized results of the RBC formula are shown in the Five-Year Historical Data exhibit of the Annual Statement, which is in the public domain.

### RBC FORMULA

#### *Overview*

The RBC formula is computed by applying a set of factors to asset, reserve, recoverable and premium items reported in an insurance company's Annual Statement. The size of the factor depends on the level of risk associated with each item; the greater the risk, the greater the factor. The application of the factors to the associated Annual Statement items results in what are commonly referred to as "risk charges."

The formula is not a comprehensive measure of every risk for an insurance company; rather it only considers those risks that are material to an insurance company. Further, risks associated with a company's business plans and strategy, management, internal controls, systems, reserve adequacy and ability to access capital are not considered as these risks are difficult to quantify.

The general structure of the RBC formula has remained intact since it was first implemented in 1994. The RBC formula was developed based on its predecessor, the life RBC formula, which the NAIC implemented a year earlier in 1993.<sup>123</sup>

#### *Risk Categories*

The life RBC formula originally included four risk categories, each denoted by the letter "C" with a number subscript to identify the particular risk:

- C<sub>1</sub>     Asset risk
- C<sub>2</sub>     Insurance (or underwriting) risk
- C<sub>3</sub>     Interest rate risk
- C<sub>4</sub>     Business risk

The general definition of the major risk categorizations has remained the same since the life RBC formula was originally implemented:

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<sup>123</sup> RBC for stand-alone health insurers was not implemented until 1998.

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- ▶ Asset risk represents risks associated with an insurance company's investments and other recoverable-based assets (i.e., assets due to the insurance company). It considers the risk that a bond issuer will not make the required interest or principal repayments (i.e., default risk) or that the value of the asset will be substantially impaired due to changes in interest rates or financial market conditions.
- ▶ Insurance risk represents the risk associated with the issuance of insurance policies. It is analogous to underwriting risk in the property/casualty industry. It represents the risk that claims emerge greater than expected due to inadequate pricing or random variation.
- ▶ Interest rate risk represents the risk that interest rates will change and result in a mismatch between assets and liabilities.
- ▶ Business risk is intended to capture other risks inherent in an insurance company's operations. For life insurance companies, the business risk charge within RBC considers the risk of financial loss from litigation and guarantee fund assessments.<sup>124</sup> Both impact a life insurance company's expenses.

The property/casualty formula differs from the life formula in that interest rate risk and business risk are not included. Interest rate risk is more prevalent in life insurance because life insurance policies tend to be purchased as investment vehicles, whereas property/casualty products are purchased to protect the consumer from financial loss. As of December 31, 2011, the life insurance industry held more than 17 times the amount of recorded surplus in admitted assets whereas property/casualty insurers held less than three times the amount of surplus in admitted assets.

Further, while not explicitly included, certain aspects of business risk are inherently included within the underwriting risk charge for property/casualty insurers. These aspects include the impact of changes in operations on loss experience and the consideration of expenses.

Visually, the asset and underwriting risk charges of the property/casualty formula differ in that they denoted by the letter "R," instead of the letter "C" used for the life formula.

### *Asset Risk*

Within the property/casualty RBC formula, there are currently four categories of asset risk:

- R<sub>0</sub> Asset risk – Subsidiary insurance companies
- R<sub>1</sub> Asset risk – Fixed income
- R<sub>2</sub> Asset risk – Equity
- R<sub>3</sub> Asset risk – Credit

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<sup>124</sup> Letter from American Academy of Actuaries Joint Risk Based Capital Task Force to Lou Felice, Chair, NAIC Risk-Based Capital Task Force Re: Comparison of the NAIC Life, P&C and Health RBC Formulas, April 2001, [http://www.actuary.org/pdf/finreport/RBC\\_0801.pdf](http://www.actuary.org/pdf/finreport/RBC_0801.pdf), page 4.

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$R_0$  through  $R_2$  are risks associated with admitted invested assets, which are shown on lines 1 through 11, column 3, on the asset side of the statutory balance sheet (e.g., bonds, stocks, mortgage loans on page 2 of the Annual Statement). The  $R_0$  charge considers default risk associated with investments in affiliated insurance companies. Note the life formula was modified from its original format to include asset risk associated with investments in affiliated insurance companies as  $C_0$ . The  $R_1$  charge considers changes in interest rates and potential default of fixed income investments. The  $R_2$  charge considers changes in asset valuations for non-fixed income investments (e.g., stocks, real estate).

$R_3$  considers the credit risk associated with receivables on the balance sheet, which include items listed on lines 12 and subsequent on the asset side of the balance sheet, as well as risk associated with reinsurance recoverables.

### *Underwriting Risk*

There are two categories of underwriting risk in the property/casualty RBC formula:

- $R_4$  Underwriting risk – Reserves
- $R_5$  Underwriting risk – Net written premium

The reserve risk charge ( $R_4$ ) is concerned with past business while the premium risk charge ( $R_5$ ) is concerned with future business. Reserve risk is the risk that the company's recorded loss and loss adjustment expense (LAE) reserves will develop adversely, under the assumption that the current reserve balance is adequate. Written premium risk considers the risk that one year's worth of the company's future business will be unprofitable.

According to the NAIC RBC instructions, "Underwriting risk is the largest portion of the RBC charge for most property casualty insurance companies."<sup>125</sup> If we exclude the  $R_0$  component, which does not represent true third-party asset risk, total asset risk is a smaller component of the formula than total underwriting risk. This contrasts with life insurance companies, where the predominant portion of the RBC charge is asset risk.

Approximately 60% of the admitted assets of the property/casualty insurance industry were in bonds, with the next largest investment category dropping to 15% in preferred (1%) and common (14%) stocks.<sup>126</sup> Property/casualty insurance companies tend to concentrate in short-term, relatively fixed and liquid investment categories given the short duration of most property/casualty insurance products sold and the need to have funds readily available to pay claims. The smaller volume and relatively short-term nature of the assets for property/casualty insurance companies significantly limits the asset risk compared to life insurance companies.

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<sup>125</sup> NAIC, *RBC Property & Casualty 2011 Forecasting & Instructions*, page 19.

<sup>126</sup> 2011 SNL Financial LC.

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*Covariance Adjustment*

Risk charges  $R_0$  through  $R_5$  are aggregated in the RBC formula to calculate the overall RBC need as follows:

$$RBC = R_0 + \sqrt{R_1^2 + R_2^2 + R_3^2 + R_4^2 + R_5^2}.$$

The square root calculation within the RBC formula is commonly referred to as the “covariance adjustment.” Rather than summing up the individual risk charges ( $R_1$  through  $R_5$ ), it is assumed that the individual risk charge categories are independent of one another. That is, the formula reflects diversification among these risk categories, thereby assuming that the aggregate risk is less than the sum of risk of the independent components. This is considered to be a reasonable assumption. For example, the risk of default on an insurance company’s invested assets (e.g., bonds, stocks) is independent of the performance of its loss reserves. Taking the square root of the sum of the squares for  $R_1$  through  $R_5$  increases the dependency of the larger risks in the calculation and decreases the significance of the smaller risk categories in the overall aggregate RBC requirement.

$R_0$  is kept outside of the covariance adjustment because the risk for investments in insurance company subsidiaries is believed to be directly correlated with the combination of the risks specific to the reporting entity (i.e., the other risk charges  $R_1$  through  $R_5$ ). Therefore, the risk for investments in insurance company subsidiaries is additive to the aggregate of the investment and underwriting risks of the reporting entity for which RBC is being calculated. Stated differently, RBC should not depend on organizational structure of the insurance company; investments in insurance subsidiaries that are subject to RBC do not provide diversification benefit.

The covariance calculation is applied in the life formula and the property/casualty formula, keeping  $C_0$  outside of the square root like  $R_0$ .

For illustrative purposes, Table 75 assumes the following charges for a property/casualty insurance company (in USD):

TABLE 75

$R_0$	2,112,000
$R_1$	5,087,000
$R_2$	6,976,000
$R_3$	4,112,000
$R_4$	18,936,000
$R_5$	10,793,000
Sum	48,016,000



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As shown in Table 75, the sum of the RBC charges is \$48,016,000 (total RBC before covariance). After covariance, total RBC is \$25,913,505. RBC after covariance is considerably less, reflecting independence of the risks associated with  $R_1$  through  $R_5$ .

*Components of the Charges*

Within subsequent sections of this chapter, we will walk through the components of each charge that goes into the RBC formula, deliberately leaving out certain information that would be necessary to prepare and issue the RBC report for a company. The NAIC issues instructions on how to compute RBC, including an instructional CD-ROM providing a spreadsheet with the necessary formulas. Additionally, RBC software is available from Annual Statement software vendors and is used by insurance companies for filing with state regulatory authorities. This publication is only intended to provide an overview of the RBC formula and is not intended to supplant the NAIC instructions or electronic filing requirements.

Before we delve into the details, let us provide some perspective on the relevance of each risk category to the overall formula. Table 76 provides a summarization of a table provided by the NAIC in its presentation of 2011 RBC results for the property/casualty insurance industry:<sup>127</sup>

TABLE 76

Aggregate for 2,600 Property/Casualty Companies RBC by Category USD in 000s	
<u>2011 Risk Category</u>	<u>Totals</u>
R <sub>0</sub> – Asset Risk – Affiliates	45,083,423
R <sub>1</sub> – Asset Risk – Fixed Income	7,941,632
R <sub>2</sub> – Asset Risk – Equity	74,325,097
R <sub>3</sub> – Asset Risk – Credit	15,514,367
R <sub>4</sub> – Underwriting Risk – Reserves	102,176,645
R <sub>5</sub> – Underwriting Risk – Written Premiums	55,754,469
Total RBC before Covariance	300,795,633

Underwriting risk associated with loss and LAE reserves ( $R_4$ ) represented the largest risk charge within the RBC formula for the property/casualty insurance industry in 2011 (\$102 billion).

Recall that the covariance adjustment increases the dependency of the larger risks and decreases the significance of the smaller risk categories in the overall aggregate RBC requirement. As displayed in the Table 77, squaring each of charges  $R_1$  through  $R_5$  and

<sup>127</sup> NAIC, *Property & Casualty Industry RBC Results, 2012*, [http://www.naic.org/documents/research\\_stats\\_rbc\\_results\\_pc.pdf](http://www.naic.org/documents/research_stats_rbc_results_pc.pdf), Table 5, pages 5 through 7.

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summing the results shows that the underwriting risk charges contributed 70% of the total charge associated with  $R_1$  through  $R_5$  in 2011. The asset risk charge associated with equity investments essentially comprised the remainder (29%).<sup>128</sup>

TABLE 77

Aggregate for 2,600 Property/Casualty Companies RBC by Category USD in 000s			
<u>2011 Risk Charges for <math>R_1</math> through <math>R_5</math></u>	<u>Totals</u>	<u>Squared Totals</u>	<u>Distribution</u>
$R_1$ – Asset Risk – Fixed Income	7,941,632	63,069,518,823,424	0%
$R_2$ – Asset Risk – Equity	74,325,097	5,524,220,044,059,410	29%
$R_3$ – Asset Risk – Credit	15,514,367	240,695,583,410,689	1%
$R_4$ – Underwriting Risk – Reserves	102,176,645	10,440,066,783,456,000	54%
$R_5$ – Underwriting Risk – Written Premiums	55,754,469	3,108,560,813,471,960	16%
Total RBC before Covariance	255,712,210	19,376,612,743,221,500	100%

Despite representing more than half of the invested assets of the property/casualty insurance industry in 2011 (see Table 2), the asset risk charge for fixed income investments had almost no impact (0%) on the overall RBC charge for the industry. This is because property/casualty insurers tend to invest in relatively safe, high-credit quality bonds.

The asset risk charge for equity is relatively high (29%), reflecting the increased risk associated with these investments over fixed income. As shown in Table 2, common stocks represented 14% of total assets held by property/casualty insurers in 2011.

The charge for credit risk is relatively low. As we shall see, this is probably due to the fact that this charge is applied to reinsurance recoverables after consideration of the provision for reinsurance to avoid double counting.

Note that the NAIC's report on 2011 results also shows that the relative significance of each risk charge to the overall formula has remained relatively consistent over the past five years.

#### THE RBC CHARGE FOR ASSET RISK ASSOCIATED WITH INSURANCE COMPANY SUBSIDIARIES ( $R_0$ )

The RBC required for investments in insurance company subsidiaries depends on the asset class and type of subsidiary and whether the subsidiary is subject to RBC. Recall that certain insurance companies are not subject to RBC, such as title insurers, monoline mortgage guaranty insurers and monoline financial guaranty insurers.  $R_0$  considers only those investments in insurance company subsidiaries for which the subsidiary itself files RBC. For

<sup>128</sup> Ibid.

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these entities the *total*  $R_0$  charge across all common stocks, preferred stocks and bond investments in a particular subsidiary is *limited to* the RBC of the subsidiary, adjusted by the reporting entity's ownership (pro rata) share in the subsidiary. The theory is that, through ownership, the reporting entity is subject to the same risks as its subsidiary.

The charge for investments in insurance subsidiaries that are *not* subject to RBC (excluding alien insurers,<sup>129</sup> which are considered in  $R_0$ ) is included in  $R_1$  or  $R_2$ , depending on whether the investment is fixed income or equity based. The  $R_1$  or  $R_2$  categories also include charges for investments in upstream affiliates, including parent and holding companies. This distinction is important because of the placement of  $R_0$ ,  $R_1$  and  $R_2$  in the RBC formula. As noted, investments in insurance subsidiaries that are subject to RBC are assumed to be correlated with those of the reporting entity and therefore outside of the square root in the formula.

Term definitions will become important as we walk through the asset risk charges. Statutory Accounting Principles (SAP), specifically Statement of Statutory Accounting Principles (SSAP) No. 88, Investments in Subsidiary, Controlled, and Affiliated Entities, define these terms as follows:

Parent	"An entity that directly or indirectly owns and controls the reporting entity." <sup>130</sup>
Subsidiary	"An entity that is, directly or indirectly, owned and controlled by the reporting entity." <sup>131</sup>
Affiliate	"An entity that is within the holding company system or a party that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with the reporting entity. An affiliate includes a parent or subsidiary and may also include partnerships, joint ventures, and limited liability companies. ..." <sup>132</sup>
Control	"The possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of the investee, whether through the (a) ownership of voting securities, (b) by contract other than a commercial contract for goods or non-management services, (c) by common management, or (d) otherwise. Control shall be presumed to exist if a reporting entity and its

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<sup>129</sup> According to the Glossary of Terms in the textbook *Property-Casualty Insurance Accounting* issued by Insurance Accounting & Systems Association, Inc., 8th ed. (2003), First Addendum (2006), an alien insurance company is defined as "An insurer or reinsurer domiciled outside the U.S. but conducting an insurance or reinsurance business in the U.S."

<sup>130</sup> SSAP No. 88, Investments in Subsidiary, Controlled and Affiliated Entities, A Replacement to SSAP No. 46, "Definitions" section.

<sup>131</sup> Ibid.

<sup>132</sup> Ibid.

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affiliates, directly or indirectly, own, control, hold with the power to vote, or hold proxies representing 10% or more of the voting interests of the entity.”<sup>133</sup>

SSAP No. 88 further states that control is measured at the holding company level. For example, the 10% benchmark would apply to a group consisting of two affiliates where one affiliate owns 7% of a company and the other affiliate owns 4% of that same company. Each member of the group has control over the company as the sum of their ownership percentages exceeds 10%.

An insurance company’s investment in subsidiaries, both controlled and affiliated entities (SCAs), are assets.

$R_0$  measures the risk associated with subsidiary insurance companies based on the following:

1. Common stock, preferred stock and bond investments in an insurance company subsidiary, when the insurance company subsidiary is also subject to RBC filing requirements
2. Investments in alien insurance company affiliates
3. Off-balance sheet or other items

To provide some perspective, Table 78 highlights the relevance of the above items to the  $R_0$  charge based on the NAIC’s compilation of the RBC results for the industry in 2011:<sup>134</sup>

TABLE 78

Aggregate for 2,600 Property/Casualty Companies $R_0$ Component of 2011 RBC USD in 000s		
<u><math>R_0</math> – Asset Risk – Affiliates</u>	<u>Totals</u>	<u>Distribution</u>
1. Common stock, preferred stock and bond investments	38,363,845	85%
2. Investments in alien insurance companies	4,940,746	11%
3. Off-balance sheet or other items	1,778,832	4%
Total $R_0$	45,083,423	100%

Common stock, preferred stock and bond investments in affiliated entities subject to RBC was the largest contributor to the  $R_0$  risk charge for the industry in 2011 (85%), followed by investments in alien insurance companies (11%) and off-balance sheet items (4%).

<sup>133</sup> Ibid.

<sup>134</sup> NAIC, *Property & Casualty Industry RBC Results, 2012*, [http://www.naic.org/documents/research\\_stats\\_rbc\\_results\\_pc.pdf](http://www.naic.org/documents/research_stats_rbc_results_pc.pdf), Table 5, pages 5 through 7.

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We will discuss each of the components of the  $R_0$ , placing emphasis in our discussion on the calculation associated with common stock, preferred stock and bond investments due to their significance to  $R_0$ .

### *Insurance Subsidiaries Subject to RBC – Ownership in Common Stock*

According to the NAIC's 2011 written instructions for RBC<sup>135</sup>, the RBC charge for investments in common stock of an insurance company subsidiary depends on the accounting method used by the reporting entity to report the investment: the market valuation approach or the equity method.<sup>136</sup>

If the market valuation approach is used by the reporting entity to accounting for its investment in the insurance company SCA, the  $R_0$  charge for ownership of common stock of the subsidiary is the *minimum* of the following:

- ▶ Total RBC of the affiliate, after covariance adjustment, multiplied by the percentage of ownership in the common stock
- ▶ The statutory surplus of the affiliate, multiplied by the percentage of ownership in the common stock

In these cases, there is also an  $R_2$  charge in addition to the  $R_0$  component which considers the book/adjusted carrying value of the affiliated's stock relative to RBC and policyholders surplus.

If the equity method is used, the  $R_0$  charge for ownership of common stock in the insurance affiliate subject to RBC is equal to the *minimum* of the following:

- ▶ Total RBC of the affiliate, after covariance adjustment, multiplied by the percentage of ownership in the common stock
- ▶ The book/adjusted carrying value of the common stock (greater than 0) as recorded by the reporting entity (no adjustment for the percentage ownership)

We note that there is an inconsistency between the NAIC's written instructions and the formulas contained in the spreadsheet contained in the corresponding CD-ROM. The formula in the spreadsheet does not differentiate between the equity method and market valuation

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<sup>135</sup> NAIC *RBC Property & Casualty 2011 Forecasting & Instructions*, page 1.

<sup>136</sup> According to SAP (SSAP No. 88), admitted investments in insurance company SCAs are recorded on the reporting entity's balance sheet using one of two methods: the market valuation approach or equity method. Under the market valuation approach, investments in insurance company SCAs are based on the market value of the SCA, adjusted for the reporting entity's ownership percentage. Market value is equivalent to fair value. Under the equity method, investments in insurance company SCAs are recorded based on the reporting entity's proportionate share of audited statutory equity of the SCA's balance sheet, adjusted for any unamortized goodwill. Under this method, the reporting entity records the initial investment at cost then essentially adjusts the value over time based on the reporting entity's share in the company's income (loss). At any point in time, the recorded amount is called the "carrying value."

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approach in calculating  $R_0$  for common stock investments in insurance affiliates subject to RBC. Rather, the spreadsheet computes the  $R_0$  charge equal to the minimum of RBC of the affiliate and the book/adjusted carrying value of the stock; the affiliate's statutory surplus does not enter the equation. The NAIC has acknowledged the inconsistency between the written instructions and the spreadsheet and expects to research and resolve the issue by the end of 2013. We will update this publication when this issue is resolved and provide examples to illustrate the calculation of  $R_0$  at that time.

Despite the inconsistency, we note that  $R_0$  for ownership of common stock in an insurance affiliated cannot be greater than the RBC of the affiliate (after covariance adjustment and adjusted for the reporting entity's ownership share of the affiliate's outstanding common stock). Recall that RBC calculations are not in the public domain. Attempts to recalculate an insurance company's RBC often make a simplifying assumption that the  $R_0$  charge for ownership in common stock of an SCA is equal to the SCA's RBC (adjusted for covariance and ownership).

*Insurance Subsidiaries Subject to RBC – Ownership of Preferred Stock*

The reporting entity's  $R_0$  charge for investments in preferred stock of insurance subsidiaries depends on whether the subsidiary has excess RBC. Excess RBC is defined as the amount of RBC, after covariance adjustment, that exceeds the total value of the outstanding common stock. If the excess RBC is greater than zero, the RBC charge for ownership in preferred stock is the *minimum* of the following:

- ▶ The pro rata share of the excess RBC
- ▶ The book/adjusted carrying value of the preferred stock (greater than zero) as recorded by the reporting entity

The pro rata share is equal to the percentage of the affiliate's total outstanding preferred stock value that is owned by the company.

If the excess RBC is less than or equal to zero, then the RBC charge for the company's ownership in the preferred stock of its affiliate is zero.

*Insurance Subsidiaries Subject to RBC – Ownership of Bonds*

Similarly, for insurance subsidiaries subject to RBC, the reporting entity's  $R_0$  charge for bond investments depends on whether there is excess RBC over the amount of the total value of subsidiary's outstanding common and preferred stock. If the excess RBC over the value of common and preferred stocks is greater than zero, the RBC charge for ownership in bonds is the *minimum* of the following:

- ▶ The pro rata share of the excess RBC

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- ▶ The book/adjusted carrying value of the bonds (greater than zero) as recorded by the reporting entity

The pro rata share is equal to the percentage of the affiliate's total outstanding bond value that is owned by the company.

*Investments in Alien Insurance Affiliates*

An alien insurance company is a company that is incorporated under the laws of a country outside the U.S. Therefore, these entities are not themselves subject to RBC. The reporting entity's RBC charge for investments in directly owned alien affiliates is equal to the book/adjusted carrying value of the company's interest in the affiliate multiplied by a set factor of 0.500.

For those alien insurance affiliates that are indirectly owned by the company, the RBC charge is equal to the carrying value of the holding company's interest in the affiliate multiplied by 0.500 and adjusted to reflect the reporting entity's ownership on the holding company.

The 0.500 was originally established based on the average RBC charge for U.S. insurance company affiliates.<sup>137</sup>

*Off-balance Sheet and Other Items*

Off-balance sheet and other items include amounts that are not recorded by the insurance company in its statutory financial statements yet still represent assets and/or potential liabilities of the insurance company and therefore expose the company to risk. Off-balance sheet and other items are disclosed in the Notes to Financial Statements and General Interrogatories of the Annual Statement. There are three categories of such items included in the R<sub>0</sub> charge:

1. Non-controlled assets: This category of assets includes the following:
  - ▶ Collateral loaned to others from securities lending programs
  - ▶ Assets that are reported on the company's balance sheet but for which the company does not have exclusive control over, thereby exposing the company to increased investment risk
  - ▶ Assets sold or transferred that are subject to a put option, thereby enabling the purchaser to sell the assets back to the insurance company
2. Contingent liabilities: This includes amounts for which the insurance company may be held responsible but for which the amount cannot be determined and therefore is not entered on the balance sheet. An example includes structured settlements for which the insurance company purchases an annuity from a life insurance company to make

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<sup>137</sup> NAIC RBC Property & Casualty 2011 Forecasting & Instructions, page 19.

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structured payments to claimants in order to close out a claim. The insurance carrier would close the claim since it paid the life insurer to make the claim payments on its behalf. However, if the life insurance company fails to pay, the insurance company would still be ultimately responsible for settling the liability. This is a contingent liability to the insurance company.

3. Guarantees for the benefit of affiliates: These are guarantees that may expose the company's assets to contingent liability exposure. An example would be a guarantee made by a company to pay an outstanding loan held by an affiliate with a third party in the event that the affiliate was unable to meet its obligation to that third party.

With the exception of conforming securities lending programs,<sup>138</sup> which are those programs that have specified elements that lower the associated risk, a 1% factor, selected judgmentally by the NAIC, is applied to all off-balance sheet items for purposes of inclusion in the  $R_0$  charge. Conforming securities lending programs have a charge of 0.2%.

#### THE RBC CHARGE FOR ASSET RISK ASSOCIATED WITH FIXED INCOME INVESTMENTS ( $R_1$ )

$R_1$  includes the charge for interest rate and default risk associated with fixed income investments in the following categories:

1. Holding company
2. Upstream affiliate (i.e., parent company)
3. Insurance subsidiaries that are not subject to RBC (other than alien insurers)
4. Investment affiliate
5. Other non-insurance subsidiaries
6. Unaffiliated bonds
7. Mortgage loans
8. Miscellaneous assets, including cash, cash equivalents, other short-term investments and nonadmitted collateral loans
9. Replication (synthetic asset) transactions and mandatorily convertible securities
10. Off-balance sheet collateral and Schedule DL, Part 1, Assets

In general, the charge for these investments is based on a factor determined by the NAIC multiplied by the book/adjusted carrying value of the investment. The same factor is used by all companies.

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<sup>138</sup> According to the NAIC *RBC Property & Casualty 2011 Forecasting & Instructions*, page 16, conforming securities lending programs are those comprising all of the following: (1) a written plan approved by the company's board of directors describing the company's securities lending program and ways it can invest collateral; (2) written procedures that the company must follow to monitor and control the risks of the program; (3) a binding agreement between the insurance company and the borrowers of the insurer's securities; and (4) collateral in the form of investments that are allowable by the company's domiciliary state (e.g., cash, cash equivalents, federally guaranteed investments).



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In addition to the charge for the aforementioned types of fixed income investment categories, there are two charges reflecting the level of diversification in the entity's fixed income portfolio. The first is the bond size factor, and the second is the asset concentration factor. The fewer the bond holdings and greater the concentration in individual issuers or borrowers, the greater the associated charge. These factors are discussed in further detail in this chapter's sections titled, "Unaffiliated Bonds and the Bond Size Factor" and "Asset Concentration Factor."

Table 82<sup>139</sup> highlights the relevance of the above items to the R<sub>1</sub> charge based on the NAIC's compilation of the RBC results for the industry in 2011:<sup>140</sup>

TABLE 82

Aggregate for 2,600 Property/Casualty Companies R <sub>1</sub> Component of 2011 RBC USD in 000s		
<u>R<sub>1</sub> – Asset Risk – Fixed Income</u>	<u>Totals</u>	<u>Distribution</u>
1. Holding company	1,858	0%
2. Upstream affiliate (parent company)	36,587	0%
3. Insurance subsidiaries not subject to RBC	-	0%
4. Investment affiliate	13	0%
5. Other non-insurance subsidiaries	1,260,343	16%
6. Unaffiliated bonds	4,088,852	51%
7. Mortgage Loans	248,169	3%
8. Miscellaneous assets	221,006	3%
9. Replication(synthetic asset) transactions and mandatorily convertible securities	37,717	0%
10. Off-balance sheet collateral and Schedule DL, Part 1, Asset	<i>Not separately provided</i>	0%
11. Bond size factor	1,458,498	18%
12. Asset Concentration (Fixed)	588,589	7%
<b>Total R<sub>1</sub></b>	<b>7,941,632</b>	<b>100%</b>

Investments in bonds of unaffiliated entities represented over half the risk charge within the R<sub>1</sub> category for the industry in 2011. The associated charge for bond size and the charge for fixed income investments in other non-insurance subsidiaries comprised the majority of the remainder of the R<sub>1</sub> charge.

<sup>139</sup> Note Tables 79, 80 and 81 have been omitted from this version of our publication. They serve as placeholders to illustrate the R<sub>0</sub> calculation and will be included when the NAIC resolves the inconsistency between the written instructions to RBC and the NAIC spreadsheet.

<sup>140</sup> NAIC, *Property & Casualty Industry RBC Results, 2012*, [http://www.naic.org/documents/research\\_stats\\_rbc\\_results\\_pc.pdf](http://www.naic.org/documents/research_stats_rbc_results_pc.pdf), Table 5, pages 5 through 7.

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A brief discussion of each charge is provided below, with examples to illustrate their calculation as deemed appropriate.

*Holding Company*

For investment in a holding company, the RBC charge is 0.225 times the holding company value in excess of the carrying value (i.e., holding company value minus carrying value) for indirectly owned insurance affiliates calculated in  $R_0$ .

*Upstream Affiliate (i.e., Parent Company)*

For bond investments in a parent company, the RBC charge is 0.225 times the carrying value of the bonds of the parent, regardless of whether the parent is subject to RBC.

*Insurance Subsidiaries Not Subject to RBC<sup>141</sup>*

For bond investments in life, property/casualty and health insurance companies that are not subject to RBC, the charge is equal to 0.225 times the book/adjusted carrying value of the bonds.

*Investment Affiliates*

According to the NAIC RBC instructions, "An investment affiliate is an affiliate that exists only to invest the funds of the parent company. The term investment affiliate is strictly defined in the Annual Statement instructions as any affiliate, other than a holding company, engaged or organized primarily to engage in the ownership and management of investments for the insurer. An investment affiliate shall not include any broker-dealer or a money management fund managing funds other than those of the parent company."<sup>142</sup>

The RBC charge for an investment affiliate is essentially the same as it would be if the reporting entity held the assets directly. For example, if the reporting entity owned a subsidiary that managed \$1 billion of its investments in common stock, then the RBC charge for that entity would be computed based on the \$1 billion stock portfolio. If the charge for the stock investment were \$10 million if the reporting entity owned the stock directly, then the charge for the investment affiliate would be \$10 million. If the entity only owned 60% of the investment affiliate, then the RBC charge would be \$6 million (= 0.6 \* \$10 million).

Note that the calculation follows the same process as that for common stock, preferred stock and bond investments in insurance subsidiaries in  $R_0$ . That is, there is an RBC charge for preferred stocks and bonds only if the excess RBC of the affiliate exceeds the carrying value of common stocks (plus preferreds in the case of bonds).

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<sup>141</sup> Other than alien insurers, which are addressed in  $R_0$ .

<sup>142</sup> NAIC, *RBC Property & Casualty 2011 Forecasting & Instructions*, page 5.

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*Other Non-insurance Subsidiaries*

Unless the RBC charge for a particular type of non-insurance subsidiary is addressed separately within this chapter (e.g., the charge for investment affiliates), the RBC charge for bond investments in a non-insurance subsidiary is 0.225 times the book/adjusted carrying value of the bonds.

*Unaffiliated Bonds and the Bond Size Factor*

The RBC charge for unaffiliated bond investments is equal to the book/adjusted carrying value of the bond multiplied by a factor, where the factors vary based on the bond class. The factors are as shown in Table 83.

TABLE 83

<u>NAIC bond class</u>	<u>RBC factor</u>
Class 01 – Highest credit quality	
U.S. government, guaranteed by U.S. government	0.000
U.S. government, not backed by full faith and credit of U.S. government	0.003
All other	0.003
Class 02 – High credit quality	0.010
Class 03 – Medium credit quality	0.020
Class 04 – Low credit quality	0.045
Class 05 – Lowest credit quality	0.100
Class 06 – In or near default	0.300

As displayed in Table 83, the RBC factors increase with amount of perceived credit risk, starting with 0.000 for U.S. government bonds that are backed by the full faith and credit of the government and therefore have almost no default risk, all the way to a factor of 0.300 for bonds issued by companies that are in or near default. According to the NAIC instructions for RBC, the bond factors are determined “based on cash flow modeling using historically adjusted default rates for each bond category.” The instructions further explain: “For each of 2,000 trials, annual economic conditions were generated for the 10-year modeling period. Each bond of a 400-bond portfolio was annually tested for default (based on a “roll of the dice”) where the default probability varies by rating category and that year’s economic conditions.”<sup>143</sup>

In addition to the charge for each class of bond, there is a separate charge to reflect the level of diversification called the bond size factor. According to the NAIC instructions, “The size factor reflects additional modeling for different size portfolios that shows the risk increases as the number of bond issuers decreases. Because most insurers’ bond portfolios are considerably smaller than the portfolio used to develop the model bond risk, the basic bond factors understate the true default risk of these assets. The bond size factor adjusts the

<sup>143</sup> Ibid., page 8.

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computed RBC for those bonds that are subject to the size factor to more accurately reflect the risk.”<sup>144</sup>

The bond size adjustment factor, which measures the degree of diversification in the investment portfolio, is computed as the weighted average number of issuers in a portfolio subject to the adjustment, with the weights prescribed by the NAIC depending on the number of issuers. Table 84 displays the formula, including the NAIC weights.

TABLE 84

<b>Bond Size Adjustment Factor</b>			
	<u># of bond issuers</u>	<u>Weights</u>	<u>Weighted # Issuers</u>
	(1)	(2)	(3) = (1) * (2)
First 50	XXXX	2.5	
Next 50	XXXX	1.3	
Next 300	XXXX	1.0	
More than 400	XXXX	0.9	
Total	XXXX		

The bond size factor is equal to the total in column 3 divided by the total in column 1 in Table 84, minus 1. For example, if a reporting entity invests in 500 bonds, the bond size adjustment factor would be 0.2. The calculation of this factor is provided in Table 85 as the sum of the weighted number of issuers in column 3 of 580 divided by the total number of issuers in column 1 of 500, minus 1.

TABLE 85

<b>Example of Bond Size Adjustment Factor</b>			
	<u># of bond issuers</u>	<u>Weights</u>	<u>Weighted # Issuers</u>
	(1)	(2)	(3) = (1) * (2)
First 50	50	2.5	125
Next 50	50	1.3	65
Next 300	300	1.0	300
More than 400	100	0.9	90
Total	500	1.2	580

<sup>144</sup> Ibid.

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The bond size factor is applied to the RBC calculated for bonds subject to adjustment. As displayed in Table 85, the weights decrease with the number of issuers. Therefore, the more issuers, the lower the factor applied to the RBC and the lower the additional RBC amount required. For a reporting entity investing in fewer than 50 bonds, the factor is 1.5 times the RBC required for the bonds (=2.5 - 1); for an entity investing in 1,000 bonds, the factor is 0.03.<sup>145</sup>

The bond size factor only applies to portfolios having fewer than 1,300 bonds; the bond size factor for portfolios having 1,300 or more bonds is zero.

Bonds that are subject to the bond size adjustment factor include unaffiliated bonds in classes 02 through 06, plus non-U.S. government bonds in class 01.

*Mortgage Loans*

The RBC charge for mortgage loans is computed as the book/adjusted carrying value of the loans multiplied by a factor of 0.050.

*Miscellaneous Assets*

The RBC charge for miscellaneous assets is computed as a factor times the book/adjusted carrying value for those assets that are in excess of amounts considered elsewhere in the RBC formula, if any. The RBC charges for each investment are as follows:

- ▶ 0.003 times the book value of cash, net cash equivalents and other short-term investments
- ▶ 0.050 times admitted collateral loans

*Replication (Synthetic Asset) Transactions and Mandatorily Convertible Securities*

Assets included within this category are defined in the RBC instructions as follows:

“A replication (synthetic asset) transaction is a derivative transaction entered into in conjunction with other investments in order to reproduce the investment characteristics of otherwise permissible investments...

[A] mandatorily convertible security is a security that is mandatorily convertible at prices different from the market prices at the time of conversion. Such securities are classified on the Annual Statement by ignoring the conversion feature.”<sup>146</sup>

To expand upon the discussion about derivatives in *Chapter 8. The Statutory Income Statement: Income and Changes to Surplus* and *Chapter 13. Overview of Schedules and Their Purpose*, insurance companies use derivative transactions for one of three reasons:

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<sup>145</sup>  $0.03 = [((50 \times 2.5) + (50 \times 1.3) + (300 \times 1.0) + (600 \times 0.9)) / (1,000)] - 1.0$

<sup>146</sup> NAIC, *RBC Property & Casualty 2011 Forecasting & Instructions*, page 10.

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1. Hedge or mitigate risk
2. Generate income
3. Replicate an asset that cannot be purchased in the cash market because it is either too expensive or unavailable<sup>147</sup>

As stated previously, derivative holdings by property/casualty insurers are small relative to those held by life insurance companies. In 2011, life insurance companies held 96% of the industry's derivatives, whereas property/casualty insurance companies only held 4%. And only 3% (\$1.8 billion) of the total notional amount of derivatives held by property/casualty insurers (\$56.0 billion) was for replication purposes.<sup>148</sup> This somewhat explains the low-risk charge for this category.

Replication (synthetic asset) transactions are commonly referred to as "RSATs" and are reported in Schedule DB of the Annual Statement. An RSAT is a package of a derivative(s) and a cash instrument(s). The cash instrument is generally a bond.

The RBC charge for RSATs is equal to the RBC factor applicable for the asset the RSAT is replicating, multiplied by the statement value of the transaction from Schedule DB. Credit is given for the RBC charge already applied to the cash instrument. For example, if the cash instrument is a bond, then cash component of the RSAT is recorded as a bond on the company's balance sheet and has already received a risk charge based on its bond characterization. The RBC for RSATs is adjusted to remove the RBC previously calculated for the subject bond.

A mandatorily convertible security is reported in the Annual Statement schedule that corresponds to the security pre-conversion. For example, assume an insurer holds a bond that is mandatorily convertible into a fixed number of shares of common stock within three years. The bond will be reported in the company's balance sheet and will therefore receive a RBC charge based on its NAIC bond class. However, the insurer is not only exposed to risks associated with the bond, but also the risk associated with the common stock that it will convert to sometime over the next three years, since the bond's principal will be used to purchase the shares. The RBC charge for mandatorily convertible securities adjusts the RBC charge upward if the security that results from conversion is more risky. Since unaffiliated common stocks have a RBC charge of 0.15, and bonds have a charge between 0 and 0.3, depending on class, the RBC charge will be adjusted upward by the maximum of the difference between the RBC charge for the stock and bond, and zero. This is similar to the application of the RBC charge for RSATs; the RBC charge for mandatorily convertible securities is equal to

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<sup>147</sup> Memorandum to NAIC Investment Risk Based Capital (RBC) Working Group from Walter Givier – Northwestern Mutual Life, Mark Anderson – Met Life and other members of the ACLI Derivative Risk Management Team, dated March 29, 2013, Re: Life Insurer RBC for Derivatives.

[http://www.naic.org/documents/committees\\_e\\_capad\\_investment\\_rbc\\_wg\\_exposures\\_derivatives.pdf](http://www.naic.org/documents/committees_e_capad_investment_rbc_wg_exposures_derivatives.pdf)

<sup>148</sup> NAIC & The Center for Insurance Policy and Research, Capital Markets Special Report, "An Update of the Insurance Industry's Derivative Exposure," page 2 of 8, [http://www.naic.org/capital\\_markets\\_archive/130109.htm](http://www.naic.org/capital_markets_archive/130109.htm).

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the RBC charge for the converted security, reduced by the RBC charge for the original security.

Half of the charge for RSATs and mandatorily convertible securities is applied to  $R_1$ , with the remaining half applied to  $R_2$ . This assumes that half of the securities in the calculation are fixed income and half are equity.

#### *Off-balance Sheet Collateral and Schedule DL, Part 1, Assets*

The RBC charge for off-balance sheet collateral and Schedule DL assets considers the risk associated with securities lending programs. Recall the discussion of securities lending programs in *Chapter 13. Overview of Schedules and Their Purpose*. The risk associated with these programs is that the reporting entity will lose money on the reinvestment of collateral posted by the borrower. Collateral held by the reporting entity in conjunction with securities lending programs is reported one of three ways in the Annual Statement:

1. In investment schedules that correspond to the invested collateral (e.g., Schedule A, B, BA, D, DA and E), which roll up into the balance sheet
2. In Schedule DL, Part 1, of the Annual Statement, which rolls into line 10 of the asset side of the balance sheet
3. Off-balance sheet, due to not being recorded in the financial statements

The  $R_1$  charge considered herein includes a provision for these assets as included in items 2 and 3 above. The charge is equal to the book/adjusted carrying value multiplied by a factor, where the factor is equal to that for the particular asset class. For example, the same bond factors by class applicable to unaffiliated bonds are also used in this calculation.

#### *Asset Concentration Factor*

The asset concentration factor doubles the RBC charge for the 10 largest issuers that the insurance company is exposed to. The purpose of this charge is to reflect the increased risk associated with large concentrations in single issuers.

The 10 largest issuers are determined by first summing the insurer's total investment (book/adjusted carrying value) across all investments (fixed income plus equity) for each issuer. The total amounts for each issuer are then sorted from largest to smallest to determine the top 10. The RBC charge for each fixed income and equity asset is computed for the 10 largest issuers. The resulting RBC charge for fixed income is included as the asset concentration RBC within  $R_1$ ; the charge for equity is included as the asset concentration RBC

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within  $R_2$ .<sup>149</sup> The RBC charge is limited to a maximum of 0.300 for each fixed income and/or equity investment.

Not all assets are subject to the asset concentration factor, as certain assets are deemed to be of low risk or have already received the maximum charge of 0.300. The assets excluded from the additional charge are also excluded in determining the 10 largest issuers.

Fixed income assets that are subject to the asset concentration factor include the 10 largest investments in each of the following:

- ▶ Unaffiliated bonds in classes 02 through 05<sup>150</sup>
- ▶ Collateral loans
- ▶ Mortgage loans

$R_2$  assets that are subject to the asset concentration factor include following:

- ▶ Unaffiliated preferred stocks and hybrid securities in classes 02 through 05
- ▶ Unaffiliated common stock
- ▶ Investment in real estate
- ▶ Encumbrances on invested real estate
- ▶ Schedule BA assets (excluding collateral loans)
- ▶ Receivable for securities
- ▶ Aggregate write-ins for invested assets
- ▶ Derivatives

The following provides a simplified example to illustrate the calculation of the asset concentration factor.

Assume that the fixed income and equity investments made by an insurance company that are subject to the asset concentration factor are limited to 15 issuers and investments in these issuers are limited to the assets listed in the Table 86 below. The following provides the total adjusted book/carrying value of these investments sorted from highest to lowest value by issuer<sup>151</sup>.

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<sup>149</sup> The asset concentration *factor* can be computed as the weighted average of the total asset concentration RBC charge with the total subject assets.

<sup>150</sup> Unaffiliated bonds in class 01 are excluded because they are deemed to be of low risk; unaffiliated bonds in class 06 are excluded because they already receive the maximum charge of 0.300.

<sup>151</sup> Note, for simplicity, only certain assets were included in the example.



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TABLE 86

<i>Example</i>						
<i>Adjusted Book/Carrying Value for Assets Subject to Asset Concentration USD 000</i>						
Issuer Name	Fixed Income Assets		Equity Assets			Total Assets Subject to Asset Concentration
	Unaffiliated Bonds Class 2 - 5	Collateral Loans	Unaffiliated Preferred Stocks Class 2 - 5	Unaffiliated Common Stock	Investment Real Estate	
1 Aspill Drug				1,200		1,200
2 Deal Mart		1,000				1,000
3 U.S. Express	1,000					1,000
4 MacroHard Inc.	900					900
5 Dill Computing			900			900
6 Tropical Beverage Co.	820					820
7 Popsi Co.			800			800
8 Texas Oil Inc.	550					550
9 Westwood Resorts		200			35	235
10 Dakota Energy	220					220
11 Bear Pharmaceuticals				200		200
12 Mediapro	200					200
13 Pear Computer				100		100
14 Jane Moose	80					80
15 KO Media				25	50	75
Total	3,770	1,200	1,700	1,525	85	8,280

Only the first ten of these issuers (Aspill Drug through Dakota Energy) are considered in the calculation of the asset concentration factor. The asset concentration charge is computed by multiplying the RBC charge for each asset class by the associated RBC factor for that class. For simplicity, assume that each of the bond investments is class 2 and each of the preferred stock investments is class 3. Table 87 provides the calculation of the asset concentration RBC within  $R_1$  and  $R_2$ .

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TABLE 87

<i>Example</i>			
<i>Calculation of Asset Concentration RBC</i>			
	Book/Adjusted Carrying Value	Factor	Additional RBC
<b>Fixed Income Assets</b>			
Class 2 Unaffiliated Bonds	3,490	0.010	35
Class 3 Unaffiliated Bonds	-	0.020	-
Class 4 Unaffiliated Bonds	-	0.045	-
Class 5 Unaffiliated Bonds	-	0.100	-
Collateral Loans	1,200	0.050	60
Mortgage Loans	-	0.050	-
Subtotal Fixed Income	4,690	0.020	95
<b>Equity Assets</b>			
Class 2 Unaffiliated Preferred Stock	-	0.010	-
Class 3 Unaffiliated Preferred Stock	1,700	0.020	34
Class 4 Unaffiliated Preferred Stock	-	0.045	-
Class 5 Unaffiliated Preferred Stock	-	0.100	-
Class 2 Unaffiliated Hybrid Securities	-	0.010	-
Class 3 Unaffiliated Hybrid Securities	-	0.020	-
Class 4 Unaffiliated Hybrid Securities	-	0.045	-
Class 5 Unaffiliated Hybrid Securities	-	0.100	-
Unaffiliated Common Stock	1,200	0.150	180
Investment Real Estate	35	0.100	4
Encumbrance on Investment Real Estate	-	0.100	-
Schedule BA Assets	-	0.050	-
Receivable for Securities	-	0.050	-
Aggregate Write-Ins for Invested Assets	-	0.050	-
Derivatives	-	0.050	-
Subtotal Equity	2,935	0.074	218
Grand Total Asset Concentration			312

The asset concentration for fixed income investments within  $R_1$  is \$95,000 and the asset concentration for equity within  $R_2$  is \$218,000, resulting in a total asset concentration RBC of \$312,000.

*R<sub>1</sub> for Fictitious*

To further illustrate the  $R_1$  through  $R_5$  charges, we used the Annual Statement for Fictitious Insurance Company to build a full example of the NAIC calculations<sup>152</sup>. Because Schedule D is

<sup>152</sup> Note that Fictitious Insurance Company does not have any affiliated entities. Therefore the  $R_0$  charge is zero for Fictitious.

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not included in the Annual Statement for Fictitious, we had to make assumptions in preparing the calculation, such as the distribution of fixed assets by RBC class. Table 88 provides the R<sub>1</sub> portion of the calculation for Fictitious.

TABLE 88

<i>R<sub>1</sub> Charge for Fictitious Insurance Company NAIC Risk-Based Capital 2011</i>			
<u>R<sub>1</sub> Calculation – Fixed Income Assets</u>	<u>Amount Held</u>	<u>Charge Factor</u>	<u>RBC Charge</u>
Cash and Cash Equivalents	154,000	0.0030	462
Total Other Short-Term Investments	829,000	0.0030	2,487
Mortgage Bonds	245,000	0.0500	12,250
Net Admitted Collateral Loans	0	0.0500	0
<b>Bonds</b>			
U.S. Government	6,395,684	0.0000	0
Class 01 U.S. Government Agency Bonds	0	0.0030	0
Class 01 Unaffiliated Bonds	46,060,660	0.0030	138,182
Class 02 Unaffiliated Bonds	4,987,460	0.0100	49,875
Class 03 Unaffiliated Bonds	704,112	0.0200	14,082
Class 04 Unaffiliated Bonds	352,056	0.0450	15,843
Class 05 Unaffiliated Bonds	117,352	0.1000	11,735
Class 06 Unaffiliated Bonds	58,676	0.3000	17,603
Subtotal – Bonds subject to bond size factor	58,676,000		247,319
<b>Estimated number of bonds</b>	120		
	<u>Count</u>	<u>Multiplier</u>	<u>Weighting</u>
0 to 50	50	2.50	125
50 to 100	50	1.30	65
100 to 400	20	1.00	20
More than 400	0	0.900	0
<b>Sum (weighted average)</b>	120	1.750	210
Bond size factor RBC	247,319	0.750	185,490
Asset concentration RBC	87,825,000	0.0012	105,390
<b>Total R<sub>1</sub> Charge – Fixed Income Assets Risk</b>			<b>553,398</b>

THE RBC CHARGE FOR ASSET RISK ASSOCIATED WITH EQUITY INVESTMENTS (R<sub>2</sub>)

R<sub>2</sub> includes the charge for risk associated with equity investments in the following:

1. Holding company
2. Upstream affiliate (i.e., parent company)
3. Insurance subsidiaries that are not subject to RBC (other than alien insurers)
4. Investment affiliate
5. Other non-insurance subsidiaries

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6. Off-balance sheet collateral and Schedule DL, Part 1, Assets
7. Replication (synthetic asset) transactions and mandatorily convertible securities
8. Insurance affiliates that are subject to RBC
9. Unaffiliated stocks
10. Real estate
11. Schedule BA assets
12. Miscellaneous assets, including receivables for securities, aggregate write-ins for invested assets and derivatives

The RBC charge for the first six items listed above follows the same approach as described for fixed income securities in  $R_1$ , with the exception that the calculation is applied to the book/adjusted carrying values of common and preferred stocks instead of bonds. In addition, as discussed for  $R_1$ , half of the charge for replication transactions and mandatorily convertible securities listed above as item 7 is applied to  $R_2$ .

Similarly, there is the additional charge for asset concentration in the 10 largest issuers for each type of equity investment. The calculation is performed as described within the previous section of this chapter titled, "The RBC Charge for Asset Risk Associated with Fixed Income Investments ( $R_1$ )".

Table 89 provides perspective on the relevance of the above items to the  $R_2$  charge based on the NAIC's compilation of 2011 RBC results for the industry.<sup>153</sup>

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<sup>153</sup> NAIC, *Property & Casualty Industry RBC Results, 2012*, [http://www.naic.org/documents/research\\_stats\\_rbc\\_results\\_pc.pdf](http://www.naic.org/documents/research_stats_rbc_results_pc.pdf), Table 5, pages 5 through 7.

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TABLE 89

<b>Aggregate for 2,600 Property/Casualty Companies R<sub>2</sub> Component of 2011 RBC USD in 000s</b>		
<u>R<sub>2</sub> – Asset Risk – Equity</u>	<u>Totals</u>	<u>Distribution</u>
1. Holding company	2,148,678	3%
2. Parent company	88,198	0%
3. Insurance subsidiaries not subject to RBC	106,163	0%
4. Investment affiliate	274,407	0%
5. Other non-insurance subsidiaries	2,681,834	4%
6. Off-balance sheet collateral and Schedule DL, Part 1, Assets	32,430	0%
7. Replication transactions and mandatorily convertible securities	157,300	0%
8. Insurance affiliates that are subject to RBC	<i>Not separately provided</i>	0%
9. Unaffiliated stocks	26,300,329	35%
10. Real estate	1,044,097	1%
11. Schedule BA Assets	20,496,158	28%
12. Miscellaneous assets	189,348	0%
13. Asset Concentration (Equity)	20,838,585	28%
<b>Total R<sub>2</sub></b>	<b>74,357,527</b>	<b>100%</b>

Investments in unaffiliated stocks and Schedule BA assets, coupled with the asset concentration charge, represented nearly all of the risk charge within the R<sub>2</sub> category for the industry in 2011.

We won't get into all of the details underlying the calculations of the first seven items, as they were presented in the previous section of this chapter ("The RBC Charge for Asset Risk Associated with Fixed Income Investments (R<sub>1</sub>)"). We will, however, provide an example to illustrate the calculation of the RBC charge for equity investment in a holding company (item 1), and then continue by providing a brief discussion of the charges for the remaining types of equity investments (items 8 through 12).

#### *Holding Company*

For investment in a holding company, the RBC charge is 0.225 times the holding company value in excess of the carrying value (i.e., holding company value minus carrying value) for indirectly owned insurance affiliates calculated in R<sub>0</sub>. Let's use an example to illustrate. In this example we will use another fictional company named Reporting Entity Insurance Company (REIC).

Assume REIC purchased 100% of the shares in a holding company called HC Company in 2011. Also assume that HC Company has the following assets on its December 31, 2011, balance sheet, as illustrated in Table 90.

TABLE 90

Total assets held by HC Company as of December 31, 2011		
Type of asset	Assets 12/31/2011	Distribution by asset type
U.S. Sub Life Insurance Company	5,000,000	10%
U.S. Sub Property/Casualty Insurance Company	15,000,000	30%
UK Sub Property/Casualty Insurance Company	10,000,000	20%
Cash	8,000,000	16%
Other assets	12,000,000	24%
Total assets	50,000,000	100%

U.S. Sub Life Insurance Company, U.S. Sub Property/Casualty Insurance Company and UK Sub Property/Casualty Insurance Company are directly owned by HC Company and indirectly owned by REIC as a result of REIC's ownership of HC.

Recall that the book/adjusted carrying value is used in computing the  $R_0$  charge. The carrying value of an indirectly owned insurance subsidiary will depend on the carrying value of the holding company and percentage of the holding company carrying value that the subsidiary represents. Let's continue our example to illustrate.

Assume that REIC carried HC Company on its Annual Statement at year-end 2011 at a value of \$55 million, which is equal to the market value of the shares. Of this amount, 10%, or \$5.5 million, would represent the carrying value of U.S. Sub Life Insurance Company for purposes of determining the  $R_0$  charge in REIC's RBC calculation. Similarly, \$16.5 million ( $= 0.3 * \$55$  million) would be the carrying value for U.S. Sub Property/Casualty Insurance Company, and \$11 million is the value for the alien insurer, UK Sub Property/Casualty Insurance Company.

If REIC had only purchased, for example, 66% of the shares of HC Company, each carrying value would be adjusted by REIC's ownership interest of 66%. The corresponding values would be \$3.63 million, \$10.89 million and \$7.26 million for the three subsidiaries of HC Company, respectively.

Now back to our discussion of the  $R_1$  charge for investments in holding companies. The RBC charge is 0.225 times the holding company value in excess of the carrying value of indirectly owned insurance affiliates calculated in  $R_0$ . In our example, this would be 0.225 times \$22 million, where \$22 million is derived as in Table 91.

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TABLE 91

<u>Reporting Entity Insurance Company (REIC)</u>	<u>Carrying value</u>
HC Company	55,000,000
U.S. Sub Life Insurance Company	5,500,000
U.S. Sub Property/Casualty Insurance Company	16,500,000
UK Sub Property/Casualty Insurance Company	11,000,000
Subtotal, indirectly owned insurance subsidiaries	33,000,000
Holding company minus indirectly owned subs	22,000,000

*Insurance Affiliates that are Subject to RBC*

As noted in the earlier section of this paper titled "Insurance Subsidiaries Subject to RBC – Ownership in Common Stock", the RBC charge for investments in common stock in excess of the amount allocated to  $R_0$  is allocated to  $R_2$ .

*Unaffiliated Stocks*

The RBC charge for unaffiliated preferred stocks and hybrid investments is equal to the book/adjusted carrying value of the asset multiplied by a factor, where the factors vary based on the NAIC class. The classes for preferred stocks and hybrid securities are the same as those for bonds, as are the RBC factors, with the exception that there are no federal government guaranteed preferred stocks:

TABLE 93<sup>154</sup>

<u>NAIC class for preferred stocks and hybrid securities</u>	<u>RBC factor</u>
Class 01 – Highest credit quality	0.003
Class 02 – High credit quality	0.010
Class 03 – Medium credit quality	0.020
Class 04 – Low credit quality	0.045
Class 05 – Lowest credit quality	0.100
Class 06 – In or near default	0.300

The RBC charge for unaffiliated common stocks is computed separately for non-government money market funds and other admitted unaffiliated common stocks. The computation applies a specific factor to the book/adjusted carrying value. The RBC factor for non-government money market funds of 0.003 is equal to that for cash because these

<sup>154</sup> Note Table 92 has been omitted from this version of our publication. It serves as a placeholder to illustrate the  $R_2$  calculation and will be included when the NAIC resolves the inconsistency between the written instructions to RBC and the NAIC spreadsheet.

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investments are considered to be of the same risk level. The factor applied to other common stocks is 0.150.

*Real Estate, Schedule BA and Miscellaneous Assets*

In general, the RBC charge for real estate investments, other long-term invested assets (as per Schedule BA) and miscellaneous assets are computed as a factor times the book/adjusted carrying value for those assets. The RBC charges for each investment are as follows:

- ▶ 0.100 times the book value of real estate (Annual Statement Schedule A assets)
- ▶ 0.200 times the book value for other long-term invested assets (Annual Statement Schedule BA assets) other than collateral loans
- ▶ 0.050 times the book value for receivables for securities, aggregate write-ins for invested assets and derivatives

*R<sub>2</sub> for Fictitious*

Table 94 shows the calculation of R<sub>2</sub> for Fictitious Insurance Company. As with the calculation of R<sub>1</sub> for Fictitious, we had to make several assumptions because only excerpts of Fictitious' Annual Statement are included with this publication. One such assumption that is relevant to the calculation of R<sub>2</sub> is the distribution of stock by RBC class.



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TABLE 94<sup>155</sup>

<i>R<sub>2</sub> Charge for Fictitious Insurance Company</i> NAIC Risk-Based Capital 2011			
Total R <sub>0</sub> Charge – Affiliated Insurance Co. Asset Risk			0
Total R <sub>1</sub> Charge – Fixed Income Asset Risk			553,398
<b>R<sub>2</sub> Calculation – Equity Assets</b>	<b>Amount Held</b>	<b>Charge Factor</b>	<b>RBC Charge</b>
<b>Unaffiliated Preferred Stock</b>			
Class 01 Unaffiliated Preferred Stock	10,880	0.0030	33
Class 02 Unaffiliated Preferred Stock	0	0.0100	0
Class 03 Unaffiliated Preferred Stock	0	0.0200	0
Class 04 Unaffiliated Preferred Stock	23,120	0.0450	1,040
Class 05 Unaffiliated Preferred Stock	0	0.1000	0
Class 06 Unaffiliated Preferred Stock	0	0.3000	0
<b>Unaffiliated Common Stock</b>			
Non-government money market funds	0	0.0030	0
Other admitted unaffiliated common stock	19,340,000	0.1500	2,901,000
Non-Insurance Affiliated Common Stock	0	0.2250	0
Real Estate	3,845,000	0.1000	384,500
Encumbrances	0	0.1000	0
Schedule BA Assets Excluding Collateral Loans	4,628,000	0.2000	925,600
Receivables for Securities	0	0.0500	0
Aggregate W/I for Invest Assets	(5,000)	0.0500	0
All Other Invested Assets	79,000	0.0500	3,950
Asset concentration RBC	87,825,000	0.0010	87,825
<b>Total R<sub>2</sub> Charge – Equity Assets Risk</b>			<b>4,303,948</b>

THE RBC CHARGE FOR CREDIT RISK (R<sub>3</sub>)

Credit risk reflects counterparty (the entity owing the insurance company money) credit exposure for receivables, including those for reinsurance. It contemplates the risk that the counterparty will default (or not pay in whole or in part) and the risk associated with estimating the amounts recorded for counterparty receivables.

R<sub>3</sub> is the charge for credit risk associated with the following:

1. Non-invested assets
2. Reinsurance recoverable (reinsurance RBC)
3. Health credit risk

<sup>155</sup> Note the RBC charge is greater than or equal to 0 as in the case of Aggregate Write-ins (W/I) for Invested Assets in Table 94.

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The charge to the property/casualty industry in 2011 for R<sub>3</sub> is provided in Table 95.<sup>156</sup>

TABLE 95

Aggregate for 2,600 Property/Casualty Companies R <sub>3</sub> Component of 2011 RBC USD in 000s		
<u>R<sub>3</sub> – Asset Risk – Credit</u>	<u>Totals</u>	<u>Distribution</u>
1. Non-invested assets	3,172,945	20%
2. Reinsurance RBC	12,341,422	80%
3. Health credit risk	-	0%
<b>Total R<sub>3</sub></b>	<b>15,514,367</b>	<b>100%</b>

As expected, the risk associated with uncollectible reinsurance (due both to reinsurers unable and unwilling to pay) comprised the largest portion of the R<sub>3</sub> charge in 2011. While the health credit risk charge will be introduced below for completeness, it was \$0 in 2011 and has been since at least 2007.

*Non-invested assets*

R<sub>3</sub> includes the charge for risk associated with credit exposure resulting from the following non-invested assets listed on the balance sheet:

1. Investment income due and accrued
2. Amounts receivable relating to uninsured plans
3. Federal income tax recoverable
4. Guaranty funds receivable or on deposit
5. Recoverable from parent, subsidiaries and affiliates
6. Aggregate write-in for other than invested assets

The RBC charge for these assets is the net admitted value included in column 3 of the asset side of the balance sheet (page 2 of the Annual Statement), each multiplied by a factor of 0.050, with the exception of investment income due and accrued, which receives a factor of 0.010. The charge for investment income due and accrued is equal to the RBC factor applied to unaffiliated class 02 bonds because most of the investment income due and accrued comes from bonds, which are typically the largest holding for a property/casualty insurance company. The receivable assets are generally short-term balances generated in the normal course of doing business. The capital charges for these assets are lower than other long-term recoverables.

<sup>156</sup> NAIC, *Property & Casualty Industry RBC Results, 2012*, [http://www.naic.org/documents/research\\_stats\\_rbc\\_results\\_pc.pdf](http://www.naic.org/documents/research_stats_rbc_results_pc.pdf), Table 5, pages 5 through 7.

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*Reinsurance recoverables*

The R<sub>3</sub> charge for reinsurance recoverables is computed as 10% of the reinsurance recoverable amounts in column 15 of Schedule F, Part 3, of the Annual Statement. This charge reflects the risk that reinsurers can't or won't pay amounts the reporting entity expects to receive under the terms of its reinsurance contracts. Certain reinsurers are excluded from this charge. Recoverables from a reporting entity's cession to U.S. parents, subsidiaries and affiliates, state-mandated involuntary pools and associations, and federal insurance programs are excluded from the calculation. These recoverables are deemed to be of less risk because they are either due from a related entity, subject to joint and several liability on all participating companies, or backed by a governmental body. Further, a charge for involuntary pools was scrutinized by insurance companies at the onset because it was deemed as a disincentive for insurers to serve the involuntary market.<sup>157</sup> The recoverables due from reinsurers subject to the charge are reduced for the additional liability already established in the provision for reinsurance on line 16 of the liability side of the balance sheet and as calculated in Schedule F, Part 7. Recall from *Chapter 7. Statutory Balance Sheet: A Measure of Solvency*, the provision for reinsurance is a penalty that applies to all reinsurers that are slow to pay, disputing amounts owed to the ceding company, and/or unauthorized without posting required collateral.

Because the calculation of the provision for reinsurance considers all reinsurers, the provision must be allocated to those reinsurers that are subject to the R<sub>3</sub> charge.

The 10% was determined judgmentally and has remained since inception of the RBC formula for property/casualty insurers. Despite the relatively low impact that R<sub>3</sub> appears to have on the industry as a whole, the charge has been subject to criticism from insurance carriers, who have argued that the charge doesn't differentiate between highly rated reinsurers or those recoverable that are backed by collateral.<sup>158</sup> However, this charge continues to be included in the calculation. Over the years there has been considerable focus in the property/casualty industry on reinsurance. For one, uncollectible reinsurance was deemed partly to blame for the failure of Mission Insurance Company and Transit Casualty Company,<sup>159</sup> which helped set RBC in motion for the property/casualty industry. And throughout the years, reinsurance has

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<sup>157</sup> Feldblum, S., "NAIC Property/Casualty Insurance Company Risk-Based Capital Requirements," PCAS LXXXIII, 1996, pages 322.

<sup>158</sup> Feldblum, S., "NAIC Property/Casualty Insurance Company Risk-Based Capital Requirements," PCAS LXXXIII, 1996, pages 317-319.

<sup>159</sup> U.S. House of Representatives Subcommittee on Oversight and Investigations of the Committee on Energy and Commerce, *Failed Promises-Insurance Company Insolvencies*, 101 Cong., 2rid sess., February 1990. Washington, D.C.: GPO, 1993.

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been used in certain situations inappropriately to enhance a company's financial position or hide poor financial results.<sup>160</sup>

The RBC charge for reinsurance recoverable is split 50%/50% between  $R_3$  and  $R_4$  if the reserve RBC (see discussion below) exceeds the sum of the credit risk RBC for non-invested assets and reinsurance recoverables. Otherwise, the full amount of the reinsurance recoverable RBC charge is included in  $R_3$ .

*Health credit risk*

Finally,  $R_3$  also includes a charge for health credit risk for those reporting entities writing 5% or more in accident and health premiums in any of the last three years. This charge considers the risk associated with transferring health risks (morbidity and mortality) to health care organizations through fixed prepaid amounts (i.e., capitated payments).<sup>161</sup> There is a risk of non-payment in these situations (similar to traditional reinsurance recoverables). A charge is applied to reflect the credit risk associated with the portion of capitated payments over and above security held by the reporting entity for these organizations.

Given that the charge to the industry was zero in 2011, we will not go into details of the calculation of this charge.

*$R_3$  for Fictitious*

Table 96 illustrates the calculation of  $R_3$  for Fictitious.

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<sup>160</sup> Feldblum, S., "NAIC Property/Casualty Insurance Company Risk-Based Capital Requirements," PCAS LXXXIII, 1996, pages 317-319.

<sup>161</sup> Health care organizations include health maintenance organizations or managed care organizations.

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TABLE 96

<i>R<sub>3</sub> Charge for Fictitious Insurance Company NAIC RBC 2011</i>			
Total R <sub>0</sub> Charge – Affiliated Insurance Co. Asset Risk			0
Total R <sub>1</sub> Charge – Fixed Income Asset Risk			553,398
Total R <sub>2</sub> Charge – Equity Asset Risk			4,303,948
<b>R<sub>3</sub> Calculation – Credit-Related Assets</b>	<b>Amount Held</b>	<b>Charge Factor</b>	<b>RBC Charge</b>
Non-Affil and Alien Affil Reinsurance Recoverables Subject to RBC	11,229,258	0.1000	1,122,926
Interest, Dividends, etc. Due and Accrued	726,000	0.0100	7,260
Federal Income Tax Recoverable	2,437,000	0.0500	121,850
Recoverable from Parent, Subs and Aff.	0	0.0500	0
Agg. Write-ins for other than Inv. Assets	586,000	0.0500	29,300
All Other	10,000	0.0500	500
Total			1,281,836
Half of Reinsurance Recoverables Moved to R <sub>4</sub> Calculation			561,463
<b>Total R<sub>3</sub> Charge – Credit-Related Asset Risk</b>			<b>720,373</b>

THE RBC CHARGE FOR RESERVE RISK (R<sub>4</sub>)

As noted, R<sub>4</sub> is the largest of the RBC charges for the property/casualty insurance industry. Reserve risk contemplates the risk that a reporting entity's loss and LAE reserves will develop adversely. This charge is calculated separately by line of business using Schedule P data for the last 10 years.

R<sub>4</sub> is the charge for reserve risk associated with the following:

1. Reinsurance recoverable (reinsurance RBC)
2. Unpaid loss and LAE (reserve RBC)
3. Excessive premium growth
4. Accident and Health (A&H) claim reserves (health RBC)

Table 97 provides perspective on the relevance of each component of R<sub>4</sub> based on the NAIC report on 2011 RBC results.<sup>162</sup>

<sup>162</sup> NAIC, *Property & Casualty Industry RBC Results, 2012*, [http://www.naic.org/documents/research\\_stats\\_rbc\\_results\\_pc.pdf](http://www.naic.org/documents/research_stats_rbc_results_pc.pdf), Table 5, pages 5 through 7.

TABLE 97

<b>Aggregate for 2,600 Property/Casualty Companies R<sub>4</sub> Component of 2011 RBC USD in 000s</b>		
<u>R<sub>4</sub> – Underwriting Risk – Reserves</u>	<u>Totals</u>	<u>Distribution</u>
1. Reinsurance RBC	8,005,311	8%
2. Reserve RBC	93,259,716	91%
3. Excessive premium growth	709,540	1%
4. Health RBC	202,078	0%
<b>Total R<sub>4</sub></b>	<b>102,176,645</b>	<b>100%</b>

Reserve RBC comprised the vast majority of the charge in 2011.

Within the following sections we provide a discussion of each of these categories, with considerable focus on the reserve RBC since this represents the crux of the R<sub>4</sub> charge.

#### *Reinsurance RBC*

Recall from our discussion of the R<sub>3</sub> charge, reinsurance RBC represents the minimum amount of capital included in the RBC formula that would be needed to survive the risk of reinsurer default.

The reinsurance RBC within R<sub>4</sub> is equal to the other half of the reinsurance recoverable amount computed in R<sub>3</sub> unless the reserve RBC is less than the RBC for reinsurance plus non-invested assets. If this is the case, the entire reinsurance RBC charge is included in R<sub>3</sub> and the reinsurance RBC within R<sub>4</sub> is zero. The reserve RBC limitation is put in place so the insurance company cannot diversify away a portion of its credit risk in the situation where the company has limited net reserves.

#### *Reserve RBC*

Reserve RBC is determined by applying a set of factors (called company RBC percent) to the company's net loss and LAE reserves before non-tabular discount. Nominal (undiscounted) reserves are used because consideration for investment income is made by applying the same set of discount factors to all property/casualty insurance companies (called the adjustment for investment income). The use of a common method for considering investment income puts all property/casualty companies on an equivalent basis rather than having differences due to discount rates and payout patterns.

The calculation is performed separately by line of business using the same lines of business as used in Schedule P of the Annual Statement, with the exception that certain lines of business are combined. The occurrence and claims-made categories are combined for other liability and product liability, and reinsurance property and financial lines are combined.

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Once the calculation of the base loss and LAE reserve RBC is performed for each line of business, two adjustments are made: one for loss sensitive (e.g., retrospectively rated) contracts and the other for loss concentration. Similar to the asset concentration factor in  $R_1$  and  $R_2$ , the loss concentration factor considers diversification in the RBC calculation. Both result in reductions to the reserve RBC.

We will discuss each component of the calculation, providing examples where applicable.

Base loss and LAE reserve RBC by line of business

The loss and LAE reserve RBC by line of business is computed as follows:

Equation 1: Base Loss and LAE Reserve RBC

$$= \frac{[[\text{Company RBC \%} + 1] * \text{Adjustment for investment income}] - 1}{[\text{Net loss and LAE reserve} + \text{Other discounts not in the reserves}]}$$

The net loss and LAE reserves used in this calculation are provided in Schedule P, Part 1, column 24, for each line of business. As previously noted, these are gross of non-tabular discount, but net of tabular discount.

Company RBC percentage

The company RBC percent is the crux of the reserve risk charge. According to the NAIC RBC instructions, "These factors are designed to provide a surplus cushion against adverse reserve development."<sup>163</sup>

For each line of business, the company RBC percent is determined based on a 50% weighting applied to the straight industry reserve RBC percent and 50% applied to the industry reserve RBC percent adjusted for the company's own experience.

► Industry reserve RBC percent

The industry reserve RBC percent is a set of factors provided by the NAIC and is the same for all property/casualty insurance companies. There is one factor for each Schedule P line of business. According to the NAIC RBC instructions, these percentages "are based on detailed analysis of historical reserve development patterns found in Parts 2 and 3 of Schedule P for each major line of business."<sup>164</sup> They have been determined in the past by computing the ratio of net incurred loss and defense and cost containment (DCC) development during a particular period from Schedule P, Part 2, to the net loss and DCC reserves as of the earlier period (calculated by subtracting the figures in Schedule P, Part 3 from those in Part 2). The

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<sup>163</sup> NAIC, *RBC Property & Casualty 2011 Forecasting & Instructions*, page 20.

<sup>164</sup> Ibid.

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industry percent factor is selected based on the average for all companies within the property/casualty insurance industry, by line of business.

The industry RBC percent factors are not always updated annually, but rather on an as-needed basis. In fact, the factors in the original RBC model remained for well over 10 years. The only interim change was made to reflect the change in the format of Schedule P, such as when medical malpractice was split into its claims made and occurrence components.

The NAIC developed the original factors in 1993 based on an actuarial analysis using data evaluated as of 1991 and prior.<sup>165</sup> This analysis computed the aforementioned ratios of incurred loss and DCC to prior period reserves over each evaluation period provided in Schedule P, Parts 2 and 3 of the 1991 Annual Statement. Nine ratios were computed, the first of which provided development on accident years 1982 and prior over the period December 31, 1982, to December 31, 1991, as a ratio to loss and DCC reserves as of December 31, 1982. The remaining eight ratios were computed measuring development to December 31, 1991, for periods beginning December 31, 1983, through December 31, 1990. The nine ratios were calculated for each line of business by company. An average was computed over all companies for each evaluation period. The industry RBC percent factor for each line of business was set equal to the largest ratio over all of the evaluation dates. This is commonly referred to as the “worst-case year” ratio. The belief is that development of this magnitude could occur in the future because it occurred in the past.<sup>166</sup>

The original factors remained until 2008, when the NAIC adopted changes recommended by the American Academy of Actuaries P/C Risk-Based Capital Committee in a report titled *An update to P/C Risk-Based Capital Underwriting Factors: September 2007 Report to the National Association of Insurance Commissioners P/C Risk-Based Capital Working Group*. In this study, the Committee recognized that the insurance industry had been through many changes since the original factors were developed, namely changes in the underwriting cycle resulting in shifts in reserve redundancies/deficiencies. Furthermore, despite the formulaic approach of the worst-case year, the Committee found that the original factors could not be easily replicated and varied considerably relative to expectations as to the level of adverse development inherent in a particular line of business. The Committee therefore recommended developing a revised approach that would meet the following “criteria:

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<sup>165</sup> American Academy of Actuaries, “An Update to P/C Risk-Based Capital Underwriting Factors: September 2007 Report to the National Association of Insurance Commissioners P/C Risk-Based Capital Working Group,” page 3.

<sup>166</sup> Feldblum, S., “NAIC Property/Casualty Insurance Company Risk-Based Capital Requirements,” PCAS LXXXIII, 1996, pages 327-329.



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1. Simple to apply and understand;
2. Responsive to actual history and underlying risk;
3. Easily reproducible by future practitioners;
4. Statistically relevant;
5. Resulting in indications that could be adopted without disruptive swings in required capital for regulated companies."<sup>167</sup>

The revised approach differed from the original approach in four significant ways:

1. The historical data was filtered and screened to remove companies with insufficient or unusual data points. Examples include companies with less than 10 years of experience, and/or companies with negative paid, reserve and/or incurred loss and DCC in any one accident year.
2. Rather than selecting the ratio from the worst-case year over the average of all companies, the 87.5 percentile of all data points was used. "The 87.5 percentile was selected because it represents a conservative view of the risk in each line but is also broadly consistent with the existing factors."<sup>168</sup>
3. A floor was set such that the indicated industry reserve RBC percent factor resulted in a minimum charge of 5% after adjustment for investment income.
4. The indicated industry reserve RBC percent factors were capped to limit the change in the base loss and LAE reserve RBC. The Committee recommended a cap of 35%.<sup>169</sup>

For example, the indicated industry reserve RBC factor for private passenger automobile liability that was produced using the revised methodology before capping was 0.128, and the change in the investment income adjustment factor was 0.927. Using Equation 1 (assuming a net loss and LAE reserve balance of \$1), the implied based loss and LAE reserve RBC is 0.046. As displayed below, this represented a change of -70.5% from the original industry reserve RBC factor of 0.254 with adjustment for investment income of 0.921:

Indicated base loss and LAE reserve RBC based on 2007 methodology before capping:

$$\begin{aligned} &= \frac{[(0.128 + 1) * 0.927] - 1}{0.927} * \$1 \\ &= 0.046 \end{aligned}$$

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<sup>167</sup> American Academy of Actuaries, *An Update to P/C Risk-Based Capital Underwriting Factors: September 2007 Report to the National Association of Insurance Commissioners P/C Risk-Based Capital Working Group*, pages 2 and 3.

<sup>168</sup> *Ibid*, page 6.

<sup>169</sup> *Ibid*, pages 6 and 7.

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Original base loss and LAE reserve RBC:

$$= \frac{[[[0.254 + 1] * 0.921] - 1] * \$1}{0.927}$$

$$= 0.155$$

Change in base loss and LAE reserve RBC from original to revised (2007) methodology:

$$= 0.046 / 0.155 - 1$$

$$= -70.5\%$$

Capped at 35%, the revised methodology produced an industry reserve RBC percent factor of 0.187, which was calculated as follows:

$$= \frac{[[[(-0.350 + 1) * 0.155] + 1] / 0.927] - 1}{0.927}$$

$$= 0.187$$

To summarize, the industry RBC reserve factor indicated from the revised 2007 methodology was 0.128 before capping and 0.187 after the 35% cap. The 35% cap reduced the impact of the change in methodology from the original factor of 0.254.<sup>170</sup>

The NAIC adopted the factors in 2008 using the revised methodology and indications of the September 2007 report, however with a cap at 15% instead of 35%. The revised factors were applied to RBC calculations for the 2008 reporting year. To continue with the previous example, capping at 15% resulted in an industry RBC reserve percent factor of 0.221, which was calculated as follows:

$$= \frac{[[[(-0.150 + 1) * 0.155] + 1] / 0.927] - 1}{0.927}$$

$$= 0.221^{171}$$

Subsequent changes to the industry reserve RBC percent factors were also made and adopted in 2009 and 2010. The 2009 update applied a 15% cap to the factors adopted in 2008. That is, 2008 factors were substituted in for the "original" factors in the previous calculations, for purposes of capping the impact from the effects of the 2007

<sup>170</sup> Ibid, Appendix II, Exhibit I – III.

<sup>171</sup> American Academy of Actuaries, *Update to P/C Risk-Based Capital Underwriting Factors Presented to National Association of Insurance Commissioners P/C Risk-Based Capital Working Group*, March 2008.

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revised methodology. This revision was adopted in 2009 and applied to the 2009 reporting year.<sup>172</sup>

Two changes were made in 2010. First, in March 2010, the American Academy of Actuaries P/C Risk-Based Capital Working Group updated the 2007 methodology but with 2008 data. As with the 2007 study, the factors were capped to cause no more than a 15% change to the current factors (2009 updated factors), and the minimum charge was set at 5%.<sup>173</sup> Second, in June 2010, the March 2010 study was updated using a 5% cap instead of 15%.<sup>174</sup> The 2010 study capped at 5% was adopted and applied to the 2010 reporting year.

► Company “development factor”

The reporting entity's own loss experience is considered by adjusting the industry reserve RBC percent by the company “development factor” by line of business. This development factor is calculated as the ratio of the sum of incurred loss and DCC from nine prior accident years evaluated as of the current year to the sum of the initial evaluations of those incurred amounts. The current incurred loss and DCC values come from Schedule P, Part 2, column 10, with the initial values coming from the first incurred value shown for each accident year. The initial values lie along the diagonal. This development factor measures how the initial estimates of ultimate loss and DCC have developed based on what the company currently knows. The factor is capped at 400% to limit the impact of anomalous, one-time results.

The reporting entity may not rely on its own experience in determining the company RBC percent if:

1. Either the initial or current values shown in Schedule P, Part 2, are negative for any year.
2. The current value is zero for any year.
3. The sum of the initial values is zero across all years.

#### Adjustment for investment income

With the exception of workers' compensation tabular reserves, and instances where a company has explicitly requested and received permission from state regulatory authorities to discount non-tabular reserves, insurance companies are required to record loss and LAE

<sup>172</sup> American Academy of Actuaries, *2009 Update to P/C Risk-Based Capital Underwriting Factors Presented to National Association of Insurance Commissioners' P/C Risk-Based Capital Working Group*, December 2008.

<sup>173</sup> American Academy of Actuaries, *2010 Update to P/C Risk-Based Capital Underwriting Factors Presented to the National Association of Insurance Commissioners' Property Risk-Based Capital Working Group*, March 2010.

<sup>174</sup> Letter from the American Academy of Actuaries P/C Risk-Based Capital Working Group to the National Association of Insurance Commissioners Capital Adequacy (E) Task Force *Re: Risk-Based Capital Underwriting Factors – 2010 Update – Addendum Using 5 Percent Cap*, dated June 22, 2010.

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reserves on an undiscounted basis under statutory accounting. This creates an inherent margin in surplus. For purposes of determining required capital under RBC, the reserves are adjusted to remove this margin.<sup>175</sup>

Similar to the industry reserve RBC percent, the investment income factors are provided by the NAIC. According to the NAIC RBC instructions, "This discount factor assumes a 5 percent interest rate. For lines of business other than workers' compensation and the excess reinsurance lines, the payment pattern is determined using an IRS type methodology applied to industry-wide Schedule P data by line of business; otherwise, a curve has been fit to the data to estimate the average payout over time. The discount factor for workers' compensation is adjusted to reflect the tabular portion of the reserves that is already discounted."<sup>176</sup> Tabular discounting is typically permitted only on the indemnity portion of workers' compensation reserves and not to the medical component due to the relatively fast-paying of medical expenses.

Similar to the industry reserve RBC percent, the investment income adjustment factors were updated in September 2007 from their original values. An approach similar to the original methodology was used, with the exception that updated data through 2005 was used.<sup>177</sup>

### Other discounts not included in the reserves

The adjustment for investment income is applied to reflect non-tabular discount. It is applied to loss and LAE reserves on a net of reinsurance basis, net of tabular discount, but before any non-tabular discount, as provided in column 24 of Schedule P, Part 1. If for some reason the amounts included in column 24 are net of non-tabular discount, the amount of the non-tabular discount would need to be added back to the reserves before applying the adjustment for investment income.

These amounts are generally equal to zero; the amount of non-tabular discount is included in columns 32 and 33 of Schedule P, Part 1.

### Adjustment for loss-sensitive business

The loss sensitive adjustment provides a discount for business that is written by the insurance company on contracts for which the premium is determined based on the insured's loss experience (i.e., retrospectively rated contracts). The loss experience is shared in whole or in part with the insured. Therefore, the risk of adverse loss development is also shared with the insured. The insurer needs less surplus to survive this risk of adverse loss development than it does if none of the policies were written on a loss sensitive basis thereby resulting in a

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<sup>175</sup> Feldblum, S., "NAIC Property/Casualty Insurance Company Risk-Based Capital Requirements," PCAS LXXXIII, 1996, page 354.

<sup>176</sup> NAIC, *RBC Property & Casualty 2011 Forecasting & Instructions*, page 20.

<sup>177</sup> American Academy of Actuaries, *An Update to P/C Risk-Based Capital Underwriting Factors: September 2007 Report to the National Association of Insurance Commissioners P/C Risk-Based Capital Working Group*, page 5.

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discount to the company's RBC reserve charge to reflect this reduction in risk. This discount is computed separately by line of business.

Prior to summing the reserve risk RBC over all lines of business written by the reporting company, an adjustment is made to reflect loss-sensitive business. The following provides the application of the loss-sensitive adjustment:

$$\begin{aligned} \text{Equation 2: Loss and LAE RBC after discount} \\ &= \text{Equation 1} - \text{Loss-sensitive discount} \\ &= \text{Base Loss and LAE Reserve RBC} - \text{Loss-sensitive discount.} \end{aligned}$$

$$\begin{aligned} \text{Where the loss-sensitive discount} \\ &= \text{Loss-sensitive discount factor} \\ &\quad * \text{Base loss and LAE RBC (from Equation 1).} \end{aligned}$$

The loss-sensitive discount factor is 30% for net loss and expense reserves associated with direct loss-sensitive contracts and 15% for net loss and expense reserves associated with assumed loss-sensitive contracts. The difference stems from the potential offset associated with reinsurance contracts for commissions that are loss sensitive as well. Oftentimes such business is written with sliding scale commissions whereby the commission the ceding company receives from the reinsurer is dependent upon the loss ratio on the business; the lower the loss ratio, the higher the commission paid by the reinsurer to the ceding company, subject of course to specified limits. For example, the reinsurer may receive additional premium from the reinsured as losses emerge but in turn have to pay additional commission due to a reduction in loss ratio. As with direct loss-sensitive contracts, the risk of adverse development on assumed contracts is reduced; however, it is not reduced by as much due to the potential offset from ceding commissions.

The portion of net loss and expense reserves attributed to direct and assumed loss-sensitive contracts is found in column 3 of Schedule P, Parts 7A and 7B, respectively.

Adjustment for loss concentration

The loss concentration adjustment is applied to the sum of the RBC reserve charges for all lines of business and reflects diversification across the lines. The theory underlying this discount is that the reserves for each line of business written by an insurance company would not be expected to develop adversely or favorably at the same time, assuming such development is random.

The final net loss and LAE RBC charge is computed as follows:

$$\begin{aligned} \text{Equation 3: Net loss and LAE RBC} \\ &= \text{Total loss and LAE RBC after discount for all RBC lines} * 1,000 \\ &\quad * \text{Loss concentration factor.} \end{aligned}$$

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Where the loss concentration factor

$$= \frac{\text{Net loss and LAE for the largest line} * 0.30}{\text{Net loss and LAE for all lines combined}} + 0.70.$$

The loss concentration factor is determined by taking the percentage of total net loss and LAE reserves for the largest line of business to the total net loss and LAE for all RBC lines combined, multiplying this percentage by 0.300 and then adding the result to 0.700.<sup>178</sup>

Because all adverse loss development may not always be a random fluctuation in losses, such as when the company increases loss reserves to improve its earnings position, adverse development across lines may not be totally independent. This formula recognizes that there may be some interdependence between lines of business.

A monoline writer would not receive any discount, as the calculation would be  $1.00 * 0.300 + 0.700$ , which produces a loss concentration factor of 1.000. However, a company writing 60% of its business in its largest line would receive a discount to its RBC reserve risk charge of 12%, or a loss concentration factor of 0.880 ( $0.60 * 0.300 + 0.700$ ), which is a discount of 12% to the RBC reserve risk.

Illustration of reserve RBC calculation

The following provides an illustration of the reserve RBC calculation for REIC. Assume REIC writes only four lines of business: homeowners/farmowners (HO/FO), private passenger automobile liability (PPAL), workers' compensation (WC) and other liability (OL). The source of the company's own data is Schedule P, which is provided in thousands of U.S. dollars.

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<sup>178</sup> For clarity, largest line is determined based on the Schedule P line of business having the highest amount of net loss and LAE reserves as of the filing date. Note, despite being separate lines of business within Schedule P, claims-made and occurrence business are combined for purposes of this calculation. For example, other liability claims-made and occurrence would be added together in determining whether other liability is the largest line.

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TABLE 98

Reporting Entity Insurance Company (REIC)							
<b>Given the following data:</b>		<b>HO/FO</b>	<b>PPAL</b>	<b>WC</b>	<b>OL</b>	<b>Total All Lines</b>	<b>Source</b>
(1)	Industry Average Loss & LAE Development Ratio	0.962	0.989	0.999	0.954		Provided by NAIC
(2)	Company Average Loss & LAE Dvpt Ratio for prior 9 years	1.070	1.100	1.125	1.150		Company Schedule P, Part 2
(3)	Industry Loss & LAE RBC %	0.201	0.192	0.324	0.511		Provided by NAIC
(4)	Adjustment for Investment Income	0.938	0.928	0.830	0.852		Provided by NAIC
(5)	Company Net Loss & LAE Unpaid, gross of non-tabular discount	10,000	8,000	17,000	12,000	47,000	Company Schedule P, Part 1
(6)	Other Discount Amount Not Included in Unpaid Loss & LAE	-	-	-	-	-	Company data
(7)	Portion of Reserves on Retro-Rated Plans:						
(a)	% Direct Loss Sensitive	0.0%	0.0%	20.0%	0.0%		Company Schedule P, Part 7A, Col 3
(b)	% Assumed Loss Sensitive	0.0%	0.0%	0.0%	0.0%		Company Schedule P, Part 7B, Col 3
<b>Calculation of Reserve RBC</b>		<b>HO/FO</b>	<b>PPAL</b>	<b>WC</b>	<b>OL</b>	<b>Total All Lines</b>	
<b>Step 1: Base Loss &amp; LAE Reserve RBC</b>							
(8)	Ratio of Company Average Development Ratio to Industry	1.112	1.112	1.126	1.205		= (2) / (1)
(9)	Company Loss & LAE RBC %	0.212	0.203	0.344	0.563		= 50% of (3) + 50% of (8)*(3)
(10)	Base Loss & LAE Reserve RBC Charge	1,369	931	1,964	3,980		= { [(9)+1] * (4) } - 1 * { (5) + (6) }
<b>Step 2: Loss &amp; LAE RBC After Discount</b>							
(11)	Loss-sensitive Factor	-	-	0.060	-		= 30% of (7a) + 15% of (7b)
(12)	Loss-sensitive Discount	-	-	118	-		= (11) * (10)
(13)	Loss & LAE RBC After Discount	1,369	931	1,846	3,980	8,138	= (10) - (12)
<b>Step 3: Net Loss &amp; LAE RBC * 1,000</b>							
(14)	Distribution of Loss & LAE Reserves by Line	21%	17%	36%	26%		= (5) by line / (5) total
(15)	Loss Concentration Factor					0.809	= 0.300 * Max of (14) + 0.700
(16)	<b>Net Loss &amp; LAE RBC * 1,000</b>					<b>6,573,735</b>	= (13) * (15) * 1,000

As displayed in Table 98, the reserve RBC included in the R<sub>4</sub> charge for REIC is \$6,215,668. The main driver of the reserve RBC is the company loss and LAE RBC percent. This percentage is higher than the industry RBC percent in line 3 because REIC's ultimate estimates tend to develop adversely, as evidenced by the ratios of company development to industry development in excess of 1.000 in line 8 above.

Table 99 provides another example of the detailed R<sub>4</sub> calculation for the commercial automobile liability (CAL) line of business for Fictitious Insurance Company. This calculation uses the financial statements and Schedule P line detail found in other examples within this publication.

TABLE 99

<i>R<sub>4</sub> Charge for Commercial Automobile Liability (CAL)</i> <i>Fictitious Insurance Company</i> <i>NAIC Risk-Based Capital 2011</i>	
<b>R<sub>4</sub> – Reserve Risk</b>	<b>CAL</b>
Industry Average Development	0.992
Company Average Development	0.901
Company Average Development / Industry Average Development	0.908
Industry Loss & LAE RBC %	0.230
Company RBC %	0.219
Loss & LAE Unpaid	3,450,000
Adjustment for Investment Income	0.911
Loss & LAE Reserve RBC Before Discounts	381,256
Percent Loss-sensitive Direct Loss and Expense Reserves	0.011
Loss-sensitive Direct Loss and Expense Reserve Discount Factor	0.300
Loss-sensitive Discount for Loss and Expense Reserves	1,247
Loss and LAE Reserve RBC	380,009

*Excessive premium growth*

The estimation of unpaid loss and LAE reserves is subject to greater uncertainty for companies that are growing rapidly. The reasons are twofold. First, an insurance company does not have as much insight into new business as it does into risks that are currently on the books. Second, the estimation of unpaid claims is more difficult for a growing company rather than a company in a steady state. Consider a company that decides to grow its writings by 20% over the course of a year. As a company grows throughout the year, the average writings are more heavily skewed toward the second half of the policy year. Without explicit consideration for this shift, traditional actuarial projection techniques will not adequately capture the lag in loss emergence and therefore understate the reserve need. However, the difficulty is in determining how exactly to consider this shift.

In the RBC calculation, excessive growth is defined as a three-year average growth rate in gross written premiums that is in excess of 10%. A growth rate of 10% is deemed to be a normal annual increase in premium volume. The growth rate for any single year is capped at 40%. The excess percentage (excess of 10%) is called the RBC average growth rate factor.

$$\begin{aligned} &\text{Average growth rate factor} \\ = &\text{Minimum \{maximum (average gross premium growth over three years, 0.10),} \\ &0.40\} - 0.10. \end{aligned}$$

For purposes of this calculation, gross written premiums are equal to direct written premiums from line 35 of column 1 of the Underwriting and Investment Exhibit (U&IE), plus assumed premiums from non-affiliates in column 3. To perform this calculation, Part 1 of the U&IE is required for each of the past four years. The calculation is performed using as many years as



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possible, but no more than four; if the company only has one year of experience, only one year is used. However if the company is a start-up, a growth rate of 40% is used. And, if a company has no gross written premium in the current year, it is assumed not to be growing, and a growth rate of zero is used.

This calculation is formed on a group basis, for those companies that are part of a group. Therefore, each member of the group will have the same RBC average growth rate factor. The group basis is used to neither punish nor reward individual legal entities that might be growing due to a realignment of business from one company within the group to another. In this case the growth is not attributed to new business but rather a transfer or risks from one company to the other.

In addition, business acquired or divested as a "shell" is included in the calculation of the growth rate only to the extent that the liabilities are retained by the reporting entity. And, servicing carriers for assigned risk pools can exclude the written premiums associated with the involuntary pool, as the insurer has little or no control over the assignment of such risk.

The RBC average growth rate factor is multiplied by 0.450 of the net loss and LAE reserves as per the total line in Schedule P, Part 1, Summary, column 24.

Excessive premium growth charge for loss and LAE reserves =

RBC average growth rate factor \* 0.450 \* net loss and LAE reserves.

The 0.450 has remained unchanged since the original RBC formula for property/casualty insurers was implemented. It was determined by a member of the American Academy of Actuaries RBC Task Force (Mr. Allan Kaufman) by studying the average development in net loss and LAE reserves experienced by companies that experienced growth in excess of 10%, relative to development observed by the remainder of the industry.<sup>179</sup> The 0.450 is already adjusted for discount using a factor of 0.90, which was what Kaufman approximated to be the average discount factor for all lines of business.<sup>180</sup>

#### *Health RBC*

In addition to the charge for property/casualty lines of business, a health RBC is required for those property/casualty insurers that write 5% or more in accident and health premiums in any of the past three years. We will not go into the details of this calculation, but note that the health RBC calculation is based on the RBC formula for life insurance.

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<sup>179</sup> Feldblum, S., "NAIC Property/Casualty Insurance Company Risk-Based Capital Requirements," PCAS LXXXIII, 1996, page 354.

<sup>180</sup> Ibid.

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*R<sub>4</sub> for Fictitious*

Table 100 provides the R<sub>4</sub> calculation for Fictitious.

TABLE 100

<i>R<sub>4</sub> Charge for Fictitious Insurance Company NAIC Risk-Based Capital 2011</i>					
Total R <sub>0</sub> Charge – Affiliated Insurance Co. Asset Risk					0
Total R <sub>1</sub> Charge – Fixed Income Asset Risk					553,398
Total R <sub>2</sub> Charge – Equity Asset Risk					4,303,948
Total R <sub>3</sub> Charge – Credit-Related Asset Risk					720,373
	<b>Amount Held</b>	<b>Charge Factor</b>	<b>Initial RBC Charge</b>	<b>Loss-sensitive Discount<sup>181</sup></b>	<b>Final RBC Charge</b>
<b><u>R<sub>4</sub> Calculation – Underwriting Risk – Reserves</u></b>					
<b><u>Property / Casualty business</u></b>					
Loss and LAE reserves – HO/FO	1,455,000	0.1237	180,018	0	180,018
Loss and LAE reserves – PPAL	2,482,000	0.1136	281,955	0	281,955
Loss and LAE reserves – CAL	3,450,000	0.1105	381,256	1,247	380,009
Loss and LAE reserves – WC	15,946,000	0.1122	1,789,141	66,019	1,723,122
Loss and LAE reserves – CMP	4,782,000	0.3087	1,476,414	0	1,476,414
Loss and LAE reserves – Med Mal Occurrence	0	0.0000	0	0	0
Loss and LAE reserves – Med Mal CM	0	0.0000	0	0	0
Loss and LAE reserves – Spec Liab	0	0.0000	0	0	0
Loss and LAE reserves – OL	20,691,000	0.3095	6,404,361	9,607	6,394,754
Loss and LAE reserves – Spec Prop	1,624,000	0.1740	282,581	0	282,581
Loss and LAE reserves – APD	310,000	0.0873	27,052	0	27,052
Loss and LAE reserves – F&S	817,000	0.2530	206,717	0	206,717
Loss and LAE reserves – Other	0	0.0000	0	0	0
Loss and LAE reserves – Products Liability	0	0.0000	0	0	0
Loss and LAE reserves – All Other					
Total	51,557,000		11,029,495	76,873	10,952,622
Company loss concentration factor		0.8200			
Loss reserve RBC after loss concentration					8,981,150
Current year growth		0.0195			
1st prior year growth		-0.0486			
2nd prior year growth		-0.0550			
Selected Average Growth		0.0000			
RBC average growth rate		0.0000			
Excessive growth charge on loss and LAE reserves	51,557,000	0.0000			0
<b>Half of Reinsurance RBC</b>					<b>561,463</b>
<b>Total R<sub>4</sub> Charge – Underwriting Risk – Reserves</b>					<b>9,542,613</b>

<sup>181</sup> We have assumed that the percentage of Fictitious' net loss and expense reserves that emanates from loss-sensitive contracts written on a direct basis is: 1.09% for commercial automobile liability, 12.3% for workers' compensation, 0.5% for other liability, and 0% for all other lines and for loss-sensitive contracts written on an assumed basis.

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THE RBC CHARGE FOR WRITTEN PREMIUM RISK (R<sub>5</sub>)

The final category of the RBC charge for property/casualty insurers is the R<sub>5</sub> charge. This is the charge for reserve risk associated with the following:

1. Net written premium (written premium RBC)
2. Excessive premium growth
3. Health premium (health premium RBC)
4. Health stabilization

As displayed in Table 101, written premium RBC comprised nearly all (99%) of the R<sub>5</sub> charge for the property/casualty industry in 2011.<sup>182</sup>

TABLE 101

<b>Aggregate for 2,600 Property/Casualty Companies R<sub>5</sub> Component of 2011 RBC USD in 000s</b>		
<b>R<sub>5</sub> – Underwriting Risk – Written Premiums</b>	<b>Totals</b>	<b>Distribution</b>
Written premium RBC	55,005,221	99%
Excessive premium growth	359,836	1%
Health premium RBC	367,044	1%
Health stabilization	22,368	0%
<b>Total R<sub>5</sub></b>	<b>55,754,469</b>	<b>100%</b>

The following provides a brief discussion of each of the first two categories of the R<sub>5</sub> risk charge. As previously noted, we will not go into details of the charge for health insurance. As displayed in Table 101, the charge for health premium RBC and stabilization were immaterial to the industry in 2011. The 2011 statistics for the property/casualty industry have been consistent since at least 2007.

*Written premium RBC*

Written premium risk contemplates the risk that future business written by the company will be unprofitable. Ideally the charge for this risk should be based on business written in the following year, but since that is an unknown quantity, business written during the current year is used as a proxy. Similar to the reserve RBC, the written premium RBC is computed by applying a set of factors to the company's net written premiums during the current year by line of business. The calculation is done on the same lines of business as the reserve RBC with a different set of factors used in the calculation.

<sup>182</sup> NAIC, *Property & Casualty Industry RBC Results, 2012*, [http://www.naic.org/documents/research\\_stats\\_rbc\\_results\\_pc.pdf](http://www.naic.org/documents/research_stats_rbc_results_pc.pdf), Table 5, pages 5 through 7.

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As with the reserve RBC, once the calculation of the base net written premium RBC is calculated for each line of business, two reductions are made: one for loss-sensitive business and the other for premium concentration, as opposed to loss concentration. Premium concentration reflects diversification in writings across lines of business.

Because the mechanics generally follow those used in the reserve RBC charge, we will only discuss differences in the calculation for written premium RBC.

Base net written premium RBC by line of business

The net written premium RBC by line of business is computed as follows:

Equation 4: Base net written premium RBC

$$= \text{Net written premium for the current calendar year} \\ * [ [\text{Company RBC loss and LAE ratio} * \text{Adjustment for investment income}] + \\ \text{Underwriting expense ratio} - 1.000 ].$$

The net written premiums for each line of business are provided in column 6 of Part 1B of the U&IE within the Annual Statement. Aggregate write-ins for other lines of business are included within the other liability line of business.

Company RBC loss and LAE ratio

As with the company RBC percent used in the reserve RBC, the company RBC loss and LAE ratio is the crux of the written premium risk charge. For each line of business, the company RBC loss and LAE ratio is determined based on a 50% weighting applied to the straight industry RBC loss and LAE ratio and 50% applied to the industry RBC loss and LAE ratio adjusted for the company's own experience. The industry RBC loss and LAE ratio is given by the NAIC and is the same for all property/casualty insurance companies.

As with the industry reserve RBC percent, the industry RBC loss and LAE ratios did not change from their original value until 2008, when the NAIC adopted changes recommended by the American Academy of Actuaries P/C Risk-Based Capital Committee.<sup>183</sup> The original industry RBC loss and LAE ratios were based on the "worst-case" accident year ratio by line of business that resulted from taking a simple average over all companies. Company loss and LAE ratios by accident year were taken from what is currently column 31 of Schedule P, Part 1. The revised methodology recommended by the P/C Risk-Based Capital Committee instead uses the 87.5 percentile of all data points.

Consistent with the industry reserve RBC percent factor, a floor was set such that the indicated industry RBC loss and LAE ratio resulted in a minimum charge of 5% after

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<sup>183</sup> Note, however, changes were made to reflect structural changes to Schedule P over the time period, such as the separation of medical malpractice into its occurrence and claims-made components.

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adjustment for investment income. In addition, the indicated industry RBC loss and LAE ratios were capped to limit the change in the base loss and LAE reserve RBC. The data was also filtered and screened to remove anomalous values (e.g., companies having less than an average of \$500,000 in earned premium or a loss ratio of 0% for any one year). Further, loss ratios were capped at 300%.<sup>184</sup>

The reporting entity's own experience is considered by adjusting the industry loss and LAE ratios by the ratio of the company average loss and LAE ratio to the industry average loss and LAE ratio. The company average loss and LAE ratio is a straight average over the past 10 accident years of the net loss and LAE ratios provided in Schedule P, Part 1, column 31. Loss and LAE ratios for any accident year in excess of 300% are capped at that value in consideration of anomalous, one-time results.

Note that the reporting entity may not rely on its own experience in determining the company RBC loss and LAE ratio if:

1. Either the net earned premium of loss and LAE ratio for any accident year is zero or negative.
2. More than one year's net earned premium is less than 20% of the average over all years (if only one year meets this criteria the company can exclude this year from the average).
3. More than three years' net earned premiums are less than 20% of the average over all years for *all* lines (otherwise the company can exclude this specific year from the average).

Adjustment for investment income

The investment income factors are provided by the NAIC and calculated using the same assumptions as in the reserve RBC, with the exception that discounted years differ because written premium is discounted as opposed to reserves.

Underwriting expense ratio

This is the company's own underwriting expense ratio for the current year capped at 400%. It is equal to the ratio of other underwriting expenses incurred in the current year per line 4 of the income statement, divided by total net written premium for the current year from Part 1B, column 6 of the U&IE.

$$\text{Underwriting expense ratio} = \frac{\text{Other underwriting expenses}}{\text{Net written premium}}$$

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<sup>184</sup> American Academy of Actuaries, *An Update to P/C Risk-Based Capital Underwriting Factors: September 2007 Report to the National Association of Insurance Commissioners P/C Risk-Based Capital Working Group*, pages 2 and 5.

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### Adjustment for loss-sensitive business

Prior to summing the base net written premium RBC over all lines of business written by the reporting company, an adjustment is made to reflect loss-sensitive business. The following provides the application of the loss-sensitive adjustment:

$$\begin{aligned}
 \text{Equation 5: Net written premium RBC after discount} \\
 &= \text{Equation 4} \\
 &\quad - \text{Loss-sensitive discount} \\
 &= \text{Based net written premium RBC} \\
 &\quad - \text{Loss-sensitive discount.}
 \end{aligned}$$

Similar to the reserve RBC, a 30% discount is applied to the portion of the base net written premium RBC that is attributed to direct loss-sensitive contracts, and a 15% discount is applied to the base net written premium for assumed contracts. The portion of written net written premium attributed to direct and assumed loss sensitive contracts is found in column 6 of Schedule P, Parts 7A and 7B, respectively.

### Adjustment for premium concentration

The final net written premium RBC charge is computed as follows:

$$\begin{aligned}
 \text{Equation 6: Net written premium RBC} \\
 &= \text{Equation 5} \\
 &\quad * \text{Premium concentration factor} \\
 &= \text{Total net written premium RBC after discount} \\
 &\quad * \text{Premium concentration factor.}
 \end{aligned}$$

The premium concentration factor is determined by taking the percentage of total net written premiums that the largest line of business represents, multiplying this percentage by 0.300 and then adding the result to 0.700. As with the loss concentration factor, a monoline writer would not receive any discount, as the calculation would be  $1.00 * 0.300 + 0.700$ , which produces a premium concentration factor of 1.000. However, a company writing 60% of its business in its largest line would receive a discount to its net written premium RBC charge of 12%, or a premium concentration factor of 0.880 ( $= 0.60 * 0.300 + 0.700$ ).

### Illustration of written premium RBC calculation

Table 102 shows the written premium RBC calculation for REIC used in our illustration of Reserve RBC. The source of the company's net written premium data is Part 1B of the U&IE, which is provided in U.S. dollars.

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TABLE 102 (USD)

Reporting Entity Insurance Company (REIC)						
<u>Given the following data:</u>	<u>HO/FO</u>	<u>PPAL</u>	<u>WC</u>	<u>OL</u>	<u>Total All Lines</u>	<u>Source</u>
(1) Industry Average Loss & LAE Ratio	0.726	0.804	0.766	0.662		Provided by NAIC
(2) Company Average Loss & LAE Ratio for past 10 years	0.634	0.724	0.811	0.975		Company Schedule P, Part 1
(3) Industry Loss & LAE Ratio	0.937	0.969	1.033	1.042		Provided by NAIC
(4) Adjustment for Investment Income	0.954	0.925	0.839	0.816		Provided by NAIC
(5) Company Current Year Net Written Premium	8,500,000	7,000,000	6,200,000	5,300,000	27,000,000	Company U/W & Inv Ex, Part 1B, Col 6
(6) Company Underwriting Expense Ratio	0.271	0.271	0.271	0.271		Company Inc Stmt Line 4 divided by U/W & Inv Ex, Part 1B, Col 6
(7) Portion of WP on Retro-Rated Plans:						
(a) % Direct Loss Sensitive	0.0%	0.0%	13.0%	0.0%		Company Schedule P, Part 7A, Col 6
(b) % Assumed Loss Sensitive	0.0%	0.0%	0.0%	0.0%		Company Schedule P, Part 7B, Col 6
<b>Calculation of Written Premium RBC:</b>	<b>HO/FO</b>	<b>PPAL</b>	<b>WC</b>	<b>OL</b>	<b>Total All Lines</b>	
<b>Step 1: Base Written Premium RBC</b>						
(8) Ratio of Company Average Loss & LAE Ratio to Industry Ratio	0.873	0.900	1.059	1.473		= (2)/(1)
(9) Company Loss & LAE Ratio	0.878	0.921	1.063	1.288		= 50% of (3) + 50% of (8)*(3)
(10) Base Loss & LAE WP RBC Charge	920,209	859,122	1,011,496	1,708,086		= (5) * [ (9) * (4) ] + (6) - 1 }
<b>Step 2: Net Written Premium RBC After Discount</b>						
(11) Loss-sensitive Factor	-	-	0.039	-		= 30% of (7a) + 15% of (7b)
(12) Loss-sensitive Discount	-	-	39,448	-		= (11) * (10)
(13) Net Written Premium RBC After Discount	920,209	859,122	972,048	1,708,086	4,459,464	= (10) - (12)
<b>Step 3: Net Written Premium RBC</b>						
(14) Distribution of WP by Line	31%	26%	23%	20%		= (5) by line / (5) total
(15) Premium Concentration Factor					0.794	= 0.300 * Max of (14) + 0.700
(16) <b>Net Written Premium RBC</b>					<b>3,542,797</b>	= (13) * (15)

As displayed in Table 102, the written premium RBC that is included in the R<sub>5</sub> charge for REIC is \$3,542,797. Here the company average loss and LAE ratio for the past 10 years (line 2) is better than the industry average loss and LAE ratio (line 1) for the personal lines (HO/FO and PPAL) and worse for the commercial lines (WC and OL). Thus, the company loss and LAE ratio in line 9 is lower than the industry ratio in line 3 for the personal lines and higher for the commercial lines. In fact, the ratio is substantially higher for OL given the poor average loss ratio over the past 10 years, which is causing a higher overall written premium RBC for OL

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than the other three lines of business, despite the fact that the premium writings are the lowest for OL.

Table 103 provides another example of the  $R_5$  calculation for CAL for Fictitious.

TABLE 103

<i><b><math>R_5</math> Charge for Commercial Automobile Liability (CAL) Fictitious Insurance Company NAIC Risk-Based Capital 2011</b></i>	
<b><u><math>R_5</math> – Written Premium Risk</u></b>	
Industry Average Loss and Loss Expense Ratio	0.679
Company Average Loss and Loss Expense Ratio	0.618
Company Average Loss Ratio/Industry Loss Ratio	0.910
Industry Loss & LAE Ratio	0.988
Company RBC Loss & LAE Ratio	0.944
Company Underwriting Expense Ratio	0.317
Net Written Premium	2,250,000
Adjustment for Investment Income	0.89
Net Written Premium RBC Before Discounts	353,610
Percent Loss-sensitive Direct NPW	0.008
Loss-sensitive Direct NPW Discount Factor	0.300
Loss-sensitive Discount for Direct NPW	849
Total NPW RBC	352,761

*Excessive premium growth*

The RBC average growth rate factor is calculated the same as that for reserve risk. The factor differs in its application however. In the case of  $R_5$ , the excessive growth charge is applied to net written premium rather than reserves and multiplied by 0.225, rather than 0.450. The net written premium is obtained from the total line in Part 1B, column 6, of the U&IE. The factor of 0.225 was determined by Kaufman based on a study of the loss ratio for companies experience growth in excess of 10% versus all companies in the industry. As with the 0.450 factor, the factor applied to net written premium of 0.225 has been adjusted for discounting by 0.90.

 *$R_5$  for Fictitious*

Table 104 provides the  $R_5$  portion of the calculation for Fictitious.



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TABLE 104

<i>R<sub>5</sub> Charge for Fictitious Insurance Company</i>					
<i>NAIC Risk-Based Capital 2011</i>					
<b>Fictitious Insurance Company</b>					
Total R <sub>0</sub> Charge – Affiliated Insurance Co. Asset Risk					0
Total R <sub>1</sub> Charge – Fixed Income Asset Risk					553,398
Total R <sub>2</sub> Charge – Equity Asset Risk					4,303,948
Total R <sub>3</sub> Charge – Credit-Related Asset Risk					720,373
Total R <sub>4</sub> Charge – Underwriting Risk--Reserves					9,542,613
	<b>Amount</b>	<b>Charge</b>	<b>Initial RBC</b>	<b>Loss-</b>	<b>Final RBC</b>
<b>R<sub>5</sub> Calculation – Underwriting Risk – Net Written Premium</b>	<b>Written</b>	<b>Factor</b>	<b>Charge</b>	<b>sensitive</b>	<b>Charge</b>
				<b>Discount<sup>185</sup></b>	
<b>Property/Casualty business</b>					
Net Written Premium – HO / FO	4,555,000	0.1441	656,457	0	656,457
Net Written Premium – PPAL	2,804,000	0.2115	592,976	0	592,976
Net Written Premium – CAL	2,250,000	0.1572	353,610	849	352,761
Net Written Premium – WC	4,022,000	0.2030	816,402	13,471	802,931
Net Written Premium – CMP	4,677,000	0.1709	799,243	0	799,243
Net Written Premium – Med Mal Occurrence	0	0.0000	0	0	0
Net Written Premium – Med Mal CM	0	0.0000	0	0	0
Net Written Premium – Spec Liab	0	0.0000	0	0	0
Net Written Premium – OL	3,502,000	0.1999	700,092	630	699,462
Net Written Premium – Spec Prop	2,484,000	0.1805	448,439	0	448,439
Net Written Premium – APD	2,312,000	0.1715	396,462	0	396,462
Net Written Premium – F&S	146,000	0.1830	26,723	0	26,723
Net Written Premium – Other	0	0.0000	0	0	0
Net Written Premium – Products Liability	0	0.0000	0	0	0
Net Written Premium – All Other	0	0.0000	0	0	0
Total	26,752,000		4,790,404	14,950	4,775,454
Company premium concentration factor		0.7520			
Written Premium RBC after premium concentration					3,591,141
Excessive growth charge on net written premium	26,752,000	0.0000			0
<b>Total R<sub>5</sub> Charge – Underwriting Risk – Net Written Premium</b>					<b>3,591,141</b>

RBC MODEL ACT

Each state's statutes define a minimum amount of capital that a company must have to obtain a license in that state. These amounts vary by state and by lines of business but are usually relatively low, from \$1 million to \$5 million. These minimum capital amounts do not account for the characteristics and risk level of individual insurance companies.

The purpose of RBC is to help regulators identify insurers that are in financial trouble and that need regulatory attention. Therefore, the RBC requirements attempt to individualize

<sup>185</sup> We have assumed that the percentage of Fictitious' net written premium that emanates from loss-sensitive contracts written on a direct basis is: 0.8% for commercial automobile liability, 5.5% for workers' compensation, 0.3% for other liability, and 0% for all other lines and for loss-sensitive contracts written on an assumed basis.

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minimum capital requirements for each insurer. RBC is not a target-level of capital that strong insurers should hold; rather, it computes a minimum level of capital adequacy that a company must have to operate.

The RBC is a dollar amount calculated from the NAIC RBC formula. The RBC that results from the formula is compared to a company's total adjusted capital. Total adjusted capital is equal to the company's policyholders' surplus from page 3 of the Annual Statement that is reduced by:

1. The amount of non-tabular discount from Schedule P, Part 1, Summary, columns 32 and 33.
2. Tabular discount on medical reserves included in Schedule P, Part 1, Summary, column 24.

Additionally, a property/casualty insurer that owns a life insurance company subsidiary adjusts its surplus for the same amounts that the life subsidiary does for RBC purposes, namely by adding the asset valuation reserve and 50% of the dividend liability to surplus.

RBC ratio is the name used in the insurance industry to describe the ratio of total adjusted capital to ACL. While discretionary, ACL is the point at which the insurance commissioner is authorized to take control over the company under the RBC Model Act. ACL is equal to 50% of the RBC value.

$$\begin{aligned} \text{RBC ratio} &= \text{Total adjusted capital} / \text{ACL} \\ &= \text{Total adjusted capital} / (\text{Total RBC after covariance} * 0.50). \end{aligned}$$

Regulatory action is permitted when total adjusted capital is within 50 percentage points of the ACL (i.e., when the RBC ratio is 150% or less). This is called the regulatory action level.

Table 105 summarizes the level of regulatory control relative to the percentage of adjusted capital to both the RBC and ACL benchmarks:

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TABLE 105

Action Level	Adjusted capital as % of ACL Benchmark	Action Required if Inside Range	
		By State Insurance Department	By Company
1. Company action level	150% to 200%	None initially	Must submit a plan of action to the insurance commissioner of the domiciliary state explaining how the Company intends to obtain the needed capital or to reduce its operations or risks to meet the RBC standards.
2. Regulatory action level	100% to 150%	Commissioner has the right to take corrective action against the insurance company, such as by restricting new business. However, all action by the state insurance department is discretionary; nothing is mandated.	Must submit a plan of action to the insurance commissioner of the domiciliary state explaining how the Company intends to obtain the needed capital or to reduce its operations or risks to meet the RBC standards.
3. Authorized control level	70% to 100%	Regulatory action still discretionary, but the insurance commissioner is authorized to take control of the company.	None initially
4. Mandatory control level	Below 70%	Insurance commissioner of the domiciliary state must rehabilitate or liquidate the company.	None initially

As noted earlier, the detailed calculations of a company's risk charges are not available to the public. However, two metrics of RBC are disclosed in the Five-Year Historical Data exhibit of the Annual Statement: total adjusted capital and the ACL. A company's RBC ratio can be calculated by dividing the total adjusted capital by the ACL from the company's Five-Year Historical Data. Table 106 provides the RBC ratios for Fictitious from its 2011 Five-Year Historical Data exhibit.

TABLE 106

Data from Fictitious Insurance Company 2011 Five-Year Historical Data (USD)					
<u>RBC Analysis</u>	<u>2011</u>	<u>2010</u>	<u>2009</u>	<u>2008</u>	<u>2007</u>
28. Total adjusted capital	31,024,000	31,608,000	35,793,000	32,572,000	34,567,000
29. Authorized control level risk-based capital	5,552,000	6,097,300	5,854,000	5,685,000	6,517,000
Total adjusted capital as a percent of ACL (= line 28 / line 29)	559%	518%	611%	573%	530%

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As displayed in Table 106, the company's RBC ratios have been well over 300 points above the company action level (ranging from 150% to 200% of ACL), the first action level within the RBC system.

As shown in the Actuarial Opinion Summary in the Appendix of this publication, Fictitious Insurance Company's range of reasonable reserve estimates is \$43 million to \$57 million with an actuarial central estimate of \$50 million and carried reserves of \$51.557 million. If the high end of the range was to materialize, adjusted capital would decrease by \$5.443 million (\$57 million - \$51.557 million). At \$25.581 million, the adjusted capital would still be well above the company action level of \$11.776 million by \$13.807 million. Some Appointed Actuaries look to the impact on capital resulting from a movement in reserves relative to the high end of the actuarial range for purposes of selecting a materiality standard (see *Chapter 16. Statement of Actuarial Opinion*).

According to the NAIC 2011 RBC instructions, 98.5% of property/casualty insurance companies fall within RBC levels that require no regulatory action (i.e., having total adjusted capital in excess of 200% of ACL).<sup>186</sup> However, just because a company's RBC results do not require regulatory attention from RBC does not mean that the company is strong financially. RBC is not meant to be the only tool used by regulators to evaluate financial solvency and therefore should not be used in isolation.

Here is the final calculation of NAIC RBC for Fictitious.

TABLE 107<sup>187</sup>

<b>NAIC RBC 2011 Fictitious Insurance Company</b>	
Total R <sub>0</sub> Charge – Affiliated Insurance Co. Asset Risk	0
Total R <sub>1</sub> Charge – Fixed Income Assets Risk	553,398
Total R <sub>2</sub> Charge – Equity Assets Risk	4,303,948
Total R <sub>3</sub> Charge – Credit-Related Asset Risk	720,373
Total R <sub>4</sub> Charge – Underwriting Risk-Reserves	9,542,613
Total R <sub>5</sub> Charge – Underwriting Risk-Net Written Premiums	3,591,141
Total required capital (= RBC after covariance)	11,104,365
Authorized control level RBC	5,552,182
Total adjusted capital	31,024,000
Ratio of adjusted capital to required capital	559%

## TREND TEST

Companies with RBC ratios exceeding 200% are not necessarily free from regulatory attention. Companies having a RBC ratio of between 200% and 300% are subject to the trend

<sup>186</sup> NAIC, *RBC Property & Casualty 2011 Forecasting & Instructions*, page 43.

<sup>187</sup> Note that the authorized control level RBC of \$5,552,182 is rounded to \$5,552,000 in Table 12 and Table 70 for simplicity.

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test. The trend test is an early warning of companies that may be on a path to incur an RBC ratio below 200%, thereby triggering the company action level. The test looks to see whether companies having a RBC ratio of between 200% and 300% also have a current year combined ratio that exceeds 120%. Companies meeting the trend test criteria are required to comply with the company action level requirements despite having a RBC ratio in excess of 200%.

The combined ratio is calculated as the sum of:

- (1) Loss and LAE ratio
- (2) Dividend ratio
- (3) Expense ratio

The loss and LAE ratio is calculated as calendar year net incurred loss and LAE divided by net earned premium from the Statement of Income. The dividend ratio is equal to policyholders dividends divided by net earned premium from the Statement of Income. The expense ratio is equal to other underwriting expenses incurred plus aggregate write-ins for underwriting deductions from the Statement of Income divided by net written premiums from the U&IE.

#### THE FUTURE OF RBC

The NAIC is currently undertaking a comprehensive review of solvency regulation in the U.S. This review is known as the Solvency Modernization Initiative (SMI). One consideration with the SMI is the RBC approach to assessing the adequacy of a company's capital level. Going forward, RBC will be complemented with additional assessments that form part of the new Own Risk and Solvency Assessments (ORSA) that certain companies will be required to undertake (see *Chapter 25. Solvency II* for additional details).

The target of RBC has been to identify weakly capitalized companies and not necessarily to develop a specific universal capital level for all companies over a specified time horizon. The primary focus of targeting weakly capitalized companies will continue under SMI. The NAIC has indicated that a universal target capital level and/or specified time horizon across all business is not feasible. The NAIC believes these target levels should be different for type/line of business due to inherently different risks and credibility issues around developing distributions that make the validation of safety levels difficult.<sup>188</sup> Nonetheless, it is expected that some changes will be made with respect to RBC as part of the SMI process. The NAIC is currently considering the following with respect to the RBC process:<sup>189</sup>

- Documenting the development of RBC over the past 20 years to retain the institutional knowledge of the process, including the reasons for changes to the calculation over its history.

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<sup>188</sup> NAIC, "Solvency Modernization Roadmap," August 31, 2012, [http://www.naic.org/documents/committees\\_ex\\_isftf\\_smi\\_roadmap\\_120831.pdf](http://www.naic.org/documents/committees_ex_isftf_smi_roadmap_120831.pdf), pages 2 and 3.

<sup>189</sup> Ibid.

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- Evaluating enhancements to current risk charges, the relevance of certain risk charges and need for additional risk charges. Examples include the credit risk charge that is applied to reinsurance recoverables, the level of detail of the asset risk charge, and the inclusion of a catastrophe risk charge.
- Making the details of the RBC calculation for an insurance company public rather than retained solely by the insurer and its regulator(s).

Since its inception, the RBC model has evolved and these chapters have captured the detail of the calculation at a point in time. In the future the principles behind the calculation are unlikely to change substantially, although we are likely to see enhancements to the calculation through the SMI.

## CHAPTER 20. IRIS RATIOS

### OVERVIEW

National Association of Insurance Commissioners (NAIC) Insurance Regulatory Information System (IRIS) has been used since 1972 to help insurance regulators evaluate the financial condition of insurance companies. More than 5,000 companies file their financial statements with the NAIC each year.<sup>190</sup> IRIS is applied to property/casualty, life/accident and health, and fraternal insurance organizations.

IRIS is known by practicing actuaries as being a series of 13 tests of financial ratios relative to benchmarks (i.e., ranges of “unusual values”). These are called IRIS ratios. However, the IRIS ratios are only one component of IRIS. IRIS includes other tools and databases of financial information that are used by state insurance regulators to monitor the financial health of insurance companies. One such tool that may be less well known to actuaries is the NAIC Analyst Team System. The Analyst Team System relies on analysis of the results of IRIS ratios, as well as other financial solvency tools, to categorize those insurance companies requiring immediate regulatory attention.

The instructions for computing IRIS ratios are currently included as part of the CAS Exam 6 U.S. Syllabus of Basic Education. As a result, we will not go into all of the details of the calculations here but rather will provide a brief overview of the IRIS ratios and Analyst Team System. In Appendix I of this publication, we walk through the calculation and purpose of each of the 13 IRIS ratios, provide possible explanations for unusual values, and show the results of the IRIS ratio calculations for Fictitious Insurance Company using the 2011 Annual Statement.

### IRIS RATIOS

The IRIS ratios are grouped into four categories:

- ▶ Overall ratios
- ▶ Profitability ratios
- ▶ Liquidity ratios
- ▶ Reserve ratios

Many of the ratios are computed in terms of policyholder surplus, with the intent of providing an early warning of companies in financial distress. The results of each of these ratios are not reviewed in isolation. When reviewing the results of ratios and investigating unusual values,

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<sup>190</sup> Per the description of the publication *Ratio Results for the IRIS* on the NAIC and The Center for Insurance Policy and Research, NAIC Store, Financial Regulation Publication on IRIS, [http://www.naic.org/store\\_pub\\_fin\\_receivership.htm#iris\\_results](http://www.naic.org/store_pub_fin_receivership.htm#iris_results).

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mitigating or augmenting circumstances brought to light through other ratios and information are considered.

The reserve ratios are probably the most important ratios to the property/casualty actuary and where the actuary places most attention, as these ratios are specifically commented on by the appointed actuary in the Statement of Actuarial Opinion (SAO).

There are three reserve ratios:

- IRIS ratio 11: One-year reserve development to policyholders' surplus
- IRIS ratio 12: Two-year reserve development to policyholders' surplus
- IRIS ratio 13: Estimated current reserve deficiency to policyholders' surplus

These three ratios focus on the development of an insurance company's net loss and LAE reserves for purposes of understanding reserve adequacy. IRIS ratio 11 is the same one-year development test as provided in the Five-Year Historical Data exhibit within the Annual Statement. It measures development in the company's net loss and LAE reserves over the past year, whether adverse or favorable, relative to prior year surplus. Essentially, this test looks to see how much surplus would have been absorbed or enhanced in the prior year as a result of adverse or favorable development in the corresponding net loss and LAE reserves. Adverse development is shown as an increase to reserves and therefore a positive number. Results of IRIS ratio 11 equal to or greater than 20% are considered unusual.

IRIS ratio 12 is the same two-year development test as provided in the Five-Year Historical Data exhibit within the Annual Statement. It measures development in the company's net loss and LAE reserves over the past two years, relative to surplus at the end of the second prior year. Similar to ratio 11, results of test 12 equal to or greater than 20% are considered unusual.

IRIS ratio 13 is a hindsight test. It looks at a company's net outstanding loss and LAE reserves at the immediate prior two years relative to calendar year earned premium for those years and adds to the reserves development that has emerged over that period (one-year development for the immediate prior year; two-year development for the year prior to that). The test then applies the average of the resulting two "adjusted" loss ratios to earned premium for the recent year to determine what the outstanding loss reserve should be. A calculated deficiency in recorded loss and LAE reserves of 25% or more is deemed to be unusual.

The purpose of this test is to identify companies that may not have gotten their reserves "right" in the past. The expectation inherent in this test is if companies have had adverse development in the past, they will probably have adverse development in the future. Regulators want to see if companies who have had such adverse development have corrected for it in their current estimates.



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ANALYST TEAM SYSTEM

The Analyst Team, which includes financial examiners and analysts from all four geographic zones of the NAIC, performs an analysis of the IRIS ratios, as well as other solvency monitoring tools such as RBC, to identify companies requiring immediate attention by regulatory authorities.

Based on the analysis results, the Analyst Team categorizes companies into three levels:<sup>191</sup>

1. Level A: companies requiring immediate attention and financial analysis by regulatory officials
2. Level B: companies possibly having adverse results but not requiring immediate attention
3. Reviewed, no level: companies deemed not to require specific attention by the regulators

The analysis results are merely a first step in identifying insurers requiring further investigation; they are not intended to be a comprehensive evaluation or opinion on the financial soundness or solvency of a company. Reports prepared by the team are confidential and are made available only to state insurance regulators.

INTERPRETING THE RESULTS OF THE SYSTEM

The IRIS results are used to prioritize insurers requiring further analysis through examination by the state insurance regulatory system. An unusual value does not necessarily mean that the insurer is financially impaired. The NAIC *IRIS Ratios Manual* states, "No state can rely on the tools' results as the state's only form of surveillance."<sup>192</sup>

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<sup>191</sup> NAIC, *IRIS Ratios Manual*, 2011, page 2.

<sup>192</sup> *Ibid.*, page 3.

## **PART V. FINANCIAL HEALTH OF PROPERTY/CASUALTY INSURANCE COMPANIES IN THE U.S.**

### **INTRODUCTION TO PART V**

In *Part IV. Statutory Filings to Accompany the Annual Statement* we presented details underlying several filings either included within or supplemental to the statutory Annual Statement. These and other tools, including on-site financial examinations and Financial Analysis Solvency Tools (FAST, of which the IRIS System is a part), provide a means for the regulator to monitor the financial health of an insurance company. Many of these tools are confidential. However, certain results can be derived from publicly available information, such as the result of RBC, which is included within the Five-Year Historical Data exhibit in the Annual Statement.

The monitoring performed by regulators is risk-based and intended to identify financially troubled companies well before they are impaired. Regulators use the tools collectively to evaluate financial health and prioritize those insurers requiring additional scrutiny and analysis.

While policyholders and investors place heavy reliance on state insurance regulators in monitoring the health of property/casualty insurance companies, they themselves have access to the publicly available tools, such as quarterly and Annual Statement filings, the Statement of Actuarial Opinion, and Securities and Exchange Commission filings (for publicly traded companies). Also to assess financial health, they rely on ratings and analyses performed by credit rating agencies, such as A.M. Best, Moody's, Standard & Poor's and Fitch. Each of these rating agencies uses internally developed capital adequacy models to perform qualitative and quantitative financial strength assessments and establish a company's rating.

In this section we provide a summary of the tools used by regulators and stakeholders monitoring an insurance company's financial health and briefly explain how these tools are used in practice.

## CHAPTER 21. MEASUREMENT TOOLS

Before we discuss what the tools mentioned in the introduction do, it is important to disclose what they don't do.

First, each measurement tool provides one piece of evidence and should not be taken as the only evidence of a healthy or troubled insurance company. For example, an insurance company may have "usual" values for each of its Insurance Regulatory Information System (IRIS) ratios, but something about the company's exposures or a pending regulatory decision may result in a risk of material deviation in the company's reserves, and such risk could be material to the company surplus. The risk of material adverse deviation would be discussed in the Statement of Actuarial Opinion (SAO) by the appointed actuary, and in reading that disclosure, the regulator would determine the necessary steps for further investigation. In this example, neither the results of the IRIS ratios nor the SAO should be considered alone; other information should be incorporated into an evaluation of an insurance company's health.

Second, these tools don't supplant the audit of an insurance company. In fact, the audited financial statements are themselves a tool used by the stakeholders and regulators of an insurance company. Further, these tools will not ensure that the data used as input into the tools is accurate and complete, nor will they provide any insight as to whether the company's management has good internal management, systems and controls in place. However, weaknesses in company management, systems and/or controls eventually leach into the output from the tools.

Finally, these tools will not identify fraud, which can be difficult to uncover.

### WAYS IN WHICH THESE TOOLS ARE USED TO MEASURE FINANCIAL HEALTH

When viewed together, these tools can provide valuable insight into the financial health of a property/casualty insurance company. The information gathered from one tool may not in itself be an indicator but may prompt additional investigation, either through the evaluation of other tools or inquiry of company management.

Further, the results from a single year may not immediately suggest financial impairment; however, a review of these results over several years may identify a trend in that direction. When reviewed together and across multiple years, these tools can be used to provide an early warning of companies that are of higher risk for financial impairment.

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#### *Annual and quarterly financial statements and schedules*

Insurance companies are required to file financial statements every quarter. To summarize what we learned in preceding chapters, substantial detail is contained in the annual filing (i.e., as of December 31), including qualitative information in the form of detailed notes to financial statements and interrogatories. These statements are filed under Statutory Accounting Principles. As discussed, statutory accounting focuses on protecting the policyholder and therefore is known as maintaining more of a conservative stance relative to Generally Accepted Accounting Principles. Assets and liabilities tend to be measured on a basis that includes some cushion in the event of financial impairment.

There are two perspectives of financial health measured by the statutory financial statement: balance sheet strength and earnings potential. In terms of balance sheet strength, regulators are concerned with an insurance company's claim-paying ability and therefore focus on areas that could impair solvency. Two such areas are loss and loss adjustment expense (LAE) reserve and unearned premium reserve adequacy. Loss and LAE reserves make up the largest item on an insurance company's balance sheet, representing nearly 40% of total Liabilities, Surplus and Other Funds at year-end 2011 for the U.S. property/casualty insurance industry. Coupled with unearned premium reserves, these liabilities represent half of the 2011 balance sheet for all U.S. property/casualty insurers in aggregate.

The Five-Year Historical Data exhibit provides a historical view of how an insurance company's losses have developed over time. Additionally, the Notes to Financial Statements provide management discussion of changes in incurred loss and LAE. Data from Schedule P, Parts 2 through 4 can also be used to perform independent tests of a company's reserve adequacy.

Because loss reserves are stated on a net of reinsurance basis on the balance sheet, reinsurance collectibility is also an area of risk relative to the statutory financial statements. The provision for reinsurance is established on the liability side of the balance sheet to offset some of this risk by excluding a portion of reinsurance recoverables from unauthorized and overdue authorized reinsurers. Despite the establishment of the provision for reinsurance, reserve credit risk still exists. Notes to financial statements are a means to identify reinsurance that is unsecured, uncollectible or in dispute. And Schedule F, Part 3 can be used to identify the company's reinsurers so that additional review of the reinsurers' financial strength can be performed. For example, the credit rating of each reinsurer can be determined from recognized rating agencies, such as those mentioned later in this chapter.

Accident-year loss and LAE ratios from Schedule P, Part 1 provide insight into the adequacy of claim reserves and unearned premium reserves. For example, property/casualty actuaries look at current accident year incurred loss and LAE ratios by line of business relative to prior year ratios adjusted for rate change and trend. Deviations from anticipated trends are typically investigated to assess adequacy of loss and LAE ratios on the current accident years.

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To illustrate, for a line of business experiencing loss trend of +5% and rate change of -3% on premiums earned in 2012 over 2011, one might initially expect the accident year 2012 loss and LAE ratio to be approximately 8% higher ( $= 1.05 / 0.97 - 1$ ) than that for 2011. That is, if the accident year 2011 loss and LAE ratio was 60%, one would expect the accident year 2012 ratio to be 65% ( $60\% * 1.08$ ). If the loss and LAE recorded in Schedule P, Part 1, for accident year 2012 was 55%, one might question the rationale behind an improvement in loss ratio, when deterioration was expected.

Additionally, deficiencies in loss and LAE reserves or current accident-year loss and LAE ratios in excess of 100% lead to further investigation of whether the unearned premium is adequate to cover losses that will emerge as premium is earned. In performing such an investigation, consideration is often made for investment income.

In terms of the asset side of the balance sheet, property/casualty insurance companies tend to invest in short-duration, relatively liquid fixed-income investments. Nearly 60% of the assets held by U.S. property/casualty insurers at year-end 2011 were in bonds. However, the financial crisis in 2008 taught us that even conservative investment strategies can pose a risk to insurance companies. Changes in asset values and yields on invested assets are monitored to assess this risk.

Further, investment in asset classes where the level of risk exceeds industry norms stimulates investigation of the hedging strategies a company has in place to mitigate risk.

While a company's balance sheet may appear financially solid, future earnings can be impaired by a company's underwriting, pricing and investment strategy. Although the Annual Statement schedules and exhibits may not be able to uncover a weakening in earning strength on their surface, trends in financial ratios and other analysis of year-over-year changes in income statement line items can provide an early warning. Examples of such trends include:

- ▶ Rapid and substantial growth in written premium and the timing of such growth relative to the underwriting cycle: In soft markets it is difficult to achieve significant growth without concessions on price or commission levels. The Five-Year Historical Data provides historical premium volume on a gross and net basis to assist in measurement of a company's growth.
- ▶ Increases in underwriting (or other) expense ratios: This may also be a sign that an insurer is conceding commission to grow or maintain business. Increases in commissions or other expenses mean that there is less premium available to pay losses. The income statement and Part 3 of the Underwriting and Investment Exhibit (U&IE) and the Insurance Expense Exhibit (IEE) are sources of this data.
- ▶ Deteriorating loss ratios: Historical loss ratios can be observed on a calendar-year basis in the Five-Year Historical Data or by accident year and line of business in

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Schedule P. Deterioration in loss ratios implies that pricing is not keeping pace with the underlying risk being underwritten. Further investigation into a company's price monitoring practices relative to peer benchmarks and ability to increase rates would be warranted.

- ▶ Increased exposure to catastrophic or large events: A review of writings by state in Schedule T and writings by line of business per the U&IE can help to identify catastrophe exposure. A company with premium concentration in Florida homeowners business suggests that the company may have increased exposure to hurricane risk. Further, a review of Part 2 of the general interrogatories provides information regarding a company's probable maximum loss and provisions in place to protect the company against such loss, such as a catastrophic reinsurance program.
- ▶ Losses on investments, change in mix of invested assets by class and/or declining yields on investment assets: Such trends may suggest a change in a company's investment strategy or lack of control in the strategy.
- ▶ Increases in the provision for reinsurance: Changes in the provision for reinsurance, as displayed in the capital and surplus account of the income statement, can be a sign of increased credit risk.

Quarterly statements provide more limited information than what is included in the annual filing. However the primary financial statements remain in the same general format (i.e., Assets page; Liabilities, Surplus and Other Funds; Statement of Income; Cash Flow; and Notes to Financial Statements), as do many of the schedules. The evaluation date is the quarter-end and comparisons are made to the prior year-end. From the perspective of a property/casualty actuary, the biggest difference is that quarterly statement does not include Schedule P. Schedule P is replaced with a schedule titled "Part 3," which shows loss and LAE reserve development during the quarter for the latest three accident years and all years prior, for all lines of business in the aggregate. While this schedule provides a gauge of retrospective reserve strength during the current year, it does not provide all of the line of business detail that is provided annually in Schedule P.

There is a wealth of information contained in the annual and quarterly statements. But because more than 5,000 companies file their statements, state regulators of insurance companies may not have the resources available to analyze these filings in detail for every company domiciled or licensed to write business in their state. Rather, regulators rely on the other tools coupled with the financial statements and schedules to prioritize those companies of greatest risk of financial impairment.

### *IRIS*

As discussed in *Chapter 20. IRIS Ratios*, IRIS is one tool used by regulators. The IRIS ratios focus on balance sheet strength and the earnings quality through measures that assess growth, profitability, liquidity, and reserve development/adequacy.

Although the IRIS ratio results are not widely available to the public, they can be calculated directly from an insurance company's Annual Statement. We have done so for Fictitious in Appendix I of this publication.

While there is no direct link to regulatory intervention based on the results of these ratios, the National Association of Insurance Commissioners (NAIC) Analyst System Team reviews the results of the IRIS values in conjunction with other solvency monitoring tools, such as Risk-Based Capital (RBC), to prioritize those insurance companies requiring immediate regulatory attention.

### *RBC*

RBC is another tool that considers balance sheet strength and future earnings. Balance sheet risk is considered in the asset reserve risk charges ( $R_0$  through  $R_4$ ), while profitability of future writings is contemplated through the written premium risk charge ( $R_5$ ).

The calculations underlying an insurance company's RBC are confidential and cumbersome to perform without using the spreadsheet provided with the NAIC instructions. However, the results of the RBC formula are provided in the Five-Year Historical Data exhibit within the Annual Statement. Stakeholders are able to review overall results and monitor changes over time.

RBC considers the risks and relative size of an insurance company in computing a required level of capital, whereas under IRIS, no adjustments are made to reflect what would be "usual" for an individual insurance company. Unlike IRIS, there is a direct link to regulatory intervention based on a comparison of the RBC required capital to the company's adjusted capital. The NAIC RBC Model Act provides regulators with the authority to take control of a property/casualty insurance company if the company's RBC ratio falls below 100% of the ACL.

RBC isn't a fail-safe test for financial impairment. While certain of the RBC factors consider a company's own experience, the majority of the factors used to determine the level of required capital are based on industry-wide factors developed by the NAIC. As a result, while a company's RBC ratios may not require any specific action by the company management or regulatory authorities, this doesn't mean that the company is safe from future impairment.

The trend test is one way that the RBC results are used to identify companies that may become financially impaired. The purpose of the trend test is to identify companies likely to

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fall in the company action level in the coming year and require those companies to take action before that happens. The trigger for application of company action within the trend test is having an RBC ratio within 100 points of the company action level, coupled with a current-year combined ratio of more than 120%.

#### SAO

The SAO provides assurance of a qualified actuary that the company's loss and LAE reserves are reasonable on a gross and net of reinsurance basis. It is not an opinion on the solvency of an insurance company but an opinion on the adequacy of what is typically the largest item on an insurance company's balance sheet. Significant deviations in this balance may have a material impact on a company's solvency. Therefore, the actuary will provide commentary of any significant uncertainties or risks that could result in a material adverse deviation in the company's recorded reserves.

A determination by the appointed actuary that the reserves are anything other than "reasonable" and relevant comments that indicate there are significant risks and/or uncertainties that could result in material adverse deviation are two triggers of additional scrutiny by regulatory authorities.

One thing the SAO does not tell the reader is the company's reserve position within the appointed actuary's range, if the appointed actuary calculates a range. A company that is exposed to significant risks and uncertainties, with reserves lying at the lower bound of the actuary's range, would be subject to greater concern than a company exposed to the same level of risk with reserves in the high end of the appointed actuary's range. There is no document available for public review, which includes rating agencies, that contains the appointed actuary's range. The appointed actuary's range is contained in the Actuarial Opinion Summary (AOS), SAO documentation report, and usually found in the work papers of the company's external auditors.

As noted previously, the AOS is a confidential document, for regulators only. The actuarial report contains the range; however, these reports contain restrictions on distribution and use, due to their confidential nature, and therefore are not widely distributed. Similarly, while audit work papers may be subpoenaed for cause, they are not publicly available.

#### AOS

The AOS is valuable in providing the regulator with context as to the company's reserve adequacy by providing the company's position relative to the appointed actuary's point estimate or range, if calculated, on a net and gross of reinsurance basis. It also provides details that explain to the regulator the cause for adverse development in the company's reserves over the past five years, where such development has exceeded 5% of surplus in



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three of those years. The AOS is also a confidential document that is only shared with the insurance company's state regulator.

#### *Credit Rating Agencies*

Stakeholders also rely on financial strength ratings (FSRs) issued by credit rating agencies (CRAs) in the evaluation of financial health. FSRs represent a CRA's evaluation of an insurance company's ability to meet ongoing obligations to its policyholders. This is in contrast to debt/issuer credit ratings, which are also provided by CRAs. Debt/issuer ratings represent the CRA's evaluation of a company's ability to meet debt obligations. Debt/issuer credit ratings are provided on the creditworthiness of the entity as a whole or on individual debt instruments.

Of the CRAs that rate insurance companies, A.M. Best is the only one that focuses exclusively on the insurance industry, providing FSRs and debt/issuer ratings. A.M. Best rates thousands of insurance entities across the globe. Other CRAs, such as Standard & Poor's (S&P), Moody's and Fitch serve a wide range of industries (ranging from aerospace to utilities, financial institutions and the public sector) and are prevalent in the area of debt/issuer ratings.<sup>193</sup>

Ratings are based on qualitative and quantitative analysis of a company's financial statements and organization. Each CRA uses its own criteria. Qualitative factors can include corporate governance, product development, composition of capital structure, asset quality, investment strategy, reserve adequacy, claims management, contingent assets and liabilities, and the level of reinsurance dependency. Quantitative analysis includes running a company's financial data through capital adequacy models. Each CRA has its own internally developed model that computes required capital levels. Similar to RBC, the required capital levels are computed and compared to an insurer's capital to produce a ratio that translates to letter ratings. Examples of CRA models include Best's Capital Adequacy Ratio and S&P's Capital Adequacy Ratio.

The higher the rating, the greater the ability the company is deemed to have to meet its ongoing insurance obligations. The ability to meet ongoing insurance obligations generally diminishes as ratings decrease. For example, A.M. Best's ratings include 15 letter grades ranging from A++ to F,<sup>194</sup> with "secure" ratings ranging from A++ (superior) to B+ (good) and "vulnerable" ratings ranging from B (fair) to F (in liquidation).<sup>195</sup> Regardless, the CRAs provide no guarantee that the insurance company will be able to meet its obligations.

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<sup>193</sup> Per the Ratings tab within the Standard & Poor's Financial Services LLC website, <http://www.standardandpoors.com/ratings/en/us/>, titled *Browse Ratings by Practice*, (2012).

<sup>194</sup> Note there is a 16th rating of "S," which stands for an insurance company that has been suspended from writing.

<sup>195</sup> A.M. Best, Ratings & Criteria Center, *Best's Financial Strength Rating*, <http://www.ambest.com/ratings/guide.asp>, 2012.

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FSR ratings are generally established annually, with ongoing monitoring performed by the CRA analyst throughout the year to evaluate the impact of developments on a company's rating. Ongoing monitoring includes review of the following:

- ▶ Statutory financial statement filings
- ▶ Interim management reports and other information provided by the insurer to the rating agency
- ▶ Significant public announcements, including earnings releases/calls, made by the entity

A rating action or review can be considered at any time that A.M. Best becomes aware of significant development in the insurer's operation.

The following provides examples of the uses of FSRs by stakeholders of insurance companies:

- ▶ Individual and corporate policyholders want to make sure the insurance company will be there when needed to pay claims. They therefore look to the FSR as an indicator in their insurance buying decisions, weighing the company's rating against the cost of insurance.
- ▶ Many boards of directors of corporate policyholders require that their organization's insurance purchases are made with highly rated insurance companies. And after the financial crisis, many large corporations required insurance companies to include cancellation endorsements to allow the insured to cancel without penalty if the carrier was downgraded below a certain level(s) by recognized CRAs.
- ▶ Insurance companies will also look at FSRs of reinsurers in making reinsurance buying decisions.
- ▶ Investors look at FSRs in their decision to invest in an insurance company, weighing risk relative to the company's rating with expected return.

### HOW THESE TOOLS HAVE FARED – INDICATORS OF INSURANCE COMPANY INSOLVENCIES OVER THE PAST 40 YEARS

The measurement tools discussed in this publication are designed to assist in predicting or preventing all insurance company failures, but it is impossible for a tool to work in all circumstances. The intent, however, is that they identify the vast majority before it's too late.

Over the years, studies have been performed to detect the cause of insurance company failure and therefore sharpen the tools that are available to monitor solvency. The American Academy of Actuaries (AAA) has issued three such studies that, collectively, have examined property/casualty insurance company insolvencies over a 40-year period, from 1969 through 2009. The following contains the results of these studies and common themes observed in insolvent companies prior to their demise.

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The AAA Property/Casualty Financial Soundness/Risk Management Committee (the FSRM) published a report in September 2010 titled *Property/Casualty Insurance Company Insolvencies*. This report revisited the issue of insurance company solvencies, which was examined in two previous studies in the 1990s by AAA, one based on property/casualty insurance company insolvencies over the period 1969 to 1987 and the other from 1988 to 1990. The AAA's research included submitting a questionnaire to insurance regulators on the causes of the insurance company failures over that time period. In each period, "under-reserving" and "mismanagement" were the first and second most frequently cited cause of insurance company insolvencies.

Given that the adequacy of loss reserves was historically cited as the primary cause of insolvency in the prior two studies, the 2010 report focused on the performance and characteristics of companies having the largest reserve deficiencies. Additionally, the FSRM studied five years' worth of historical financial data for 36 property/casualty insurance companies that became insolvent over the period 2005 to 2009 for commonalities. The 2010 report concluded the following:

- ▶ Insolvency is caused by a combination of factors. "Under-reserving" is a factor in the insolvency of property/casualty insurance companies but "is not the leading cause of insolvency."<sup>196</sup>
- ▶ Size, experience and diversification matters. "The majority of the companies was small, relatively new, and/or was concentrated in one line of business and/or state."<sup>197</sup>
- ▶ Good management and governance is essential. "The review of financial data for many of the companies showed evidence of poor management and decision-making, including little or no reinsurance, inadequate reinsurance for the amount of risk, very rapid premium growth, significant adverse development, inadequate pricing, and potentially serious data problems."<sup>198</sup>

The report also studied the SAO as an indicator of financial impairment over the immediate five years prior to insolvency. The FSRM concluded that the SAO alone is not a backstop for insurance company insolvencies, but it "can help identify those companies and/or categories of companies that could be in trouble."<sup>199</sup> Where opinions were available, the FSRM observed the following:

- ▶ Only one SAO was qualified, and the remaining were "reasonable" reserve opinions.

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<sup>196</sup> American Academy of Actuaries Property/Casualty Financial Soundness/Risk Management Committee. *Property/Casualty Insurance Company Insolvencies*, September 2010, page 5.

<sup>197</sup> *Ibid.*, page 16.

<sup>198</sup> *Ibid.*

<sup>199</sup> *Ibid.*, page 18.

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- ▶ Nearly 50% of the SAOs concluded that a risk of material adverse deviation existed in the company's loss and LAE reserves, 37% concluded that such a risk did not exist, and the remainder of the SAOs either did not comment on the risk of material adverse deviation or it wasn't clear if the appointed actuary deemed a risk of material adverse deviation existed.
- ▶ When stated, materiality standards were generally based on a percentage of surplus (between 5% and 20%).

We note that the NAIC *Actuarial Opinion Instructions* and Actuarial Standards of Practice issued by the Actuarial Standards Board have continued to include enhancements on disclosure requirements within the SAO since the period studied.

The commonalities identified in the above studies provide us with areas of focus when evaluating the tools used to measure financial health. The key message is that financial impairment is caused by a variety of factors, and the measurement tools discussed in this publication, when considered in unison, can help detect companies at risk for financial impairment.

## **PART VI. DIFFERENCES FROM STATUTORY TO OTHER FINANCIAL/REGULATORY REPORTING FRAMEWORKS IN THE U.S.**

### **INTRODUCTION TO PART VI**

As discussed in *Part III. SAP in the U.S.: Fundamental Aspects of the Annual Statement, U.S.* Statutory Accounting Principles (SAP) focuses on the solvency of insurance companies. Other financial reporting frameworks exist for solvency, general purpose financial reporting, and taxation. In this section we will examine these other frameworks, beginning with general purpose financial reporting.

The framework in the U.S. for general purpose financial reporting is U.S. Generally Accepted Accounting Principles (GAAP). We will focus on the key differences between U.S. SAP and U.S. GAAP. We will also study the importance of accounting for business combinations and consider calculations that involve actuaries in fair valuing the balance sheet. We will provide an overview of the emergence of International Financial Reporting Standards as an alternative general financial reporting framework, including the joint insurance contracts accounting project between the International Accounting Standards Board and the Financial Accounting Standards Board. We will provide a brief overview of the alternative statutory financial reporting standards under the European insurance regulations known as Solvency II. Finally, we will discuss financial reporting for tax purposes.

## CHAPTER 22. U.S. GAAP<sup>200</sup>, INCLUDING ADDITIONAL SEC REPORTING<sup>201</sup>

### OVERVIEW

U.S. Generally Accepted Accounting Principles (GAAP) for public companies is, by statute, determined by the Securities and Exchange Commission (SEC). The SEC has effectively delegated this responsibility since its inception to the private sector. Currently, the SEC looks to the Financial Accounting Standards Board (FASB) as the organization for establishing standards of financial accounting. In 2009 the FASB codified U.S. GAAP by publishing its Accounting Standards Codification (ASC). The ASC replaced several sources of authoritative U.S. GAAP literature from various standard setters. These sources included:

1. FASB
  - a. Statements (FAS)
  - b. Interpretations (FIN)
  - c. Technical Bulletins (FTB)
  - d. Staff Positions (FSP)
  - e. Staff Implementation Guides (Q&A)
  - f. Statement No. 138 Examples.
2. Emerging Issues Task Force (EITF)
  - a. Abstracts
  - b. Topic D.
3. Derivative Implementation Group (DIG) Issues
4. Accounting Principles Board (APB) Opinions
5. Accounting Research Bulletins (ARB)
6. Accounting Interpretations (AIN)
7. American Institute of Certified Public Accountants (AICPA)
  - a. Statements of Position (SOP)
  - b. Audit and Accounting Guides (AAG) – only incremental accounting guidance
  - c. Practice Bulletins (PB)
  - d. Technical Inquiry Service (TIS) – only for Software Revenue Recognition

References to the newly codified standards usually start with the letters ASC followed by a series of numbers. Insurance specific guidance can be found in Section 944. For example, the definition of the measurement approach to unpaid claims estimates under U.S. GAAP can be found at ASC-944-40-30-1. It states: "The liability for unpaid claims shall be based on the estimated ultimate cost of settling the claims (including the effects of inflation and other societal and economical factors), using past experience adjusted for current trends, and any

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<sup>200</sup> Aligns with IASA Chapter 14.

<sup>201</sup> Aligns with IASA Chapter 15.

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other factors that would modify past experience.” A free basic version of the ASC is available, after registering, at <https://asc.fasb.org/>.<sup>202</sup>

Historically, U.S. GAAP formed the foundation of U.S. Statutory Accounting Principles (SAP). From this foundation, U.S. SAP evolved over time (on a state by state basis), incorporating many modifications and exceptions to U.S. GAAP in the interest of establishing a more conservative accounting framework with a focus on solvency. In the 1990s, the National Association of Insurance Commissioners (NAIC) undertook a project (Codification) to consolidate the myriad state-based rules and exceptions to U.S. GAAP into a cohesive set of accounting principles. SAP still remains the prerogative of each individual state; however, Codification provides a consistent and comprehensive framework of accounting and reporting for each state insurance department to consider. As new pronouncements are made under U.S. GAAP, they are reviewed by the NAIC’s Statutory Accounting Principles Working Group, which decides whether to adopt, reject or modify it for NAIC SAP. In turn each state, if it has adopted SAP, may accept what the NAIC has produced or adopt deviations or develop exceptions.

The fundamental difference between SAP and GAAP is driven by the intended user. SAP is intended for use by insurance regulators and is thus focused on an insurance company’s ability to pay claims, emphasizing the adequacy of surplus in the balance sheet. This is sometimes viewed as conservative-leaning philosophy to provide an element of margin if the regulator would need one day to step in to settle all current liabilities while not writing any new business. GAAP is primarily intended for investors and creditors and has historically been focused on the measurement of earnings emergence, through the income statement, over a specified reporting period. Given the objective of SAP, it is not surprising that SAP is a conservative basis of accounting in comparison to GAAP.

There are many differences between U.S. GAAP and U.S. SAP, but we will focus on those that actuaries need to be familiar with:

- ▶ Deferred acquisition costs (DAC)
- ▶ Nonadmitted assets
- ▶ Deferred tax assets (DTAs)
- ▶ Invested assets
- ▶ Balance sheet presentation of reinsurance
- ▶ Ceded reinsurance – prospective and retroactive
- ▶ Structured settlements
- ▶ Anticipated subrogation and salvage
- ▶ Discounting of loss reserves
- ▶ Goodwill under purchase accounting

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<sup>202</sup> FASB, *Accounting Standards Codification*, <https://asc.fasb.org/>, 2012.

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#### Deferred Acquisition Costs

DAC is an asset that is established under GAAP to defer the recognition of acquisition expenses to match the recognition of earned premium. Beginning in 2012, the deferral of acquisition costs is limited to those direct costs (i.e., those which would not have been incurred if the contract had not been entered into) related to the successful acquisition or renewal of a contract. In addition, certain direct marketing advertising costs can be deferred under very limited circumstances. All other expenses, either direct or indirect, must be expensed as incurred.

Certain companies are permitted to limit the capitalization (use of an asset to defer expenditure) of DAC to those expenses they had been capitalizing prior to 2012 if they previously had not been capitalizing all expenses that met the definition of direct expenses related to the successful acquisition or renewal of insurance contracts. Capitalization of acquisition costs, through the establishment of a DAC asset, is not permitted under SAP. Therefore, all acquisition costs are expensed to current operations as incurred. This is keeping with the conservative philosophy of SAP.

#### NONADMITTED ASSETS

As discussed in *Part III. SAP in the U.S.: Fundamental Aspects of the Annual Statement*, SAP is focused on the ability of an insurance company to pay claims. To reflect that certain assets are not readily liquid, they are considered nonadmitted for purposes of determining the company's statutory surplus. One such example is furniture, fixtures and equipment.

For other asset categories, matters are more complicated as they may be partly admitted and partly nonadmitted. One such asset category is DTAs.

#### Deferred Tax Assets

Under U.S. GAAP and SAP, deferred taxes are established for temporary differences in the accounting and tax treatment of all assets and liabilities. For example, discounting of loss reserves for tax purposes but not for accounting purposes leads to a deferred tax asset. This is because you pay tax based on income (revenue minus expenses) under the tax accounting basis. If liabilities incurred are discounted for tax purposes, this leads to higher income, which produces more tax for the taxing authorities. But the discount on incurred losses will unwind over time and create an expense that will reduce future taxable income. Some or all of this reduction to future taxable income is what is recorded as a DTA.

The primary difference between U.S. GAAP and SAP is in the treatment of DTAs. For U.S. GAAP DTAs are fully recognized, and a valuation allowance is established if, based on the weight of evidence, it is more likely than not that the DTAs will not be realized. GAAP establishes a hierarchy of evidence to be considered. This is a subjective determination



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requiring management to use significant judgment. Under SAP there is a strict admissibility test for all DTAs in addition to the establishment of a valuation allowance. This can lead to recognition of less DTAs in SAP basis financial statements. The admitted portion is calculated, since January 1, 2012, as:<sup>203</sup>

1. The amount of DTA expected to be reversed in the forthcoming year that can be applied to federal income taxes paid on profits in the prior three years, sometimes referred to as loss carrybacks.
2. The amount of DTA expected to reverse during a forthcoming period (beyond the initial year in item 1) limited to a percentage of surplus. The period and percentage of surplus is determined based on the company's ratio of total authorized capital (with some adjustments) to authorized control level (ACL) Risk-Based Capital (RBC) that was filed in the most recent calendar year. Different rules apply for non-RBC reporting entities such as mortgage guarantee insurers.
3. The amount of DTA beyond items 1 and 2 that can be offset against existing DTLs.

#### INVESTED ASSETS

Under SAP, investment-grade bonds and higher rated redeemable preferred stocks are held at amortized cost while below-investment-grade bonds and lower rated redeemable preferred stocks are held at the lower of amortized cost or fair value. All common stock and non-redeemable preferred stock are recorded at fair value. Changes in the carrying value of investments attributed to changes in fair value are recorded as direct changes in surplus.

The accounting treatment of investment-grade bonds appears to be inconsistent with the conservative philosophy of SAP. In the case of increasing interest rates, the market value of older bonds issued at a lower interest rate will decrease. Yet SAP allows for the asset to be carried at the higher amortized cost value. One possible explanation for this is that the difference is only temporary if the bond is held until maturity, as is typically done by most property/casualty insurers.

Under U.S. GAAP, financial instruments such as bonds and stocks are classified as Available For Sale (AFS), Held To Maturity (HTM) or Held For Trading (HFT). If a security is acquired with the intent of selling it within hours or days, the security is classified as HFT. However, at acquisition an entity is not precluded from classifying a security as HFT if it plans to hold it for a longer period. HFT assets are recorded at fair value with changes in fair value recorded in the income statement. Investments in debt securities are classified as HTM only if the reporting entity has the positive intent and ability to hold those securities to maturity. HTM assets are recorded at amortized cost. Investments in debt securities and equity securities that have readily determinable fair values not classified as HFT securities or as HTM securities

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<sup>203</sup> This recent change is not reflected in the 2007 Feldblum taxation CAS Study Note.

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are classified as available-for-sale securities. AFS securities, securities purchased with the intent to sell before maturity but after being held for at least one year, are recorded at fair value with changes in fair value in other comprehensive income (OCI), resulting in a direct change to the value of surplus, rather than changes in their fair value flowing through the regular income statement. Most property/casualty companies' financial instruments are classified and measured as AFS.

#### BALANCE SHEET PRESENTATION OF REINSURANCE

U.S. GAAP requires, due to limited rights to offset assets and liabilities, that liabilities be presented gross on the balance sheet with a separate asset for anticipated ceded reinsurance recoveries. U.S. SAP requires the balance sheet presentation of liabilities on page 3 of the Annual Statement to be presented net of reinsurance. Schedule P provides additional detail on the gross liabilities.

#### CEDED REINSURANCE – PROSPECTIVE AND RETROACTIVE

The accounting for reinsurance depends on whether the reinsurance contract covers future or past insured events. The latter is called retroactive reinsurance and the former prospective reinsurance. The difference between SAP and U.S. GAAP for prospective reinsurance is limited to balance sheet presentation. U.S. GAAP requires liabilities to be stated gross of reinsurance with a separate ceded reinsurance asset. SAP on the other hand presents liabilities net of reinsurance.

Retroactive reinsurance, however, has a different measurement approach for SAP compared to U.S. GAAP. SAP requires that undiscounted ceded reserves be recorded as a negative write-in liability. This leaves Schedule P unchanged, i.e., gross of the retroactive reinsurance. Any gain to the ceding company (excess of the negative write-in liability over the consideration paid for the reinsurance) is treated as write-in gain in other income and restricted as special surplus until the actual paid reinsurance recovery is in excess of the consideration paid.

U.S. GAAP requires ceded reserves to be recorded as a reinsurance asset. Any gain is deferred, thereby resulting in no immediate income or surplus benefit. The deferred gain is amortized using the interest method if the timing of the payments under the reinsurance treaty are reasonably estimable. Otherwise the proportion of actual recoveries to total estimated recoveries (the recovery method) determines the amount of amortization.

#### STRUCTURED SETTLEMENTS

To settle certain liability claims, an insurance company may purchase an annuity from a life insurance company with the beneficiary being the original claimant. For the case where a full release is signed by the claimant upon agreement to settle for the future annuity payments,

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the GAAP and SAP treatments are the same. The purchase price of the annuity is recorded as a paid loss and the claim is closed.

In the situation where a full release is not provided to the insurance company by the claimant, the insurance company is still contingently liable. In this situation, U.S. GAAP treats the structured settlement like a reinsurance contract, thus retaining the loss reserve and establishing an equivalent reinsurance recoverable. The accounting under SAP is the same as for structured settlements where a release is obtained, but it requires that the insurance company disclose the amount of these contingent liabilities in the Notes to Financial Statements.

#### ANTICIPATED SALVAGE AND SUBROGATION

In Schedule P reserves can be stated either gross or net of anticipated salvage and subrogation. If the reserves are stated net, column 23 in Schedule P discloses the amount of anticipated salvage and subrogation. This election appears to be a residual effect of pre-codification standards where certain states required reserves to be stated gross of anticipated salvage and subrogation.

Under U.S. GAAP, estimated realizable salvage and subrogation is subtracted from the unpaid loss estimates.

#### DISCOUNTING OF LOSS RESERVES

Statement of Statutory Accounting Principles (SSAP) 65 indicates that except for certain workers compensation and long-term disability claims with fixed and reasonably determinable payments, property/casualty reserves cannot be discounted. For those reserves that are tabular based, SSAP 65 is silent on the permitted discount rate. Most state regulations are also silent, but typically 3.5% per annum is used. For non-tabular reserves SSAP 65 indicates that the discount rate should be determined in accordance with Actuarial Standard of Practice 20, but capped at the lesser of:

1. The company's net rate of return on statutory invested assets minus 1.5%
2. The current yield to maturity on a U.S. Treasury debt instrument with a duration that is consistent to the payment of the claims

U.S. GAAP ASC 944-40-S30-1 refers to an SEC staff bulletin that indicates it is permissible to apply the same discount calculated under SAP for U.S. GAAP purposes. It also indicates that an alternative discount rate could be used as long as the alternative rate "is reasonable on the facts and circumstances applicable to the registrant at the time the claims are settled." This staff bulletin was prepared in response to an inquiry from a registrant asking if it was permissible to discount for U.S. GAAP purposes based on the company's historical investment yield.

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#### GOODWILL UNDER PURCHASE ACCOUNTING

Under SAP, a business combination is accounted for as either a statutory purchase or a statutory merger. Business combinations that create parent-subsidary relationships are accounted for as a statutory purchase. Alternatively, transactions are accounted for as a statutory merger if equity of one entity is issued in exchange for equity of the second entity, with the equity in the second entity then canceled. Prospectively, only one entity exists. Under statutory purchase accounting, the assets and liabilities of the acquired entity are recorded at their historical SAP carrying values. Goodwill is calculated as the difference between the purchase price and the statutory surplus of the acquired entity. Goodwill is limited in the aggregate to 10% of the acquiring entity's capital and surplus (adjusted to exclude any goodwill, electronic data processing equipment and operating system software, and net DTAs) for its most recently filed Annual Statement. Goodwill is amortized to unrealized capital gains and losses over the period in which the acquiring entity benefits economically, not to exceed 10 years.

Under U.S. GAAP, all business combinations are accounted for using purchase accounting, which requires all assets and liabilities of the acquired entity to be recorded at fair value (including all identifiable intangible assets). Goodwill represents the difference between the purchase price and the fair value of the net assets of the acquired entity. Goodwill is not amortized but is evaluated for possible impairment on a regular basis.

Due to these different approaches in calculating goodwill, the initial amounts of goodwill under SAP and GAAP can be significantly different. *Chapter 23. Fair Value Under Purchase GAAP* will discuss further the concept of fair value in business combinations.

#### SEC REPORTING

Companies with publically traded securities are required to file quarterly (10-Q) and annual (10-K) financial reports with the SEC. In addition, companies are required to file a form 8-K on an ad hoc basis for material events as they occur. The triggering events requiring the filing of an 8-K include a change in the principal officers or directors of the company, a change in the company's certified accountant, and entering or terminating a material definitive agreement.

These filings provide investors with quantitative and qualitative information about a company's business and operations, allowing investors to make informed and timely decisions. The key contents by section of a 10-K are:

- ▶ Part I – Business description, risks factors, unresolved issues with SEC staff, properties, legal proceedings and matters subject to vote by shareholders
- ▶ Part II – Financial statements (including report of independent accountants), supplementary data, management's discussion and analysis of results, and controls and procedures

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- ▶ Part III – Directors and officers of the company, executive compensation, securities ownership by certain beneficial owners and management, and the fees of principal accountant
- ▶ Part IV – Reports, exhibits and schedules from 8-Ks filed during the reporting period.

The 10-Q is an abbreviated form of the 10-K.

SEC reporting requirements for all registrants are mainly outlined in two regulations.

1. Regulation S-X – Form and Content of Financial Statements
2. Regulation S-K – Integrated Disclosure Rules

Regulation S-X contains general instructions to all companies around the composition and presentation of financial statements. Specifically, article seven provides detailed rules around the form and content of financial statement data and schedules of insurance companies. Many of these requirements are also required under GAAP. In particular, article seven requires the insurance company to state in the Notes to Financial Statements the:

- ▶ Basis of assumptions, including interest rates, for determining discounted liabilities
- ▶ Deferred acquisition costs amortized in the period
- ▶ Statutory stockholders equity and net income or loss

In addition Regulation S-X requires certain schedules to be included in each registrant's 10-K form (their annual filing). These schedules include:

- ▶ Schedule III – Supplementary insurance information for each reporting segment, of which the following is required to be reported:
  - ▶ Deferred policy acquisition costs
  - ▶ Unpaid loss and loss expenses
  - ▶ Unearned premiums
  - ▶ Other policy claims payable
  - ▶ Premium revenue
  - ▶ Net investment income
  - ▶ Losses and loss expenses
  - ▶ Amortization of deferred policy acquisition costs
  - ▶ Other operating expenses
  - ▶ Premiums written
- ▶ Schedule IV – Reinsurance including amounts ceded and assumed
- ▶ Schedule VI – Supplemental information concerning property/casualty insurance operations that includes the same information as Schedule III in total across fiscal years for the current fiscal year and the two years prior

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Following are examples of Schedules III (Table 108), IV (Table 109) and VI (Table 110) from a 2011 10-K filing for a company we are calling "Fictional Insurance Company".

TABLE 108

<b>10-K Schedule III Fictional Insurance Company Supplementary Insurance Information 2009–2011 (\$ in millions)</b>									
<b>Segment</b>	<b>Deferred Acquisition Costs</b>	<b>Claims and Claim Adjustment Expense Reserves</b>	<b>Unearned Premiums</b>	<b>Earned Premiums</b>	<b>Net Investment Income (1)</b>	<b>Claims and Claim Adjustment Expenses</b>	<b>Amortization of Deferred Acquisition Costs</b>	<b>Other Operating Expenses (2)</b>	<b>Net Written Premiums</b>
<b>2011</b>									
Business Insurance	430	21,132	2,887	5,965	1,075	448	956	1,024	5,972
Financial, Professional and International Insurance	175	3,611	1,076	1,671	218	783	318	341	1,633
Personal Insurance	336	2,300	1,884	3,996	223	3,340	768	478	4,078
Total - Reportable Segments	940	27,042	5,846	11,632	1,516	8,571	2,041	1,843	11,684
Other	-	35	-	-	-	-	-	233	-
Consolidated	940	27,077	5,846	11,632	1,516	8,571	2,041	2,076	11,684
<b>2010</b>									
Business Insurance	424	21,231	2,825	5,669	1,135	3,425	921	1,003	5,717
Financial, Professional and International Insurance	185	3,686	1,126	1,747	231	895	322	320	1,691
Personal Insurance	329	2,222	1,800	3,870	244	2,636	759	457	3,985
Total - Reportable Segments	938	27,139	5,751	11,286	1,611	6,956	2,002	1,779	11,393
Other	-	36	-	-	-	-	-	219	-
Consolidated	938	27,175	5,751	11,286	1,611	6,956	2,002	1,998	11,393
<b>2009</b>									
Business Insurance	417	22,171	2,833	5,776	1,002	3,179	935	1,035	5,741
Financial, Professional and International Insurance	194	3,790	1,199	1,755	238	920	328	305	1,730
Personal Insurance	315	2,227	1,688	3,748	222	2,435	746	413	3,765
Total - Reportable Segments	926	28,188	5,719	11,279	1,462	6,534	2,008	1,753	11,235
Other	-	38	-	-	-	-	-	221	-
Consolidated	926	28,226	5,719	11,279	1,462	6,534	2,008	1,974	11,235
<p>(1) See note 2 to the consolidated financial statements for discussion of the method used to allocate net investment income and invested assets to the identified segments.</p> <p>(2) Expense allocations are determined in accordance with prescribed statutory accounting practices. These practices make a reasonable allocation of all expenses to those product lines with which they are associated.</p>									

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TABLE 109

<b>10-K Schedule IV Fictional Insurance Company Valuation and Qualifying Accounts (USD in millions)</b>					
	<b>Balance beginning of period</b>	<b>Charged to costs and expenses</b>	<b>Charged to other accounts (1)</b>	<b>Deductions (2)</b>	<b>Balance at end of period</b>
<b>2011</b>					
Reinsurance recoverables	191	-	-	9	182
Allowance for uncollectible:					
Premiums receivable from underwriting activities	61	12	-	29	44
Deductions	19	3	-	2	21
<b>2010</b>					
Reinsurance recoverables	275	-	-	84	191
Allowance for uncollectible:					
Premiums receivable from underwriting activities	68	24	(1)	31	61
Deductions	26	(4)	-	2	19
<b>2009</b>					
Reinsurance recoverables	325	-	-	50	275
Allowance for uncollectible:					
premiums receivable from underwriting activities	68	32	1	33	68
Deductions	35	(2)	-	7	26
(1) Charged to claims and claim adjustment expenses in the consolidated statement of income.					
(2) Credited to the related asset account.					

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TABLE 110

10-K Schedule VI Fictional Insurance Company Supplementary Information Concerning Property-Casualty Insurance Operations (1) 2009-2011 (USD in millions)											
Affiliation with Registrant (2)	Deferred Acquisitio n Costs	Claims and Claim Adjustment Expense Reserves	Discount From Reserves for Unpaid Claims (3)	Unearned Premiums	Earned Premiums	Net Investme nt Income	Claims and Claim Adjustment Expenses Incurred Related to:		Amortization of Deferred Costs	Paid Claims and Claims and Adjustment Expenses	Net Written Premiums
							Current Year	Prior Year			
2011	940	27,042	629	5,846	11,632	1,516	8,919	(443)	2,041	8,112	11,684
2010	938	27,139	626	5,751	11,286	1,611	7,610	(746)	2,002	7,213	11,393
2009	926	28,188	612	5,719	11,279	1,462	7,204	(763)	2,008	6,803	11,235
(1)	Excludes accident and health insurance business.										
(2)	Consolidated property/casualty insurance operations.										
(3)	For a discussion of types of reserves discounted and discount rates used, see Item 1, Business, Discounting.										

Regulation S-K contains the requirements for the nonfinancial statement portions of the 10-K filing. In conjunction with the Securities Act Industry Guides, Guide 6: Disclosures Concerning Unpaid Claims and Claim Adjustment Expenses of Property-Casualty Insurance Underwriters, the following items are required to be disclosed:

- ▶ A tabular analysis of changes in aggregate reserves for unpaid claims and claim adjustment expenses for each of the latest three one-year periods
- ▶ A 10-year loss reserve development table (detail discussed below and shown in Table 112)
- ▶ Method for estimating the effects of inflation, implicitly or explicitly
- ▶ A reconciliation between statutory and GAAP reserves for unpaid claims and claim adjustment expenses, including an explanation of the key differences
- ▶ The amount of discount embedded in the GAAP reserves for unpaid claims, including the pre-tax income effect of discount accrued and of discount amortized

The two most commonly referred to tables are changes in aggregate reserves and the 10-year reserve runoff table.



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TABLE 111

<b>10-K Notes to Consolidated Financial Statements</b>			
<b>Fictional Insurance Company</b>			
<b>Insurance Claim Reserves</b>			
<b>Reconciliation of beginning and ending property casualty reserve balances for</b>			
<b>claims and claim adjustment expenses</b>			
<b>(USD in millions)</b>			
<b>At and for the year ending December 31</b>	<b>2011</b>	<b>2010</b>	<b>2009</b>
Claims and claim adjustment expense reserves at beginning of year	27,139	28,188	29,026
Less reinsurance recoverables on unpaid losses	5,941	6,629	7,272
Net reserves at beginning of year	21,198	21,559	21,755
Estimated claims and claim adjustment expenses for claims arising in the current year	8,919	7,610	7,204
Estimated decrease in claims and claim adjustment expenses for claims arising in prior years	(443)	(746)	(763)
Total increases	8,476	6,864	6,441
Claims and claim adjustment expense payments for claims arising in:			
Current year	4,082	3,133	2,843
Prior years	4,030	4,080	3,959
Total payments	8,112	7,213	6,803
Unrealized foreign exchange (gain) loss	(14)	(13)	166
Net reserves at end of year	21,548	21,198	21,559
Plus reinsurance recoverables on unpaid losses	5,494	5,941	6,629
Claims and claim adjustment expense reserves at end of year	27,042	27,139	28,188

Table 111 shows for each of the last three years the beginning reserve from the prior year-end, the provision for reserve development in the calendar year (ultimate incurred losses from accidents occurring in the current year plus change in ultimate incurred losses on accidents from prior fiscal periods), paid losses and the ending reserve. The beginning reserve plus the provision for reserve development minus paid losses equals the ending reserve. If the company makes an acquisition, this would be reflected in the beginning reserve balance.

The 10-year loss reserve development table shows the runoff of management's best estimate of the required reserve from each year-end for the last 10 years.

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TABLE 112

<b>10-K Fictional Insurance Company 10-Year Loss Development Table</b>											
<b>(at December 31, in millions)</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
Reserves for claims and claim adjustment expense originally estimated	10,636	12,253	12,667	21,825	22,588	22,561	22,695	21,755	21,559	21,198	21,548
Cumulative amounts paid as of:											
One year later	2,642	2,722	2,449	4,671	4,546	3,906	4,290	3,959	4,080	4,030	
Two years later	4,605	4,381	4,574	7,723	7,286	6,941	6,739	6,558	6,516		
Three years later	5,871	5,957	6,077	9,865	9,724	8,712	8,565	8,251			
Four years later	7,057	7,134	7,219	11,856	11,072	10,065	9,755				
Five years later	7,959	8,019	8,201	12,939	12,107	10,964					
Six years later	8,675	8,866	8,754	13,791	12,861						
Seven years later	9,414	9,341	9,246	14,465							
Eight years later	9,827	9,775	9,647								
Nine years later	10,224	10,130									
Ten years later	10,552										
Reserves re-estimated as of:											
One year later	12,232	12,458	12,755	21,962	22,362	22,207	21,787	20,992	20,813	20,755	
Two years later	12,682	12,950	13,308	22,414	22,281	21,504	21,024	20,348	20,232		
Three years later	13,197	13,456	13,714	22,612	21,955	20,926	20,454	19,807			
Four years later	13,667	13,843	13,955	22,721	21,514	20,397	20,128				
Five years later	14,044	14,076	14,114	22,462	21,077	20,226					
Six years later	14,312	14,247	14,017	22,153	20,984						
Seven years later	14,511	14,230	13,872	22,127							
Eight years later	14,523	14,121	13,893								
Nine years later	14,479	14,171									
Ten years later	14,537										
Cumulative deficiency (redundancy) (a)(b)	3,901	1,918	1,225	302	(1,604)	(2,335)	(2,567)	(1,948)	(1,327)	(443)	
Gross liability – end of year	16,273	17,859	18,304	31,300	32,365	31,425	30,592	29,026	28,188	27,139	27,042
Reinsurance recoverables	5,638	5,606	5,637	9,474	9,777	8,864	7,897	7,272	6,629	5,941	5,494
Net liability-end of year	10,636	12,253	12,667	21,825	22,588	22,561	22,695	21,755	21,559	21,198	21,548
Gross re-estimated liability – latest	21,247	20,480	19,734	31,521	30,469	28,440	27,459	26,452	26,363	26,470	
Re-estimated reinsurance recoverable – latest	6,710	6,309	5,841	9,394	9,484	8,214	7,331	6,646	6,131	5,716	
Net re-estimated liability – latest	14,537	14,171	13,893	22,127	20,984	20,226	20,128	19,807	20,232	20,755	
Gross cumulative deficiency (redundancy)	4,974	2,621	1,430	222	(1,896)	(2,985)	(3,133)	(2,574)	(1,825)	(669)	

Each column in the table is for a particular year-end. The first row shows the total net reserves for each year-end. The first triangle shows, going down each column, the cumulative (since the year-end in question) paid losses at successive periods on all accidents occurring on or before the specific year-end in question. The second triangle shows, in each column, management's best re-estimate of reserves at successive periods for all accidents occurring on or before the specific year-end in question with the hindsight of the paid losses from the first triangle. At the bottom of the table is a summary that provides the total reserve development down the column (basically the development to date by subtracting the last number in each column of the second triangle from the first number). By reviewing the total reserve development, either nominally or as a percentage of the starting reserve, users of the financial statement can evaluate management's past judgment in setting reserves. Critics of the usefulness of this table point out that management or their reserve setting process may

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not have been consistent over the time period shown by the table, and it is distorted by the market cycles. Therefore, they believe the table to be of limited use.

To demonstrate how a loss development table is constructed we have used the Schedule P, Part 2 and Part 3 summaries for Fictitious. To construct the table, we have assumed that the company started writing business in accident year 2002 and that there are no statutory to GAAP accounting adjustments. Furthermore, we included only net loss and DCC expenses.

The 2002 column is therefore only accident year 2002 with the original reserve being the accident year 2002 reserve at December 31, 2002. The cumulative paid amounts show the respective amounts paid after December 31, 2002. After nine years the table tells us that accident year 2002 has run off favorably by \$862 million, which can easily be reconciled to the change in ultimates in Schedule P, Part 2. The original reserve in the second column, 2003, is the sum of accident year 2002 and 2003 reserves at December 31, 2003, or at 24 months and 12 months, respectively. The 2003 column in the first triangle then shows the cumulative payments on those accident years since December 31, 2003.

TABLE 113

<b>Building from Schedule P Fictional Insurance Company 10-Year Loss Development Table</b>										
<b>(at December 31, in millions)</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
Net reserves for claims and claim adjustment expense originally estimated	10,368	16,785	23,462	28,062	28,689	30,315	31,359	31,903	32,708	34,515
Cumulative amounts paid as of:										
One year later	2,756	4,648	6,145	6,815	6,286	6,406	7,191	7,575	7,845	
Two years later	4,416	7,873	9,687	10,679	9,958	10,358	11,652	11,924		
Three years later	5,739	10,011	12,296	13,083	12,414	13,113	14,409			
Four years later	6,746	11,566	13,838	14,634	14,144	14,711				
Five years later	7,408	12,480	14,826	15,686	15,085					
Six years later	7,805	13,050	15,483	16,304						
Seven years later	8,080	13,420	15,906							
Eight years later	8,227	13,682								
Nine years later	8,321									
Ten years later										
Reserves re-estimated as of:										
One year later	9,228	16,438	22,601	26,211	27,254	27,811	29,803	30,589	31,656	
Two years later	9,664	17,045	21,999	25,226	25,059	26,129	28,555	29,164		
Three years later	9,882	17,078	21,552	23,712	23,703	24,972	27,236			
Four years later	9,961	17,052	21,023	22,670	22,584	24,033				
Five years later	9,897	17,006	20,423	21,770	22,015					
Six years later	9,841	16,647	19,846	21,359						
Seven years later	9,776	16,267	19,559							
Eight years later	9,527	16,169								
Nine years later	9,506									
Ten years later										
Cumulative deficiency (redundancy) (a)(b)	(862)	(616)	(3,903)	(6,703)	(6,674)	(6,282)	(4,123)	(2,739)	(1,052)	

## CHAPTER 23. FAIR VALUE UNDER PURCHASE GAAP

When an entity agrees to buy another entity, under U.S. Generally Accepted Accounting Principles (GAAP) the purchaser is required to state at fair value the assets and liabilities of the purchased entity. This accounting for business combinations is often referred to as Purchase GAAP (P-GAAP). As part of the P-GAAP process, certain intangible assets are included that would not typically be recognized and measured under U.S. GAAP. After the fair value of the assets and liabilities is determined, the implied capital (fair value assets minus fair value liabilities) is compared to the purchase price. If the implied capital is less than the purchase price of the purchased entity, the difference is defined to be goodwill and an asset equivalent to that amount is established. If the implied capital is greater than the purchase price of the purchased entity, the difference is immediately recognized as an operating gain into income.

As actuaries we may become involved in the estimation of certain balance sheet items on a fair value basis. In particular we may be asked to estimate the fair value of loss and LAE reserves and to estimate the value of business acquired (VOBA).

### FAIR VALUE OF LOSS AND LAE RESERVES

Fair value under U.S. GAAP is defined in Accounting Standards Codification (ASC) 820-10-05 as “the price at which an orderly transaction to sell the asset or to transfer the liability would take place between market participants at the measurement date under current market conditions.” Such a value could be obtained by a market quote if there were a deep and liquid market for insurance liabilities. As there is no such market, the approach is “mark-to-model,” which entails determining the market value through an estimation process rather than using an observable market price. Recent actuarial literature supports an approach to estimating fair value of insurance liabilities based on three components. These components are:

1. The expected value of the nominal future cash flows related to liabilities incurred, for loss and LAE, as of the date of the transaction.
2. The reduction in those cash flows for the time value of money at a risk-free rate plus an element for the illiquid nature of the liabilities. This discount rate is meant to reflect the characteristics of the underlying liabilities.
3. A risk adjustment to compensate an investor for bearing the risk associated with the liabilities. This is meant to reflect the expected net present value of profit that an investor would demand in return for the risk inherent within the liabilities.

We will separately consider each in our example below, basing the expected value of the cash flows on what we deem to be a reasonable estimate of unpaid claims as of the sale date and the associated future payout pattern (first component), and the current risk-free rate matched to the duration of those liabilities plus an adjustment for illiquidity (second

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component). For the third component of fair value, the risk adjustment, we use what is commonly referred to as the “cost of capital approach.” This approach estimates the amount of capital required to support the reserves at each future evaluation date. The required return in excess of the risk-free rate plus illiquidity adjustment is applied to this amount to calculate the value of the excess return expected by the investor in that future period. These values are in turn discounted to present value. The sum of the present value of excess returns from each future period is considered the risk margin.

The first component, expected nominal cash flows, can be derived from the current recorded reserve if management’s best estimate is indeed an expected value that has no obvious inherent bias. There are two common ways to establish the cash flows by line of business from the nominal reserves. The first is to use the payout pattern based on the loss reserve development that the actuary would have selected in the course of his or her review of the reasonableness of management’s recorded reserve. The second approach is to utilize the implied pattern based on the ratios of paid loss to ultimate loss by accident year. This latter approach may require more smoothing depending on the methods used in selecting ultimate losses and the stability, yet decreasing values, of incurred but not reported (IBNR) to case reserve ratios.

The second component is the amount of discount. Once the cash flows are estimated, the discounting calculation is fairly straightforward provided the rate is given. Given the third component is an explicit risk margin, the interest rate should reflect only the characteristics of the liability not related to the underlying risk in the outcomes for the purchasing entity. This is effectively the risk-free rate plus an element for the illiquidity of the liability, typically less than 100 basis points.

The risk-free rates are typically observed by referring the U.S. Treasury Daily Yield Curve for the evaluation date of study, for liabilities settled in U.S. dollars. The liquidity/illiquidity premium (the terms “liquidity” and “illiquidity” are used interchangeably) is not readily available or typically understood. The need for an illiquidity premium is much easier to initially comprehend when considered from an asset perspective. Two assets with identical expected cash flows and no difference in the risk associated with those cash flows would be expected to be valued exactly the same. But what if one was publically listed and readily tradable, while the other is privately held? In this situation the ability to readily trade the asset would result in a lower discount rate being applied to the tradable asset’s future cash flows than that of the privately held asset. The difference in the discount rates is the illiquidity premium for the privately held asset.

From a liability perspective, many find it hard to fathom why a liability that is less liquid should be lower in value than a liability that is liquid. It is easier to understand by considering the asset transferred to support the liability by the seller. The less liquid the liability is, the greater the opportunity for the purchaser of the liability to utilize the asset for their own gain

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until the liability comes due. This opportunity cost results in a greater discount for the seller of the liability, i.e., a higher discount rate. How to derive the illiquidity premium is an active debate at the time of writing and beyond the scope of this study material.

The third and final component of the fair value of the loss reserves is the risk adjustment. The most logical approach to calculating a risk adjustment for an estimate that is meant to represent a market-based valuation is a cost of capital. The cost of capital approach is simply the present value of the future returns on capital that an investor would require for bearing the risk in the expected cash flows. The basic formula for the risk adjustment is:

$$\text{Risk adjustment} = (R - i) \sum_{t=0}^{\infty} \frac{C_{t \text{ to } t+1}}{(1 + i)^{t+1}}$$

Where:

- ▶ R = pretax required return on capital by the capital provider
- ▶ i = risk-free rate of return plus an illiquidity premium
- ▶ t = time
- ▶  $C_{t \text{ to } t+1}$  = average capital carried over time t and t+1 to support the liability

The pretax required return can be approximated from the post-tax weighted average cost of capital that is typically produced by valuation experts performing the P-GAAP work on other intangible assets. The capital at any time t could be derived from using a suitable benchmark of the required capital for hypothetical market participant based on Risk-Based Capital, S&P's capital model or Best's Capital Adequacy Ratio model.

As an example, we shall calculate the fair value of the loss and loss adjustment expense (LAE) reserves for the homeowners/farmowners line of business from Fictitious' Annual Statement. In performing the calculation, we have assumed the following:

- ▶ The recorded reserve of \$1.457 million is a mean estimate of the expected future cash flows, i.e., no margin is present in management's best estimate.
- ▶ The appropriate payout pattern of the loss reserves, with some slight smoothing, can be derived from the ultimates in each accident year divided by the paid losses in each accident year<sup>204</sup>.
- ▶ The discount rates are the U.S. Treasury yield curve as of the valuation date plus an adjustment of 35 basis points for the illiquidity premium.
- ▶ The payments are made halfway through each future period.

<sup>204</sup> Note the term "payout pattern" is used interchangeably by actuaries as either the ratio of paid losses to ultimate loss ("percent paid") or the ratio of ultimate loss to paid loss (which is equivalent to a paid age-to-ultimate factor).

FINANCIAL REPORTING THROUGH THE LENS OF A PROPERTY/CASUALTY ACTUARY

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- ▶ The required capital ratio is 20.1% of the unpaid claim estimates in each future period and is applied to the average amount outstanding over the period to estimate the required capital.
- ▶ The cost of capital is 10%, which is reduced by the discount rate associated with the average duration of capital to derive the risk cost of capital of 9.7%, (R-i) in the above formula.
- ▶ The return on capital is paid at the end of each future period.

TABLE 114

Fictitious Insurance Company Homeowners/Farmowners Fair Value of Loss and LAE Reserves – Net As of December 31, 2011 (U.S.D in 000s)												
		Anticipated Loss Payments By Payment Period										
		Total	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Payments in Period	(1)	1,457	879	261	104	112	38	27	7	8	9	11
Payment Duration	(2)		0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5
Discount Rate	(3)		0.095%	0.210%	0.336%	0.481%	0.711%	0.973%	1.231%	1.463%	1.633%	1.822%
PV of Payment	(4)	1,446	878	260	104	110	37	25	7	7	8	10
Undiscounted Future Payments	(5)		1,457	578	317	213	101	62	36	29	21	11
Required Capital Ratio	(6)		0.201	0.201	0.201	0.201	0.201	0.201	0.201	0.201	0.201	0.201
Average Required Capital	(7)		205	90	53	32	16	10	7	5	3	1
Risk Cost of Capital	(8)		0.097	0.097	0.097	0.097	0.097	0.097	0.097	0.097	0.097	0.097
Cost of Capital in Period	(9)		20	9	5	3	2	1	1	0	0	0
Duration (10)	(10)		1	2	3	4	5	6	7	8	9	10
Discount Rate	(11)		0.155%	0.285%	0.395%	0.585%	0.865%	1.095%	1.385%	1.546%	1.725%	1.925%
Associated Risk Margin	(12)	40	20	9	5	3	2	1	1	0	0	0
<b>Total Fair Value Reserve</b>	(13)	<b>1,486</b>										
	(1)	Determined from reserve and payout pattern										
	(2)	Payments assumed to occur on average halfway through the period										
	(3)	From yield curve										
	(4)	= (1) / [1 + (3)] ^ (2)										
	(5)	Sum of remaining amounts from (1)										
	(6)	Selected										
	(7)	= Average of (5) from t and t+1 x (6)										
	(8)	Selected										
	(9)	= (7) x (8)										
	(10)	Capital is assumed to be held until the end of the period										
	(11)	From yield curve										
	(12)	= (9) / [1 + (11)] ^ (10)										
	(13)	= Total (4) + Total (12)										

The resulting fair value for this line of business differs only slightly from the recorded reserve and is likely within the bounds of the level of accuracy for determining a reasonable reserve estimate. However, this is due to several factors, some of which are offsetting. The discount

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is minimal in this case due to the relatively short payout pattern of the line of business and the low level of interest rates on U.S. treasuries as of December 31, 2011.

The shorter payout pattern also affects how long you need to hold the capital. The less time the capital is held, the lower the future capital charges that can accumulate. In addition, in this case the line of business is not one that is associated with a large degree of reserve variability. Therefore, the required capital ratio is fairly small, which decreases the absolute return that a third party would demand to acquire the liability. Finally, working in the opposite direction, there is the effect of discount rates on the risk margin. The low discount rates effectively increase the risk margin as the present value of the future returns on capital is higher.

In this example, you can see that the fair value of a liability can be affected by many moving pieces that can require an actuary to dig into the calculation to be able to explain differences between lines of business or between evaluation dates.

Not all believe that cost of capital is the right approach to producing a risk adjustment. Australian Prudential Regulation Authority requires reserves to be recorded at or about the 75<sup>th</sup> percentile of the discounted distribution of outcomes. In Canada, property/casualty actuaries judgmentally select the risk adjustment for loss reserves as a percentage value up to 20%. In addition, one could use tail value at risk (T-VaR) approach. While the cost of capital can be calibrated to the pre-tax return investors require and the amounts of capital typically held for a risk, these other methods lack any calibration to the market. This makes it difficult to assert that the assumption of a certain confidence level, T-VaR or percentage load is required by a market participant in an arm's-length transaction.

#### VALUE OF IN-FORCE

Under P-GAAP, the fair value of deferred acquisition costs (DAC) is zero. In its place an asset is established based on the value of the business in-force (VBIF). This is not, as some company's assume, equivalent to the DAC asset. The VBIF is affected by the relationship of discount to risk adjustment on the liabilities expected to be incurred in connection with the unearned premium reserves, the amount of acquisition costs that were covered by the premium but previously expensed, and the estimated profitability of the unearned premium reserves. A shortcut technique to calculating the VBIF is to state at fair value the liabilities expected to be incurred in connection with the unearned premium reserves and subtract them from the unearned premium to obtain the implied VBIF. The steps to obtain a fair value of these liabilities are identical to those in obtaining the fair value of the loss reserves but with two additional steps. The expected and unbiased loss ratio is required to estimate the nominal expected liabilities from the unearned premium, and the cash flows in the first year should include an amount for policy maintenance costs.



## CHAPTER 24. INTERNATIONAL FINANCIAL REPORTING STANDARDS

International Financial Reporting Standards (IFRS) is a single set of global financial reporting standards issued by the International Accounting Standards Board (IASB). It was developed in the public interest as a high-quality set of general purpose standards that will provide users across borders and industries with transparent and comparable information. That is, they provide the world's integrated capital markets with a common language for financial reporting.

Most of the world's major economies permit or require the use of IFRS. The European Union, Canada, Hong Kong, and Australia are among the economies that use IFRS. At the time of writing, the Securities and Exchange Commission (SEC) in the U.S. is in the process of determining whether to allow domestic issuers of financial statements the ability to file using IFRS rather than U.S. Generally Accepted Accounting Principles (GAAP), as it currently permits foreign private issuers. It appears that the SEC will not endorse such a move but will likely allow U.S. GAAP to converge with IFRS over time by using the Financial Accounting Standards Board (FASB) to accept, modify, or reject new standards issued by the IASB in a similar manner to how the National Association of Insurance Commissioners (NAIC) Statutory Accounting Principles Working Group decides how changes in U.S. GAAP will affect U.S. Statutory Accounting Principles.

Currently the IASB and the FASB are engaged in a joint project to develop a new accounting standard for insurance contracts. The initial project was started by the predecessor of the IASB, the International Accounting Standards Committee in the late 1990s. There were several reasons for starting the project:

- ▶ There is diversity of accounting practices around the world for insurance contracts.
- ▶ Existing standards were overly influenced by regulatory prudence, which does not provide an accurate picture of the economics of a company.
- ▶ A deferral and matching model is not currently in favor.
- ▶ Investors in life insurance companies in Europe do not currently rely on the accounting information presented but on supplemental measures such as market consistent embedded value.
- ▶ Most current approaches for accounting for insurance contracts are inconsistent with the accounting for other industries.

As 2005 approached, the IASB realized it was unable to issue a new standard before IFRS was due to be implemented in the European Union. Consequently, it decided to split the insurance contracts project into two phases. Phase I resulted in IFRS 4, which requires insurers to account for those contracts that meet the definition of an investment contract (this is mainly related to certain life insurance contracts) in accordance with International Accounting

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Standards (IAS) 39, financial instruments. In addition it made limited improvements to accounting practices for other insurance contracts. The work on Phase II of developing a new measurement model for insurance contracts is still ongoing at the time of writing.

#### IFRS 4

One of the key components of IFRS 4 was to define an insurance and reinsurance contract as: "A contract under which one party (the insurer) accepts significant insurance risk from another party (the policyholder) by agreeing to compensate the policyholder if a specified uncertain future event (the insured event) adversely affects the policyholder."

What is insurance risk versus financial risk, and what insurance risk is significant? The IASB dealt with both of these questions. Financial risk was defined as the risk of a possible future change in one or more of a specified interest rate, financial instrument price, commodity price, foreign exchange rate, index of prices or rates, credit rating, or credit index or other variable, provided in the case of a non-financial variable that the variable is not specific to a party to the contract. Insurance risk is risk, other than financial risk, transferred from the holder of a contract to the issuers. The IASB stated that if both financial risk and significant insurance risk are present, the contract is classified as insurance.

For what constitutes *significant* insurance risk, the IASB stated that insurance risk is: "Significant if, and only if, an insured event could cause an insurer to pay significant additional benefits in any scenario, excluding scenarios that lack commercial substance."

This appears to most to be a much weaker standard for risk transfer than that currently in U.S. GAAP, which requires that it is "reasonably possible" that the reinsurer may realize a significant loss from the transaction. This latter standard appears to require more than just one scenario of economic substance.

IFRS 4, beyond the definition of insurance, allowed companies to continue to use their local GAAP but put into place some minimum rules around that practice. Some key requirements of IFRS 4 were that it:

- ▶ Prohibited certain accounting policies that do not meet the IFRS accounting framework:
  - ▶ Catastrophe provisions or any reserve for events beyond the scope of current contract
  - ▶ Offsetting of reinsurance assets and direct liabilities
- ▶ Mandated certain accounting policies if they are not already in the company's existing accounting policies:

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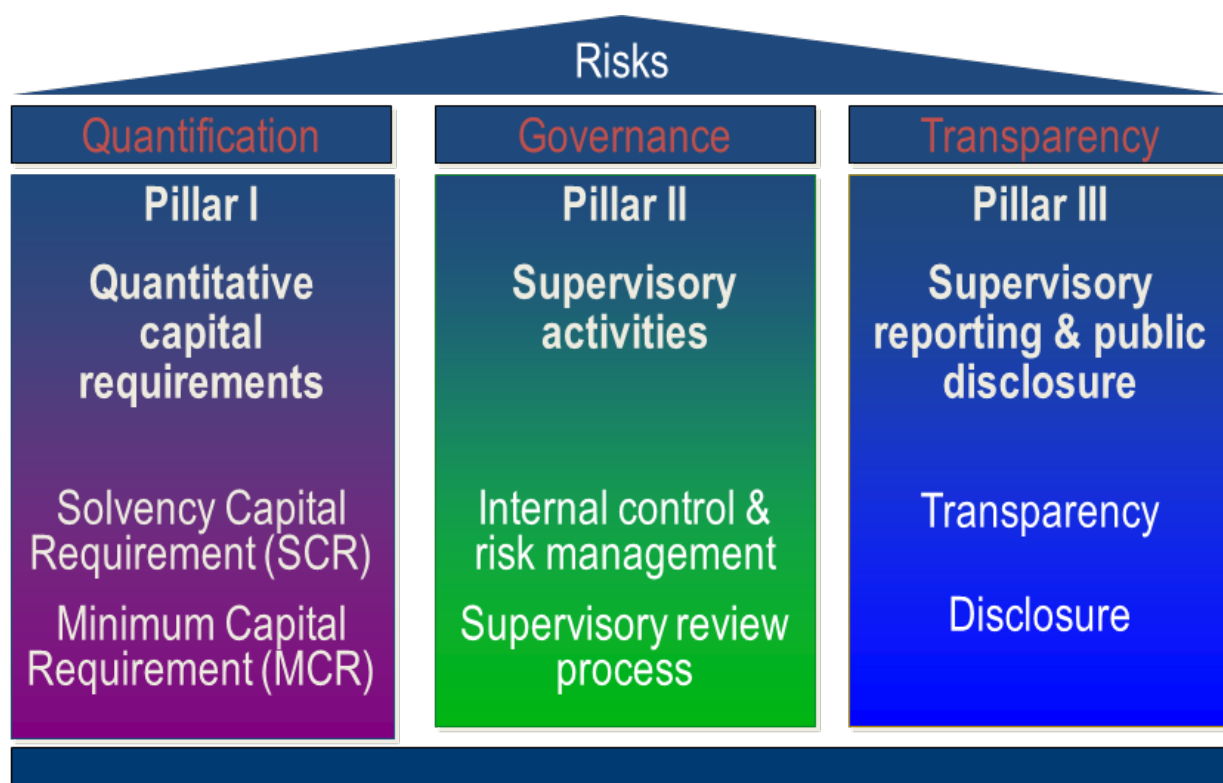
- ▶ Liability adequacy test (already required for unearned premiums under U.S. GAAP)
- ▶ Impairment testing of reinsurance assets (already required under U.S. GAAP)
  
- ▶ Allowed companies to continue, but not start certain accounting policies that do not meet the IFRS framework:
  - ▶ Stating unpaid claim liabilities on an undiscounted basis
  
- ▶ Allowed companies to elect to introduce certain accounting policies:
  - ▶ Permitted the use of a measure as long as it was no less relevant and no less reliable than the current accounting policy such as discounting loss reserves

The IASB has continued to work on Phase II of the insurance contracts project but progress has been slow. A discussion paper was issued by the IASB in 2007, and shortly after, the FASB joined the project. In 2010, the IASB issued an exposure draft, and the FASB issued its own discussion paper. Both papers received a significant amount of comments and the boards have been re-deliberating since January 2011. The current timetable provides for the IASB and FASB to issue a revised exposure draft and initial exposure draft, respectively, by the end of the first quarter of 2013.

## CHAPTER 25. SOLVENCY II

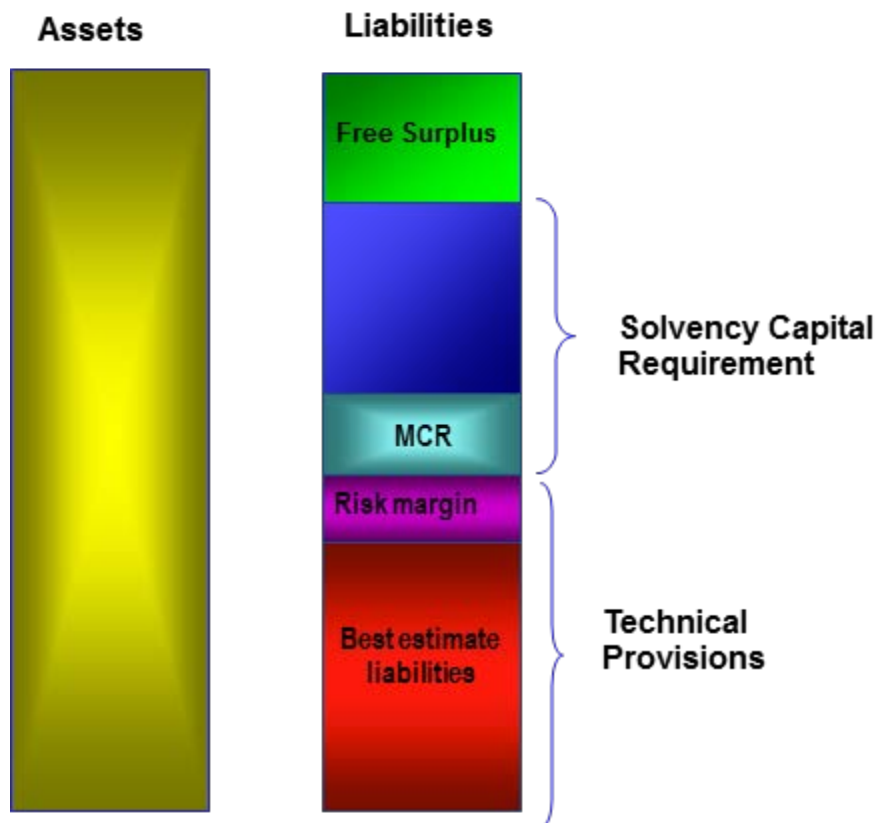
Solvency II is a new principle-based insurance regulatory system to determine the required capital levels of insurance companies in the European Union. It was developed to primarily link the required capital of insurance companies to their risk profile.

Solvency II is scheduled to be implemented from January 1, 2015, on. The new system will be based on three pillars similar to those of Basel II. Those pillars are quantification, governance, and transparency.



### PILLAR I – QUANTITATIVE CAPITAL REQUIREMENTS

Pillar I is focused on the quantitative aspect of Solvency II to obtain the solvency capital requirement (SCR) and minimum capital requirement (MCR). The measurement approach is summarized in the following diagram and is often referred to as the total balance sheet approach.



On the asset side of the balance sheet, non-insurance assets are recorded using the measurement approach under International Financial Reporting Standards (IFRS). Reinsurance assets are measured in the same way as insurance liabilities. On the liability side of the balance sheet, the technical provisions consist of the discounted best estimate of the liabilities and their associated risk margin. These are meant to represent the fair market value of the insurance liabilities, and although principles based, the approach to calculating them is fairly prescriptive. The best estimate of the liabilities is the expected value of the cash flows discounted using a risk-free rate plus an illiquidity premium. The risk margin is calculated using a cost of capital method with the cost of capital above the risk-free rate ( $R_i$  from Chapter 23) equal to 6%. The required capital at each point in time is the SCR.

The SCR is defined as the amount of capital required to limit the probability of ruin over the forthcoming year to 0.5%, i.e., a one-year 99.5% Value at Risk (VaR). A company whose capital falls below the SCR will be subject to regulatory intervention. If it falls even further below the MCR, the company will not be permitted to operate. Critics have noted that the one-year 99.5% VaR is not an adequate measure for bearing the risk to ultimate settlement. Solvency II requires consideration of recapitalization based on adverse development in each future annual period, yet doesn't assume you need to hold sufficient capital from inception to settlement without raising capital. Therefore, critics of Solvency II believe using one-year

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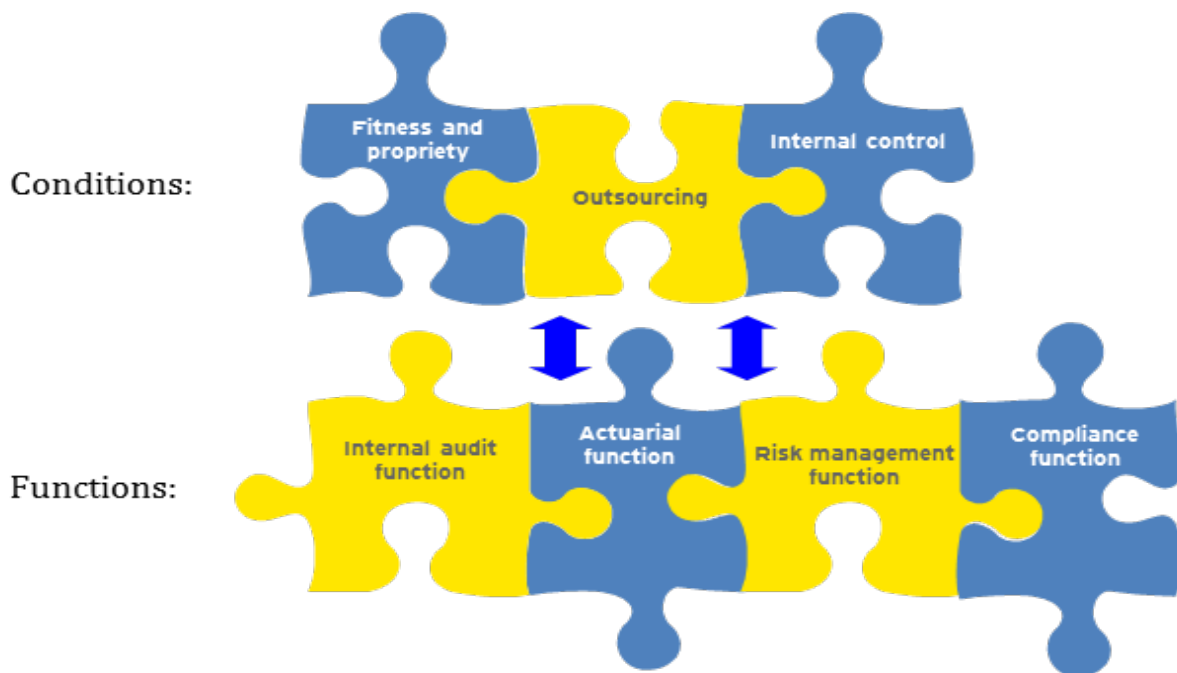
99.5% VaR as the capital standard in the risk margin calculation does not provide a true fair market value.

The SCR can be calculated using the standard model (a spreadsheet model provided by the regulator), an approved internal model or a mix of both. To obtain approval for an internal model, the company has to demonstrate that the model is used in running the business, has been validated by an independent third party and is documented appropriately. The benefit of using an internal model is the likely outcome of a lower SCR.

Any remaining amount between the assets minus the technical provisions and SCR is considered free surplus.

PILLAR II – SUPERVISORY ACTIVITIES

Pillar II provides the supervisor with the tools required to identify high-risk companies and the power to intervene. First, this pillar requires companies to have the governance structure in place to address key areas:



The functional areas, while each satisfying the conditions, should be allocated responsibility that avoids duplication. Each one is viewed as essential for an insurance business to operate effectively. Key responsibilities of each function include:

- Internal audit: Produce a report at least annually to the board of directors on any deficiencies of the internal controls and any shortcomings in compliance with internal

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policies and procedures. This function should have unrestricted access to information and staff.

- Actuarial: Ensure the reasonability of methods and assumptions used in calculating the technical provisions and providing a look-back analysis of best estimates against experience. Also, provide opinions on the overall underwriting policy and adequacy of reinsurance arrangements.
- Risk management: Monitoring the risk management function and maintaining an aggregated view. Ensure the integration of any internal model with the risk management function.
- Compliance: Ensure the internal control system is effective to comply with all applicable laws and regulation, promptly reporting any major compliance issues to the board of directors.

Pillar II also requires that companies complete an own risk self-assessment (ORSA). An ORSA was defined by a Committee of European Insurance and Occupational Pensions Supervisors Issues Paper in May 2008: "The ORSA can be defined as the entirety of the processes and procedures employed to identify, assess, monitor, manage, and report the short- and long-term risks a (re) insurance undertaking faces or may face and to determine the own funds necessary to ensure that the undertaking's overall solvency needs are met at all times."

An ORSA should contain at a minimum the following:

- ▶ The overall solvency needs, taking into account the specific risk profile, approved risk tolerance limits and the business strategy of the undertaking
- ▶ The compliance with the capital requirements and the requirements regarding technical provisions
- ▶ The extent to which the risk profile of the undertaking deviates significantly from the assumptions underlying the SCR, calculated with the standard formula or with its partial or full internal model

The ORSA results will periodically be reported to the supervisor who will use the results as input for their risk-based supervision and actions. The ORSA will also be the basis for the dialogue between the insurer and the supervisor regarding important decisions made by the insurer.

In the case of significant deviations from the risk profile, the ORSA will be the starting point of the supervisor's process that could lead to a capital add-on (i.e., an increase in the SCR).

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PILLAR III – TRANSPARENCY

Pillar III is the means by which information about a company's capital and regulatory position collected from pillars I and II is given to the supervisor and the financial markets. Some items will be reported quarterly and others annually. The purpose of public disclosure of a company's financial and solvency position is to increase market discipline because companies are aware that their risk-based decisions will be in the public domain.



**CHAPTER 26. TAXATION IN THE U.S.**

Beyond the solvency and general-purpose financial reporting frameworks, the third accounting framework is taxation. Taxation has many forms, including the direct taxation of the income of corporations. Generally, tax is imposed on net profits from business, net gains, and other income. The income subject to taxation is determined under accounting principles that are modified or replaced by tax law principles where a different basis is determined as necessary by the relevant taxing authorities. In the U.S., insurance companies are taxed based on their statutory income with adjustments that will be described herein.

Understanding the impact of federal taxation is important for insurance contract pricing, insurance company valuation, constructing capital models, and assisting in the preparation of federal tax returns. Too often actuaries simplify a company's tax situation by grossing up underwriting profit by  $1/(1\%-35\%)$ . This simplification ignores the significant effects of federal taxes on income and company valuations.

In this chapter, we will give a summary of how taxable income is derived for insurance companies from their statutory accounts, including a review of the adjustment of loss reserves for discounting. We will review the process for determining taxable income from statutory underwriting income and investment income. Statutory underwriting income consists of premium revenue minus loss and expenses. So we will start with premium revenue, otherwise known as earned premium.

**TAX BASIS EARNED PREMIUM**

On a tax basis, earned premium is adjusted for "revenue offset." The need for the revenue offset stems from a lack of a deferred acquisition cost asset under statutory accounting. Assume that today a company wrote a policy for \$100 but incurred \$20 in acquisition costs. Under statutory accounting, the company would incur \$20 loss in income from establishing an unearned premium reserve of \$100 and payment of \$20 in acquisition costs. Rather than allow companies to claim a tax refund on that "loss" under statutory accounting, the IRS has established the revenue offset procedure. The revenue offset procedure assumes that acquisition costs are 20% for all lines of business and all types of insurers. In our example the unearned premium reserve would be reduced by \$20, resulting in the income effect from writing this contract as \$0.

Statutory earned premium is calculated as written premium minus the change in the unearned premium reserve. Under the revenue offset procedure, tax basis earned premium is written premium minus 80% of the change in unearned premium reserves.

$$\begin{aligned} \text{Tax Basis Earned Premium} \\ = \text{Written Premium} - (0.8 \times (\text{Change in Unearned Premium Reserve})) \end{aligned}$$

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This formula can be rearranged to give:

$$\begin{aligned} \text{Tax Basis Earned Premium} \\ &= \text{Statutory Earned Premium} \\ &+ (0.2 \times (\text{Change in Unearned Premium Reserve})). \end{aligned}$$

Where the change in Unearned Premium Reserve  
= Unearned Premium Reserve at end of period - Unearned Premium Reserve at beginning of period.

### TAX BASIS INCURRED LOSSES AND EXPENSES

Statutory calendar-year incurred losses are paid losses plus the change in full-value loss reserves:

$$\begin{aligned} \text{Incurred losses} &= \text{Paid losses} + \text{Change in full value loss reserves} \\ &= \text{Paid losses} + (\text{Full value loss reserves at end of period} - \text{Full value loss reserves at beginning of period}). \end{aligned}$$

For long-tailed lines of business, time value of money considerations in the pricing of policies would result in an underwriting loss under this statutory definition of incurred losses. As we previously discussed, the Internal Revenue Service (IRS) prefers not to provide insurance companies with a tax refund on what appears to be a temporary loss until investment income can be made on the reserves held until the claims are paid. To avoid this, tax basis accounting is more aligned with economic reality by requiring the discounting of loss reserves, albeit with defined rules and the lack of a risk margin/adjustment.

Our next section will discuss the process of discounting for taxes in more detail. For now it is sufficient to understand that:

$$\begin{aligned} \text{Tax Basis Incurred Losses} &= \text{Paid Losses} + \text{Change in Discounted Reserves} \\ &= \text{Statutory Incurred Losses} - \text{Change in Reserve Discount}. \end{aligned}$$

Expenses are the same under statutory and tax bases.

### INVESTMENT INCOME

Taxable investment income consists of income from bonds, mortgages, real estate, and venture capital, and realized capital gains. In addition, there are two key adjustments: proration of tax-exempt municipal bond interest and proration of dividend received deduction for stockholder dividends.

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Tax-exempt municipal bonds are just that for most taxpayers. Insurance companies, though, are required under the 1986 Tax Reform Act to add 15% of the interest income on tax-exempt municipal bonds to their taxable income. This proration effectively requires insurance companies to pay  $15\% \times 35\% = 5.25\%$  tax on tax-exempt municipal bond income.

Dividends are paid by a company to its stockholders from after-tax earnings. In turn the stockholders, if individuals, pay taxes on these dividends. This is commonly referred to as double taxation. In the case of corporate stockholders certain allowances are made to reduce tax on dividends to avoid triple taxation when they in-turn dividend earnings to their investors. These allowances are called dividends-received deduction (DRD). The amount of the DRD is determined based on the relationship of the dividend paying corporation and the corporation being taxed. There are three levels of DRDs:

- ▶ **Controlled:** If the corporation being taxed owns 80% or more of the dividend-paying corporation, then the dividend income received is 100% exempt from tax.
- ▶ **Affiliated:** If the corporation being taxed owns at least 20% but less than 80% of the dividend-paying corporation, then 20% of the dividend income is subjected to tax.
- ▶ **Unaffiliated:** If the corporation being taxed owns less than 20% of the dividend-paying corporation, then 30% of the dividend income is subjected to tax.

For insurance companies, this is not quite the end of the story, as the proration provision of the tax code that requires insurance companies to pay tax on the income from tax-exempt municipal bonds also applies to dividend income from affiliated and unaffiliated companies. Therefore, the effective tax rates on dividend income for insurance companies from affiliated and unaffiliated companies are:

- ▶ **Affiliated:**  $(20\% \times 35\%) + (80\% \times 15\% \times 35\%) = 11.2\%$
- ▶ **Unaffiliated:**  $(30\% \times 35\%) + (70\% \times 15\% \times 35\%) = 14.175\%$

### ALTERNATIVE MINIMUM INCOME TAX AND THE MINIMUM TAX CREDIT

Now that we have derived taxable income, we can establish the regular tax liability, which is 35% of regular taxable income. Yet that is not the end of the necessary calculations. A company whose investment strategy is heavily weighted to tax-exempt investments may have a high amount of income but little taxable income. To prevent such companies from paying little or no income tax, Congress has established an alternative minimum taxable income (AMTI), which sets a lower bound at which companies are taxed. AMTI consists of regular taxable income plus 75% of income that escapes regular taxation, such as the complement of the prorated municipal bond interest included in regular taxable income.

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Once the AMTI is established, the associated alternative minimum income tax (AMIT) is 20% of AMTI. The AMIT is then compared to regular income tax adjusted for the minimum tax credit (described below). If the AMIT is greater than the adjusted regular income tax, the company must pay the AMIT.

When a company pays the AMIT for the first time, the amount that the AMIT is greater than regular income tax is established as a minimum tax credit. The minimum tax credit can be used in future years (carried forward indefinitely) to reduce regular income tax but only as far as the AMIT in a specific year.

For example, if a company in its first year of operation has regular income tax of \$1.0 million and an AMIT of \$1.2 million, \$0.2 million is established as a minimum tax credit. In the second year of operation, the company has regular income tax of \$2.1 million and an AMIT of \$2 million. Given the minimum tax credit, it can lower its income tax by \$0.1 million to the AMIT level, carrying forward the remaining \$0.1 million of minimum tax credit.

#### DISCOUNTING LOSS RESERVES FOR TAXES

In the section within Chapter 22 titled "Nonadmitted Assets ", we discussed the reasons statutory loss reserves are discounted in calculating taxable income. We shall now look in more detail at the prescriptive method required by the IRS to discount. The discounted loss reserves are calculated using three components:

1. The undiscounted loss reserves
2. The discount rate promulgated by the U.S. Treasury for that accident year
3. The payment pattern

The first component is obtained from Schedule P, Part 1. Reserves in Schedule P, Part 1 are net of tabular discount but gross of non-tabular discount. Therefore any tabular discount will need to be eliminated to gross-up the loss reserves from Schedule P, Part 1 onto an undiscounted basis.

The discount rate is determined for each accident year as the 60-month moving average of the Federal midterm rates ending on December 1 of the preceding accident year. The Federal midterm rate is the average rate on U.S. Treasury securities with three to nine years remaining until they mature. Once the rate is determined for an accident year, it remains constant and is applied to the accident year in all future calendar periods.

The payment pattern is determined by an election by each company once every five years in the second and seventh years of each decade. Once the election is made, it applies until five years later. The election is between relying on a paid loss development method developed by the IRS from industry aggregate Schedule P, Part 1 data or applying the methodology to the company's own Schedule P, Part 1. One key difference is once the industry pattern election is

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made, the payment patterns are not updated until five years later, when the election has to be made again. For companies that elect to use their own data the patterns have to be updated every year and are based on the last completed Annual Statement available and the commencement of the current accident year. This is typically the Annual Statement from two years prior to the current year-end.

The payment pattern is derived from Schedule P, Part 1 rather than Part 3 due to:

- ▶ Concerns related to using data in Part 3 that doesn't include adjusting and other expenses
- ▶ Part 1 being an audited schedule
- ▶ IRS method applied to Part 1 data requiring no judgment

The approach to deriving the payment pattern from Schedule P, Part 1 assumes that each successive accident year will pay a consistent percentage of ultimate losses based on the age of the accident year. The payment at each successive year is determined from Schedule P, Part 1 by using the ratio of cumulative paid loss and loss adjustment expense (LAE) to ultimate incurred loss and LAE. These cumulative ratios are then converted to incremental paid to ultimate incurred ratios to provide the expected future percentage of payments in successive calendar years. These incremental payments can then be discounted back, assuming that the payments take place approximately halfway through each calendar year on July 1.

For example, let's revisit Schedule P, Part 1 for Fictitious. We shall use the homeowners/farmowners line of business.

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TABLE 115

Fictitious Insurance Company Schedule P, Part 1A – Incremental Payment Percentages				
Accident Year	Column 11 Net Paid Losses and LAE	Column 28 Ultimate Incurred Losses and LAE	Cumulative Percentage Paid	Incremental Percentage Paid
2002	1,035	1,038	99.71%	0.04%
2003	1,220	1,224	99.67%	0.00%
2004	1,509	1,514	99.67%	2.71%
2005	1,530	1,578	96.96%	-2.39%
2006	1,534	1,544	99.35%	0.65%
2007	1,599	1,620	98.70%	1.01%
2008	2,413	2,470	97.69%	0.99%
2009	2,404	2,486	96.70%	4.20%
2010	2,589	2,799	92.50%	15.74%
2011	3,346	4,359	76.76%	76.76%

Often, by the end of 10 years the paid-to-incurred ratio is less than 100%. In these cases the IRS has determined an extension of payments calculation. If the amount remaining unpaid after 10 years is less than the amount paid in the 10th year, the remaining amount is assumed to be paid in the 11th year. If the amount remaining is greater than the amount to be paid in the 10th year, the 10th year payment is repeated until all the remaining amount is paid or the 16th year is reached, in which the total remaining unpaid is assumed to be paid in the 16th year. This is the case for homeowners/farmowners, where the remaining unpaid is 0.29% (= 100% - 99.71%), which is greater than the amount to be paid in year 10 (0.04%). Therefore, we repeat the 0.04% incremental percentage paid in years 11 through 15, and then the total remaining unpaid of 0.09% is assumed to be paid in year 16.

If the cumulative percentage paid for homeowners/farmowners had instead been 100% in the 10<sup>th</sup> year (accident year 2002 in this case), the incremental percentage paid would have been 0.33% in year 10, and no further payments would be made after 10 years.

We can perform the same calculation for the commercial automobile liability line of business.

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TABLE 116

<b>Fictitious Insurance Company Schedule P, Part 1C –Incremental Payment Percentages</b>				
<b>Accident Year</b>	<b>Column 11 Net Paid Losses and LAE</b>	<b>Column 28 Ultimate Incurred Losses and LAE</b>	<b>Cumulative Percentage Paid</b>	<b>Incremental Percentage Paid</b>
2002	1,498	1,526	98.17%	0.62%
2003	1,509	1,547	97.54%	0.80%
2004	1,336	1,381	96.74%	5.29%
2005	1,220	1,334	91.45%	0.18%
2006	1,140	1,249	91.27%	2.65%
2007	1,238	1,397	88.62%	8.66%
2008	1,133	1,417	79.96%	15.62%
2009	911	1,416	64.34%	17.41%
2010	711	1,515	46.93%	23.71%
2011	378	1,628	23.22%	23.22%

As you can see from Table 116, the 10th year cumulative percentage paid for commercial auto liability is also less than 100%. Therefore, we repeat the 0.62% incremental percentage paid in years 11 and 12 before finally getting to 100% with an incremental paid percentage of 0.59% in year 13.

## **PART VII. CANADIAN-SPECIFIC REPORTING**

### **INTRODUCTION TO PART VII**

This part provides an overview of insurance financial reporting in Canada and a description of the main participants who influence the reporting framework in Canada. The Canadian regulatory Annual Statement and certain key elements of particular importance to Canadian actuaries are discussed.



## CHAPTER 27. OVERVIEW OF FINANCIAL REPORTING IN CANADA

### OVERVIEW

Insurance regulators, the accounting profession, and the actuarial profession play a role in setting the framework for insurance financial reporting in Canada.

Insurance is regulated in Canada at the federal and provincial levels. As a result, insurance companies can choose to be registered federally (across Canada) or separately in each province where they conduct business. The majority of insurers are regulated federally under the jurisdiction of the Office of the Superintendent of Financial Institutions (OSFI).<sup>205</sup>

Registered insurers are required annually to file detailed financial statements with supporting exhibits and quarterly updates. In addition, since 1992 registered insurers have been required to appoint an actuary to value their policyholders' liabilities and to report at least annually on the current and future financial condition of the insurer. Each province regulates its own policy forms and monitors market conduct; hence, insurers must also be licensed by each province in which it writes business regardless of where it is registered.

### OFFICE OF THE SUPERINTENDENT OF FINANCIAL INSTITUTIONS

OSFI is a federal agency established in 1987 under the Office of the Superintendent of Financial Institutions Act. OSFI's mandate is to supervise all federally regulated financial institutions, monitor federally regulated pension plans and provide actuarial advice to the Government of Canada.

OSFI's activities are structured to protect the rights and interests of depositors, policyholders, pension plan members, and creditors of financial institutions and in so doing to contribute to the public confidence in a safe and sound financial system. This is accomplished through supervision to identify key risks in certain institutions and intervene as appropriate and through regulation to enhance the financial system's safety and soundness.

OSFI differs from the National Association of Insurance Commissioners (NAIC) in that OSFI covers all federally regulated financial institutions and not just insurance companies. OSFI has authority over the entities it regulates, whereas the NAIC is a coordinating body that works with state insurance regulators to provide support and coordination to the regulation of multistate insurers across the various states.

### CANADIAN INSTITUTE OF CHARTERED ACCOUNTANTS

In 2010 the Canadian Accounting Standards Board adopted International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB) as the financial reporting framework for publicly accountable entities (PAE). Regulated insurance

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<sup>205</sup> Office of the Superintendent of Financial Institutions Canada, <http://www.osfi-bsif.gc.ca/>, May 29, 2012.

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companies meet the definition of PAEs and therefore were required to adopt IFRS as of January 1, 2011 (with comparative information for 2010). The Canadian Institute of Chartered Accountants will adopt all changes to IFRS standards issued by IASB as part of the reporting framework for PAEs.<sup>206</sup>

The IFRS standard that deals with accounting for insurance contracts allows for the continuation of the valuation practices in existence at the adoption of IFRS that Canadian Generally Accepted Accounting Principles (CGAAP) provided for insurance contracts. Under CGAAP the policy liabilities can be recorded in accordance with accepted actuarial practice in Canada, which means the recorded liabilities are discounted to reflect the time value of money and include a provision for adverse deviation. The accounting for foreign branches and domestic insurers is substantially the same, and their financial statements are both prepared in accordance with IFRS. However, there are two key differences for foreign branches:

1. The assets of foreign branches are required to be under the control of either the Minister of Finance of Canada or the branches' Chief Agent in Canada. The amount of assets under the control of the Minister of Finance is determined by the branch test of adequacy of assets. Assets that are under the control of the Minister of Finance are to be placed in a trust.
2. There is no share capital account, as the entity is operating as a branch of its parent; therefore, there is a head office account instead.

#### CANADIAN INSTITUTE OF ACTUARIES

The Canadian Institute of Actuaries (CIA) is the national organization of the Canadian actuarial profession.<sup>207</sup> The CIA serves the public through the provision, by the profession, of actuarial services and advice of the highest quality.

Accepted Actuarial Practice (AAP) is the manner of performing work in Canada in accordance with the rules and the Standards of Practice (SOP) of the CIA. SOP is the responsibility of the Actuarial Standards Board,<sup>208</sup> and approval of standards and changes to standards is made through a process that involves consultation with the actuarial profession and other interested parties. If AAP conflicts with the law, the actuary should comply with the law but report the conflict and, if practical, useful and appropriate under the terms of the engagement, report the result of applying accepted actuarial practice.

The SOPs published by the CIA are binding on fellows, associates, and affiliates of the CIA for work in Canada and for members of bilateral organizations, as defined in the bylaws, when those members are practicing in Canada. The standards consist of recommendations and

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<sup>206</sup> Chartered Accountants of Canada, <http://www.cica.ca/>, 2012.

<sup>207</sup> Canadian Institute of Actuaries, <http://www.actuaries.ca/>, 2012.

<sup>208</sup> Actuarial Standards Board, "About the ASB – Terms of Reference," <http://www.actuaries.ca/ASB>, July 4, 2011.

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other guidance. A recommendation is the highest order of guidance in the standards. Unless there is evidence to the contrary, there is a presumption that a deviation from a recommendation is a deviation from accepted actuarial practice. The other guidance, which consists of definitions, explanations, examples, and useful practices, supports and expands upon the recommendations.

The standards consist of general standards and practice-specific standards. The general standards apply to all areas of actuarial practice. Usually, the intent of the practice-specific standards is to narrow the range of practice considered acceptable under the general standards.

Actuaries practicing in Canada should be familiar with relevant educational notes and other designated educational material affecting their practice. Educational notes are not binding on an actuary; however, educational notes and other designated educational material describe but do not recommend practice in illustrative situations. A practice that the educational notes describe for a situation is not necessarily the only accepted practice for that situation and is not necessarily accepted actuarial practice for a different situation.

#### DIFFERENCES BETWEEN STATUTORY AND OTHER FINANCIAL/REGULATORY REPORTING FRAMEWORKS IN CANADA

Canadian insurers were required to prepare their financial statements in accordance with IFRS, as issued by the IASB for their fiscal years commencing in 2011. The Canadian Annual Returns were also modified to include the impacts of changes to IFRS. Upon the introduction of IFRS, the insurance contracts standard (IFRS 4) permitted insurers to apply CGAAP for their insurance contracts. At this point, therefore, the introduction of IFRS has had little impact on the financial statements of Canadian property/casualty insurers, and as in the past, the statutory Annual Return is prepared on the same basis as the company's financial statements.

Statutory Accounting Principles (SAP) is the accounting framework under which all U.S. insurance companies are required to report for state regulatory purposes. There are many differences between SAP and IFRS, including the valuation of invested assets and the valuation of policy liabilities. These differences arise because in Canada there is a desire to achieve consistency with published financial statements and in the U.S. there is a focus on insurer solvency.

## CHAPTER 28. CANADIAN ANNUAL STATEMENT

### OVERVIEW

All insurers are required to file an Annual Return (or Canadian Annual Statement) based on International Financial Reporting Standards (IFRS) in each province where they are licensed and with the Office of the Superintendent of Financial Institutions (OSFI) if they are federally regulated. The Annual Returns are prescribed forms that are annually reviewed by the Canadian Council of Insurance Regulators with one return applicable to domestic insurers (P&C-1) and the other return applicable to foreign insurers (P&C-2). The full P&C-1 or P&C-2 is to be completed and filed annually within 60 days of year-end. In addition, there is a requirement to file interim returns on a quarterly basis within 45 days of the end of the quarter.

### PREPARATION OF KEY SCHEDULES

The Canadian Annual Return (P&C-1) is logically divided into a number of sections as follows:

- ▶ General information: This section contains information about the company, its officers, and directors and a summary of selected financial data for five years.
- ▶ Consolidated financial statements: This section shows the company's balance sheet (assets, liabilities, and equity), Statement of Income; statement of retained earnings and reserves; comprehensive income and accumulated comprehensive income; statement of cash flows; statement of changes in equity; and notes.
- ▶ Statutory compliance: This is the minimum capital test and supporting exhibits.
- ▶ Investments: This includes detailed information relating to the company's invested assets.
- ▶ Miscellaneous assets and liabilities: This includes items such as other receivables and interests in joint ventures.
- ▶ Premiums, claims, and adjustment expenses: This section contains detailed information relating to unearned premiums, incurred losses, claims liabilities, and runoff of claims and adjustment expenses.
- ▶ Provincial and territorial summaries: This provides geographical premium and claims information.
- ▶ Reinsurance ceded: This includes information related to premiums and claims ceded.
- ▶ Commissions and expenses: This includes details relating to commissions and operating expenses.
- ▶ Out of Canada exhibits: This section provides detail relating to operations outside of Canada.

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- ▶ Non-consolidated financial statements and exhibits: Financial statements and many of the exhibits are also provided on a non-consolidated basis.

To be considered complete, the report of the appointed actuary must be submitted with the Annual Return for those insurers in Canada that have an appointed actuary. It is expected that the values reported in the financial statements for the items included in the opinion of the appointed actuary not differ materially from the values as reported by the appointed actuary.

#### BALANCE SHEET

Appendix II of this publication shows separately the assets and liabilities and equity elements of the balance sheet for the total of all Canadian property/casualty insurance companies as reported by the OSFI. The actuary should be familiar with all aspects of the Annual Return; however, the Canadian actuary is opining on the policy liabilities and is thus expected to demonstrate a significant understanding of all elements of the policy liabilities (claims and premium liabilities).

The claims and premium liabilities are typically the largest liabilities on the balance sheet of an insurer and consist of the following:

1. Claims liabilities:
  - a. Direct unpaid claims and adjustment expenses
  - b. Assumed unpaid claims and adjustment expenses
  - c. Ceded unpaid claims and adjustment expenses
  - d. Other amounts to recover
2. Premium liabilities:
  - a. Gross unearned premiums
  - b. Net unearned premiums
  - c. Premium deficiency reserves
  - d. Other net liabilities
  - e. Deferred policy acquisition expenses
  - f. Unearned commissions

Table 117 summarizes the balance sheet provided in Appendix II of this publication into key items from the perspective of the actuary.

TABLE 117

Balance sheet summary – Canadian property/casualty companies at December 2011			
<u>Assets</u>		<u>Liabilities and Equity</u>	
Total investments	61,412,454	Unpaid claims and adjustment expenses	41,294,310
Unpaid recoverable from reinsurers	7,592,262	Unearned premiums	17,528,620
Deferred policy acquisition expenses	2,965,054	Other liabilities	5,765,662
Other assets	18,647,065	Equity	26,028,243
<b>Total assets</b>	<b>90,616,835</b>	<b>Total liabilities and equity</b>	<b>90,616,835</b>

As illustrated, the unpaid claims and loss adjustment expense (LAE) and unearned premium liabilities are the most significant liabilities on the balance sheet. In Canada, the claims and premium liabilities are reported on the balance sheet on a gross basis. That is, the liabilities are reported gross of reinsurance, and an asset is recorded to reflect the amount of the liabilities expected to be recoverable from reinsurers, which, as illustrated above, is a significant asset on the balance sheet.

The liabilities in Canada are recorded in accordance with Accepted Actuarial Practices (AAP), which requires that the liabilities be equal to the value discounted to reflect the time value of money plus a provision for adverse deviation (PfAD). A discount rate has to be selected to determine the present value of the liabilities. This discount rate is defined by the Canadian Institute of Actuaries as follows:

“The expected investment return rate for calculation of the present value of cash flow is that to be earned on the assets, taking into account reinsurance recoverables, that support the insurance contract liabilities. It depends on

the method of valuing assets and reporting investment income,  
the allocation of those assets and that income among lines of business,  
the return on the assets at the balance sheet date,  
the yield on assets acquired after the balance sheet date,  
the capital gains and losses on assets sold after the balance sheet date,  
and investment expenses, and losses from default (C-1 risk).

The actuary need not verify the existence and ownership of the assets at the balance sheet date, but would consider their quality.”<sup>209</sup>

This definition requires the actuary to also have an understanding of the assets on the balance sheet, how they are valued and the insurer’s investment policy. Typically, invested

<sup>209</sup>CIA ASB, Actuarial Standards of Practice – Practice-Specific Standards for Insurance (2000), *Present Values*, page 2023. <http://www.asb-cna.ca/>. (Effective January 1, 2003 Revised June 1, 2006; February 5, 2009; November 24, 2009; December 3, 2009.)

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assets are used to support insurance contract liabilities. Therefore, the actuary should be able to estimate the expected investment return on those assets. The following chart, Table 118, illustrates a simple calculation of the market yield of a bond portfolio. The market yield and modified duration are calculated using readily available spreadsheet functions and the overall yield is calculated using the product of modified duration and market value as weights.

TABLE 118

XYZ Insurance Company CDN\$ Evaluation Date: December 31, 2011							
Description	Interest Rate	Maturity Date	Par Value	Market Value	Market Yield	Effective Market Yield	Modified Duration
BOND A	5.38%	18-11-50	320,000.00	371,314.76	4.50%	4.55%	17.60
BOND B	4.87%	18-06-42	8,844,000.00	10,420,050.06	3.87%	3.91%	16.95
BOND C	4.46%	08-11-41	235,000.00	252,477.15	4.03%	4.07%	16.81
BOND D	6.95%	24-10-41	805,000.00	874,269.61	6.31%	6.40%	12.99
BOND E	5.15%	15-11-40	75,000.00	85,366.32	4.31%	4.35%	15.75
BOND F	3.10%	18-06-40	2,055,000.00	2,638,690.57	1.82%	1.83%	20.13
BOND G	4.56%	26-03-40	1,080,000.00	1,321,528.41	3.33%	3.36%	16.91
BOND H	4.99%	30-10-37	200,000.00	247,497.12	3.57%	3.61%	15.57
BOND I	5.04%	21-09-29	200,000.00	275,976.38	2.40%	2.41%	12.60
BOND J	4.30%	08-09-23	355,000.00	531,274.16	0.04%	0.04%	9.73
BOND K	3.25%	18-12-21	25,000.00	25,948.14	2.81%	2.83%	8.50
BOND L	8.50%	22-11-21	200,000.00	224,468.00	6.78%	6.90%	6.79
BOND M	8.00%	27-03-18	6,134,000.00	6,360,609.90	7.25%	7.38%	4.79
BOND N	4.25%	30-05-17	3,270,000.00	2,893,628.26	6.83%	6.94%	4.68
BOND O	4.95%	10-03-16	4,800,000.00	4,947,188.78	4.14%	4.19%	3.71
BOND P	4.80%	18-06-14	378,000.00	405,969.44	1.72%	1.73%	2.34
BOND Q	5.56%	30-10-13	1,375,000.00	1,449,829.32	2.50%	2.51%	1.73
BOND R	4.95%	23-08-13	2,600,000.00	2,712,868.67	2.25%	2.26%	1.56
BOND S	4.54%	08-04-13	5,000,000.00	5,225,046.55	0.97%	0.98%	1.23
<b>Total</b>			<b>37,951,000.00</b>	<b>41,264,001.60</b>			
						Market value duration weighted average yield	3.93%

The actuary would typically reduce the yield as calculated above to reflect investment expenses, e.g., discount rate = market yield - investment expenses = 3.93% - 0.25% = 3.68%.

There are also other more complex methods employed for estimating the investment yield, such as using a discounted cash flow model where the discount rate is the rate at which the present value of claims cash flows equals the market value of the assets.

## INCOME STATEMENT

Appendix II of this publication shows the income statement for the total of all Canadian property/casualty insurance companies as reported by the OSFI. The income statement measures the financial performance of the insurer over the accounting period. The net

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income for the period is equal to revenues less expenses and income taxes. For an insurance company, revenues and expenses are separately identified for insurance underwriting operations, investment operations, and other operations (mainly from subsidiaries, or affiliated or ancillary operations).

In the Canadian Annual Return, insurance revenue consists of net premiums written, which is equal to direct written premiums plus assumed written premiums less written premiums ceded to reinsurers.

The change (opening unearned premiums less ending unearned premiums) in net unearned premiums is added to net written premiums resulting in net premiums earned. The net premiums earned item is the net underwriting revenue that is attributable to the accounting period under consideration. Other underwriting-related revenues are added, such as service charges to generate total underwriting revenue.

Incurred claims, claims adjustment expenses, acquisition expenses, general expenses, and any premium deficiency adjustments must be deducted from total underwriting revenue to derive the underwriting income or loss for the period under consideration. Gross incurred claims and adjustment expenses are equal to gross claims and adjustment expenses paid during the period plus the change in gross unpaid claims and adjustment expenses (calculated in accordance with accepted actuarial practice) over the period. The reinsurers' share of claims and adjustment expenses is deducted from gross incurred claims and adjustment expenses to derive net claims and adjustment expenses. This calculation of net incurred claims and adjustment expenses provides the best matching of revenues and expenses over the period, where revenues are defined above.

The categories of acquisition expenses shown in the income statement in the Canadian Annual Return are gross commissions, ceded commissions, taxes, and other acquisition expenses. For an insurer that distributes its products through the independent broker network, commissions are typically the largest cost of acquiring the business. For those companies who have captive agents or who distribute their products directly to the consumer, the other acquisition expense will be larger. The net commission expense is the gross (direct plus assumed) commission expense less any commission income received from ceding reinsurance – typically ceding commissions received on proportional reinsurance. The tax expense item is for taxes, other than income taxes, such as premium taxes, associated with writing insurance in Canada.

General expenses are items that do not relate directly to the acquisition of the business. This includes salaries, management fees, professional fees, occupancy costs, and information technology costs, among other items not directly related to the acquisition of the business.

Premium deficiency adjustments are required if the actuary determines that the net policy liabilities in connection with the net unearned premium are larger than the total of the net



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unearned premium plus unearned commission liabilities less the deferred policy acquisition expense asset as recorded by the company.

Net investment income consists of investment income earned plus realized gains (losses), less investment expenses.

Underwriting income, net investment income, and other revenues and expenses are added to derive net income before income taxes and extraordinary items. Income taxes are separated into current income taxes and deferred income taxes.

Extraordinary items, net of income tax, are added to arrive at the net income or loss for the accounting period under consideration.

#### STATEMENT OF RETAINED EARNINGS

The statement of retained earnings illustrates the calculation of the retained earnings for the insurance company at the end of the reporting period. The retained earnings at the end of the reporting period are equal to the retained earnings at the beginning of the period plus the net income earned during the period less dividends and changes in reserves required plus any prior period adjustments.

#### RESERVES

This statement provides detail as to the reserves shown under the Equity section of the balance sheet. These reserves are appropriations of surplus for items such as earthquakes or nuclear events.

#### STATEMENT OF COMPREHENSIVE INCOME AND ACCUMULATED COMPREHENSIVE INCOME

Total comprehensive income for the reporting period is equal to net income as reported on the Statement of Income (above) plus other comprehensive income (OCI). OCI comes from changes in unrealized gains (losses) on available-for-sale assets such as loans, bonds, and debentures and equities; derivatives designated as cash flow hedges; foreign currency translation; and share of OCI of subsidiaries, associates, and joint ventures. Items that are reclassified to earnings of gains (losses) are also included in OCI.

Accumulated other comprehensive income is the cumulative value of OCI or the total of unrealized gains on the above noted items that is included in the equity on the balance sheet.

#### STATEMENT OF CASH FLOWS

The statement of cash flows derives the value of cash and cash equivalents that are included as the cash item on the balance sheet at the end of the reporting period. Cash flow is derived from or used in operating activities, investing activities and financing activities. The cash flow

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during the year from these activities is added to the opening cash to derive the cash balance at the end of the year.

Operating activities relate to the operation of the business and include such items as:

- ▶ The net income generated during the year
- ▶ Changes in receivables
- ▶ Changes in unearned premiums and unpaid claims liabilities
- ▶ Recognized gains/losses in investments

The cash flow from investing activities is basically the net cash flow from the purchase of new investments and the proceeds from the sale of investments plus the amortization of premiums on investments.

The cash flow from financing activities is the net cash flow from increasing/repayment of borrowing plus the increase/redemption of shares less dividends to shareholders.

#### STATEMENT OF CHANGES IN EQUITY

This exhibit illustrates the change in equity across the various classes of equity (e.g., share capital, retained earnings, available for sale financial assets) resulting from various transactions or events such as issue of share capital, total comprehensive income for the year, and dividends.

#### NOTES TO FINANCIAL STATEMENTS

The Notes to Financial Statements are an integral part of the financial statements. The notes provide significant detail on such important items as the basis of presentation, the basis of measurement, significant accounting policies and detailed explanations relating to some of the key financial statement items.

#### IMPACT OF REINSURANCE, INCLUDING COMMUTATIONS

Generally, insurance companies purchase reinsurance to limit their risk to loss from certain events. There are many different forms of reinsurance contracts that insurers can enter into, allowing each insurer to manage risk and capital in accordance with its own objectives. These reinsurance contracts can be used to protect against multi-claim, catastrophic events, individual large losses, and poor experience across a line of business, among other uses, and thereby act to reduce volatility in insurance results.

In the event that a registered insurer cedes business to a non-registered insurer, the registered insurer will have to secure adequate collateral from the non-registered insurer to receive full capital credit for the cession of this business. The collateral must be secured through a Reinsurance Security Agreement providing the adequate level of creditor protection to the ceding insurer.

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Treaty reinsurance is a contract that applies to all or a portion of an insurance company's contracts during the term of the agreement, typically a calendar year. These contracts generally are placed on an excess basis or on a proportional (quota-share) basis. In an excess treaty, the reinsurer responds to all claims during the treaty period excess of a specified threshold to a specified limit, e.g., automobile claims for \$5 million excess of \$5 million. In a proportional treaty, the reinsurer receives a set proportion of all premiums subject to the treaty, net of ceding commission, and in return pays the same proportion of all claims subject to the treaty. The ceding commission is paid by the reinsurer to the insurer in a proportional treaty to reimburse the insurer for policy acquisition expenses.

Facultative reinsurance differs from treaty reinsurance in that it relates to reinsurance against risks from a certain policy written by an insurer. For example, an insurance company writes a very large commercial property exposure and wishes to limit its losses from this specific policy and hence purchases facultative reinsurance excess of its retained risk.

Reinsurance contracts impact the income statement and balance sheet of an insurance company. When an insurer purchases reinsurance, it pays a ceding premium, which reduces its earned premiums during the financial reporting period. It will also reduce its gross claims and adjustment expenses incurred by the reinsurer's share of claims and adjusting expenses and reduce its commission expense for any ceding commissions received. All of these items are reflected on the income statement.

Similarly, on the balance sheet of the Canadian Annual Statement, there are two reinsurance assets: unpaid claims and adjustment expenses recoverable from reinsurers and unearned premiums recoverable from reinsurers. These assets reflect the share of the corresponding liabilities recorded by the insurer, which are recoverable from reinsurers.<sup>210</sup>

Table 119 charts a sample income statement and balance sheet for an insurance company prior to the application of reinsurance.

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<sup>210</sup> This differs from the U.S. Annual Statement, where liabilities are shown net of reinsurance.

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TABLE 119

<b>No Reinsurance</b>			
<b>Statement of Income</b>		<b>Balance Sheet</b>	
		<b>ASSETS</b>	
<b>Premium Written</b>		<b>Cash</b>	\$ 18,000
Direct	\$ 340,000	<b>Investments</b>	
Assumed	\$ -	Bonds and Debentures	\$ 650,000
Ceded	\$ -	Common Shares	\$ 120,000
<b>Net Premiums Written</b>	<u>\$ 340,000</u>	<b>Receivables</b>	
Decrease (increase) in Net Unearned Premiums	\$ 7,000	Other Insurers	\$ 20,000
<b>Net Premiums Earned</b>	<u>\$ 347,000</u>	Other	\$ 5,000
Gross Claims and Adjustment Expenses	\$ 225,000	<b>Recoverable from Reinsurers</b>	
Ceded Claims and Adjustment Expenses	\$ -	Unearned Premiums	\$ -
Net Claims and Adjustment Expenses	\$ 225,000	Unpaid Claims and Adjustment Expenses	\$ -
Gross Commissions	\$ 50,000	<b>Other Assets</b>	<u>\$ 5,000</u>
Ceded Commissions	\$ -	<b>TOTAL ASSETS</b>	<u>\$ 818,000</u>
Other Expenses	<u>\$ 42,500</u>		
<b>Total Claims and Expenses</b>	<u>\$ 317,500</u>	<b>LIABILITIES AND EQUITY</b>	
		<b>LIABILITIES</b>	
<b>Underwriting Income (Loss)</b>	\$ 29,500	<b>Payables</b>	
<b>Net Investment Income</b>	\$ 40,000	Other Insurers	\$ 3,000
<b>Net Income (Loss) before Income Taxes</b>	\$ 69,500	Other	\$ 2,000
<b>Income Taxes</b>	\$ 24,325	<b>Unearned Premiums</b>	\$ 10,000
<b>NET INCOME</b>	<u>\$ 45,175</u>	<b>Unpaid Claims and Adjustment Expenses</b>	\$ 500,000
		<b>Other Liabilities</b>	\$ 3,000
		<b>TOTAL LIABILITIES</b>	<u>\$ 518,000</u>
		<b>EQUITY</b>	
		Retained Earnings	\$ 300,000
		<b>TOTAL LIABILITIES AND EQUITY</b>	<u>\$ 818,000</u>

Table 120 shows the impact of reinsurance on a company's financial statements resulting from two simple reinsurance treaties: an excess of loss treaty and a proportional treaty. To simplify the example, we will ignore all impacts on investment income and income taxes, and, further, we will assume that the treaties run from January 1 to December 31.

For the excess of loss treaty, it is assumed that the company will cede \$20,000 in premiums and that it will recover \$13,000 of losses from the reinsurer, of which \$10,000 will be unpaid at the end of the year. The following chart illustrates the impact on the foregoing financial statements of such a treaty.

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TABLE 120

<b>Treaty Reinsurance</b>			
<b>Statement of Income</b>		<b>Balance Sheet</b>	
<b>Premium Written</b>		<b>ASSETS</b>	
Direct	\$ 340,000	<b>Cash</b>	\$ 1,000
Assumed	\$ -	<b>Investments</b>	
Ceded	<u>\$ 20,000</u>	Bonds and Debentures	\$ 650,000
<b>Net Premiums Written</b>	\$ 320,000	Common Shares	\$ 120,000
Decrease (increase) in Net Unearned Premiums	<u>\$ 7,000</u>	<b>Receivables</b>	
<b>Net Premiums Earned</b>	<u>\$ 327,000</u>	Other Insurers	\$ 20,000
		Other	\$ 5,000
Gross Claims and Adjustment Expenses	\$ 225,000	<b>Recoverable from Reinsurers</b>	
Ceded Claims and Adjustment Expenses	\$ 13,000	Unearned Premiums	\$ -
Net Claims and Adjustment Expenses	<u>\$ 212,000</u>	Unpaid Claims and Adjustment Expenses	<u>\$ 10,000</u>
Gross Commissions	\$ 50,000	<b>Other Assets</b>	<u>\$ 5,000</u>
Ceded Commissions	\$ -	<b>TOTAL ASSETS</b>	<u>\$ 811,000</u>
Other Expenses	<u>\$ 42,500</u>	<b>LIABILITIES AND EQUITY</b>	
<b>Total Claims and Expenses</b>	<u>\$ 304,500</u>	<b>LIABILITIES</b>	
<b>Underwriting Income (Loss)</b>	\$ 22,500	<b>Payables</b>	
<b>Net Investment Income</b>	\$ 40,000	Other Insurers	\$ 3,000
<b>Net Income (Loss) before Income Taxes</b>	\$ 62,500	Other	\$ 2,000
<b>Income Taxes</b>	<u>\$ 24,325</u>	Unearned Premiums	\$ 10,000
<b>NET INCOME</b>	<u>\$ 38,175</u>	Unpaid Claims and Adjustment Expenses	\$ 500,000
		Other Liabilities	<u>\$ 3,000</u>
		<b>TOTAL LIABILITIES</b>	<u>\$ 518,000</u>
		<b>EQUITY</b>	
		Retained Earnings	<u>\$ 293,000</u>
		<b>TOTAL LIABILITIES AND EQUITY</b>	<u>\$ 811,000</u>

In the example above, the accounts impacted are highlighted, and it is assumed that ceded premiums and claims have flowed through cash.

In the proportional example, it is assumed that 15% of premiums and claims are ceded and that a ceding commission of 25% is paid to the insurer. It is also assumed that due to the large ceded premium that invested assets (bonds) would be reduced and that 100% of the claims are unpaid at the end of the year. Table 121 charts the impact on the foregoing financial statements of such a treaty.

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TABLE 121

<b>Proportional Reinsurance</b>			
<b>Statement of Income</b>		<b>Balance Sheet</b>	
<b>Premium Written</b>		<b>ASSETS</b>	
Direct	\$ 340,000	Cash	\$ 30,750
Assumed	\$ -	<b>Investments</b>	
Ceded	<u>\$ 51,000</u>	Bonds and Debentures	\$ 599,000
<b>Net Premiums Written</b>	\$ 289,000	Common Shares	\$ 120,000
Decrease (increase) in Net Unearned Premiums	<u>\$ 7,000</u>	<b>Receivables</b>	
<b>Net Premiums Earned</b>	\$ 296,000	Other Insurers	\$ 20,000
		Other	\$ 5,000
Gross Claims and Adjustment Expenses	\$ 225,000	<b>Recoverable from Reinsurers</b>	
Ceded Claims and Adjustment Expenses	<u>\$ 33,750</u>	Unearned Premiums	\$ -
<b>Net Claims and Adjustment Expenses</b>	<u>\$ 191,250</u>	Unpaid Claims and Adjustment Expenses	<u>\$ 33,750</u>
Gross Commissions	\$ 50,000	<b>Other Assets</b>	<u>\$ 5,000</u>
Ceded Commissions	<u>\$ (12,750)</u>	<b>TOTAL ASSETS</b>	<u>\$ 813,500</u>
Other Expenses	<u>\$ 42,500</u>	<b>LIABILITIES AND EQUITY</b>	
<b>Total Claims and Expenses</b>	\$ 271,000	<b>LIABILITIES</b>	
<b>Underwriting Income (Loss)</b>	\$ 25,000	<b>Payables</b>	
<b>Net Investment Income</b>	\$ 40,000	Other Insurers	\$ 3,000
<b>Net Income (Loss) before Income Taxes</b>	\$ 65,000	Other	\$ 2,000
<b>Income Taxes</b>	<u>\$ 24,325</u>	<b>Unearned Premiums</b>	\$ 10,000
<b>NET INCOME</b>	<u>\$ 40,675</u>	<b>Unpaid Claims and Adjustment Expenses</b>	\$ 500,000
		<b>Other Liabilities</b>	<u>\$ 3,000</u>
		<b>TOTAL LIABILITIES</b>	<u>\$ 518,000</u>
		<b>EQUITY</b>	
		Retained Earnings	<u>\$ 295,500</u>
		<b>TOTAL LIABILITIES AND EQUITY</b>	<u>\$ 813,500</u>

Again, accounts impacted are highlighted.

### COMMUTATION OF CLAIMS

Commuting a claim is a process in which one party is relieved of its obligations in respect of the claim in exchange for a cash payment. This can happen between insurers and individual claimants, with insurers under financial stress or between insurers and reinsurers. This section addresses the commutation of claims between insurers and reinsurers.

Reinsurance contracts may contain a commutation clause, which requires the insurer to relieve the reinsurer of its obligations in exchange for a cash payment. These clauses are

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typically more common in contracts that cover long-tail liabilities, and the purpose is generally to allow the reinsurer to settle its obligations within a finite period.

The primary motivation for a reinsurer to commute is to bring certainty to its results; however, there are other benefits to the reinsurer associated with commutation, including capital relief and savings in claims adjusting and administrative costs. From an insurer's point of view, there can be a benefit from commutation if there is a concern in respect of the creditworthiness of the reinsurer – the receipt of cash extinguishes this risk. Insurers also will save administrative costs. Insurers, however, once they receive the cash payment will be subject to the risk of any future adverse loss experience in respect of the commuted liability and will have to hold capital for this risk.

Claims subject to commutation typically have expected cash flows that extend into the future. Therefore, the settlement of these claims requires that financial and non-financial considerations associated with the future cash flows be contemplated. Financial considerations can include items such as the amount and timing of cash flows, the discount rate to be used, cost inflation, the potential for volatility in cash flows and income tax. Non-financial considerations can include such items as morbidity or mortality of the claimant(s), current and future entitlements of the claimant(s), and unfavorable court decisions.

The commutation of a block of claims under a reinsurance agreement typically will involve the actuary for the insurer and the actuary for the reinsurer. Each actuary will be charged with estimating the present value of the future obligations. In estimating the present value of these obligations, the actuary must consider the following:

- ▶ The nominal or undiscounted value of future loss and LAE on reported and unreported claims
- ▶ The expected timing of the payout of the undiscounted loss and LAE
- ▶ Expected investment income on assets supporting these cash flows
- ▶ Income tax
- ▶ An appropriate risk load to provide for volatility

An example calculation of a commuted value of a portfolio is illustrated below.

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TABLE 122

<b>Estimate of Commuted Value of Claims December 31, 2012</b>									
	<u>Total</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
Estimated Payments in Period	\$1,000,000	\$350,000	\$150,000	\$125,000	\$100,000	\$100,000	\$75,000	\$50,000	\$50,000
Payment Duration		0.5	1.5	2.5	3.5	4.5	5.5	6.5	7.5
Duration Matched		2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Risk Free Rate									
Present Value Claims Cash Flow	\$950,223	\$346,552	\$145,610	\$118,962	\$93,304	\$91,474	\$67,261	\$43,961	\$43,099
Undiscounted Future Payments		\$1,000,000	\$650,000	\$500,000	\$375,000	\$275,000	\$175,000	\$100,000	\$50,000
Required Margin		10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
Regulatory Capital at 200%		\$200,000	\$130,000	\$100,000	\$75,000	\$55,000	\$35,000	\$20,000	\$10,000
Risk Cost of Capital		9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
Cost of Capital in Period		\$18,000	\$11,700	\$9,000	\$6,750	\$4,950	\$3,150	\$1,800	\$900
Duration		1	2	3	4	5	6	7	8
Discount Rate		2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Risk Margin	\$53,225	\$17,647	\$11,246	\$8,481	\$6,236	\$4,483	\$2,797	\$1,567	\$768
Commuted Value	\$1,003,448								

The starting point in estimating the commuted value is to estimate the undiscounted value of the liabilities to be commuted and the expected payout of the liabilities. This can be completed using various actuarial approaches. In Table 122, these liabilities are discounted at a risk-free rate corresponding to the average duration of the liabilities to obtain an estimate of discounted liabilities.

The risk margin is estimated based on the cost of holding capital for claims liabilities. In this case, it is assumed that required capital is based on a regulatory approach. For purposes of this example, it is assumed that a margin of 10% of the claims liability is required and that the company must hold target capital equal to 200% of required capital.

The cost of holding capital is equal to the risk cost of capital multiplied by the regulatory capital. The risk cost of capital can be calculated in various ways, such as by calculating a weighted average cost of capital less the risk-free rate. The total risk margin is the present value of the annual cost of capital amounts discounted at the risk-free rate. The commuted value is calculated as the sum of the discounted value of the liabilities plus the risk margin.

#### PREMIUM LIABILITIES

The policy liabilities of a property/casualty insurance company at a particular valuation date consist of claims liabilities and premium liabilities. Claims liabilities provide for events that have happened prior to the valuation date, whether reported or not. Premium liabilities provide for events that will occur after the valuation date on policies in force on the valuation



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date, i.e., premium liabilities are the liabilities associated with the unexpired portion of an insurance or reinsurance contract.

Net premium liabilities are not separately identified on an insurer's balance sheet as a single item but rather are derived by considering the following items:

1. Net unearned premiums
2. Net loss and LAE costs (external and internal) after the valuation date on in-force policies
3. Expected excess of loss reinsurance costs after the valuation date on in-force policies
4. Costs of servicing the in-force policies
5. Provision for premium adjustments
6. Contingent commissions adjustments
7. Unearned reinsurance commissions
8. Deferred policy acquisition expenses
9. Premium deficiency reserves

A property/casualty insurer typically records items 1, 6, 7, and 9 as liabilities on its balance sheet, item 8 is recorded as an asset on the balance sheet, and item 5 can be an asset or a liability. Items 2, 3, and 4 are not recorded on the insurer's financial statements but are used by the actuary in testing the adequacy of the recorded premium liabilities.

In testing the adequacy of premium liabilities, the actuary is comparing an estimate of ultimate costs associated with the unexpired portion of the policy against premium liabilities recorded by the company. This is illustrated below in Table 123 on both gross and net of reinsurance bases.

TABLE 123

<b>ABC Insurance Company</b>			
<b>Illustration of Test of Adequacy of Premium Liabilities (CDN\$ in 000s)</b>			
<u>Gross of Reinsurance Basis</u>		<u>Net of Reinsurance Basis</u>	
A. Unearned Premiums	\$ 100,000	A. Unearned Premiums	\$ 80,000
B. Expected Losses and External LAE	\$ 75,000	B. Excess of Loss Reinsurance Costs	\$ 3,000
C. Expected Internal LAE	\$ 4,500	C. Expected Losses and External LAE	\$ 61,600
D. Expected Maintenance Expenses	\$ 2,000	D. Expected Internal LAE	\$ 4,500
E. Contingent Commissions	\$ 50	E. Expected Maintenance Expenses	\$ 2,000
F. Expected Expenses (B+C+D+E)	<u>\$ 81,550</u>	F. Contingent Commissions	\$ 50
G. Maximum Gross Deferred Acquisition Expense (A-F)	<u>\$ 18,450</u>	G. Expected Expenses (B+C+D+E+F)	<u>\$ 71,150</u>
		H. Unearned Commissions	\$ 150
		I. Maximum Net Deferred Acquisition Expense (A+H-G)	<u>\$ 9,000</u>

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The elements of this calculation are discussed below (on a net of reinsurance basis as the gross basis is identical with the exception of the items relating to reinsurance ceded):

- A. Unearned premiums: These are the company's unearned premiums net of proportional reinsurance.
- B. Excess of loss reinsurance costs: This is the expected costs of excess of loss reinsurance associated with unexpired policies. It is typically calculated by applying the subsequent year's excess of loss reinsurance rates to the unearned premium.
- C. Expected losses and external LAE: This is the expected losses (net of all reinsurance) for the unexpired portion of the policy. In Canada this is calculated on an AAP basis, i.e., discounted plus a PfAD. There are different ways to calculate this, such as reviewing historical loss and LAE ratios on an AAP basis and selecting an expected AAP loss ratio or by forecasting expected loss and LAE cash flows and then discounting these and adding a PfAD.
- D. Expected internal LAE: This provides for the internal costs associated with settling these claims. This is typically calculated by reviewing historical ratios of paid internal LAE to paid losses.
- E. Expected maintenance expenses: This is the cost of servicing these in-force policies, other than internal claims handling. This would provide for policy changes, customer inquiries, etc.
- F. Contingent commissions: Many insurers have contingent commission arrangements with brokers, which pay additional commissions if certain volume and/or profit targets are met, and this provides for the anticipated cost of these.
- G. Expected expenses: The total of items B to F are all costs associated with the unearned premium. The net liability recorded by the company would be the unearned premium plus unearned commissions less the deferred premium acquisition expense (DPAE) asset.
- H. Unearned commissions: These are ceding commissions from proportional reinsurance that are not yet earned by the company.
- I. Maximum net DPAE: This is the maximum DPAE asset that the company may record given the expected costs and the liability already recorded. If the company, on a provisional basis, has a higher amount recorded, it must be adjusted downward to a level at or below the amount flowing from this calculation. In the event that this amount is negative, the company must record a premium deficiency reserve, which is an additional liability to ensure that all future costs are provided for appropriately.

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A number of items above are included in the premium liability component of the actuarial opinion required by OSFI, as part of the Annual Return, as illustrated in Table 124. It is assumed in this case that the company booked \$6.5 million as a DPAE asset, which is less than the \$9 million calculated by the actuary.

TABLE 124

<b>Premium Liabilities (CDN in 000s)</b>	<b>Carried in Annual Return (Column 1)</b>	<b>Actuary's Estimate (Column 2)</b>
(1) Gross policy liabilities in connection with unearned premiums		81,550
(2) Net policy liabilities in connection with unearned premiums		71,150
(3) Gross unearned premiums	100,000	
(4) Net unearned premiums	80,000	
(5) Premium deficiency	-	-
(6) Other net liabilities	-	-
(7) Deferred policy acquisition expenses	6,500	
(8) Maximum policy acquisition expenses deferrable		9,000
[(4)+(5)+(9)] <sub>Col. 1</sub> - (2) <sub>Col. 2</sub>		
(9) Unearned commissions	150	

## CHAPTER 29. FINANCIAL HEALTH OF PROPERTY/CASUALTY INSURANCE COMPANIES IN CANADA

### RISK-BASED CAPITAL ADEQUACY FRAMEWORK

The Minimum Capital Test (MCT) for federally regulated property/casualty insurance companies and the Branch Adequacy of Asset Test (BAAT) for foreign property/casualty companies operating in Canada on a branch basis (foreign branch) were introduced in 2003 by the Office of the Superintendent of Financial Institutions (OSFI). To simplify their use, effective January 1, 2012, the MCT/BAAT guidelines were consolidated into one document, the MCT guideline. Under this new guideline the MCT/BAAT ratios will also be subject to an independent audit.

The minimum and supervisory target capital standards set out in the MCT guideline published by OSFI provide the framework within which the Superintendent assesses whether a property/casualty company, or a foreign branch, maintains adequate capital.

Property/casualty companies are required, at a minimum, to maintain an MCT ratio of 100% (minimum capital ratio). OSFI has also set a “supervisory target capital ratio” of 150% to trigger early intervention and provide time for a company to take action to improve its MCT ratio.

OSFI expects companies to establish their own “internal target capital ratio” to reflect their own risk appetite and profile. An adequate internal target capital ratio provides the company with capacity to withstand unexpected losses beyond those covered by the minimum capital ratio. Notwithstanding that a property/casualty company or a foreign branch may meet these standards, the Superintendent has the authority to direct the property/casualty company to increase its capital or the foreign branch to increase the margin of assets over liabilities in Canada.

Typically, the actuary is involved with company management in setting its internal target capital ratio. In setting it, the actuary should consider the following, among other items:

- ▶ Nature of the company: Is the company a stock company or mutual company? A stock company has the ability to raise capital and thus may wish to hold enough capital to ensure that it stays above the supervisory target capital ratio (150%) but not so much that it cannot generate its required return on capital. A mutual company cannot raise capital and thus will typically wish to operate at a higher ratio.
- ▶ Size of the company: A smaller company or monoline company may have more volatile results and thus wish to hold more capital to ensure that it stays above the supervisory target capital ratio under most circumstances.
- ▶ Company reinsurance program: Reinsurance is a form of capital in that it can act to reduce the volatility in loss experience.

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- ▶ Investment philosophy: Certain investment approaches will require greater capital. That is, if a company does not match assets and liabilities or if a company holds a greater proportion of its investments in equities, more capital may be required.
- ▶ Competitive forces: How are others capitalized? If competing companies require less capital to support their business, they may have a pricing advantage.

#### MINIMUM CAPITAL TEST

In simple terms, the MCT compares capital available to capital required.

#### CAPITAL AVAILABLE

Capital available is restricted to the following, subject to requirements by OSFI:

- ▶ Total equity less accumulated other comprehensive income (AOCI)
- ▶ Subordinated indebtedness and redeemable preferred shares
- ▶ AOCI (loss) on:
  - ▶ Available-for-sale equity securities
  - ▶ Available-for-sale debt securities
  - ▶ Foreign currency (net of hedging)
  - ▶ Share of AOCI on non-qualifying subsidiaries, associates, and joint ventures
- ▶ Revaluation losses in excess of gains on own-use properties
- ▶ Consolidated non-controlling Interests

Certain items are deducted from/adjusted within the total of capital available, such as:

- ▶ Amounts due to/from unregistered reinsurers to the extent they are not covered by deposits or letters of credit held as security
- ▶ Interests in non-consolidated subsidiaries and associates
- ▶ Interests in joint ventures with more than a 10% ownership interest
- ▶ Loans to non-consolidated subsidiaries, associates, and joint ventures with more than a 10% ownership interest considered as capital
- ▶ Deferred policy acquisition expenses that are not eligible for either the 0% or 35% capital factor
- ▶ Adjustment to own-use property valuations
- ▶ Net after-tax impact of shadow accounting
- ▶ Deferred tax assets that are not eligible for the 0% capital factor
- ▶ Goodwill and other intangible assets
- ▶ Other assets, as defined by OSFI, in excess of 1% of total assets
- ▶ Accumulated net after-tax fair value gains (losses) arising from changes in a company's own credit risk for the insurer's financial liabilities that are classified as held for trading
- ▶ Self-insured retentions where no collateral has been received

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- ▶ IFRS phase-in adjustment

No capital factor is applied to items that are deducted from capital available.

#### CAPITAL REQUIRED

The total capital required is the sum of the capital charges for the following:

- ▶ Balance sheet assets
- ▶ Unpaid claims/unearned premiums and premium deficiencies
- ▶ Catastrophes
- ▶ Reinsurance ceded to unregistered reinsurers
- ▶ Interest rate risk
- ▶ Structured settlements, letters of credit, derivatives and other exposures

Capital charges are calculated for the foregoing categories using various approaches. For example, capital charges for balance sheet assets are calculated by applying factors to the balance sheet values of various assets that reflect the risks associated with those assets.

Factors are applied to net unpaid claims (less PfAD) and net unearned premiums. The factors for unpaid claims vary by class of insurance and reflect the potential for variability in the estimates of these amounts, e.g., a 5% factor is applied to property claims, and a 15% factor is applied to liability claims. A uniform factor of 8% is generally applied to unearned premiums across all classes of insurance; however, mortgage and accident and sickness lines of insurance have margins for unearned premiums and unpaid claims that reflect the characteristics of those types of business. A margin of 8% applies to premium deficiency reserves.

Insurers are also required to calculate their margins for unearned premiums, unpaid claims (net of PfAD), and premium deficiencies on a gross basis and multiply the resulting gross margins by 25%. The greater of this calculation and the net margins must be reported as capital required for unearned premiums/unpaid claims/premium deficiencies.

The factor to be applied to unearned premiums and unpaid claims ceded to unregistered reinsurers is 10%. The resulting margin can be reduced to zero by letters of credit and non-owned deposits held as security.

#### INTEREST RATE RISK

Effective January 1, 2012, insurers must hold capital for interest rate risk. Interest rate risk is the risk of loss from changes in interest rates impacting interest-rate-sensitive assets and liabilities. Assets and liabilities whose value depends on interest rates are impacted; generally, this includes fixed income assets and discounted policy liabilities. The interest rate risk margin is the difference between the change in the value of interest-rate-sensitive assets

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and the change in the value of interest-rate-sensitive liabilities arising from a change in interest rates plus the change in the value of allowable interest rate derivatives (only simple derivatives such as interest rate futures, forwards, and swaps may be included).

Interest-rate-sensitive assets include the following:

- ▶ Term deposits and other short-term securities (excluding cash)
- ▶ Bonds and debentures
- ▶ Commercial paper
- ▶ Loans
- ▶ Mortgages
- ▶ Mortgage-backed securities and asset-backed securities
- ▶ Preferred shares
- ▶ Interest rate derivatives held for other than hedging purposes

Assets held in mutual funds and segregated funds that are interest-rate sensitive are to be included in interest-rate-sensitive assets. All interest-rate-sensitive assets that are held by the insurer are to be included, not just those backing liabilities.

Net unpaid claims and adjustment expenses and net premium liabilities (as determined in accordance with the Canadian Institute of Actuaries (CIA) standards for valuation of policy liabilities) are considered to be the interest-rate-sensitive liabilities.

The interest rate risk margin is calculated as  $A - B + C$  where:

- A. Estimated change in the value of the interest-sensitive asset portfolio for an interest rate change of X%
- B. Estimated change in the value of the interest-sensitive liabilities for an interest rate change X%
- C. Estimated change in the value of the allowable interest rate derivatives for an interest rate change X%

The same calculation is completed for an interest rate change of -X%. The interest rate risk margin is the greater of that resulting from a change of X% or -X%.

The change in the value of the interest-rate-sensitive assets and liabilities depends on the duration of the relevant assets and liabilities. Modified duration or effective duration may be used to calculate duration; however, the selected method must be used for all interest-rate-sensitive assets and liabilities and must be used consistently from year to year. The portfolio duration is calculated as a weighted average of the duration of the individual assets or liabilities comprising the portfolio.

The estimated change in the value of the interest rate assets is therefore calculated as duration of the asset portfolio multiplied by fair value of the asset portfolio multiplied by X%.

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The estimated change in the value of the interest rate liabilities is therefore calculated as duration of the liabilities multiplied by fair value of the liabilities multiplied by X%. A simple example (ignoring the impact of interest rate derivatives) follows:

Asset duration = 6 years

Fair value of asset portfolio = \$500 million

X = 0.50%

Liability duration = 3 years

Fair value of liabilities = \$350 million

Capital required =  $6 * \$500 \text{ million} * .005 - 3 * \$350 \text{ million} * .005 = \$9.75 \text{ million}$

### STRUCTURED SETTLEMENTS, LETTERS OF CREDIT, DERIVATIVES, AND OTHER EXPOSURES

Capital required for structured settlements, letters of credit, derivatives, and other exposures are for counterparty risk not covered by the capital required for balance sheet assets. The capital required for these instruments is calculated as follows:

Capital required =

Value of the instrument less collateral or guarantees

\* Credit conversion factor (reflects the nature and maturity of the instrument)

\* Capital factor (to reflect counterparty default risk).

### FOREIGN COMPANIES

Foreign companies operating in Canada on a branch basis are required to maintain an adequate margin of assets over liabilities in respect of their business in Canada. The BAAT provides a framework, similar to the MCT, by which the regulator assesses the adequacy of assets of the branch.

The BAAT is similar to the MCT in that it compares net assets available to margin required. The net assets available are equal to the excess of assets vested in Canada over net liabilities. The margin required is the sum of amounts required for the same items as in the MCT, e.g., assets, policy liabilities, catastrophes, etc.

The regulator also plans to require insurers to hold capital for foreign exchange risk commencing in calendar year 2013.

### DYNAMIC CAPITAL ADEQUACY TESTING

Under federal regulation, the appointed actuary must investigate the insurer's financial condition. This is completed by way of Dynamic Capital Adequacy Testing (DCAT).

DCAT is a process of analyzing and projecting the trends of a company's financial condition, given its current financial and operating circumstances, its recent past, and its intended



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business plan under a variety of future scenarios. It allows the actuary to inform company management of the likely implications of the business plan on capital and to provide guidance on the significant risks to which the company is exposed.

The principal goal of this process is to help measure capital adequacy by arming the company with the best information on courses of events that may lead to capital depletion and the relative effectiveness of alternative corrective actions. Furthermore, knowing the sources of threat, the company can strengthen the monitoring systems where it is most vulnerable and thus provide information on a continuous and timely basis.

In accordance with accepted actuarial standards, the DCAT process must include a base scenario and several plausible adverse scenarios. The CIA provides guidance as to the risk categories that must be examined for possible threats to capital adequacy. The risk categories enumerated by the CIA are not necessarily the only ones to be examined because the circumstances of the insurer may result in the need to examine other risk categories.

The DCAT process generally consists of the following:

1. Development of a base scenario, which is typically derived from the company's business plan
2. Examination of the risk categories (mandatory or otherwise) to determine those that are relevant to the company circumstances
3. Stress-testing of the risk category in question for each relevant risk category
4. Selection of those scenarios requiring further analysis.
5. Reporting on the results of the analysis

In the most general sense, solvency is the ability of an entity to honor its financial obligations. From the accounting viewpoint, solvency requires that assets equal or exceed liabilities and therefore that the total equity is non-negative. This is ascertained as of a specified date. Even though a balance sheet may show a corporate entity to be technically insolvent by this definition, legal insolvency is only determined through court or regulatory action to terminate the operations of that company. In contrast, the concept of capital adequacy envisioned by DCAT extends beyond the balance sheet at a specific date to the continued vitality of the organization.

Accordingly, in considering the solvency of insurance operations, the amount of and expected trends in surplus and other forms of available capital over the near future are of vital importance, especially in terms of risk profile of the company. It is necessary to consider the purposes of and needs for capital in relation to anticipated and possible events occurring after the statement date.

DCAT utilizes the regulatory formula for the capital adequacy standard. For insurers regulated under the Federal Insurance Companies Act or the Ontario Insurance Act, the minimum regulatory capital requirement for the purposes of the DCAT standard is based upon

### Part VII. Canadian-Specific Reporting

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the MCT for a Canadian property/casualty insurer and the BAAT for a Canadian branch of a foreign property/casualty insurer. Should an insurer be subject to minimum capital requirements under other jurisdictions, the most restrictive requirement is used.

The company's financial condition is deemed satisfactory if, throughout the forecast period, it is able to meet all its future obligations under the base and all plausible adverse scenarios. In addition, under the base scenario, it must meet the target regulatory capital requirement. Otherwise the company's financial condition is deemed unsatisfactory.

DCAT analysis provides the actuary with significant information about the financial condition of a company. The base scenario is in essence the business plan of the company throughout the forecast period. A review of the business plan should allow the actuary to learn much about the company, including the following:

- ▶ Whether the company is growing or contracting through the forecast period and, if relevant, the level at which it is growing
- ▶ Whether the company is profitable throughout the period and whether the profits are sufficient to grow the capital base to support the growth of the company
- ▶ Planned changes in mix of business written by the company through the forecast period
- ▶ Planned changes to reinsurance programs, investment philosophies, expenses, etc.

Further, the adverse scenarios can reveal information about the risk management strategy employed by the company. For example, if a scenario that tests the impact of a change in interest rates has very little impact on the company, it is likely that the company has employed an asset/liability matching strategy to minimize the impact of this event. Adverse scenarios can also identify risks to which the company's financial condition is particularly sensitive, and the actuary can work with management in developing mitigation strategies to manage these risks.

### INDUSTRY RESEARCH

#### *Market-Security Analysis and Research, Inc.*

Market-Security Analysis and Research, Inc. (MSA) is a Canadian analytical research firm that is focused on the Canadian insurance industry.<sup>211</sup> While MSA is not a rating agency, it publishes many reports and also offers a software tool that allows for comprehensive analysis of company and industry results in significant detail over a number of years. Canadian insurers are also monitored by major rating agencies such as A.M. Best, Standard & Poor's, and Moody's.

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<sup>211</sup> MSA Research Inc. <http://www.msaresearch.com/>. 2006-2012.

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Individual company reports are presented by way of a number of exhibits. The first exhibit (Exhibit 1) is titled "Key Company Information." It presents key information about the company's type of license, ownership, and distribution category; identification of the appointed actuary and external auditor; and the name of the CEO or chief agent. There is additional information included in this exhibit for companies with publicly traded parents.

Key financial indicators are included in Exhibit 2. A number of regulatory tests and early warning indicators are included, such as:

- ▶ The MCT/BAAT ratio
- ▶ Profitability measures such as return on equity, return on revenue, return on assets after tax, and insurance return on net premium earned
- ▶ Liabilities as a percentage of liquid assets
- ▶ Net loss reserves to equity
- ▶ Cash flow from operations to net premiums written
- ▶ One-year loss development to equity
- ▶ Overall net leverage

The above measures are used by OSFI and other regulatory bodies as early warning solvency indicators. In its reports, MSA flags results that fall outside of OSFI's acceptable range. The MCT/BAAT ratios are OSFI's Risk-Based Capital adequacy assessment and are important measures of a company's financial position. If a company fails this test, it will likely be the subject of regulatory intervention. Often companies fail certain other ratios without being in distress; thus, the actuary should consider results across all of the tests as a whole when making judgments about a company's financial position.

There are also supplementary ratios calculated to provide more summary-level information about the company, including:

- ▶ Investment yield (including realized capital gains)
- ▶ Change in net premium written
- ▶ Change in gross premium written
- ▶ Change in equity
- ▶ AOCI to equity
- ▶ Reinsurance recoverable to equity
- ▶ Net underwriting leverage ratio (ratio of net premiums written to equity)
- ▶ Two-year combined ratio
- ▶ Overall diversification score

## **PART VIII. THE FUTURE OF SAP**

### **INTRODUCTION TO PART VIII**

Regulation and financial reporting of insurance companies has evolved over time. The original FASB accounting standard for insurance entities (FAS 60) was discussed and developed in the 1970s and adopted in June 1982. The NAIC codified its accounting principles in the 1990s. Today we see the joint project of the FASB and the IASB on insurance contracts accounting and the NAIC undertaking a Solvency Modernization Initiative (SMI). So what is driving change and where are we heading?

## CHAPTER 30. THE FUTURE OF FINANCIAL REPORTING AND SOLVENCY MONITORING OF INSURANCE COMPANIES

### THE NAIC AND THE FINANCIAL SECTOR ASSESSMENT PROGRAM

In *Part VI. Differences from Statutory to other Financial/Regulatory Reporting Frameworks in the U.S.*, we discussed the reasons behind the development of new accounting standards for insurance contracts by the Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB), including the benefit of having one common language for financial reporting. The National Association of Insurance Commissioners' (NAIC) Solvency Modernization Initiative was started in part because of pressure to conform to new and evolving international standards. In November 2008 at a G20 summit, during the global financial crisis, the G20 members agreed to undergo periodic peer reviews of their financial services regulatory regimes. This peer review process was developed by the International Monetary Fund and World Bank in response to the financial crisis in the late 1990s but had mainly been applied to developing countries. This peer review process is called the Financial Sector Assessment Program (FSAP).

The NAIC underwent the FSAP process during 2010 for the first time. The assessment process benchmarked the U.S. insurance regulatory regime against the Insurance Core Principles (ICPs) developed and published by the International Association of Insurance Supervisors (IAIS). The results of the assessment were generally favorable but were based on the ICPs published in 2003. In October 2011, the IAIS published a revised set of ICPs upon which future FSAP reviews will be based. One area that could pose a challenge to the NAIC is ICP 14 on valuation. The first page of ICP 14 states the following:

“The context and purpose of the valuation of assets or liabilities of an insurer are key factors in determining the values that should be placed on them. This ICP considers the valuation requirements that should be met for the purpose of the solvency assessment of insurers within the context of IAIS risk-based solvency requirements that reflect a total balance sheet approach on an economic basis and address all reasonably foreseeable and relevant risks.”

ICP 14 later states that an “economic value should reflect the prospective valuation of the future cash flows of the asset or liability allowing for the riskiness of those cash flows and the time value of money.” Some may argue the current statutory valuation of property/casualty liabilities does not comply with this statement as it doesn't reflect the time value of money, except in limited circumstance, nor the underlying risk. Other statements in ICP 14 may allow for some wiggle room, so what remains to be seen is how the next FSAP review of the NAIC will conclude on the current state-based solvency regime of the U.S. insurers against this new “globally accepted framework for the supervision of the insurance sector.”

#### COMFRAME, SOLVENCY II EQUIVALENCE, AND THE FEDERAL INSURANCE OFFICE

In addition to just having completed the revised set of ICPs, the IAIS is developing a Common Framework for the Supervision of Internationally Active Insurance Groups, commonly referred to as ComFrame. To adopt a common framework, there needs to be a common valuation approach to measuring the assets and liabilities of an insurer. Otherwise, it would not be possible for regulators to compare statutory entities and relate them to common requirements. At the time of writing, the proposed valuation approach under ComFrame is International Financial Reporting Standards (IFRS). Given the divergent viewpoints between the FASB and the IASB, this proposal could place U.S. domiciled property/casualty insurance companies with a significant international presence in the position of having to create another set of financial statements in order to be regulated under ComFrame.

While ComFrame is being developed, Solvency II has an assessment process to determine if the regulatory regime in another country is equivalent to its risk-based approach to solvency regulation. A country that is considered equivalent is treated as if it were a European Union member state. This gives an advantage to reinsurers situated in such equivalent countries and to insurance groups with a presence in the equivalent country. Unfortunately, the U.S. will not be considered equivalent in the first phase of countries applying. One of the key reasons is the lack of a countrywide regulator for insurance.

The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 created the Federal Insurance Office (FIO), which has several functions. The relevant functions are:

- ▶ To coordinate federal efforts and develop federal policy on prudential aspects of international insurance matters, including representing the U.S., as appropriate, in the IAIS and assisting the Treasury Secretary in negotiating covered agreements (bilateral or multilateral agreements entered into by the U.S. regarding prudential measures with respect to the business of insurance or reinsurance)
- ▶ To determine whether state insurance measures are preempted by covered agreements
- ▶ To consult with the states (including state insurance regulators) regarding insurance matters of national importance and prudential insurance matters of international importance

Effectively, this gives the FIO the power to act like a national regulator for purposes of negotiating the contents of ComFrame and seeking Solvency II equivalency as it can preempt state law if the director of the FIO determines that the measure “results in less favorable treatment of a non-U.S. insurer domiciled in a foreign jurisdiction that is subject to a covered agreement than a U.S. insurer domiciled, licensed, or otherwise admitted in that State,” and state law “is inconsistent with a covered agreement.”

### Part VIII. The Future of SAP

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In addition to the FIO, Dodd-Frank gave the Federal government powers to regulate systemically important financial institutions (SIFI). What financial institutions are systemically important is still to be determined by the Financial Stability Oversight Council, a body set up by Dodd-Frank to reduce the risk of any one company being “too big to fail.” A limited number of property/casualty insurance companies have been identified as being potential SIFIs. For those property/casualty companies that are ultimately determined to be SIFIs, a federal regulatory framework awaits that was originally designed for bank holding companies and has been widely criticized as being ill-suited for insurance company regulation.

#### THE FUTURE

All the above activities by the NAIC, FASB, IASB, IAIS, and the FIO leave us with a very muddy picture of how insurance liabilities will be evaluated in the future. The common theme, though, is change, as each proposed framework differs from the current valuation of insurance liabilities today. It is also likely that we will see change in the general financial reporting world under U.S. GAAP before we see a change to U.S. statutory accounting. Several scenarios could play out that could leave us with several different frameworks in place. Yet, any of these changes individually would have one common result: a greater need for actuaries to perform the additional calculations and explain the drivers of the results.

## GLOSSARY OF TERMS

### Accepted Actuarial Practice (AAP)

The manner of performing work in accordance with rules and standards of practice as promulgated by the relevant actuarial body, e.g., American Academy of Actuaries in the U.S. or the Canadian Institute of Actuaries in Canada

### Accident year

The calendar year in which the accident occurs and/or the loss is incurred

### Accumulated other comprehensive income (AOCI)

The cumulative value of other comprehensive income or the total of unrealized gains on (i) available-for-sale assets such as loans, bonds and debentures and equities; (ii) derivatives designated as cash flow hedges; (iii) foreign currency translation; and (iv) share of other comprehensive income of subsidiaries, associates, and joint ventures. AOCI is included in the equity on the balance sheet of a Canadian insurance company.

### Actuarial Opinion Summary (AOS)

A confidential document containing the appointed actuary's range of unpaid claim estimates and/or point estimate, as calculated by the appointed actuary, in comparison to the company's recorded reserves on both a net and gross of reinsurance basis

### Actuarial Standards Board (ASB)

"The Actuarial Standards Board (ASB) establishes and improves standards of actuarial practice. These Actuarial Standards of Practice (ASOPs) identify what the actuary should consider, document, and disclose when performing an actuarial assignment. The ASB's goal is to set standards for appropriate practice for the U.S."<sup>212</sup>

### Actuarial Standards of Practice (ASOP)

"ASOPs are intended to provide actuaries with a framework for performing professional assignments and to offer guidance on relevant issues, recommended practices, documentation, and disclosure."<sup>213</sup>

### Adjusting and other (A&O) expenses

One of the two components of loss adjustment expense, with defense and cost containment being the other. A&O generally include all expenses associated with the

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<sup>212</sup> Actuarial Standards Board. "About the ASB." <http://www.actuarialstandardsboard.org/aboutasb.asp>, 2012.

<sup>213</sup> Actuarial Standards Board, *Introduction to the Actuarial Standards of Practice*, [http://www.actuarialstandardsboard.org/pdf/asops/Introduction\\_113.pdf](http://www.actuarialstandardsboard.org/pdf/asops/Introduction_113.pdf), October 2008.



### Glossary of Terms

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adjusting and recording of insurance claims, other than those included with defense and cost containment expenses. According to the 2011 National Association of Insurance Commissioners *Annual Statement Instructions Property/Casualty*, A&O expenses are “those expenses that are correlated with claim counts or general loss adjusting expenses.”<sup>214</sup>

#### **Alien insurance company**

A company doing business in the U.S. that is incorporated under the laws of a country outside the U.S.

#### **Allocated loss adjustment expenses (ALAE)**

Expenses associated that can be readily assigned to a specific claim, such as attorney fees.

#### **Alternative minimum taxable income (AMTI)**

The lower bound of the income level at which companies are taxed

#### **A.M. Best Company**

A global credit rating agency that serves the financial and health care service industries. In the insurance area, Best's Credit Ratings cover property/casualty, life, annuity, reinsurance, captive, title and health insurance companies as well as health maintenance organizations. A.M. Best covers thousands of insurance entities across the globe.

#### **American Academy of Actuaries Committee on Property and Liability Financial Reporting (COPLFR)**

“This committee monitors activities regarding financial reporting related to property and liability risks, reviews proposals made by various organizations affecting the actuarial aspects of financial reporting and auditing issues related to property and liability risks, and evaluates property and liability insurance and self-insurance accounting issues.”<sup>215</sup>

#### **American Academy of Actuaries Property/Casualty Financial Soundness/Risk Management Committee (FSRM)**

“The committee proactively provides actuarial support, advice, and communications on topics that involve the soundness and risk management of property and liability insurance. This includes seeking out additional audiences and topics to address so that the committee can coordinate and respond to issues at the state, federal, and

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<sup>214</sup> 2011 NAIC *Annual Statement Instructions Property/Casualty*, page 225.

<sup>215</sup> American Academy of Actuaries, “Committee on Property and Liability Financial Reporting,” <http://www.actuary.org/committees/dynamic/COPLFR>, 2012.

## Glossary of Terms

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international levels. The committee actively interfaces with the NAIC and the Financial Reporting Council's Solvency and Risk Management Task Force. The committee also communicates and provides information to the membership of the Academy regarding these issues."<sup>216</sup>

### **Amortized cost**

"The cost of bonds less the amortization of premium, or plus the accumulated accrual of discount, from the date of purchase to the date of valuation."<sup>217</sup>

### **Annual Statement**

A filing made annually by an insurance company to each state insurance department in which it writes business. The filing is prepared under Statutory Accounting Principles and includes the company's financial statements and various supporting scheduled and exhibits.

### **Appointed actuary**

"A qualified actuary appointed the Board of Directors, or its equivalent, or by a committee of the Board to render a statement of actuarial opinion. 'Qualified Actuary' is a person who is either:

- i. A member in good standing of the Casualty Actuarial Society, or
- ii. A member in good standing of the American Academy of Actuaries who has been approved as qualified for signing casualty loss reserve opinions by the Casualty Practice Council of the American Academy of Actuaries."<sup>218</sup>

### **Assets**

Resources obtained or controlled by a company as a result of past events that have a probable future economic benefit to the company

### **Authorized control level (ACL)**

The level of Risk-Based Capital within which the state regulatory authority is authorized, but not required, to take control of an insurance company. This level is triggered when a company's total adjusted capital is between 70% and 100% of the ACL benchmark, or 35% to 50% of Risk-Based Capital.

### **Authorized reinsurer**

A reinsurer that is licensed or approved to transact insurance business in a jurisdiction; an unauthorized reinsurer is not.

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<sup>216</sup> American Academy of Actuaries, "Property/Casualty Financial Soundness/Risk Management Committee," <http://www.actuary.org/committees/dynamic/SOUNDNESS>, 2012.

<sup>217</sup> Insurance Accounting & Systems Association, *Property Casualty Insurance Accounting*, 2006.

<sup>218</sup> 2011 NAIC Annual Statement Instructions Property/Casualty, page 10.

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**Balance sheet**

The financial statement that presents all of a company's assets and liabilities as of a specific point in time

**Branch Adequacy of Asset Test (BAAT)**

Guideline for federally regulated property/casualty insurance companies published by the Office of the Superintendent of Financial Institutions that provides the framework within which the Superintendent assesses whether a property/casualty company, or a foreign branch, maintains adequate capital

**Canadian Institute of Actuaries (CIA)**

The national organization of the Canadian actuarial profession

**Canadian Institute of Chartered Accountants (CICA)**

"The CICA is a not-for-profit entity incorporated by a Special Act of the Canadian Parliament in 1902. ... The CICA works in collaboration with the provincial institutes/Ordre to ensure that the profession is well positioned to respond to the challenges and capitalize on the opportunities presented in today's marketplace.

It executes its strategy through:

- ▶ supporting the setting of accounting, auditing and assurance standards for business, not-for-profit organizations and government
- ▶ developing and delivering pre- and post-qualification education programs
- ▶ providing a range of member services and professional literature
- ▶ research and development of intellectual property
- ▶ issuing guidance on risk management and governance
- ▶ fostering relationships with key stakeholders nationally and internationally."<sup>219</sup>

**Cap**

"An agreement obligating the seller to make payments to the buyer, each payment under which is based on the amount, if any, that a reference price, level, performance or value of one or more Underlying Interests exceed a predetermined number, sometimes called the strike/cap rate or price"<sup>220</sup>

**Carryforward of net operating losses**

An accounting practice used when an insurance company has net operating losses in one financial year and expects those losses to offset gains in the future, thereby reducing future tax liability

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<sup>219</sup> Chartered Accountants of Canada, "About the Canadian Institute of Chartered Accountants (CICA)," <http://www.cica.ca/about-cica/index.aspx>, 2012.

<sup>220</sup> 2011 NAIC Annual Statement Instructions Property/Casualty, page 373.

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**Carrying value**

An initial cost of an investment adjusted over time based on the reporting entity's share in the company's income

**Case development**

Increases or decreases in the reserves for known claims as additional information becomes available

**Case incurred loss**

The reported value of a known claim equal to the sum of paid losses plus case outstanding losses

**Case outstanding loss**

The reserve for a known claims, or case reserve, generally established by the company's claims administrator(s)/handler(s) based either on the facts of the particular claim or based on formula

**Case reserves**

See definition for *case outstanding loss*

**Cash flow statement**

A statement that presents a company's operations strictly from a cash perspective

**Ceded reinsurance premiums payable**

Premiums that are owed to reinsurers relating to ceded reinsurance

**Ceding commission**

A fee paid by the reinsurer to the insurance company (ceding company) for the reinsurance transaction. The fee is generally expected to reimburse the insurer for policy acquisition expenses.

**Certified public accountant (CPA)**

"Professional accountant who has passed the uniform CPA examination administered by the American Institute Of Certified Public Accountants, and has fulfilled the educational and work related experience requirements for certification"<sup>221</sup>

**Claim frequency**

The rate of claim occurrence, typically calculated as the ratio of claim counts to exposures

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<sup>221</sup> BusinessDictionary.com, *Definitions*, <http://www.businessdictionary.com/definition/certified-public-accountant-CPA.html>, 2012.

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**Claim severity**

The average cost of a claim, typically calculated as the ratio of losses to claim counts

**Claims-made policy**

An insurance policy covering claims that arise on or after the policy retroactive date and are reported during the term of the policy. The retroactive date may be a date many years before the purchase of the policy. Therefore, a claims-made policy may cover claims made today that result from actions that occurred any time after the retroactive date.

**Collar**

"An agreement to receive payments as the buyer of an Option, Cap or Floor and to make payments as the seller of a different Option, Cap or Floor"<sup>222</sup>

**Common capital stock**

A surplus account that is equal to the par value of common stocks that were issued

**Common stock**

A type of stock holding that confers voting privileges and may pay a dividend, though the dividend is not guaranteed

**Commutation of ceded reinsurance**

The agreement to fully settle all current and future liabilities associated with a reinsurance agreement for a set payment from the reinsurer

**Commuting a claim**

A process in which one party is relieved of its obligations in respect of the claim in exchange for a cash payment

**Contingent commissions**

Additional commissions paid by an insurance company to its broker if certain volume and/or profit targets are met

**Contingent liabilities**

Amounts for which the insurance company may be held responsible but for which the balance is not currently determinable

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<sup>222</sup> 2011 NAIC Annual Statement Instructions Property/Casualty, page 373.

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**Credit risk**

A risk that the counterparty will default (or not pay in whole or in part) and the estimation risk associated with amounts recorded for those receivables

**Defense and cost containment (DCC)**

One of the two components of loss adjustment expense, with adjustment and other expense being the second. DCC generally includes defense, litigation and medical cost containment expenses, whether internal or external. According to the 2011 NAIC *Annual Statement Instructions Property/Casualty*, DCC expenses are “those that are correlated with the loss amounts.”<sup>223</sup>

**Deferred acquisition costs (DAC)**

An asset that is established under Generally Accepted Accounting Principles to defer the recognition of acquisition expenses to match the recognition of revenue of insurance companies

**Deferred tax assets (DTAs)**

Expected future tax benefits related to amounts previously recorded in the statutory financial statements and not expected to be reflected in the tax return as of the reporting date

**Derivatives**

Financial contracts between two parties for which the value is dependent upon the performance of other assets or variables. Examples include options, warrants, caps, floors, collars, swaps, forwards and futures.

**Discount rate**

The term commonly used when referring to the rate at which the present value of cash flows are calculated

**Discovery year**

A calendar year in which a loss or damage is discovered

**Dividends received deduction (DRD)**

In the case of corporate stockholders, DRDs are certain allowances that are made to reduce tax on dividends to avoid triple taxation when they in turn dividend earnings to their investors

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<sup>223</sup> Ibid., page 225.

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**Dynamic Capital Adequacy Testing (DCAT)**

A process of analyzing and projecting the trends of a company's financial condition given its current financial and operating circumstances, its recent past, and its intended business plan under a variety of future scenarios

**Earned but unbilled premiums**

Estimated adjustments that will occur to the premium on policies where the actual amount of premium depends on an exposure measure (such as payroll) that is unknown until the end of the policy period

**Encumbrance**

An impediment or claim on an asset made by a party that restricts the value of asset from complete use by the owner until the owner clears its obligation to the other party. An example is a lien on a property.

**Equity method**

A method under which investments in insurance company subsidiary, controlled and affiliated entities (SCAs) are recorded based on the reporting entity's proportionate share of audited statutory equity of the SCA's balance sheet, adjusted for any unamortized goodwill

**Excess treaty reinsurance**

A contract under which the reinsurer responds to claims during the treaty period excess of a specified threshold to a specified limit

**Exhibit of Capital Gains (Losses)**

An Annual Statement exhibit that shows the split of the gains (losses) between those gains (losses) that were realized on the sale or maturity of an asset and those due to impairments

**Exhibit of Net Investment Income**

An Annual Statement exhibit that differentiates between the amount of income collected and the amount of income earned in the year and describes the deductions for investment expenses and other costs

**Facultative reinsurance**

A reinsurance contract that is negotiated separately for each insurance policy that is reinsured. Facultative reinsurance is purchased for individual risks that are not covered, or not adequately covered, by the insurer's treaty reinsurance.

**Fair value**

The value at which an asset or liability could be bought or sold for in the open market

**Financial Accounting Standards Board (FASB)**

A private organization providing authoritative accounting guidance for non-governmental entities. It has the responsibility of developing and establishing Generally Accepted Accounting Principles, with the Securities and Exchange Commission operating in an overall monitoring role over the accounting standards

**Financial Analysis Solvency Tools (FAST)**

“NAIC’s Financial Analysis Solvency Tools encompasses wide-ranging review/testing system that includes (but is not limited to): (1) a scoring system based on over 20 financial ratios; (2) the Analyst Team System (ATS); (3) RBC trend test; and (4) loss reserve projection tools. Insurers deemed to be performing poorly from the FAST analysis are reviewed by experienced analysts to determine the degree of financial distress present, if any. Insurers deemed to be in financial distress are prioritized by the degree of financial distress and the results are communicated to the state insurance departments in which the insurer is licensed.”<sup>224</sup>

**Floor**

“An agreement obligating the seller to make payments to the buyer, each payment under which is based on the amount, if any, that a predetermined number, sometimes called the strike/floor rate or price exceeds a reference price, level, performance or value of one or more Underlying Interests”<sup>225</sup>

**Forward**

“An agreement (other than a Future) to make or take delivery of, or effect a cash settlement based on, the actual or expected price, level, performance or value of one or more Underlying Interests”<sup>226</sup>

**Future**

“An agreement traded on an exchange, Board or Trade or contract market to make or take delivery of, or effect a cash settlement based on, the actual or expected price, level, performance or value of one or more Underlying Interests”<sup>227</sup>

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<sup>224</sup> NAIC, *The United States Insurance Financial Solvency Framework*, [http://www.naic.org/documents/committees\\_e\\_us\\_solvency\\_framework.pdf](http://www.naic.org/documents/committees_e_us_solvency_framework.pdf), 2010, pages 11-12.

<sup>225</sup> 2011 NAIC Annual Statement Instructions Property/Casualty, page 373.

<sup>226</sup> Ibid., page 373.

<sup>227</sup> Ibid., page 374.



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**General expenses**

Insurance company operating and administrative expenses other than those that relate directly to the acquisition of the business or ongoing policy maintenance costs incurred by an insurance company

**General Interrogatories**

A series of questions that the insurance company is required to respond to within its Annual Statement

**Generally Accepted Accounting Principles (GAAP)**

An accounting framework that provides a consistent set of rules under which publicly traded and privately held companies report their financial transactions

**Goodwill**

An intangible asset that results from the excess of the price paid for an acquired entity and its book value. It represents the value perceived by the buyer in the company for things like strong customer relationships or trade name, which are not physical or material assets but can be bought or sold due to their relevance to the company's future profitability.

**Governmental Accounting Standards Board (GASB)**

"The independent organization that establishes and improves standards of accounting and financial reporting for U.S. state and local governments ... the official source of generally accepted accounting principles (GAAP) for state and local governments"<sup>228</sup>

**Income statement**

A statement that describes a company's gain or loss in net income during a specific time period

**Incurred but not reported (IBNR)**

The reserve for claims that have been incurred but not yet reported to the insurance company. IBNR includes a provision for development on known claims ("case development"), a provision purely for those claims that are incurred but not yet reported to the insurance carriers ("pure IBNR"), and reopened claims.

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<sup>228</sup> GASB, "Facts About GASB"

<http://www.gasb.org/cs/BlobServer?blobcol=urldata&blobtable=MungoBlobs&blobkey=id&blobwhere=1175824006278&blobheader=application%2Fpdf>, 2012.

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**Insurance Expense Exhibit (IEE)**

An Annual Statement exhibit that enables regulators to dive deeper into an insurance company's profitability by examining profitability by line of business on a direct and net of reinsurance basis.

**Insurance Regulatory Information System (IRIS)**

A collection of analytical solvency tools and databases designed to provide state insurance departments with an integrated approach to screening and analyzing the financial condition of insurers. IRIS is used to assist each state in prioritizing which companies need additional regulatory attention

**Insurance contract**

A contract under which one party (the insurer) accepts significant insurance risk from another party (the policyholder) by agreeing to compensate the policyholder if a specified uncertain future event (the insured event) adversely affects the policyholder

**Insurance or underwriting risk**

The risk of an insurance company associated with issuing insurance policies

**Intercompany pooling**

A common arrangement among companies in a group in which each participant fully cedes all of its business to the lead insurance company of the pool, and then each participant assumes back a specific percentage of the total

**Interest rate risk**

The risk of loss from changes in interest rates impacting interest-rate-sensitive assets and liabilities

**Internal Revenue Service (IRS)**

The U.S. government agency that is responsible for establishing tax laws and collecting taxes

**Internal Target Capital Ratio**

The ratio determined by an insurance company intended to provide capacity to withstand unexpected losses beyond those covered by the minimum capital ratio. Canadian property and casualty companies are asked by the Office of the Superintendent of Financial Institutions to establish their own internal target capital ratio.

**International Accounting Standards Board (IASB)**

“The IASB is the independent standard-setting body of the International Financial Reporting Standards Foundation. Its members are responsible for the development and publication of International Financial Reporting Standards.”<sup>229</sup>

**International Financial Reporting Standards (IFRS)**

The accounting standards promulgated by the International Accounting Standards Board typically used for financial reporting by companies licensed in countries outside of the U.S.

**Investment affiliate**

An affiliate, other than a holding company, engaged or organized primarily to engage in the ownership and management of investments for the insurer. Investment affiliates exclude entities that manage funds of organizations other than the parent.

**Letters of credit**

Issued by a bank to guarantee that payment will be made by a borrower to the lender. In the case of reinsurance transactions, a letter of credit guarantees that the reinsurer will be able to meet its obligations to the reinsured. The bank typically charges for this guarantee as a percent of its value. The percentage rate generally rises during periods of uncertain economic times.

**Liability**

An obligation that the company must fulfill based on past events or transactions that will require the use of monetary resources

**Liquidity/Illiquidity premium**

In a situation when the ability to readily trade the asset results in a lower discount rate being applied to the tradable asset's future cash flows than that of the privately held asset, the difference in the discount rates is the liquidity/illiquidity premium for the privately held asset.

**Loss adjustment expense (LAE)**

Expenses associated with the handling of a claim from the time it is reported to the insurance company until the time it is closed. LAE includes allocated loss adjustment expenses (ALAE) and unallocated loss adjustment expenses (ULAE). The National Association of Insurance Commissioners currently uses the defense and cost containment (DCC) and adjusting and other (A&O) expenses to comprise the two forms of LAE. While LAE in total is equivalent under either the ALAE/ULAE or DCC/A&O

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<sup>229</sup> IFRS Foundation, “About the IFRS Foundation and the IASB,” <http://www.ifrs.org/The+organisation/IASCF+and+IASB.htm>, 2012.

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definitions, it is the segregation of expenses between the two that differs. DCC generally includes defense, litigation and medical cost containment expenses, whether internal or external, and A&O includes all expenses associated with adjusting and recording policy claims, other than those included with DCC.

#### **Mandatorily convertible security**

A security that is required to be exchanged for another type of security at a specified price that differs from the market price at the time of conversion

#### **Market-Security Analysis & Research (MSA)**

A Canadian analytical research firm that is focused on the Canadian insurance industry

#### **Market valuation approach**

A valuation approach in which investment in insurance company subsidiary, controlled and affiliated entities (SCAs) is based on the market value of the SCA, adjusted for the reporting entity's ownership percentage

#### **Maximum net deferred policy acquisition expense (DPAE)**

A ceiling to the amount of the DPAE asset that a property/casualty insurance company may record on its financial statements in Canada

#### **Minimum capital ratio**

Minimum Capital Test (MCT) ratio of 100%

#### **Minimum capital requirement (MCR)**

The smallest level of capital at which a company would be permitted to operate in Canada per the Office of the Superintendent of Financial Institutions

#### **Minimum capital test (MCT)**

Guideline for Federally Regulated Property and Casualty Insurance Companies published by the Office of the Superintendent of Financial Institutions that provides the framework within which the Superintendent assesses whether a property/casualty company, or a foreign branch, maintains adequate capital. MCT compares capital available to capital required.

#### **Mortgage-backed security (MBS)**

"Debt instrument secured by a mortgage or a pool of mortgages (but not conveying a right of ownership to the underlying mortgage). Unlike unsecured securities, they are considered 'investment grade,' and are paid out of the income generated by principle

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and interest payments on the underlying mortgage. It is a type of mortgage derivative."<sup>230</sup>

**National Association of Insurance Commissioners (NAIC)**

Serves as an organization of state regulators that facilitates and coordinates governance of insurance companies across the U.S.

**NAIC Model Investment Law**

Allows for two alternative types of investment guidelines:

1. The defined limit system of investment guidelines follows a rule-based approach and prescribes specific quantitative limits for the invested assets that a company may hold.
2. The prudent person system of investment guidelines follows a principles-based approach and requires an insurance company to develop its own investment guidelines.

**NAIC's Securities Valuation Office (SVO)**

"The National Association of Insurance Commissioners' Securities Valuations Office (SVO) is responsible for the day-to-day credit quality assessment and valuation of securities owned by state regulated insurance companies."<sup>231</sup>

**Net income/Net loss**

The difference between the amount of the revenues and expenses during the period. It is referred to as net income if it is positive and net loss if it is negative.

**Net investment income earned**

Interest and dividends received on investment assets held over the course of the year, net of investment expenses including any associated taxes

**Net realized capital gain (loss)**

Income received related to changes in the value of investment assets that are held, net of any associated taxes

**Nonadmitted assets**

Assets that are not recognized by state insurance departments in evaluating the solvency of an insurance company for statutory accounting purposes

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<sup>230</sup> BusinessDictionary.com, *Definitions*, <http://www.businessdictionary.com/definition/mortgage-backed-security.html>, 2012.

<sup>231</sup> Per the description of the Securities Valuation Office on the NAIC and The Center for Insurance Policy and Research website, <http://www.naic.org/svo.htm>, 2012.

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**Notes to Financial Statements**

Qualitative and quantitative disclosures made by a company to further explain the balances shown in its financial statements

**Off-balance sheet and other items**

Amounts that are not recorded by the insurance company in its statutory financial statements yet still represent assets and/or potential liabilities of the insurance company and therefore expose the company to risk

**Office of the Superintendent of Financial Institutions (OSFI)**

The organization that supervises all federally regulated financial institutions, monitors federally regulated pension plans and provides actuarial advice to the Government of Canada

**Option**

“An agreement giving the buyer the right to buy or receive, sell or deliver, enter into, extend or terminate, or effect a cash settlement based on the actual or expected price, level, performance or value of one or more Underlying Interests”<sup>232</sup>

**Other comprehensive income (OCI)**

Changes in unrealized gains and losses on (i) available for sale assets such as loans, bonds and debentures and equities; (ii) derivatives designated as cash flow hedges; (iii) foreign currency translation; and (iv) share of OCI of subsidiaries, associates and joint ventures. OCI is required by International Financial Reporting Standards.

**Overdue authorized reinsurance**

Reinsurance for which the amount of paid loss and loss adjustment expense recoverable is more than 90 days past due for reasons other than dispute between the insurance company and the reinsurer

**Own risk self-assessment (ORSA)**

The entirety of the processes and procedures employed to identify, assess, monitor, manage and report the short- and long-term risks a (re) insurance undertaking faces or may face and to determine the own funds necessary to ensure that the undertaking's overall solvency needs are met at all times.

**Paid losses**

Amounts paid by the insurance carrier for insured claims

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<sup>232</sup> 2011 NAIC Annual Statement Instructions Property/Casualty, page 373.

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**Par value**

An amount set by the issuer of a stock when the stock is initially offered, which serves as a minimum value for which the stock can be sold in that initial offering

**Policyholder dividend**

A return to the policyholder of a portion of the premium that was originally paid by the policyholder. There are typically state requirements that must be met for a company to pay dividends.

**Preferred stock**

A stock holding that does not confer voting privileges but usually provides a guarantee on dividends to be paid and usually has preference to common stock in the event of liquidation

**Premium deficiency reserve**

A reserve that must be recorded when the unearned premium of in-force business is not sufficient to cover the losses, loss adjustment expense and other expenses that will arise when that premium is earned.

**Proportional treaty**

A contract under which the reinsurer receives a set proportion of all premiums subject to the treaty, net of ceding commission, and in return pays the same proportion of all claims subject to the treaty

**Protected cell company**

A company that comprises individual cells, each with its own assets, liabilities and equity, but that also has access to a part of the company's overall capital. The liability to each cell is limited such that creditors to one cell cannot look to another cell or the company as a whole for assets.

**Provision for adverse deviation (PfAD)**

A provision required in Canada for adverse deviation in a company's loss reserves determined by increasing the value of variables used in the reserve estimation process.

**Provision for reinsurance**

A penalty for reinsurance recoverables that may not be collectible. The amount of this provision is a reduction to surplus. This penalty applies to unauthorized reinsurers that do not provided full collateral, that are slow to pay or that have disputed amounts owed to the ceding company, as well as the authorized reinsurers that are slow to pay or that have disputed amounts that are owed to the ceding company.

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**Regulation S-X**

The Security Exchange Commission's regulation that contains general instructions to all companies around the composition and presentation of financial statements

**Reinsurance contract**

Oftentimes considered insurance for insurance companies, a contract under which one party (the insurer or reinsured) transfers risk to another party (the reinsurer) to protect the insurer (reinsured) from financial loss

**Replication (synthetic asset) transaction**

A derivative transaction entered into in conjunction with other investments to reproduce the investment characteristics of otherwise permissible investments

**Report year**

A calendar year in which losses are reported

**Reported loss**

Amount of paid plus case outstanding losses incurred by an insurance company. It represents the dollar value of loss known to the insurance company. Reported loss is synonymous with the term case incurred loss.

**Reserve risk**

The risk that a reporting entity's loss and loss adjustment expense reserves will develop adversely

**Retroactive date**

The date specified in a claims-made insurance policy that defines the first day on which incurred losses are covered under the policy

**Retroactive reinsurance**

Reinsurance that is purchased for liabilities that occurred in the past (i.e., prior to the effective date of the reinsurance policy)

**Revenue offset**

A reduction in earned premium to account for a lack of deferred acquisition costs.

**Review date**

The valuation date through which material information known to the actuary is included in forming the reserve opinion



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**Risk-Based Capital (RBC)**

A solvency framework developed by the National Association of Insurance Commissioners from which an amount of capital is determined formulaically based on the application of specified factors to an insurance company's recorded assets and liabilities as of year-end. The calculated capital, or RBC, is compared to that recorded by the insurance company at year-end to determine the level, if any, of company or regulatory action required from a solvency perspective.

**Risk-Based Capital ratio (RBC ratio)**

The ratio of total adjusted capital to the authorized control level benchmark computed under the National Association of Insurance Commissioners RBC framework

**Schedule A**

A schedule within an Annual Statement that provides information on real estate directly owned by the insurance company

**Schedule B**

A schedule within an Annual Statement that provides information on mortgage loans owned by the insurance company that are backed by real estate

**Schedule BA**

A schedule within an Annual Statement that provides information on other long-term invested assets owned by the insurance company. These are assets not included in any of the other invested asset schedules, such as real estate, that is not owned directly by the insurance company and therefore excluded from Schedule A.

**Schedule D**

A schedule within an Annual Statement that provides information on bonds and stocks owned by the insurance company

**Schedule DA**

A schedule within an Annual Statement that provides information on short-term investments owned by the insurance company. The schedule includes all investments whose maturities (or repurchase dates under repurchase agreement) at the time of acquisition were one year or less except those defined as cash or cash equivalents in accordance with SSAP No. 2, Cash, Drafts, and Short-term Investments.

**Schedule DB**

A schedule within an Annual Statement that provides the number of contracts for each derivative and the notional amount, which represents the number of units of the underlying asset that are involved

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**Schedule DL**

A schedule within an Annual Statement that provides information on securities lending reinvested assets

**Schedule E**

A schedule within an Annual Statement that provides information on the insurance company's cash and cash equivalents

**Schedule F**

A schedule within an Annual Statement that provides information on an insurance company's assumed and ceded reinsurance transactions

**Schedule P**

A schedule within an Annual Statement that provides loss and loss expenses reserves gross and net and also breaks down the total reserves by line of business and accident year

**Schedule P interrogatories**

A series of questions that the insurance company is required to answer to provide further insight into the information reported in Schedule P

**Schedule T**

A schedule within an Annual Statement that provides an allocation of its contents by U.S. state (50) and the District of Columbia, as well as five U.S. territories (American Samoa, Guam, Puerto Rico, U.S. Virgin Islands and Northern Mariana Islands), Canada, and "aggregate other alien" territories

**Securities and Exchange Commission (SEC)**

The authoritative body for establishing accounting and reporting standards for publicly traded companies in the U.S.

**Solvency capital requirement (SCR)**

An amount of capital required to limit the probability of ruin over the forthcoming year to 0.5%

**Solvency Modernization Initiative (SMI)**

An initiative of the National Association of Insurance Commissioners that involves "a critical self-examination of the U.S. insurance solvency regulation framework and includes a review of international developments regarding insurance supervision,

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banking supervision, and international accounting standards and their potential use in U.S. insurance regulation.”<sup>233</sup>

### **Statement of Actuarial Opinion (SAO)**

The opinion of a qualified actuary on the reasonableness of the loss and loss adjustment expense reserves recorded by a property/casualty insurance company as of December 31 each year

### **Statement of cash flows**

A statement that shows cash inflows and outflows from a company’s operations, investments, financing and other sources, the net value of which is included as the value of cash and cash equivalents that is shown on the on the balance sheet at the end of the reporting period

### **Statement of Changes in Equity exhibit**

A statement included within the financials of a Canadian insurance company illustrating the change in equity across the various classes of equity (e.g., share capital, retained earnings, available for sale financial assets) resulting from various transactions or events such as issue of share capital, total comprehensive income for the year, dividends, etc.

### **Statement of retained earnings**

A statement included within the financials of a Canadian insurance company that provides the calculation of the retained earnings for the insurance company at the end of the reporting period

### **Statutory Accounting Principles (SAP)**

The accounting framework that all U.S. insurance companies are required to report under for state regulatory purposes: “accounting principles or practices prescribed or permitted by an insurer’s domiciliary state”<sup>234</sup>

### **Structured settlements**

A situation where an insurance company settles a claim by purchasing an annuity on behalf of a claimant

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<sup>233</sup> NAIC, “Key Issue: The national System of State Regulation and the Solvency Modernization Initiative,” [http://www.naic.org/index\\_smi.htm](http://www.naic.org/index_smi.htm), August 31, 2012.

<sup>234</sup> NAIC, *Accounting Practices and Procedures Manual*, Volume I, March 2009, page P-2.

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**Surplus (policyholders' surplus)**

The difference between assets and liabilities is generally referred to as net worth, and, in the specific case of an insurance company under statutory accounting, it is referred to as surplus.

**Surplus aid**

An amount of enhancement to surplus in the current period as a result of ceding commission that has been taken into income on its ceded unearned premium

**Surplus ratio**

A ratio of mean policyholders' surplus to the sum of mean net loss and loss adjustment reserves, mean net unearned premium reserves and current year net earned premiums, in total for all lines combined

**Swap**

"An agreement to exchange or net payments at one or more times based on the actual or expected price, level, performance or value of one or more Underlying Interests or upon the probability occurrence of a specified credit or other event"<sup>235</sup>

**Sweep account**

"Banking arrangement in which a checking (current) account balance above or below a certain amount is automatically transferred to and from an interest-bearing (savings or money market fund) account. The objective of a sweep account is to maximize the accountholder's interest earnings while covering all withdrawals."<sup>236</sup>

**Tabular reserves**

Indemnity reserves that are calculated using discounts determined with reference to actuarial tables that incorporate interest and contingencies such as mortality, remarriage, inflation or recovery from disability applied to a reasonably determinable payment stream. This definition does not include medical loss reserves or any LAE reserves.

**Tail coverage**

Coverage issued as an endorsement to a claims-made policy that covers claims incurred after the retroactive date but reported to the insurer subsequent to the claims-made policy expiration date.

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<sup>235</sup> 2011 NAIC Annual Statement Instructions Property/Casualty, page 373.

<sup>236</sup> BusinessDictionary.com, *Definitions*, <http://www.businessdictionary.com/definition/sweep-account.html>, 2012.

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**Tax-basis earned premium**

Earned premium adjusted for a revenue offset

**Tax-basis incurred losses and expenses**

Statutory calendar-year incurred paid losses plus the change in discounted loss reserves

**Total comprehensive income**

Net income as reported by Canadian insurance companies on the Statement of Income plus other comprehensive income

**Treaty reinsurance**

A reinsurance contract that applies to all or a portion of an insurance company's policies written during the term of the reinsurance agreement, typically a calendar year

**Unallocated loss adjustment expenses (ULAE)**

Expenses associated with the handling of claims that are not generally assigned to a particular claim, such as salaries for adjustors and utility costs

**Underwriting income**

Earned premium minus loss and LAE incurred and other underwriting expenses incurred

**Unearned commissions**

Ceding commissions from reinsurance that are not yet earned by the insurance company

**Unearned premiums**

The premium that corresponds to the time period remaining on an insurance policy prior to expiration

**Unpaid loss (or loss reserve)**

Amount of case outstanding plus incurred but not reported reserves. It represents the remaining amount expected to be paid on claims incurred by the insurance company.

**Value at risk**

"Largest loss likely to be suffered on a portfolio position over a holding period with a given probability (confidence level)"<sup>237</sup>

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<sup>237</sup> BusinessDictionary.com, *Definitions*, <http://www.businessdictionary.com/definition/value-at-risk-VAR.html>, 2012.

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**Warrant**

“An agreement that gives the holder the right to purchase and underlying financial instrument at a given price and time or at a series of prices and times according to a schedule or warrant agreement”<sup>238</sup>

**Written premium risk**

A risk that future business written by the company will be unprofitable

**Yield curve**

“Graph used typically to show yields for different bond maturities and used for determining the best value in bonds and as an economic indicator (confidence level)”<sup>239</sup>

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<sup>238</sup> 2011 NAIC Annual Statement Instructions Property/Casualty, page 373.

<sup>239</sup> BusinessDictionary.com, *Definitions*, <http://www.businessdictionary.com/definition/yield-curve.html>, 2012.

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## APPENDICES



## **APPENDIX I. FICTITIOUS INSURANCE COMPANY**

### **EXCERPTS FROM THE 2011 ANNUAL STATEMENT FOR FICTITIOUS INSURANCE COMPANY**

**ANNUAL STATEMENT  
OF THE  
FICTITIOUS INSURANCE COMPANY**

**Of**

**Sunny City  
in the state of Florida**

**\* \* Selected Excerpts ONLY \* \***

**to the Insurance Department  
of the state of Florida**

For the Year Ended  
December 31, 2011

**2011**

**ANNUAL STATEMENT FOR THE YEAR 2011 OF THE FICTITIOUS INSURANCE COMPANY**

**ASSETS**

	Current Year			Prior Year
	1 Assets	2 Non-Admitted Assets	3 Net Admitted Assets (Cols. 1 - 2)	4 Net Admitted Assets
1. Bonds (Schedule D).....	58,676,000	0	58,676,000	58,861,000
2. Stocks (Schedule D):				
2.1 Preferred Stocks.....	34,000	0	34,000	35,000
2.2 Common Stock.....	19,408,000	68,000	19,340,000	19,081,000
3. Mortgage Loans on real estate (Schedule B):				
3.1 First Liens.....	238,000	0	238,000	245,000
3.2 Other than first liens.....	7,000	0	7,000	0
4. Real Estate (Schedule A):				
4.1 Properties Occupied by the company (less \$.....0 Encumbrances).....	453,000	0	453,000	472,000
4.2 Properties held for the production of income (less \$.....0 Encumbrances).....	3,359,000	0	3,359,000	3,274,000
4.3 Properties held for sale (less \$.....0 encumbrances).....	33,000	0	33,000	0
5. Cash (\$.....153,000 Sch. E-Part 1), cash equivalents (\$.....0 Sch. E-Part 2) and short-term investments (\$.....829,000, Sch DA).....	983,000	0	983,000	1,233,000
6. Contract loans (Including \$0 premium notes).....	0	0	0	0
7. Derivatives (Schedule DB).....	0	0	0	0
8. Other invested assets (Schedule BA).....	4,726,000	98,000	4,628,000	4,405,000
9. Receivables for securities.....	0	0	0	0
10. Securities lending reinvested collateral assets (Schedule DL).....	79,000	0	79,000	183,000
11. Aggregate write-ins for invested assets.....	(5,000)	0	(5,000)	(5,000)
12. Subtotal, cash and invested assets (Lines 1 to 11).....	87,991,000	166,000	87,825,000	87,784,000
13. Title plants less \$...0 charged off (For Title insurers only).....	0	0	0	0
14. Investment income due and accrued.....	726,000	0	726,000	750,000
15. Premiums and Considerations:				
15.1 Uncollected premiums and agent's balances in course of collection.....	2,870,000	244,000	2,626,000	2,866,000
15.2 Deferred premiums, agents balances and installments booked but deferred and not yet due (Including \$... 60,000 earned but unbilled premium).....	5,153,000	39,000	5,114,000	4,927,000
15.3 Accrued retrospective premium.....	254,000	4,000	250,000	263,000
16. Reinsurance:				
16.1 Amounts recoverable from reinsurers.....	426,000	0	426,000	451,000
16.2 Funds held by or deposited with reinsured companies.....	0	0	0	0
16.3 Other amounts receivable under reinsurance contracts.....	0	0	0	0
17. Amounts receivable relating to uninsured plans.....	0	0	0	0
18.1 Current federal and foreign income tax recoverable and interest thereon.....	233,000	0	233,000	0
18.2 Net deferred tax asset.....	3,082,000	878,000	2,204,000	1,979,000
19. Guaranty funds receivable or on deposit.....	9,000	0	9,000	14,000
20. Electronic data processing equipment and software.....	1,000	0	1,000	1,000
21. Furniture and equipment, including health care delivery assets( \$...0).....	88,000	88,000	0	0
22. Net adjustment in assets and liabilities due to foreign exchange rates.....	0	0	0	0
23. Receivables from parent, subsidiaries and affiliates.....	0	0	0	0
24. Health care (\$...0) and other amounts receivable.....	0	0	0	0
25. Aggregate write-ins for other than invested assets.....	621,000	35,000	586,000	641,000
26. Total Assets excluding Separate Accounts, segregated Accounts and Protected Cell Accounts (Lines 12 to 25).....	101,454,000	1,454,000	100,000,000	99,676,000
27. From Separate Accounts, Segregated Accounts and Protected Cell Accounts.....	0	0	0	0
28. TOTALS (Lines 26 and 27).....	101,454,000	1,454,000	100,000,000	99,676,000

**ANNUAL STATEMENT FOR THE YEAR 2011 OF THE FICTITIOUS INSURANCE COMPANY  
LIABILITIES, SURPLUS AND OTHER FUNDS**

	1 Current Year	2 Prior Year
1. Losses (Part 2A, Line 35, Column 8).....	41,894,000	40,933,000
2. Reinsurance payable on paid losses and loss adjustment expenses (Schedule F , Part 1, Column 6).....	0	0
3. Loss adjustment expenses (Part 2A, Line 35, Col 9).....	9,663,000	9,664,000
4. Commissions payable, contingent commissions and other similar charges.....	763,000	721,000
5. Other expenses (excluding taxes, licenses, and fees).....	668,000	658,000
6. Taxes, licenses, and fees (excluding federal and foreign income taxes).....	501,000	523,000
7.1 Current federal and foreign income taxes (including \$...0 on realized capital gains (losses)).....	0	120,000
7.2 Net deferred tax liability.....	0	0
8. Borrowed money \$ .... 0 and interest thereon \$... 0.....	0	0
9. Unearned Premiums (Part 1A, Line 38, Col 5)(after deducting unearned premiums for ceded reinsurance of \$ 920,000 and including warranty reserves of \$...0 and accrued accident and health experience rating refunds including \$...0 for medical loss ratio rebate per the Public Health Service Act).....	11,895,000	11,557,000
10. Advance premium.....	0	0
11. Dividends declared and unpaid:		
11.1 Stockholders.....	1,500,000	1,500,000
11.2 Policyholders.....	62,000	50,000
12. Ceded reinsurance premiums payable (net of ceding commissions).....	440,000	608,000
13. Funds held by company under reinsurance treaties (Schedule F, Part 3, Col 19).....	170,000	128,000
14. Amounts withheld or retained by account of others.....	308,000	255,000
15. Remittances and items not allocated.....	57,000	28,000
16. Provision for reinsurance (Schedule F, Part 7).....	283,000	272,000
17. Net adjustments in assets and liabilities due to foreign exchange rates.....	31,000	(12,000)
18. Drafts outstanding.....	0	0
19. Payable to parent, subsidiaries and affiliates.....	0	0
20. Derivatives.....	0	63,000
21. Payable for securities.....	287,000	3,000
22. Payable for securities lending.....	79,000	183,000
23. Liability for amounts held under uninsured plans.....	0	0
24. Capital notes \$...0 and interest thereon \$...0.....	0	0
25. Aggregate write-ins for liabilities.....	375,000	814,000
26. Total liabilities excluding protected cell liabilities (Lines 1 through 25).....	68,976,000	68,068,000
27. Protected cell liabilities.....	0	0
28. Total liabilities (Lines 26 and 27).....	68,976,000	68,068,000
29. Aggregate write-ins for special surplus funds.....	848,000	777,000
30. Common capital stock.....	108,000	108,000
31. Preferred capital stock.....	0	0
32. Aggregate write-ins for other than special surplus funds.....	0	0
33. Surplus notes.....	0	0
34. Gross paid in and contributed surplus.....	17,585,000	17,585,000
35. Unassigned funds (surplus).....	12,483,000	13,138,000
36. Less treasury stock, at cost.....	0	0
37. Surplus as regards policyholders (Lines 29 to 35, less 36) (Page 4, Line 39).....	31,024,000	31,608,000
38. TOTALS (Page 2, Line 28, Col. 3).....	100,000,000	99,676,000

**DETAILS OF WRITE-INS**

2501. Other Liabilities.....	2,000	2,000
2502. Investment real estate liability.....	94,000	92,000
2503. Interest deposit liability.....	3,000	3,000
2598. Summary of remaining write-ins.....	276,000	717,000
2599. Totals (Lines 2501 through 2503 plus 2598) (Line 25 above).....	375,000	814,000
2901. Special surplus for deferred taxes.....	703,000	608,000
2902. Special surplus from retroactive reinsurance.....	140,000	163,000
2903. Guaranty surplus fund.....	5,000	5,000
2998. Summary of remaining write-ins.....	0	0
2999. Totals (Lines 2901 through 2903 plus 2998) (Line 29 above).....	848,000	777,000

**ANNUAL STATEMENT FOR THE YEAR 2011 OF THE FICTITIOUS INSURANCE COMPANY  
STATEMENT OF INCOME**

<b>UNDERWRITING INCOME</b>		1	2
		Current Year	Prior Year
1.	Premiums earned (Part 1, Line 35, Column 4).....	26,512,000	25,535,000
	<b>DEDUCTIONS</b>		
2.	Losses incurred (Part 2, line 35, Column 7).....	16,907,000	12,798,000
3.	Loss adjustment expenses incurred (Part 3, line 25, Column 1).....	3,255,000	3,008,000
4.	Other underwriting expenses incurred (Part 3, line 25, Column 2).....	8,483,000	8,240,000
5.	Aggregate write-ins for underwriting deductions.....	0	1,000
6.	Total underwriting deductions (Lines 2 through 5).....	28,645,000	24,047,000
7.	Net Income of protected cells.....	0	0
8.	Net underwriting gain (loss) (Line 1 minus line 6 plus line 7).....	(2,133,000)	1,488,000
	<b>INVESTMENT INCOME</b>		
9.	Net investment income earned (Exhibit of Net Investment Income, Line 17).....	4,290,000	4,860,000
10.	Net realized capital gains (losses) less capital gains tax of \$.. 99,000 (Exhibit of Capital Gains (Losses)).....	15,000	(445,000)
11.	Net investment gain (loss) (Lines 9 + 10).....	4,305,000	4,415,000
	<b>OTHER INCOME</b>		
12.	Net gain (loss) from agents' or premium balances charged off (amount recovered \$65,000).....	(78,000)	(74,000)
13.	Finance and service charges not included in premiums.....	122,000	124,000
14.	Aggregate write-ins for miscellaneous income.....	(11,000)	(3,000)
15.	Total other income (Lines 12 through 14).....	33,000	47,000
16.	Net income before dividends to policyholders, after capital gains tax and before all other federal and foreign income taxes (Lines 8 + 11 + 15).....	2,205,000	5,950,000
17.	Dividends to policyholders.....	46,000	32,000
18.	Net income, after dividends to policyholders, after capital gains tax and before all other federal and foreign income taxes (Line 16 minus Line 17).....	2,159,000	5,918,000
19.	Federal and foreign income taxes incurred.....	(20,000)	963,000
20.	Net income (Line 18 minus Line 19) (to Line 22).....	2,179,000	4,955,000
	<b>CAPITAL AND SURPLUS ACCOUNT</b>		
21.	Surplus as regards policyholders, December 31 Prior year (Page 4, Line 39, Column 2).....	31,609,000	35,793,000
22.	Net income (From Line 20).....	2,179,000	4,955,000
23.	Net transfers (to) from Protected Cell accounts.....	0	0
24.	Change in net unrealized capital gains or (losses) less capital gains tax of \$ ..7,000.....	81,000	119,000
25.	Change in net unrealized foreign exchange capital gain (loss).....	(122,000)	66,000
26.	Change in net deferred income tax.....	14,000	(243,000)
27.	Change in nonadmitted assets (Exhibit of Nonadmitted Assets, Line 28 Column 3).....	(13,000)	498,000
28.	Change in provision for reinsurance (Page 3, Line 16, Column 2 minus Column 1).....	(11,000)	124,000
29.	Change in surplus notes.....	0	0
30.	Surplus (contributed to) withdrawn from protected cells.....	0	0
31.	Cumulative effect of changes in accounting principles.....	0	0
32.	Capital changes:		
32.1	Paid in.....	0	0
32.2	Transferred from surplus (Stock dividend).....	0	0
32.3	Transferred to surplus.....	0	0
33.	Surplus Adjustments:		
33.1	Paid in.....	0	361,000
33.2	Transferred to capital (Stock Dividend).....	0	0
33.3	Transferred from Capital.....	0	0
34.	Net remittances from or (to) Home Office.....	0	0
35.	Dividends to stockholders.....	(2,617,000)	(10,023,000)
36.	Change in treasury stock (Page 3, Line 36, Column 2 minus Column 1).....	0	0
37.	Aggregate write-ins for gains and losses in surplus.....	(96,000)	(42,000)
38.	Change in surplus as regards policyholders for the year (Lines 22 through 37).....	(585,000)	(4,185,000)
39.	Surplus as regards policyholders, December 31 current year (Line 21 plus Line 38) (Page 3, Line 37).....	31,024,000	31,608,000

**ANNUAL STATEMENT FOR THE YEAR 2011 OF THE FICTITIOUS INSURANCE COMPANY  
CASH FLOW**

	1 Current Year	2 Prior Year
<b>CASH FROM OPERATIONS</b>		
1. Premiums collected net of Reinsurance.....	26,881,000	25,228,000
2. Net Investment Income.....	4,618,000	5,442,000
3. Miscellaneous Income.....	33,000	48,000
4. Total (Lines 1 through 3).....	31,532,000	30,718,000
5. Benefit and loss related payments.....	15,952,000	13,249,000
6. Net transfers to Separate Accounts, Segregated Accounts and Protected Cell Accounts.....	0	0
7. Commissions, expenses paid and aggregate write-ins for deductions.....	11,710,000	11,647,000
8. Dividends Paid to Policyholders.....	58,000	32,000
9. Federal and foreign income taxes paid (recovered) net of \$..... Tax on capital gains (losses).....	423,000	757,000
10. Total (Lines 5 through 9).....	28,143,000	25,685,000
11. Net cash from operations (Line 4 minus Line 10).....	3,389,000	5,033,000
<b>CASH FROM INVESTMENTS</b>		
12. Proceeds from Investments sold, matured or repaid:		
12.1 Bonds.....	3,627,000	11,371,000
12.2 Stocks.....	241,000	596,000
12.3 Mortgage Loans.....	5,000	16,000
12.4 Real Estate.....	0	49,000
12.5 Other invested assets.....	786,000	363,000
12.6 Net gains or (losses) on cash, cash equivalents and short-term investments.....	0	0
12.7 Miscellaneous proceeds.....	104,000	7,000
12.8 Total investment proceeds (Lines 12.1 to 12.7).....	4,763,000	12,402,000
13. Cost of investments acquired (long-term only):		
13.1 Bonds.....	9,661,000	5,845,000
13.2 Stocks.....	386,000	1,230,000
13.3 Mortgage Loans.....	14,000	4,000
13.4 Real Estate.....	277,000	77,000
13.5 Other invested assets.....	965,000	1,213,000
13.6 Miscellaneous applications.....	(284,000)	0
13.7 Total investments acquired (Lines 13.1 to 13.6).....	11,019,000	8,369,000
14. Net increase (decrease) in contract loans and premium notes.....	0	0
15. Net cash from investments (Line 12.8 minus Lines 13.7 minus Line 14).....	(6,256,000)	4,033,000
<b>CASH FROM FINANCING AND MISCELLANEOUS SOURCES</b>		
16. Cash provided (applied):		
16.1 Surplus notes, capital notes.....	0	0
16.2 Capital and paid in surplus, less treasury stock.....	0	362,000
16.3 Borrowed funds.....	0	0
16.4 Net deposits on deposit-type contracts and other insurance liabilities.....	0	0
16.5 Dividends to stockholders.....	(2,617,000)	10,025,000
16.6 Other cash provided (applied).....	0	0
17. Net cash from financing and miscellaneous source (Line 16.1 to 16.4 minus line 16.5 plus line 16.6).....	2,617,000	(9,663,000)
<b>RECONCILIATION OF CASH, CASH EQUIVALENTS AND SHORT TERM INVESTMENTS</b>		
18. Net change in cash, cash equivalents and short-term investments (Line 11 plus line 15 plus line 17).....	(250,000)	(597,000)
19. Cash, cash equivalents and short-term investments:		
19.1 Beginning of year.....	1,233,000	1,830,000
19.2 End of year (line 18 plus line 19.1).....	983,000	1,233,000
Note: supplemental disclosures of cash flow information for non-cash transactions		
20.0001 Exchange of stock.....	10,000	0
20.0002 Bonds converted to stock.....	0	0
20.0003 Capital contribution.....	0	362,000

**ANNUAL STATEMENT FOR THE YEAR 2011 OF THE FICTITIOUS INSURANCE COMPANY  
UNDERWRITING AND INVESTMENT EXHIBIT**

**PART 1- PREMIUMS EARNED**

Line of Business	1	2	3	4
	Net Premiums Written per Column 6, Part 1B	Unearned Premiums Dec. 31 Prior Year - per Col 3, Last Year's Part 1	Unearned Premiums Dec 31. Current Year - per Col. 5 Part 1A	Premiums Earned During Year (Cols. 1 + 2 -3)
1. Fire.....	2,484,000	1,158,000	1,133,000	2,509,000
2. Allied Lines.....	0	0	0	0
3. Farmowners multiple peril.....	0	0	0	0
4. Homeowners multiple peril.....	4,555,000	2,290,000	2,400,000	4,445,000
5. Commercial multiple peril.....	4,677,000	2,139,000	2,123,000	4,693,000
6. Mortgage guaranty.....	0	0	0	0
8. Ocean marine.....	0	0	0	0
9. Inland marine.....	0	0	0	0
10. Financial guaranty.....	0	0	0	0
11.1 Medical professional liability - occurrence.....	0	0	0	0
11.2 Medical professional liability - claims-made.....	0	0	0	0
12. Earthquake.....	0	0	0	0
13. Group accident and health.....	0	0	0	0
14. Credit accident and health (group and individual).....	0	0	0	0
15. Other accident and health.....	0	0	0	0
16. Workers' compensation.....	4,022,000	1,441,000	1,520,000	3,943,000
17.1 Other liability - occurrence.....	3,502,000	1,695,000	1,649,000	3,548,000
17.2 Other liability - claims-made.....	0	0	0	0
17.3 Excess workers' compensation.....	0	0	0	0
18.1 Products liability - occurrence.....	0	0	0	0
18.2 Products liability- claims-made.....	0	0	0	0
19.1, 19.2 Private passage auto liability.....	2,804,000	882,000	954,000	2,732,000
19.3, 19.4 Commercial auto liability.....	2,250,000	987,000	1,014,000	2,223,000
21. Auto physical damage.....	2,312,000	811,000	845,000	2,278,000
22. Aircraft (all perils).....	0	0	0	0
23. Fidelity.....	146,000	48,000	53,000	141,000
24. Surety.....	0	0	0	0
26. Burglary and theft.....	0	0	0	0
27. Boiler and machinery.....	0	0	0	0
28. Credit.....	0	0	0	0
29. International.....	0	0	0	0
30. Warranty.....	0	0	0	0
31. Reinsurance - nonproportional assumed property.....	0	0	0	0
32. Reinsurance - nonproportional assumed liability.....	0	0	0	0
33. Reinsurance - nonproportional assumed financial lines.....	0	0	0	0
34. Aggregate write-ins for other lines of business.....	0	0	0	0
35. TOTALS	26,752,000	11,451,000	11,691,000	26,512,000

**DETAILS OF WRITE-INS**

3401. ....	0	0	0	0
3402. ....	0	0	0	0
3403. ....	0	0	0	0
3498. Summary of remaining write-ins for line 34 from overflow page.....	0	0	0	0
3499. Totals (Lines 3401 through 3403 plus 3498) (Line 34 above).....	0	0	0	0

**ANNUAL STATEMENT FOR THE YEAR 2011 OF THE FICTITIOUS INSURANCE COMPANY  
UNDERWRITING AND INVESTMENT EXHIBIT  
PART 1A - RECAPITULATION OF ALL PREMIUMS**

Line of Business		1 Amount Unearned (Running One Year or Less from Date of Policy) (a)	2 Amount Unearned (Running More Than One Year from Date of Policy (a)	3 Earned but Unbilled Premium	4 Reserve for Rate Credits and Retrospective Adjustments Based on Experience	5 Total Reserve for Unearned Premiums Cols 1 + 2 + 3 + 4
1.	Fire.....	1,026,000	116,000	(9,000)	0	1,133,000
2.	Allied Lines.....	0	0	0	0	0
3.	Farmowners multiple peril.....	0	0	0	0	0
4.	Homeowners multiple peril.....	2,400,000	0	0	0	2,400,000
5.	Commercial multiple peril.....	2,111,000	22,000	(10,000)	0	2,123,000
6.	Mortgage guaranty.....	0	0	0	0	0
8.	Ocean Marine.....	0	0	0	0	0
9.	Inland Marine.....	0	0	0	0	0
10.	Financial guaranty.....	0	0	0	0	0
11.1	Medical professional liability - occurrence.....	0	0	0	0	0
11.2	Medical professional liability - claims made.....	0	0	0	0	0
12.	Earthquake.....	0	0	0	0	0
13.	Group accident and health.....	0	0	0	0	0
14.	Credit accident and health.....	0	0	0	0	0
15.	Other accident and health.....	0	0	0	0	0
16.	Worker's Compensation.....	1,689,000	1,000	(32,000)	(138,000)	1,520,000
17.1	Other liability - occurrence.....	1,546,000	104,000	0	(1,000)	1,649,000
17.2	Other liability - claim made.....	0	0	0	0	0
17.3	Excess workers' compensation.....	0	0	0	0	0
18.1	Products liability- occurrence.....	0	0	0	0	0
18.2	Products liability- claims made.....	0	0	0	0	0
19.1, 19.2	Private passage auto liability.....	954,000	0	0	0	954,000
19.3, 19.4	Commercial auto liability.....	996,000	23,000	0	(5,000)	1,014,000
21.	Auto physical damage.....	841,000	4,000	0	0	845,000
22.	Aircraft (all perils).....	0	0	0	0	0
23.	Fidelity.....	41,000	22,000	(10,000)	0	53,000
24.	Surety.....	0	0	0	0	0
26.	Burglary and theft.....	0	0	0	0	0
27.	Boiler and machinery.....	0	0	0	0	0
28.	Credit.....	0	0	0	0	0
29.	International.....	0	0	0	0	0
30.	Warranty.....	0	0	0	0	0
31.	Reinsurance- nonproportional assumed property.....	0	0	0	0	0
32.	Reinsurance- nonproportional assumed liability.....	0	0	0	0	0
33.	Reinsurance - nonproportional assumed financial lines.....	0	0	0	0	0
34.	Aggregate write-ins for other lines of business.....	0	0	0	0	0
35.	<b>TOTALS</b>	<b>11,609,000</b>	<b>287,000</b>	<b>(61,000)</b>	<b>(144,000)</b>	<b>11,691,000</b>
36.	Accrued retrospective premiums based on experience.....					144,000
37.	Earned but unbilled premiums.....					60,000
38.	Balance (Sum of Lines 35 through 37).....					11,895,000

**DETAILS OF WRITE-INS**

3401.	.....	0	0	0	0	0
3402.	.....	0	0	0	0	0
3403.	.....	0	0	0	0	0
3498.	Summary of remaining write-ins for Line 34 from overflow page.....	0	0	0	0	0
3499.	Totals (Lines 3401 through 3403 plus 3498) (Line 34 above).....	0	0	0	0	0

(a) State here basis of computation used in each case: Daily pro rata; pools and associations as submitted



**ANNUAL STATEMENT FOR THE YEAR 2011 OF THE FICTITIOUS INSURANCE COMPANY  
UNDERWRITING AND INVESTMENT EXHIBIT**

**PART 1B - PREMIUMS WRITTEN**

Line of Business	1 Direct Business (a)	Reinsurance Assumed		Reinsurance Ceded		6 Net Premiums Written Cols. 1 + 2 + 3 - 4 - 5
		2 From Affiliates	3 From Non-Affiliates	4 To Affiliates	5 To Non-Affiliates	
1. Fire.....	3,254,000	0	0	0	770,000	2,484,000
2. Allied Lines.....	0	0	0	0	0	0
3. Farmowners multiple peril.....	0	0	0	0	0	0
4. Homeowners multiple peril.....	4,646,000	0	0	0	91,000	4,555,000
5. Commercial multiple peril.....	5,003,000	0	0	0	326,000	4,677,000
6. Mortgage guaranty.....	0	0	0	0	0	0
8. Ocean Marine.....	0	0	0	0	0	0
9. Inland Marine.....	0	0	0	0	0	0
10. Financial guaranty.....	0	0	0	0	0	0
11.1 Medical professional liability - occurrence.....	0	0	0	0	0	0
11.2 Medical professional liability - claims made.....	0	0	0	0	0	0
12. Earthquake.....	0	0	0	0	0	0
13. Group accident and health.....	0	0	0	0	0	0
14. Credit accident and health.....	0	0	0	0	0	0
15. Other accident and health.....	0	0	0	0	0	0
16. Worker's Compensation.....	4,394,000	0	0	0	372,000	4,022,000
17.1 Other liability - occurrence.....	3,749,000	0	0	0	247,000	3,502,000
17.2 Other liability - claim made.....	0	0	0	0	0	0
17.3 Excess workers' compensation.....	0	0	0	0	0	0
18.1 Products liability- occurrence.....	0	0	0	0	0	0
18.2 Products liability- claims made.....	0	0	0	0	0	0
19.1, 19.2 Private passage auto liability.....	2,804,000	0	0	0	0	2,804,000
19.3, 19.4 Commercial auto liability.....	2,334,000	0	0	0	84,000	2,250,000
21. Auto physical damage.....	2,312,000	0	0	0	0	2,312,000
22. Aircraft (all perils).....	0	0	0	0	0	0
23. Fidelity.....	138,000	0	0	0	(8,000)	146,000
24. Surety.....	0	0	0	0	0	0
26. Burglary and theft.....	0	0	0	0	0	0
27. Boiler and machinery.....	0	0	0	0	0	0
28. Credit.....	0	0	0	0	0	0
29. International.....	0	0	0	0	0	0
30. Warranty.....	0	0	0	0	0	0
31. Reinsurance- nonproportional assumed property.....	0	0	0	0	0	0
32. Reinsurance- nonproportional assumed liability.....	0	0	0	0	0	0
33. Reinsurance - nonproportional assumed financial lines.....	0	0	0	0	0	0
34. Aggregate write-ins for other lines of business.....	0	0	0	0	0	0
35. TOTALS	28,634,000	0	0	0	1,882,000	26,752,000

**DETAILS OF WRITE-INS**

3401. ....	0	0	0	0	0	0
3402. ....	0	0	0	0	0	0
3403. ....	0	0	0	0	0	0
3498. Summary of remaining write-ins for line 34 from overflow page.....	0	0	0	0	0	0
3499. Totals (Lines 3401 through 3403 plus 3498) (Line 34 above).....	0	0	0	0	0	0

**ANNUAL STATEMENT FOR THE YEAR 2011 OF THE FICTITIOUS INSURANCE COMPANY  
UNDERWRITING AND INVESTMENT EXHIBIT**

**PART 2 LOSSES PAID AND INCURRED**

Line of Business	Losses Paid Less Salvage				5 Net Losses Unpaid Current Year (Part 2A, Col. 8)	6 Net Losses Unpaid Prior Year	7 Losses Incurred Current Year (Col 4 + 5 - 6)	8 Percentage of Losses Incurred (Col 7, Part 2) to Premiums Earned (Col 4, Part 1)
	1 Direct Business	2 Reinsurance Assumed	3 Reinsurance Recovered	4 Net Payments (Cols. 1 + 2 - 3)				
1. Fire.....	1,560,000	0	158,000	1,402,000	1,402,000	1,250,000	1,554,000	.62
2. Allied Lines.....	0	0	0	0	0	0	0	0
3. Farmowners multiple peril.....	0	0	0	0	0	0	0	0
4. Homeowners multiple peril.....	3,645,000	0	6,000	3,639,000	1,311,000	1,161,000	3,789,000	.85
5. Commercial multiple peril.....	2,594,000	0	242,000	2,352,000	3,311,000	3,539,000	2,124,000	.45
6. Mortgage guaranty.....	0	0	0	0	0	0	0	0
8. Ocean Marine.....	0	0	0	0	0	0	0	0
9. Inland Marine.....	0	0	0	0	0	0	0	0
10. Financial guaranty.....	0	0	0	0	0	0	0	0
11.1 Medical professional liability - occurrence.....	0	0	0	0	0	0	0	0
11.2 Medical professional liability - claims made.....	0	0	0	0	0	0	0	0
12. Earthquake.....	0	0	0	0	0	0	0	0
13. Group accident and health.....	0	0	0	0	0	0	0	0
14. Credit accident and health.....	0	0	0	0	0	0	0	0
15. Other accident and health.....	0	0	0	0	0	0	0	0
16. Worker's Compensation.....	1,745,000	0	142,000	1,603,000	13,833,000	15,118,000	318,000	.8
17.1 Other liability - occurrence.....	3,565,000	0	1,136,000	2,429,000	16,050,000	14,369,000	4,110,000	.116
17.2 Other liability - claim made.....	0	0	0	0	0	0	0	0
17.3 Excess workers' compensation.....	0	0	0	0	0	0	0	0
18.1 Products liability- occurrence.....	0	0	0	0	0	0	0	0
18.2 Products liability- claims made.....	0	0	0	0	0	0	0	0
19.1, 19.2 Private passage auto liability.....	1,696,000	0	27,000	1,669,000	2,083,000	1,961,000	1,791,000	.66
19.3, 19.4 Commercial auto liability.....	1,328,000	0	103,000	1,225,000	2,974,000	2,767,000	1,432,000	.64
21. Auto physical damage.....	1,512,000	0	3,000	1,509,000	214,000	195,000	1,528,000	.67
22. Aircraft (all perils).....	0	0	0	0	0	0	0	0
23. Fidelity.....	167,000	0	49,000	118,000	716,000	573,000	261,000	.185
24. Surety.....	0	0	0	0	0	0	0	0
26. Burglary and theft.....	0	0	0	0	0	0	0	0
27. Boiler and machinery.....	0	0	0	0	0	0	0	0
28. Credit.....	0	0	0	0	0	0	0	0
29. International.....	0	0	0	0	0	0	0	0
30. Warranty.....	0	0	0	0	0	0	0	0
31. Reinsurance- nonproportional assumed property.....	XXX	0	0	0	0	0	0	0
32. Reinsurance- nonproportional assumed liability.....	XXX	0	0	0	0	0	0	0
33. Reinsurance - nonproportional assumed financial lines.....	XXX	0	0	0	0	0	0	0
34. Aggregate write-ins for other lines of business.....	0	0	0	0	0	0	0	0
35. TOTALS.....	17,812,000	0	1,866,000	15,946,000	41,894,000	40,933,000	16,907,000	.64

**DETAILS OF WRITE-INS**

3401. ....	0	0	0	0	0	0	0	0
3402. ....	0	0	0	0	0	0	0	0
3403. ....	0	0	0	0	0	0	0	0
3498. Summary of remaining write-ins for line 34 from overflow page.....	0	0	0	0	0	0	0	0
3499. Totals.....	0	0	0	0	0	0	0	0

**ANNUAL STATEMENT FOR THE YEAR 2011 OF THE FICTITIOUS INSURANCE COMPANY  
UNDERWRITING AND INVESTMENT EXHIBIT  
PART 2A - UNPAID LOSSES AND LOSS ADJUSTMENT EXPENSES**

	Reported Losses				Incurred But Not Reported			8 Net Losses Unpaid (Col 4 + 5 + 6 - 7)	9 Net Unpaid Loss Adjustment Expenses
	1 Direct Business	2 Reinsurance Assumed	3 Deduct Reinsurance Recoverable from Authorized and Unauthorized Companies	4 Net Losses Excluding Incurred but not Reported (Cols 1 + 2 - 3)	5 Direct	6 Reinsurance Assumed	7 Reinsurance Ceded		
1. Fire.....	1,105,000	0	140,000	965,000	522,000	0	85,000	1,402,000	222,000
2. Allied Lines.....	0	0	0	0	0	0	0	0	0
3. Farmowners multiple peril.....	0	0	0	0	0	0	0	0	0
4. Homeowners multiple peril.....	592,000	0	3,000	589,000	734,000	0	12,000	1,311,000	144,000
5. Commercial multiple peril.....	2,323,000	0	360,000	1,963,000	1,498,000	0	150,000	3,311,000	1,471,000
6. Mortgage guaranty.....	0	0	0	0	0	0	0	0	0
8. Ocean Marine.....	0	0	0	0	0	0	0	0	0
9. Inland Marine.....	0	0	0	0	0	0	0	0	0
10. Financial guaranty.....	0	0	0	0	0	0	0	0	0
11.1 Medical professional liability - occurrence.....	0	0	0	0	0	0	0	0	0
11.2 Medical professional liability - claims made.....	0	0	0	0	0	0	0	0	0
12. Earthquake.....	0	0	0	0	0	0	0	0	0
13. Group accident and health.....	0	0	0	0	0	0	0	0	0
14. Credit accident and health.....	0	0	0	0	0	0	0	0	0
15. Other accident and health.....	0	0	0	0	0	0	0	0	0
16. Worker's Compensation.....	9,343,000	0	1,604,000	7,739,000	6,652,000	0	558,000	13,833,000	2,113,000
17.1 Other liability - occurrence.....	6,868,000	0	2,122,000	4,746,000	14,189,000	0	2,885,000	16,050,000	4,641,000
17.2 Other liability - claim made.....	0	0	0	0	0	0	0	0	0
17.3 Excess workers' compensation.....	0	0	0	0	0	0	0	0	0
18.1 Products liability- occurrence.....	0	0	0	0	0	0	0	0	0
18.2 Products liability- claims made.....	0	0	0	0	0	0	0	0	0
19.1, 19.2 Private passage auto liability.....	2,116,000	0	633,000	1,483,000	628,000	0	28,000	2,083,000	399,000
19.3, 19.4 Commercial auto liability.....	2,020,000	0	285,000	1,735,000	1,389,000	0	150,000	2,974,000	476,000
21. Auto physical damage.....	112,000	0	5,000	107,000	137,000	0	30,000	214,000	96,000
22. Aircraft (all perils).....	0	0	0	0	0	0	0	0	0
23. Fidelity.....	466,000	0	191,000	275,000	581,000	0	140,000	716,000	101,000
24. Surety.....	0	0	0	0	0	0	0	0	0
26. Burglary and theft.....	0	0	0	0	0	0	0	0	0
27. Boiler and machinery.....	0	0	0	0	0	0	0	0	0
28. Credit.....	0	0	0	0	0	0	0	0	0
29. International.....	0	0	0	0	0	0	0	0	0
30. Warranty.....	0	0	0	0	0	0	0	0	0
31. Reinsurance- nonproportional assumed property.....	XXX	0	0	0	XXX	0	0	0	0
32. Reinsurance- nonproportional assumed liability.....	XXX	0	0	0	XXX	0	0	0	0
33. Reinsurance - nonproportional assumed financial lines.....	XXX	0	0	0	XXX	0	0	0	0
34. Aggregate write-ins for other lines of business.....	0	0	0	0	0	0	0	0	0
35. TOTALS.....	24,945,000	0	5,343,000	19,602,000	26,330,000	0	4,038,000	41,894,000	9,663,000

**DETAILS OF WRITE-INS**

3401. ....	0	0	0	0	0	0	0	0	0
3402. ....	0	0	0	0	0	0	0	0	0
3403. ....	0	0	0	0	0	0	0	0	0
3498. Summary of remaining write-ins for line 34 from overflow page.....	0	0	0	0	0	0	0	0	0
3499. Totals (Lines 3401 through 3403 plus 3498) (Line 34 above).....	0	0	0	0	0	0	0	0	0

**ANNUAL STATEMENT FOR THE YEAR 2011 OF THE FICTITIOUS INSURANCE COMPANY  
UNDERWRITING AND INVESTMENT EXHIBIT**

**PART 3 - EXPENSES**

	1 Loss Adjustment Expenses	2 Other Underwriting Expenses	3 Investment Expenses	4 Total
1. Claims Adjustment Services:				
1.1 Direct.....	1,881,000	0	0	1,881,000
1.2 Reinsurance Assumed.....	0	0	0	0
1.3 Reinsurance Ceded.....	210,000	0	0	210,000
1.4 Net claims adjustment services ( 1.1 + 1.2 - 1.3).....	1,671,000	0	0	1,671,000
2. Commission and Brokerage:				
2.1 Direct, excluding contingent.....	0	4,759,000	0	4,759,000
2.2 Reinsurance assumed, excluding contingent.....	0	0	0	0
2.3 Reinsurance ceded, excluding contingent.....	0	816,000	0	816,000
2.4 Contingent - direct.....	0	121,000	0	121,000
2.5 Contingent - reinsurance assumed.....	0	0	0	0
2.6 Contingent - reinsurance ceded.....	0	9,000	0	9,000
2.7 Policy and membership fees.....	0	0	0	0
2.8 Net commission and brokerage (2.1 + 2.2 - 2.3 + 2.4 + 2.5 - 2.6 + 2.7).....	0	4,055,000	0	4,055,000
3. Allowances to managers and agents.....	0	4,000	0	4,000
4. Advertising.....	0	208,000	0	208,000
5. Boards, bureaus and associations.....	7,000	106,000	0	113,000
6. Surveys and underwriting reports.....	0	99,000	0	99,000
7. Audit of assureds' records.....	0	0	0	0
8. Salary and related items:				
8.1 Salaries.....	949,000	1,845,000	32,000	2,826,000
8.2 Payroll taxes.....	69,000	115,000	0	184,000
9. Employee relations and welfare.....	182,000	293,000	3,000	478,000
10. Insurance.....	117,000	23,000	0	140,000
11. Directors' fees.....	0	0	0	0
12. Travel and travel items.....	64,000	95,000	0	159,000
13. Rent and rent items.....	62,000	133,000	1,000	196,000
14. Equipment.....	11,000	42,000	3,000	56,000
15. Cost or depreciation of EDP equipment and software.....	30,000	330,000	0	360,000
16. Printing and stationery.....	5,000	19,000	0	24,000
17. Postage, telephone and telegraph, exchange and express.....	19,000	112,000	0	131,000
18. Legal and auditing.....	44,000	14,000	2,000	60,000
19. Total (Lines 3 to 18).....	1,559,000	3,438,000	41,000	5,038,000
20. Taxes, Licenses and Fees:				
20.1 State and local insurance taxes deducting guaranty association credits of \$ 1,103.....	0	791,000	0	791,000
20.2 Insurance department licenses and fees.....	0	53,000	0	53,000
20.3 Gross guaranty association assessments.....	0	(2,000)	0	(2,000)
20.4 All other (excluding federal and foreign income and real estate).....	0	18,000	0	18,000
20.5 Total taxes, licenses and fees (20.1 + 20.2 + 20.3 + 20.4).....	0	860,000	0	860,000
21. Real estate expenses.....	0	0	332,000	332,000
22. Real estate taxes.....	0	0	14,000	14,000
23. Reimbursement by uninsured plans.....	0	0	0	0
24. Aggregate write-ins for miscellaneous expenses.....	25,000	130,000	6,000	161,000
25. Total expenses incurred.....	3,255,000	8,483,000	393,000	12,131,000
26. Less unpaid expenses - current year.....	9,663,000	1,918,000	14,000	11,595,000
27. Add unpaid expenses - prior year.....	9,664,000	1,886,000	17,000	11,567,000
28. Amounts receivable relating to uninsured plans, prior year.....	0	0	0	0
29. Amounts receivable relating to uninsured plans, current year.....	0	0	0	0
30. TOTAL EXPENSES PAID (Lines 25 - 26 + 27 - 28 + 29).....	3,256,000	8,451,000	396,000	12,103,000

**ANNUAL STATEMENT FOR THE YEAR 2011 OF THE FICTITIOUS INSURANCE COMPANY  
EXHIBIT OF NET INVESTMENT INCOME**

	1 Collected During Year	2 Earned During Year
1. U. S. Government bonds.....	(a).. 248,000	249,000
1.1 Bonds exempt from U.S. tax.....	(a).. 1,275,000	1,280,000
1.2 Other Bonds (unaffiliated).....	(a).. 1,051,000	1,026,000
1.3 Bonds of Affiliates.....	(a).. 0	0
2.1 Preferred stocks (unaffiliated).....	(b).. 2,000	2,000
2.11 Preferred stocks of affiliates.....	(b) 0	0
2.2 Common stocks (unaffiliated).....	951,000	951,000
2.21 Common stocks of affiliates.....	0	0
3. Mortgage loans.....	(c) 13,000	13,000
4. Real Estate.....	(d).. 696,000	696,000
5. Contract Loans.....	0	0
6. Cash, cash equivalents and short-term investments.....	(e).. 6,000	6,000
7. Derivative Instruments.....	(f) 0	0
8. Other Invested Assets.....	649,000	645,000
9. Aggregate write-ins for invested assets.....	1,000	1,000
10. Total gross invested income.....	4,879,000	4,869,000
11. Investment expenses.....		(g) 399,000
12. Investment Taxes, licenses and fees, excluding federal income tax.....		(g) 0
13. Interest Expense.....		(h) 0
14. Depreciation on real estate and other invested assets.....		(i) 179,000
15. Aggregate write-ins for deductions from investment income.....		1,000
16. Total deductions (Lines 11 through 15).....		579,000
17. Net Investment Income (Line 10 minus Line 16).....		4,290,000

**DETAILS OF WRITE-INS**

0901. Property and wind plans.....	1,000	1,000
0902 .....	0	0
0903 .....	0	0
0998 Summary of remaining write-ins for Line 9 from overflow page.....	0	0
0999 Totals (Lines 0901 thru 0903 plus 0988) (Line 9 above).....	1,000	1,000
1501. Management Fees.....		1,000
1502 .....		0
1503 .....		0
1598. Summary of remaining write-ins for Line 15 from overflow page.....		0
1599. Totals (Line 1501 thur 1503) (Line 15 above).....		1,000

- (a) Includes \$.... 36,000 accrual of discount less \$... 288,000 amortization of premium and less \$... 26,000 paid for accrued interest on purchases.
- (b) Includes \$.... 0 accrual of discount less \$... 0 amortization of premium and less \$... 0 paid for accrued dividend on purchases.
- (c) Includes \$.... 0 accrual of discount less \$... 0 amortization of premium and less \$... 0 paid for accrued interest on purchases.
- (d) Includes \$....81,000 for company's occupancy of its own buildings, and excludes \$... 0 interest on encumrances.
- (e) Includes \$.... 200 accrual of discount less \$... 0 amortization of premium and less \$... 0 paid for accrued interest on purchases.
- (f) Includes \$.... 0 accrual of discount less \$... 0 amortization of premium.
- (g) Includes \$.... 0 investment expenses and \$... 0 investment taxes, licenses and fees, excluding federal income taxes attributable to Segregated and Separate Accounts.
- (h) Includes \$.... 0 interest on surplus notes and \$... 0 interest on capital notes.
- (i) Includes \$.... 177,000 depreciation on real estate and \$...0 depreciation on other invested assets.

**EXHIBIT OF CAPITAL GAINS (LOSSES)**

	1 Realized Gain (Loss) on Sales or Maturity	2 Other Realized Adjustments	3 Total Realized Capital Gain (Loss) (Columns 1 + 2)	4 Change in Unrealized Capital Gain (Loss)	5 Change in Unrealized Foreign Exchange Capital Gain (Loss)
1. U. S. government bonds.....	0	0	0	0	0
1.1 Bonds exempt from U.S. Tax.....	12,000	(2,000)	10,000	2,000	0
1.2 Other bonds (unaffiliated).....	81,000	42,000	123,000	22,000	(70,000)
1.3 Bonds of affiliates.....	0	0	0	0	0
2.1 Preferred stocks (unaffiliated).....	0	0	0	(1,000)	0
2.11 Preferred stocks of affiliates.....	0	0	0	0	0
2.2 Common stocks (unaffiliated).....	167,000	(14,000)	153,000	54,000	0
2.21 Common stocks of affiliates.....	0	0	0	(95,000)	0
3. Mortgage loans.....	0	(9,000)	(9,000)	0	0
4. Real Estate.....	0	0	0	0	0
5. Contract Loans.....	0	0	0	0	0
6. Cash, cash equivalents and short term investments.....	0	9,000	9,000	0	(2,000)
7. Derivative instruments.....	(137,000)	0	(137,000)	(76,000)	0
8. Othe invested assets.....	19,000	(67,000)	(48,000)	145,000	(6,000)
9. Aggregate write-in for capital gains (losses).....	0	13,000	13,000	38,000	(45,000)
10. Total capital gains (losses).....	142,000	(28,000)	114,000	89,000	(123,000)

## Selected NOTES TO FINANCIAL STATEMENTS

### 1. Summary of Significant Accounting Policies

#### A. Accounting Policies

Fictitious Insurance Company prepares its statutory financial statements in conformity with accounting practices prescribed or permitted by the state of Florida. The state of Florida requires that insurance companies domiciled in Florida prepare their statutory basis financial statements in accordance with the National Association of Insurance Commissioners (NAIC) Accounting Practices and Procedures Manual, subject to any deviations prescribed or permitted by the Florida Insurance Commissioner. The impact of any permitted accounting practices on policyholder surplus of the Company is not material.

### 22. Events Subsequent

The company had no material subsequent events through February 15, 2012.

### 23. Reinsurance

#### A. Unsecured Reinsurance Recoverable

The company had one reinsurer whose aggregate recoverable for ceded losses, loss adjustment expenses and unearned premiums recoverable as of December 31, 2011 exceeded 3% of the Company's Surplus. The company was Good Reinsurer, F.E.I.N. xxxxxx. Its net recoverable was \$4,189,000 or 14% of Surplus. Good Reinsurer has always been current in its payments and is an A+ rated company by A.M. Best and is financially sound.

#### B. Reinsurance Recoverable in Dispute

The company has a few recoverable in dispute, but they are not material.

#### C. Reinsurance Assumed and Ceded

(1) The following table sets forth the maximum return premium and commission equity due the reinsurers or the Company if all of the Company's ceded reinsurance was canceled as of December 31, 2011:

	Ceded Reinsurance		Net Reinsurance	
	Unearned Premium Reserve	Commission Equity	Unearned Premium Reserve	Commission Equity
Total	\$ 920,000	\$ 124,000	\$ 11,691,000	\$ 1,595,000
Direct Unearned Premium Reserve: \$12,610,000				

(2) Accruals for contingent, sliding scale adjustment and other profit sharing commissions, net of reinsurance assumed and ceded, amounted to \$188,000 at December 31, 2011:

Direct Business	\$200,000
Reinsurance Assumed	-
Reinsurance Ceded	12,000
Net	\$188,000

#### D. Uncollectible Reinsurance

Not applicable.

#### E. Commutation of Ceded Reinsurance

Not applicable.

#### F. Retroactive Reinsurance

	Assumed	Ceded
a. Reserves Transferred		
(1) Initial Reserves		\$ 676,613
(2) Adjustments - Prior Years		261,792
(3) Adjustments - Current Year		(5,791)
(4) Current Total		\$ 932,614
b. Consideration Paid or Received		
(1) Initial Consideration		\$ 602,314
(2) Adjustments - Prior Years		72,120
(3) Adjustments - Current Year		-
(4) Current Total		\$ 674,434
c. Paid Losses Reimbursed or Recovered		
(1) Prior Years		\$ 755,052
(2) Current Year		25,485
(3) Current Total		\$ 780,537
d. Special Surplus from Retroactive Reinsurance		
(1) Initial Surplus Gain or Loss		\$ 74,299
(2) Adjustments - Prior Years		189,673
(3) Adjustments - Current Year		(5,791)
(4) Current Year Restricted Surplus		135,715
(5) Cumulative Total Transferred to Unassigned Surplus		\$ 122,270
e. All cedents and reinsurers included in the above transactions:		
Company	Assumed	Ceded
Good Reinsurer		\$ 532,613
Foreign Authorized		\$ 400,000
f. Paid loss/LAE recoverable		
Company	Paid Loss & ALAE Recoverable	Over 90 days overdue
Good Reinsurer	\$ 302,000	\$ -
Foreign Authorized	\$ 34,000	\$ -

## Selected NOTES TO FINANCIAL STATEMENTS

### 25. Changes in Incurred Losses and Loss Adjustment Expenses

During the period from January 1, 2011 to December 31, 2011, the prior year-end total loss and loss adjustment expense reserves for The Company developed favorably by \$875,000. This development was driven mainly by better than expected loss and DCC development in the other liability, workers compensation and homeowners segments. The deterioration in the commercial auto liability and commercial multi-peril segments offset some of this positive development.

Homeowners showed positive development in the 2010 accident year which was driven by better than expected loss development primarily related to catastrophe losses. The deterioration in Commercial Auto was driven by worse than expected severity for 2008 through 2010. Asbestos and Environmental reserves developed unfavorably and drove the large development for prior years.

### 26. Intercompany Pooling

The Company does not participate in any intercompany pooling.

### 27. Structured Settlements

The Company has purchased annuities from XYZ Life Insurance Company, under which the claimant is the payee and the Company is the owner of the annuity contract, to fund structured settlements. The statement value of these annuities is \$ 4,304,000. The annuities are treated as closed claims, but in the event that XYZ Life Insurance Company fails to make the required annuity payments, the Company would be required to make such payments as not covered by state guaranty associations.

### 30. Premium Deficiency Reserves

The Company has no premium deficiency reserves and investment income was considered in determining premium deficiency reserves.

### 31. High Deductibles

The Company does not issue any policies with high deductible plans.

### 32. Discounting of Liabilities for Unpaid Losses or Unpaid Loss Adjustment Expenses

For Workers Compensation, the Company discounts its reserves for unpaid losses on a tabular basis with a discount rate of 3.5% based on United States Life Tables. Reserves for other liability structured settlements are discounted at a rate of 4.5% and reflect the Individual Annuity Mortality table.

The amount of tabular discount reserves for Workers Compensation is \$1,159,000 of which \$495,000 is the discount on case reserves and \$664,000 is the discount on IBNR.

The amount of tabular discount for Other Liability is \$206,000 of which \$21,000 is the discount on case reserves, \$15,000 is the discount on IBNR and \$170,000 is the discount on structure settlements. The total amount of discount for Workers Compensation and Other Liability is \$1,365,000.

### 33. Asbestos/Environmental Reserves

- A. Does the Company have on the books or has it ever written an insured for which you have identified potential for the existence of a liability due to asbestos losses? Yes (X) No ( )

Exposures for asbestos and environmental losses arise from liability coverage written many years ago. The methods of determining estimates for reported and unreported losses and establishing resulting reserves and related reinsurance recoverables are periodically reviewed and updated. Conventional actuarial methods are not utilized to establish these reserves. Reserve methods used include an analysis of exposure and claim payment patterns and recent settlements, judicial

Due to the uncertainties of legal issues such as coverage, potential liability etc. for these asbestos and environmental related claims the Company believes that these claims could result in a liability that materially differs from current reserves.

The following tables summarize the activity for these asbestos and environmental claims for the past five years.

1. Direct Basis- Asbestos:	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
a. Beginning Reserves	\$ 6,268,000	\$ 5,717,000	\$ 4,439,000	\$ 4,166,000	\$ 3,957,000
b. Incurred Losses and LAE:	-	49,000	249,000	353,000	262,000
c. Calendar Year Payments for Losses and LAE:	551,000	1,328,000	522,000	561,000	478,000
d. Ending Reserves	<u>\$ 5,717,000</u>	<u>\$ 4,438,000</u>	<u>\$ 4,166,000</u>	<u>\$ 3,958,000</u>	<u>\$ 3,741,000</u>
2. Assumed Reinsurance Basis - Asbestos	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
a. Beginning Reserves	\$ -	\$ -	\$ -	\$ -	\$ -
b. Incurred Losses and LAE:	-	-	-	-	-
c. Calendar Year Payments for Losses and LAE:	-	-	-	-	-
d. Ending Reserves	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
3. Net of Ceded Reinsurance Basis - Asbestos	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
a. Beginning Reserves	\$ 5,450,000	\$ 5,023,000	\$ 3,920,000	\$ 3,709,000	\$ 3,426,000
b. Incurred Losses and LAE:	-	49,000	249,000	188,000	236,000
c. Calendar Year Payments for Losses and LAE:	427,000	1,153,000	459,000	471,000	382,000
d. Ending Reserves	<u>\$ 5,023,000</u>	<u>\$ 3,919,000</u>	<u>\$ 3,710,000</u>	<u>\$ 3,426,000</u>	<u>\$ 3,280,000</u>
B. Ending Loss and LAE Reserves for unreported claims included in Part A above					
a. Direct Basis	\$ 3,116,000				
b. Assumed Reinsurance Basis:	-				
c. Net of Ceded Reinsurance Basis	\$ 2,782,000				
C. Ending LAE reserves for reported and unreported claims included in Part A above:					
a. Direct Basis	\$ 962,000				
b. Assumed Reinsurance Basis:	-				
c. Net of Ceded Reinsurance Basis	\$ 907,000				

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**Selected NOTES TO FINANCIAL STATEMENTS**


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D. Does the Company have on the books or has it ever written an insured for which you have identified a potential for the existence of a liability due to environmental losses? Yes (X) No ( ).

Exposure for environmental losses arises from liability coverage written many years ago. The exposures include bodily injury and property damage losses.

## 1. Direct Basis- Environmental:

	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
a. Beginning Reserves	\$ 562,000	\$ 659,000	\$ 565,000	\$ 551,000	\$ 503,000
b. Incurred Losses and LAE:	249,000	108,000	114,000	60,000	108,000
c. Calendar Year Payments for Losses and LAE:	<u>152,000</u>	<u>202,000</u>	<u>128,000</u>	<u>108,000</u>	<u>118,000</u>
d. Ending Reserves	\$ <u>659,000</u>	\$ <u>565,000</u>	\$ <u>551,000</u>	\$ <u>503,000</u>	\$ <u>493,000</u>

## 2. Assumed Reinsurance Basis - Environmental

	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
a. Beginning Reserves	\$ -	\$ -	\$ -	\$ -	\$ -
b. Incurred Losses and LAE:	-	-	-	-	-
c. Calendar Year Payments for Losses and LAE:	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>
d. Ending Reserves	\$ <u>-</u>	\$ <u>-</u>	\$ <u>-</u>	\$ <u>-</u>	\$ <u>-</u>

## 3. Net of Ceded Reinsurance Basis - Environmental

	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>
a. Beginning Reserves	\$ 558,000	\$ 650,000	\$ 556,000	\$ 528,000	\$ 471,000
b. Incurred Losses and LAE:	248,000	108,000	94,000	47,000	102,000
c. Calendar Year Payments for Losses and LAE:	<u>156,000</u>	<u>202,000</u>	<u>122,000</u>	<u>104,000</u>	<u>114,000</u>
d. Ending Reserves	\$ <u>650,000</u>	\$ <u>556,000</u>	\$ <u>528,000</u>	\$ <u>471,000</u>	\$ <u>459,000</u>

## E. Ending Loss and LAE Reserves for unreported claims included in Part D above

a. Direct Basis	\$ 428,000
b. Assumed Reinsurance Basis:	-
c. Net of Ceded Reinsurance Basis	\$ 425,000

## F. Ending LAE reserves for reported and unreported claims included in Part D above:

a. Direct Basis	\$ 112,000
b. Assumed Reinsurance Basis:	-
c. Net of Ceded Reinsurance Basis	\$ 110,000



**ANNUAL STATEMENT FOR THE YEAR 2011 OF THE FICTITIOUS INSURANCE COMPANY  
FIVE YEAR HISTORICAL DATA**

	1 2011	2 2010	3 2009	4 2008	5 2007
<b>Gross Premiums Written (Page 8, Part 1B, Cols 1, 2 &amp; 3)</b>					
1. Liability lines (Lines 11.1,11.2,16,17.1,17.2,17.3,18.1,18.2,19.1,19.2,19.3, & 19.4).....	13,281,000	13,843,000	15,075,000	16,422,000	16,815,000
2. Property lines (Lines 1, 2, 9, 12, 21, & 26).....	5,566,000	4,990,000	5,436,000	5,925,000	6,155,000
3. Property and liability combined lines (Lines 3, 4, 5, 8, 22 & 27).....	9,649,000	8,936,000	8,651,000	8,544,000	8,355,000
4. All other lines (Lines 6, 10, 13, 14, 15, 23, 24, 28, 29, 30 & 34).....	138,000	316,000	357,000	347,000	345,000
5. Nonproportional reinsurance lines (Lines 31, 32 & 33).....	0	0	0	0	0
6. Total (Line 35).....	28,634,000	28,085,000	29,519,000	31,238,000	31,670,000
<b>Net Premiums Written (Page 8, Part 1B, Col 6)</b>					
7. Liability lines (Lines 11.1,11.2,16,17.1,17.2,17.3,18.1,18.2,19.1,19.2,19.3, & 19.4).....	12,578,000	12,020,000	11,964,000	12,031,000	11,944,000
8. Property lines (Lines 1, 2, 9, 12, 21, & 26).....	4,796,000	4,881,000	4,935,000	5,120,000	5,258,000
9. Property and liability combined lines (Lines 3, 4, 5, 8, 22 & 27).....	9,232,000	8,880,000	8,470,000	8,290,000	8,077,000
10. All other lines (Lines 6, 10, 13, 14, 15, 23, 24, 28, 29, 30 & 34).....	146,000	155,000	152,000	142,000	84,000
11. Nonproportional reinsurance lines (Lines 31, 32 & 33).....	0	0	0	0	0
12. Total (Line 35).....	26,752,000	25,936,000	25,521,000	25,583,000	25,363,000
<b>Statement of Income (Page 4)</b>					
13. Net underwriting gain (loss) (Line 8).....	(2,142,000)	1,487,000	2,544,000	1,883,000	2,773,000
14. Net investment gain (loss) (Line 11).....	4,305,000	4,414,000	2,850,000	3,993,000	4,747,000
15. Total other income (Line 15).....	32,000	48,000	38,000	143,000	47,000
16. Dividends to policyholders (Line 17).....	46,000	32,000	23,000	29,000	31,000
17. Federal and foreign income taxes incurred (Line 19).....	(30,000)	963,000	1,489,000	1,378,000	1,304,000
18. Net income (Line 20).....	2,179,000	4,954,000	3,920,000	4,612,000	6,232,000
<b>Balance Sheet Lines (Pages 2 and 3)</b>					
19. Total admitted assets excluding protected cell business (Page 2, Line 26, Col. 3).....	100,000,000	99,686,000	104,389,000	104,063,000	107,754,000
20. Premiums and considerations (Page 2, Col. 3):					
20.1 In course of collection (Line 15.1).....	2,626,000	2,866,000	2,069,000	1,335,000	1,575,000
20.2 Deferred and not yet due (Line 15.2).....	5,114,000	4,927,000	4,811,000	5,229,000	5,344,000
20.3 Accrued retrospective premiums (Line 15.3).....	250,000	263,000	650,000	433,000	305,000
21. Total liabilities excluding protected cell business (Page 3, line 26).....	68,976,000	68,068,000	68,595,000	69,490,000	70,387,000
22. Losses (Page 3, Line 1).....	41,894,000	40,933,000	41,642,000	42,689,000	43,743,000
23. Loss adjustment expenses (Page 3, Line 3).....	9,663,000	9,664,000	9,955,000	9,919,000	9,807,000
24. Unearned premiums (Page 3, Line 9).....	11,895,000	11,557,000	11,207,000	11,397,000	11,403,000
25. Capital paid up (Page 3, Lines 30 & 31).....	108,000	108,000	108,000	108,000	108,000
26. Surplus as regards policyholders (Page 3, Line 37).....	31,024,000	31,608,000	35,793,000	32,572,000	34,567,000
<b>Cash Flow (Page 5)</b>					
27. Net cash from operations (Line 11).....	3,411,000	5,017,000	3,942,000	3,906,000	5,298,000
<b>Risk Based Capital Analysis</b>					
28. Total adjusted capital.....	31,024,000	31,608,000	35,793,000	32,572,000	34,567,000
29. Authorized control level risk-based capital.....	5,552,000	6,097,300	5,854,000	5,685,000	6,517,000
<b>Percentage Distribution of Cash, Cash Equivalents and Invested Assets (Page 2, Col3) (Item divided by Page 2, Line 12, Col. 3) x 100.0</b>					
30. Bonds (Line 1).....	.68	.66	.68	.70	.72
31. Stocks (Lines 2.1 & 2.2).....	.22	.22	.21	.18	.18
32. Mortgage loans on real estate (Lines 3.1 & 3.2).....	.0	.0	.0	.0	.0
33. Real Estate (Lines 4.1, 4.2 & 4.3).....	.4	.4	.4	.4	.4
34. Cash, cash equivalents and short term investments (Line 5).....	.2	.2	.2	.4	.2
35. Contract loans (Line 6).....	.0	.0	.0	.0	.0
36. Derivatives (Line 7).....	.0	.0	.0	.0	.0
37. Other invested assets (Line 8).....	.4	.5	.4	.4	.4
38. Receivable for securities (Line 9).....	.0	.0	.0	.0	.0
39. Securities lending reinvested collateral assets (Line 10).....	.0	.0	.0	.0	.0
40. Aggregate write-ins for invested assets (Line 11).....	(0)	(0)	.0	.0	.0
41. Cash, cash equivalents and invested assets (Line 12).....	100	100	100	100	100
<b>Investments in Parent, Subsidiaries and Affiliates</b>					
42. Affiliated bonds (Sch. D, Summary, Line 12, Col. 1).....	.0	.0	.0	.0	.0
43. Affiliated preferred stocks (Sch. D, Summary, Line 18, Col. 1).....	.0	.0	.0	.0	.0
44. Affiliated common stocks (Sch. D, Summary, Line 24, Col. 1).....	.0	.0	.0	.0	.0
45. Affiliated short-term investments (Schedule DA, Verification, Col 5, Line 10).....	.0	.0	.0	.0	.0
46. Affiliated mortgage loans on real estate.....	.0	.0	.0	.0	.0
47. All other affiliated.....	.0	.0	.0	.0	.0
48. Total of above lines 42 to 47.....	.0	.0	.0	.0	.0
49. Percentage of investments in parent, subsidiaries and affiliates to surplus as regard policyholders (Line 48 above divided by Page 3, Col. 1, Line 37 x 100.0).....	.0	.0	.0	.0	.0

**ANNUAL STATEMENT FOR THE YEAR 2011 OF THE FICTITIOUS INSURANCE COMPANY  
FIVE YEAR HISTORICAL DATA**

	1 2011	2 2010	3 2009	4 2008	5 2007
<b>Capital and Surplus Accounts (Page 4)</b>					
50. Net unrealized capital gains (losses) (Line 24).....	81,000	119,000	3,250,000	373,000	1,743,000
51. Dividends to stockholders (Line 35).....	(2,617,000)	(10,024,000)	(7,327,000)	(5,973,000)	(7,754,000)
52. Change in surplus as regards policyholders for the year (Line 38).....	(585,000)	(4,185,000)	3,221,000	(1,995,000)	(753,000)
<b>Gross Losses Paid (Page 9, Part 2, Cols. 1 &amp; 2)</b>					
53. Liability lines (lines 11.1,11.2,16,17.1,17.2,17.3,18.1,18.2,19.1,19.2,19.3, & 19.4).....	8,335,000	8,961,000	8,829,000	9,280,000	9,610,000
54. Property lines (lines 1, 2, 9, 12, 21, & 26).....	3,072,000	2,799,000	3,077,000	3,144,000	2,835,000
55. Property and liability combined lines (Lines 3, 4, 5, 8, 22 & 27).....	6,239,000	4,456,000	3,951,000	3,906,000	3,437,000
56. All other lines (Lines 6, 10, 13, 14, 15, 23, 24, 28, 29, 30 & 34).....	167,000	161,000	173,000	327,000	905,000
57. Nonproportional reinsurance lines (Lines 31, 32 & 33).....	0	0	0	0	0
58. Total (Line 35).....	17,813,000	16,377,000	16,030,000	16,657,000	16,787,000
<b>Net Losses Paid (Page 9, Part 2, Col 4)</b>					
59. Liability lines (lines 11.1,11.2,16,17.1,17.2,17.3,18.1,18.2,19.1,19.2,19.3, & 19.4).....	6,926,000	6,510,000	6,047,000	6,804,000	6,500,000
60. Property lines (lines 1, 2, 9, 12, 21, & 26).....	2,911,000	2,582,000	2,663,000	2,655,000	2,344,000
61. Property and liability combined lines (Lines 3, 4, 5, 8, 22 & 27).....	5,991,000	4,328,000	3,932,000	3,905,000	3,259,000
62. All other lines (Lines 6, 10, 13, 14, 15, 23, 24, 28, 29, 30 & 34).....	118,000	86,000	102,000	89,000	270,000
63. Nonproportional reinsurance lines (Lines 31, 32 & 33).....	0	0	0	0	0
64. Total (Line 35).....	15,946,000	13,506,000	12,744,000	13,453,000	12,373,000
<b>Operating Percentages</b> (Page 4) (Item divided by Page 4, Line 1) x 100.0					
65. Premiums earned (Line 1).....	100.0	100.0	100.0	100.0	100.0
66. Losses incurred (Line 2).....	63.8	50.1	45.7	48.6	46.4
67. Loss expenses incurred (Line 3).....	12.3	11.8	12.4	12.8	12.2
68. Other underwriting expenses incurred (Line 4).....	32.0	32.3	32.0	31.2	30.4
69. Net underwriting gain (loss) (Line 8).....	(8.1)	5.8	9.9	7.4	10.9
<b>Other Percentages</b>					
70. Other underwriting expenses to net premiums written (Page 4, Lines 4 + 5 - 15 divided by Page 8, Part 1B, Col. 6, Line 35 x 100.0).....	31.6	316.0	32.0	30.6	30.3
71. Losses and loss expense incurred to premiums earned (Page 4, Lines 2 + 3 divided by Page 4, Line 1 x 100.0).....	76.0	61.9	58.1	61.4	58.6
72. Net premiums written to policyholders' surplus (Page 8, Part 1B, Col. 6, Line 35, divided by Page 3, Line 37, Col. 1 x 100.0).....	86.2	82.1	71.3	74.0	67.9
<b>One Year Loss Development (000 omitted)</b>					
73. Development in estimated losses and loss expenses incurred prior to current year (Schedule P, Part 2-Summary, Line 12, Col.11).....	(875)	(1,354)	(1,618)	(1,935)	(918)
74. Percent development of losses and loss expenses incurred to policyholders' surplus of prior year end (Line 73 above divided by Page 4, Line 21, Col. 1 x 100).....	(2.8)	(3.8)	(5.0)	(5.6)	(2.6)
<b>Two Year Loss Development (000 omitted)</b>					
75. Development in estimated losses and loss expenses incurred 2 years before the current year and prior year (Schedule P, Part 2-Summary, Line 12, Col.12).....	(2,602)	(2,906)	(3,680)	(2,544)	(1,059)
76. Percent of development of losses and loss expenses incurred to reported policyholders' surplus of second prior year end (Line 75 above divided by Page 4, Line 21, Col. 2 x 100.0).....	(7.3)	(8.9)	(10.6)	(7.3)	(3.0)

**ANNUAL STATEMENT FOR THE YEAR 2011 OF THE FICTITIOUS INSURANCE COMPANY**

**SCHEDULE F Part 1**

Assumed Reinsurance as of December 31, Current Year (000 Omitted)

1 Federal ID Number	2 NAIC Company Code	3 Name of Reinsurer	4 Domicillary Jurisdiction	5 Assumed Premium	Reinsurance Recoverable on			9 Contingent Commissions Payable	10 Assumed Premiums Receivable	11 Unearned Premium	12 Funds Held by or Deposited With Reinsured Companies	13 Letters of Cred Posted	14 Amount of Assets Pledged or Compensating Balances to Secure Letters of Credit	15 Amount of Assets Pledged or Collateral Held in Trust
					6 Paid Losses and Loss Adjustment Expense	7 Known Case Losses and LAE	8 Col. 6 + 7							
<b>Affiliated - U.S. Intercompany Pooling:</b>														
0199999	Total Authorized Affiliates U.S. Intercompany Pooling		0	0	0	0	0	0	0	0	0	0	0	0
<b>Affiliated U.S. Non-Pool:</b>														
0299999	Total Authorized Affiliates U.S. non-Pool		0	0	0	0	0	0	0	0	0	0	0	0
<b>Affiliate-Other (Non- U.S.)</b>														
0399999	Affiliated- Other (Non-U.S.)		0	0	0	0	0	0	0	0	0	0	0	0
0499999	Total Affiliates		0	0	0	0	0	0	0	0	0	0	0	0
<b>Other U. S. Unaffiliated Insurance</b>														
0599999	Total Authorized Other-US Insurers Unaffiliated		0	0	0	0	0	0	0	0	0	0	0	0
<b>Pools and Associations - Mandatory Pools</b>														
0699999	Pools and Associations - Mandatory Pools		0	0	0	0	0	0	0	0	0	0	0	0
<b>Pools and Associations - Voluntary Pools</b>														
0799999	Pools and Associations - Mandatory Pools		0	0	0	0	0	0	0	0	0	0	0	0
0899999	Total Pools and Associations		0	0	0	0	0	0	0	0	0	0	0	0
<b>Non-US Insurers</b>														
0999999	Other Non-US Insurers		0	0	0	0	0	0	0	0	0	0	0	0
9999999	Totals		0	0	0	0	0	0	0	0	0	0	0	0

**ANNUAL STATEMENT FOR THE YEAR 2011 OF THE FICTITIOUS INSURANCE COMPANY**  
**SCHEDULE F - PART 2**

Premium Portfolio Reinsurance Effectuated of (Canceled) during Current Year

1 Federal ID Number	2 NAIC Company Code	3 Name of Company	4 Date of Contract	5 Original Premium	6 Reinsurance Premium
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**NONE**

**ANNUAL STATEMENT FOR THE YEAR 2011 OF THE FICTITIOUS INSURANCE COMPANY**  
**SCHEDULE F Part 3**  
Ceded Reinsurance as of December 31, Current Year (000 Omitted)

1 Federal ID Number	2 NAIC Company Code	3 Name of Reinsurer	4 Domicillary Jurisdiction	5 Reinsurance Contracts Ceding 75% or More of Direct Premiums Written	6 Reinsurance Premiums Ceded	Reinsurance Recoverable on									Reinsurance Payable		18 Net Amount Recoverable From Reinsurers Col. 15 - (16 + 17)	19 Funds Held By Company Under Reinsurance Treaties	
						7 Paid Losses	8 Paid LAE	9 Known Case Loss Reserves	10 Known Case LAE Reserves	11 IBNR Loss Reserves	12 IBNR LAE Reserves	13 Unearned Premiums	14 Contingent Commissions	15 Cols. 7 thru 14 Totals	16 Ceded Balances Payable	17 Other Amounts Due to Reinsurers			
<b>Affiliated - U.S. Intercompany Pooling:</b>																			
0199999	Total Authorized Affiliates U.S. Intercompany Pooling				0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Affiliated U.S. Non-Pool:</b>																			
11-111	233333	Affiliated Non-Pool.....			0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0299999	Total Authorized Affiliates U.S. non-Pool				0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0499999	Total Affiliates				0	0	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Authorized Other U. S. Unaffiliated Insurance</b>																			
31-123	11111	Good Reinsurer.....	AL.....		379	302	0	2,392	118	1,000	174	191	6	4,183	0	0	4,183	0	
43-145	22222	Overdue Reinsurer.....	TX.....		130	10	0	237	12	376	51	59	0	745	13	0	732	0	
76-345	33333	Slightly Overdue Reinsurer.....	NY.....		732	64	0	1,525	75	802	119	376	5	2,967	151	0	2,816	0	
0599999	Total Authorized Other-US Insurers Unaffiliated				1,241	376	0	4,154	205	2,178	345	626	12	7,896	164	0	7,731	0	
<b>Authorized Pools Voluntary Pools</b>																			
44-111	55555	Pooling Company.....	NY.....		111	0	0	203	4	322	49	50	0	628	11	0	617	0	
0799999	Total Authorized Pools				111	0	0	203	4	322	49	50	0	628	11	0	617	0	
<b>Authorized Other Non-US Insurers</b>																			
33-1234	54444	Foreign Authorized.....	GB.....		444	34	0	813	40	1,287	36	201	0	2,411	255	0	2,156	0	
0899999	Total Authorized Other Non-US Insurers				444	34	0	813	40	1,287	36	201	0	2,411	255	0	2,156	0	
0999999	Total Authorized				1,795	410	0	5,171	249	3,787	430	877	12	10,935	431	0	10,504	0	
<b>Unauthorized Affiliates</b>																			
1399999	Total Unauthorized Affiliates.....				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Unauthorized Other U.S. Unaffiliated Insurers</b>																			
13-1063	333	Reinsurer A.....	NY.....		6	8	0	10	1	16	4	3	0	42	1	0	41	20	
11-0002	444	Reinsurer B.....	KS.....		28	2	0	51	3	80	22	13	0	170	3	0	167	0	
11-0000	555	Reinsurer C.....	CA.....		28	2	0	51	3	58	22	13	0	148	3	0	145	20	
1499999	Total Unauthorized Other U.S. Unaffiliated Insurers				61	13	0	112	6	155	48	28	0	360	6	0	354	40	
<b>Unauthorized Other Non-U.S. Unaffiliated Insurers</b>																			
12-00001	66666	Reinsurer D.....	GB.....		6	1	0	10	1	16	4	3	0	35	1	0	34	30	
12-00002	77777	Reinsurer E.....	GB.....		20	2	0	51	3	80	22	13	0	170	2	0	168	100	
1799999	Total Unauthorized Other Non-U.S. Unaffiliated Insurers				25	3	0	61	3	96	26	15	0	205	3	0	202	130	
1899999	Total Unauthorized				86	16	0	173	9	251	74	43	0	565	9	0	556	170	
1999999	Total Authorized and Unauthorized				1,882	426	0	5,343	258	4,038	503	920	12	11,500	440	0	11,061	170	
9999999	Totals				1,882	426	0	5,343	258	4,038	503	920	12	11,500	440	0	11,061	170	

**ANNUAL STATEMENT FOR THE YEAR 2011 OF THE FICTITIOUS INSURANCE COMPANY  
SCHEDULE F - PART 4**

Aging of Ceded Reinsurance as of December 31, Current Year (000 Omitted)

1 Federal ID Number	2 NAIC Company Code	3 Name of Reinsured	4 Domicillary Jurisdiction	Reinsurance Recoverable on Paid Losses and Paid Loss Adjustment Expenses						11 Total Due Cols. 5 + 10	12 Percentage Overdue Col. 10 / Col. 11	13 Percentage More Than 120 Days Overdue Col. 9 / Col. 11
				5 Current	6 1 to 29 Days	7 30 to 90 Days	8 91 to 120 Days	9 Over 120 Days	10 Total Overdue Cols. 6 + 7 + 8 + 9			
<b>Authorized Affiliates - U.S. Intercompany Pooling:</b>												
0199999		Total Authorized - Affiliates- US Intercompany Pooling		0	0	0	0	0	0	0	0.0	0.0
		Total Authorized-Affiliates		0	0	0	0	0	0	0	0.0	0.0
<b>Authorized Other - US Unaffiliated Insurers</b>												
31-123	11111.....	Good Reinsurer.....	AL.....	292	10	0	0	0	10	302	3.3	0.0
43-145	22222.....	Overdue Reinsurer.....	TX.....	0	0	0	0	10	10	10	100.0	100.0
76-345	33333.....	Slightly Overdue Reinsurer.....	NY.....	54	0	5	5	0	10	64	15.7	0.0
0599999		Total Authorized Other - US Unaffiliated Insurers		346	10	5	5	10	30	376	8.0	2.6
<b>Authorized Other Non-US Insurers</b>												
33-1234	544445....	Foreign Authorized.....	GB.....	26	0	0	8	0	8	34	23.5	0.0
0899999		Total Authorized Other Non-U.S. Insurers		26	0	0	8	0	8	34	23.5	0.0
0999999		Total Authorized		372	10	5	13	10	38	410	9.3	2.4
<b>Unauthorized Affiliates</b>												
1399999		Total Unauthorized Affiliates.....		0	0	0	0	0	0	0	0.0	0.0
<b>Unauthorized Other-US Insurers</b>												
13-1063	333.....	Reinsurer A.....	NY.....	3	0	0	5	0	5	8	59.3	0.0
11-0002	444.....	Reinsurer B.....	KS.....	0	0	0	2	0	2	3	94.9	5.1
11-0000	555.....	Reinsurer C.....	CA.....	2	0	0	0	0	0	2	0.0	0.0
		Total Unauthorized Other U.S. Insurers		6	0	0	7	0	7	13	56.5	1.0
<b>Unauthorized Other Non-Us Insurers</b>												
12-00001	66666.....	Reinsurer D.....	GB.....	0	1	0	0	0	1	1	100.0	0.0
12-00002	77777.....	Reinsurer E.....	GB.....	2	0	0	0	0	0	2	0.0	0.0
		Total Unauthorized Other Non-U.S. Insurers		2	1	0	0	0	1	3	32.0	0.0
1899999		Total Unauthorized		8	1	0	7	0	8	16	51.8	0.8
1999999		Total Authorized and Unauthorized		380	11	5	20	10	46	426	10.9	2.4
		Totals		380	11	5	20	10	46	426	10.9	2.4

**ANNUAL STATEMENT FOR THE YEAR 2011 OF THE FICTITIOUS INSURANCE COMPANY**  
**SCHEDULE F PART 5**  
 Provision for Unauthorized Reinsurance as of December 31, Current Year (000 omitted)

1 Federal ID Number	2 NAIC Compan y Code	3 Name of Reinsurer	4 Domicillary Jurisdiction	5 Reinsurance Recoverable all items Schedule F, Part 3, Col. 15.	6 Funds Held By Company Under Reinsurance Treaties	7 Letters of Credit	8 Letter of Credit Issuing or Confirming Bank			11 Ceded Balances Payable	12 Miscellaneous Business	13 Other Alowed Offset Items	14 Cols. 6 + 7 +11 +12+13 but not in Excess of Col 5.	15 Subtotal Col. 5 minus Col. 14	16 Recoverable Paid Losses & LAE Expenses Over 90 Days Past Due not in Dispute	17 20% of Amount in Col. 16	18 Smaller of Col. 14 or Col. 17	19 Smaller of Col 14 or 20% of Amount in Disputes Included in Col 5	20 Total Provision for Unauthorized Reinsurance Smaller of Col. 5 or Cols. 15 + 18 +19
							8 American Bankers Association (ABA) Routing Number	9 Letter of Credit Code	10 Bank Name										
<b>Affiliates-Other Non-U.S. Insurers</b>																			
0	0		0	0	0	0				0	0	0	0	0	0	0	0	0	-
0499999		Total Affiliates		0	0	0	XXX	XXX	XXX	0	0	0	0	0	0	0	0	0	0
<b>Other U.S. Unaffiliated Insurers</b>																			
13-1063	333.....	Reinsurer A.....	NY.....	42	20	0	0	0	0	0	0	0	20	22	5	1	1	0	23
11-0002	444.....	Reinsurer B.....	KS.....	170	0	93	123456.....	1	ABC Bank.....	3	0	0	96	74	2	0	0	0	75
11-0000	555.....	Reinsurer C.....	CA.....	148	20	0	0	0	0	3	0	0	23	125	0	0	0	10	135
0599999		Total Other U.S. Unaffiliated Insurers		360	40	93	XXX	XXX	XXX	6	0	0	139	222	7	1	1	10	233
<b>Other Non-US Insurers</b>																			
12-00001	66666.....	Reinsurer D.....	GB.....	35	30	0	0	0	0	1	0	0	31	4	0	0	0	0	4
12-00002	77777.....	Reinsurer E.....	GB.....	170	100	68	55289.....	1	XYZ Bank.....	2	0	0	170	0	0	0	0	0	0
1799999		Total Other Non-U S Insurers		205	130	68	XXX	XXX	XXX	3	0	0	201	4	0	0	0	0	4
1899999		Total Affiliates and Others		565	170	161	XXX	XXX	XXX	8	0	0	339	226	7	1	1	10	237
9999999		Total		565	170	161	XXX	XXX	XXX	8	0	0	339	226	7	1	1	10	237

1. Amounts in dispute totaling \$50,000 are included in Column 5.
2. Amounts in dispute totaling \$.....0 are excluded in Column 16.

**ANNUAL STATEMENT FOR THE YEAR 2011 OF THE FICTITIOUS INSURANCE COMPANY  
SCHEDULE F PART 6  
Provision for Overdue Authorized Reinsurance as of December 31, Current Year**

1	2	3	4	5	6	7	8	9	10	11
Federal ID Number	NAIC Company Code	Name of Reinsurer	Reinsurance Recoverable on Paid Losses and LAE More than 90 Days Overdue (a)	Total Reinsurance Recoverable on Paid Losses and Paid LAE (b)	Amounts Received Prior 90 Days	Col. 4 divided by (Cols. 5 + 6)	Amounts in Col. 4 for Companies Reporting less than 20% in Col. 7	Amounts in Dispute Excluded from Col. 4 for Companies Reporting less than 20% in Col. 7	20% of Amount in Col. 9	Amount Reported in Col. 8 x 20% + Col. 10
<b>Overdue Authorized Reinsurers</b>										
0										
31-123	11111.....	Good Reinsurer.....	0	302,000	0	0.0	0	0	0	0
43-145	22222.....	Overdue Reinsurer.....	9,945	9,945	0	100.0	0	0	0	0
76-345	33333.....	Slightly Overdue Reinsurer.....	1,000	59,850	0	1.7	1,000	4,000	800	1,000
33-1234	544445.....	Foreign Authorized.....	8,000	34,053	0	23.5	0	0	0	0
999999	<b>Totals</b>		18,945	405,848	0	4.7	1,000	4,000	800	1,000

(a) From Schedule F-Part 4 Columns 8 + 9, total authorized, less \$ 4,000 in dispute  
(b) From Schedule F - Part 3 Columns 7 + 8, total authorized, less \$ 4,000 in dispute



**ANNUAL STATEMENT FOR THE YEAR 2011 OF THE FICTITIOUS INSURANCE COMPANY  
SCHEDULE F PART 7**

**Provision for Overdue Reinsurance as of December 31, Current Year**

1	2	3	4	5	6	7	8	9	10	11	12
Federal ID Number	NAIC Company Code	Name of Reinsurer	Reinsurance Recoverable All Items	Funds Held by Company under Reinsurance Treaties	Letters of Credit	Ceded Balances Payable	Other Miscellaneous Balances	Other Allowed Offset Items	Sum of Cols. 5 through 9, but in Excess of Col. 4	Col. 4 Minus Col. 10	Greater of Col. 11 or Schedule F- Part 4 Cols. 8 + 9
<b>Overdue Reinsurance</b>											
43-145	22222.....	Overdue Reinsurer.....	745,000	0	515,000	13,000	0	0	528,000	217,000	217,000
33-1234	544445.....	Foreign Authorized.....	2,411,000	0	2,500,000	255,000	0	0	2,411,000	0	8,000
	<b>Total</b>		<b>3,156,000</b>	<b>0</b>	<b>3,015,000</b>	<b>268,000</b>	<b>0</b>	<b>0</b>	<b>2,939,000</b>	<b>217,000</b>	<b>225,000</b>

1. Total	225,000
2. Line 1 x .20	45,000
3. Schedule F - Part 6 Col. 11	1,000
4. Provision for Overdue Authorized Reinsurance (Lines 2 + 3)	46,000
5. Provision for Unauthorized Reinsurance (Schedule F Part 5, Col. 20 X1000)	237,000
6. Provision for Reinsurance (Sum Lines 4 + 5) (Enter this amount on page 3, line 16)	283,000

**SCHEDULE P - ANALYSIS OF LOSSES AND LOSS EXPENSES**  
**SCHEDULE P - PART 1 - SUMMARY**  
(\$000 Omitted)

Years in Which Premiums Were Earned and Losses Were Incurred	Premiums Earned			Loss and Loss Expense Payments							12 Number of Claims Reported - Direct and Assumed	
	1 Direct and Assumed	2 Ceded	3 Net (Cols. 1 - 2)	Loss Payments		Defense and Cost Containment Payments		Adjusting and Other Payments		10 Salvage and Subrogation Received		11 Total Net Paid (Cols. 4 - 5 + 6 - 7 + 8 - 9)
				4 Direct and Assumed	5 Ceded	6 Direct and Assumed	7 Ceded	8 Direct and Assumed	9 Ceded			
1. Prior.....	XXX	XXX	XXX	1,265	581	442	23	198	2	42	1,299	XXX
2. 2002.....	27,202	5,678	21,524	14,055	3,356	1,745	242	827	84	547	12,945	XXX
3. 2003.....	29,689	6,266	23,422	13,058	2,121	1,490	189	837	79	559	12,996	XXX
4. 2004.....	29,397	5,032	24,364	11,877	2,011	1,220	153	912	84	563	11,761	XXX
5. 2005.....	28,326	4,049	24,276	13,535	3,577	1,120	158	936	61	512	11,795	XXX
6. 2006.....	27,863	3,423	24,440	10,182	1,252	965	91	1,046	31	523	10,819	XXX
7. 2007.....	28,334	2,957	25,377	10,595	997	976	71	1,127	25	603	11,605	XXX
8. 2008.....	28,461	2,945	25,515	12,605	1,320	909	64	1,308	19	592	13,419	XXX
9. 2009.....	27,970	2,352	25,618	10,418	712	662	35	1,258	13	495	11,578	XXX
10. 2010.....	27,678	2,143	25,535	9,834	525	490	25	1,257	11	499	11,020	XXX
11. 2011.....	28,598	2,085	26,512	8,853	423	247	16	1,124	8	348	9,777	XXX
12. Totals.....	XXX	XXX	XXX	116,277	16,875	10,266	1,067	10,830	417	5,283	119,014	XXX

	Losses Unpaid				Defense and Cost Containment Unpaid				Adjusting and Other Unpaid		23 Salvage and Subrogation Anticipated	24 Total Net Losses and Expenses Unpaid	25 Number of Claims Outstanding - Direct and Assumed
	Case Basis		Bulk + IBNR		Case Basis		Bulk + IBNR		21 Direct and Assumed	22 Ceded			
	13 Direct and Assumed	14 Ceded	15 Direct and Assumed	16 Ceded	17 Direct and Assumed	18 Ceded	19 Direct and Assumed	20 Ceded					
1. Prior.....	9,567	2,968	7,719	1,416	908	165	1,545	138	1,024	3	23	16,073	XXX
2. 2002.....	665	219	645	139	57	9	168	35	43	0	4	1,176	XXX
3. 2003.....	617	110	779	235	70	12	160	29	129	1	36	1,368	XXX
4. 2004.....	601	162	686	200	61	5	159	30	47	0	19	1,157	XXX
5. 2005.....	664	208	956	271	65	9	175	28	46	0	29	1,390	XXX
6. 2006.....	834	176	1,141	249	92	5	193	23	65	0	38	1,872	XXX
7. 2007.....	924	128	1,427	290	135	7	298	25	70	0	72	2,404	XXX
8. 2008.....	1,619	165	1,690	288	195	9	456	48	135	0	144	3,585	XXX
9. 2009.....	2,028	363	2,255	282	240	10	539	50	160	0	175	4,517	XXX
10. 2010.....	2,827	219	3,224	287	283	12	739	47	231	0	269	6,739	XXX
11. 2011.....	4,599	625	5,808	381	318	15	969	46	649	0	554	11,276	XXX
12. Totals.....	24,945	5,343	26,330	4,038	2,424	258	5,401	499	2,599	4	1,363	51,557	XXX

	Total Losses and Loss Expenses Incurred			Loss and Loss Expense Percentage (Incurred / Premiums Earned)			Nontabular Discount		34 Inter-Company Pooling Participation Percentage	Net Balance Sheet Reserves after Discount	
	26 Direct and Assumed	27 Ceded	28 Net (Cols. 26 - 27)	29 Direct and Assumed	30 Ceded	31 Net	32 Loss	33 Loss Expense		35 Losses Unpaid	36 Loss Expenses Unpaid
1. Prior.....	XXX	XXX	XXX	XXX	XXX	XXX	0	0	XXX	12,902	3,171
2. 2002.....	18,205	4,084	14,121	66.9	71.9	65.6	0	0	XXX	952	224
3. 2003.....	17,140	2,776	14,364	57.7	44.3	61.3	0	0	XXX	1,051	317
4. 2004.....	15,563	2,645	12,918	52.9	52.6	53.0	0	0	XXX	925	232
5. 2005.....	17,497	4,312	13,185	61.8	106.5	54.3	0	0	XXX	1,141	249
6. 2006.....	14,518	1,827	12,691	52.1	53.4	51.9	0	0	XXX	1,550	322
7. 2007.....	15,552	1,543	14,009	54.9	52.2	55.2	0	0	XXX	1,933	471
8. 2008.....	18,917	1,913	17,004	66.5	65.0	66.6	0	0	XXX	2,856	729
9. 2009.....	17,560	1,465	16,095	62.8	62.3	62.8	0	0	XXX	3,638	879
10. 2010.....	18,885	1,126	17,759	68.2	52.5	69.5	0	0	XXX	5,545	1,194
11. 2011.....	22,567	1,514	21,053	78.9	72.6	79.4	0	0	XXX	9,401	1,875
12. Totals.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	41,894	9,663



**ANNUAL STATEMENT FOR THE YEAR 2011 OF THE FICTITIOUS INSURANCE COMPANY**  
**SCHEDULE P - ANALYSIS OF LOSSES AND LOSS EXPENSES**  
**SCHEDULE P - PART 1A - HOMEOWNERS/FARMOWNERS**  
(\$000 Omitted)

Years in Which Premiums Were Earned and Losses Were Incurred	Premiums Earned			Loss and Loss Expense Payments							12 Number of Claims Reported - Direct and Assumed	
	1 Direct and Assumed	2 Ceded	3 Net (Cols. 1 - 2)	Loss Payments		Defense and Cost Containment Payments		Adjusting and Other Payments		10 Salvage and Subrogation Received		11 Total Net Paid (Cols. 4 - 5 + 6 - 7 + 8 - 9)
				4 Direct and Assumed	5 Ceded	6 Direct and Assumed	7 Ceded	8 Direct and Assumed	9 Ceded			
1. Prior.....	XXX	XXX	XXX	2	0	0	0	0	0	0	2	XXX
2. 2002.....	1,931	168	1,763	983	75	38	4	97	4	18	1,035	242
3. 2003.....	2,251	167	2,084	1,129	59	40	4	114	0	20	1,220	253
4. 2004.....	2,721	109	2,612	1,375	65	73	4	130	0	21	1,509	219
5. 2005.....	3,123	123	3,000	1,585	272	56	1	162	0	26	1,530	217
6. 2006.....	3,307	76	3,231	1,302	1	40	0	193	0	36	1,534	216
7. 2007.....	3,609	102	3,507	1,343	2	46	0	212	0	63	1,599	194
8. 2008.....	3,816	103	3,713	2,093	1	53	0	268	0	39	2,413	300
9. 2009.....	4,003	108	3,895	2,099	6	54	0	257	0	37	2,404	296
10. 2010.....	4,294	116	4,178	2,249	2	48	0	294	0	27	2,589	325
11. 2011.....	4,550	105	4,445	2,968	3	38	0	343	0	10	3,346	427
12. Totals.....	XXX	XXX	XXX	17,128	486	486	13	2,073	4	297	19,184	XXX

	Losses Unpaid				Defense and Cost Containment Unpaid				Adjusting and Other Unpaid		23 Salvage and Subrogation Anticipated	24 Total Net Losses and Expenses Unpaid	25 Number of Claims Outstanding Direct and Assumed
	Case Basis		Bulk + IBNR		Case Basis		Bulk + IBNR		21 Direct and Assumed	22 Ceded			
	13 Direct and Assumed	14 Ceded	15 Direct and Assumed	16 Ceded	17 Direct and Assumed	18 Ceded	19 Direct and Assumed	20 Ceded					
1. Prior.....	4	0	0	0	0	0	0	0	3	0	0	7	1
2. 2002.....	0	0	0	0	0	0	0	0	3	0	0	3	1
3. 2003.....	1	0	0	0	0	0	0	0	3	0	0	4	1
4. 2004.....	2	0	0	0	0	0	0	0	3	0	0	5	1
5. 2005.....	3	3	58	13	0	0	0	0	3	0	1	48	1
6. 2006.....	8	0	0	1	0	0	0	0	3	0	2	10	1
7. 2007.....	16	0	0	0	2	0	0	0	3	0	4	21	1
8. 2008.....	37	0	13	1	3	0	3	0	2	0	8	57	1
9. 2009.....	55	0	7	(3)	6	0	7	0	4	0	13	82	1
10. 2010.....	115	0	69	0	9	0	8	0	9	0	28	210	3
11. 2011.....	351	0	587	0	15	0	4	0	56	0	66	1,013	21
12. Totals.....	592	3	734	12	35	0	22	0	89	0	122	1,457	33

	Total Losses and Loss Expenses Incurred			Loss and Loss Expense Percentage (Incurred /Premiums Earned)			Nontabular Discount		34 Inter-Company Pooling Participation Percentage	Net Balance Sheet Reserves after Discount	
	26 Direct and Assumed	27 Ceded	28 Net (Cols. 26 - 27)	29 Direct and Assumed	30 Ceded	31 Net	32 Loss	33 Loss Expense		35 Losses Unpaid	36 Loss Expenses Unpaid
1. Prior.....	XXX	XXX	XXX	XXX	XXX	XXX	0	0	XXX	4	3
2. 2002.....	1,121	83	1,038	58.1	49.4	58.9	0	0	XXX	0	3
3. 2003.....	1,287	63	1,224	57.2	37.7	58.7	0	0	XXX	1	3
4. 2004.....	1,583	69	1,514	58.2	63.3	58.0	0	0	XXX	2	3
5. 2005.....	1,867	289	1,578	59.8	235.0	52.6	0	0	XXX	45	3
6. 2006.....	1,546	2	1,544	46.7	2.6	47.8	0	0	XXX	7	3
7. 2007.....	1,622	2	1,620	44.9	2.0	46.2	0	0	XXX	16	5
8. 2008.....	2,472	2	2,470	64.8	1.9	66.5	0	0	XXX	49	8
9. 2009.....	2,489	3	2,486	62.2	2.8	63.8	0	0	XXX	65	17
10. 2010.....	2,801	2	2,799	65.2	1.7	67.0	0	0	XXX	184	26
11. 2011.....	4,362	3	4,359	95.9	2.9	98.1	0	0	XXX	938	75
12. Totals.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	1,311	146

**ANNUAL STATEMENT FOR THE YEAR 2011 OF THE FICTITIOUS INSURANCE COMPANY**  
**SCHEDULE P - ANALYSIS OF LOSSES AND LOSS EXPENSES**  
**SCHEDULE P - PART 1C-COMMERCIAL AUTO**  
(\$000 Omitted)

Years in Which Premiums Were Earned and Losses were Incurred	Premiums Earned			Loss and Loss Expense Payments								12 Number of Claims Reported - Direct and Assumed
	1 Direct and Assumed	2 Ceded	3 Net (Cols. 1 - 2)	Loss Payments		Defense and Cost Containment Payments		Adjusting and Other Payments		10 Salvage and Subrogation Received	11 Total Net Paid (Cols. 4 - 5 + 6 - 7 + 8 - 9)	
				4 Direct and Assumed	5 Ceded	6 Direct and Assumed	7 Ceded	8 Direct and Assumed	9 Ceded			
1. Prior.....	XXX.....	XXX.....	XXX.....	17.....	6.....	3.....	0.....	15.....	0.....	(1).....	29.....	XXX.....
2. 2002.....	2,906.....	545.....	2,361.....	1,607.....	318.....	149.....	39.....	105.....	6.....	20.....	1,498.....	219.....
3. 2003.....	3,128.....	507.....	2,620.....	1,555.....	254.....	141.....	29.....	99.....	4.....	15.....	1,509.....	195.....
4. 2004.....	2,879.....	489.....	2,389.....	1,363.....	227.....	125.....	26.....	106.....	4.....	15.....	1,336.....	177.....
5. 2005.....	2,904.....	388.....	2,515.....	1,175.....	152.....	120.....	24.....	104.....	3.....	12.....	1,220.....	155.....
6. 2006.....	2,592.....	271.....	2,321.....	1,094.....	138.....	103.....	21.....	104.....	3.....	16.....	1,140.....	143.....
7. 2007.....	2,476.....	150.....	2,326.....	1,134.....	102.....	110.....	18.....	116.....	2.....	14.....	1,238.....	139.....
8. 2008.....	2,387.....	173.....	2,213.....	1,001.....	83.....	91.....	12.....	138.....	1.....	12.....	1,133.....	149.....
9. 2009.....	2,374.....	142.....	2,232.....	794.....	39.....	55.....	5.....	107.....	1.....	12.....	911.....	128.....
10. 2010.....	2,302.....	113.....	2,190.....	608.....	25.....	28.....	2.....	103.....	1.....	12.....	711.....	132.....
11. 2011.....	2,305.....	83.....	2,222.....	307.....	8.....	7.....	1.....	73.....	1.....	7.....	378.....	134.....
12. Totals.....	XXX.....	XXX.....	XXX.....	10,654.....	1,349.....	932.....	177.....	1,069.....	27.....	134.....	11,103.....	XXX.....

	Losses Unpaid				Defense and Cost Containment Unpaid				Adjusting and Other Unpaid		23 Salvage and Subrogation Anticipated	24 Total Net Losses and Expenses Unpaid	25 Number of Claims Outstanding Direct and Assumed
	Case Basis		Bulk + IBNR		Case Basis		Bulk + IBNR		21 Direct and Assumed	22 Ceded			
	13 Direct and Assumed	14 Ceded	15 Direct and Assumed	16 Ceded	17 Direct and Assumed	18 Ceded	19 Direct and Assumed	20 Ceded					
1. Prior.....	186.....	136.....	71.....	21.....	4.....	1.....	11.....	1.....	2.....	0.....	0.....	115.....	1.....
2. 2002.....	7.....	2.....	18.....	2.....	1.....	0.....	5.....	1.....	2.....	0.....	0.....	28.....	1.....
3. 2003.....	13.....	4.....	25.....	5.....	4.....	2.....	4.....	(1).....	2.....	0.....	0.....	38.....	1.....
4. 2004.....	14.....	2.....	39.....	14.....	2.....	0.....	5.....	1.....	2.....	0.....	0.....	45.....	1.....
5. 2005.....	90.....	27.....	45.....	15.....	5.....	(0).....	17.....	4.....	2.....	0.....	0.....	114.....	1.....
6. 2006.....	48.....	4.....	56.....	7.....	7.....	1.....	8.....	0.....	2.....	0.....	0.....	109.....	1.....
7. 2007.....	103.....	9.....	60.....	15.....	12.....	2.....	6.....	1.....	4.....	0.....	1.....	158.....	2.....
8. 2008.....	208.....	12.....	78.....	25.....	22.....	2.....	9.....	1.....	8.....	0.....	1.....	284.....	4.....
9. 2009.....	325.....	27.....	156.....	10.....	31.....	2.....	22.....	3.....	15.....	0.....	2.....	506.....	7.....
10. 2010.....	498.....	45.....	268.....	18.....	37.....	3.....	41.....	2.....	27.....	0.....	4.....	804.....	13.....
11. 2011.....	529.....	18.....	573.....	17.....	35.....	2.....	62.....	1.....	89.....	0.....	8.....	1,250.....	42.....
12. Totals.....	2,020.....	285.....	1,389.....	150.....	159.....	15.....	190.....	13.....	156.....	1.....	18.....	3,451.....	74.....

	Total Losses and Loss Expenses Incurred			Loss and Loss Expense Percentage (Incurred / Premiums Earned)			Nontabular Discount		34 Inter-Company Pooling Participation Percentage	Net Balance Sheet Reserves after Discount	
	26 Direct and Assumed	27 Ceded	28 Net (Cols. 26 - 27)	29 Direct and Assumed	30 Ceded	31 Net	32 Loss	33 Loss Expense		35 Losses Unpaid	36 Loss Expenses Unpaid
1. Prior.....	XXX.....	XXX.....	XXX.....	XXX.....	XXX.....	XXX.....	0.....	0.....	XXX.....	100.....	15.....
2. 2002.....	1,894.....	368.....	1,526.....	65.2.....	67.4.....	64.6.....	0.....	0.....	XXX.....	20.....	8.....
3. 2003.....	1,844.....	297.....	1,547.....	59.0.....	58.5.....	59.0.....	0.....	0.....	XXX.....	29.....	9.....
4. 2004.....	1,654.....	274.....	1,381.....	57.5.....	56.0.....	57.8.....	0.....	0.....	XXX.....	36.....	9.....
5. 2005.....	1,558.....	224.....	1,334.....	53.7.....	57.8.....	53.0.....	0.....	0.....	XXX.....	94.....	20.....
6. 2006.....	1,422.....	173.....	1,249.....	54.9.....	63.9.....	53.8.....	0.....	0.....	XXX.....	93.....	16.....
7. 2007.....	1,545.....	148.....	1,397.....	62.4.....	98.6.....	60.1.....	0.....	0.....	XXX.....	139.....	19.....
8. 2008.....	1,554.....	137.....	1,417.....	65.1.....	78.9.....	64.0.....	0.....	0.....	XXX.....	249.....	35.....
9. 2009.....	1,504.....	88.....	1,416.....	63.4.....	61.8.....	63.5.....	0.....	0.....	XXX.....	443.....	62.....
10. 2010.....	1,610.....	95.....	1,515.....	69.9.....	84.4.....	69.2.....	0.....	0.....	XXX.....	704.....	100.....
11. 2011.....	1,675.....	47.....	1,628.....	72.7.....	57.1.....	73.3.....	0.....	0.....	XXX.....	1,068.....	182.....
12. Totals.....	XXX.....	XXX.....	XXX.....	XXX.....	XXX.....	XXX.....	XXX.....	XXX.....	XXX.....	2,975.....	476.....

**ANNUAL STATEMENT FOR THE YEAR 2011 OF THE FICTITIOUS INSURANCE COMPANY  
SCHEDULE P -PART 2A-HOMEOWNERS/FAROWNERS**

Years in Which Losses Were Incurred	Incurred Net Losses and Defense and Cost containment Expenses Reported at Year End ( \$000 omitted)										DEVELOPMENT		
	1	2	3	4	5	6	7	8	9	10	11	12	
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	One Year	Two Year	
1. Prior.....	316	260	238	227	215	205	204	207	206	206	0	(1)	
2. 2002.....	1,152	980	948	948	947	945	945	943	943	942	(1)	(1)	
3. 2003.....	XXX	1,349	1,126	1,138	1,116	1,113	1,110	1,109	1,108	1,107	(1)	(2)	
4. 2004.....	XXX	XXX	1,362	1,387	1,386	1,379	1,382	1,377	1,378	1,381	3	4	
5. 2005.....	XXX	XXX	XXX	1,850	1,596	1,608	1,519	1,418	1,405	1,413	8	(5)	
6. 2006.....	XXX	XXX	XXX	XXX	1,369	1,355	1,342	1,352	1,354	1,348	(6)	(4)	
7. 2007.....	XXX	XXX	XXX	XXX	XXX	1,493	1,471	1,401	1,406	1,405	(1)	4	
8. 2008.....	XXX	XXX	XXX	XXX	XXX	XXX	2,236	2,234	2,210	2,200	(10)	(34)	
9. 2009.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	2,179	2,239	2,225	(14)	46	
10. 2010.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	2,577	2,496	(81)	XXX	
11. 2011.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	3,960	XXX	XXX	
											12. Totals	(103)	7

**SCHEDULE P -PART 2C-COMMERCIAL AUTO/TRUCK LIABILITY/MEDICAL**

Years in Which	Incurred Net Losses and Defense and Cost containment Expenses Reported at Year End ( \$000 omitted)										DEVELOPMENT		
	1	2	3	4	5	6	7	8	9	10	11	12	
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	One Year	Two Year	
1. Prior.....	1,852	2,032	1,994	2,069	2,041	1,962	1,968	1,966	1,957	1,980	23	14	
2. 2002.....	1,551	1,502	1,527	1,519	1,514	1,478	1,467	1,461	1,426	1,425	(1)	(36)	
3. 2003.....	XXX	1,672	1,636	1,594	1,566	1,535	1,499	1,483	1,451	1,449	(2)	(34)	
4. 2004.....	XXX	XXX	1,649	1,483	1,393	1,349	1,325	1,317	1,292	1,277	(15)	(40)	
5. 2005.....	XXX	XXX	XXX	1,462	1,383	1,314	1,265	1,267	1,255	1,230	(25)	(37)	
6. 2006.....	XXX	XXX	XXX	XXX	1,331	1,273	1,208	1,171	1,163	1,146	(17)	(25)	
7. 2007.....	XXX	XXX	XXX	XXX	XXX	1,403	1,353	1,235	1,299	1,279	(20)	44	
8. 2008.....	XXX	XXX	XXX	XXX	XXX	XXX	1,368	1,177	1,264	1,273	9	96	
9. 2009.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	1,318	1,240	1,296	56	(22)	
10. 2010.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	1,294	1,387	93	XXX	
11. 2011.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	1,467	XXX	XXX	
											12. Totals	101	(40)

**ANNUAL STATEMENT FOR THE YEAR 2011 OF THE FICTITIOUS INSURANCE COMPANY  
SCHEDULE P -PART 3A - HOMEOWNERS/FARMOWNERS**

Years in Which Losses Were Incurred	Cumulative Paid Net Losses and Defense and Cost Containment Expenses Reported at Year End (\$000 omitted)										11 Number of Claims Closed with Loss Payment	12 Number of Claims Closed Without Loss Payment
	1 2002	2 2003	3 2004	4 2005	5 2006	6 2007	7 2008	8 2009	9 2010	10 2011		
1. Prior.....	0	96	146	168	183	189	195	198	200	202	0	0
2. 2002.....	634	865	902	922	933	937	940	941	941	942	203	38
3. 2003.....	XXX	768	1,025	1,070	1,090	1,099	1,102	1,103	1,105	1,106	218	34
4. 2004.....	XXX	XXX	821	1,245	1,321	1,347	1,360	1,368	1,373	1,379	184	34
5. 2005.....	XXX	XXX	XXX	936	1,296	1,318	1,345	1,348	1,359	1,368	189	27
6. 2006.....	XXX	XXX	XXX	XXX	936	1,239	1,299	1,325	1,339	1,341	195	19
7. 2007.....	XXX	XXX	XXX	XXX	XXX	961	1,302	1,342	1,373	1,387	177	16
8. 2008.....	XXX	XXX	XXX	XXX	XXX	XXX	1,512	2,009	2,099	2,145	275	23
9. 2009.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	1,556	2,063	2,147	269	25
10. 2010.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	1,740	2,295	296	25
11. 2011.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	3,003	382	24

**SCHEDULE P -PART 3C - COMMERCIAL AUTO/TRUCK LIABILITY/MEDICAL**

Years in Which Losses Were Incurred	Cumulative Paid Net Losses and Defense and Cost Containment Expenses Reported at Year End (\$000 omitted)										11 Number of Claims Closed with Loss Payment	12 Number of Claims Closed Without Loss Payment
	1 2002	2 2003	3 2004	4 2005	5 2006	6 2007	7 2008	8 2009	9 2010	10 2011		
1. Prior.....	0	816	1,217	1,512	1,662	1,743	1,785	1,837	1,851	1,865	0	0
2. 2002.....	249	591	874	1,121	1,256	1,344	1,372	1,391	1,397	1,399	139	78
3. 2003.....	XXX	265	573	919	1,133	1,295	1,351	1,380	1,409	1,413	124	70
4. 2004.....	XXX	XXX	232	549	826	1,012	1,145	1,193	1,223	1,234	112	64
5. 2005.....	XXX	XXX	XXX	212	490	744	924	1,041	1,092	1,119	94	60
6. 2006.....	XXX	XXX	XXX	XXX	212	494	716	887	1,000	1,039	84	57
7. 2007.....	XXX	XXX	XXX	XXX	XXX	241	549	804	1,003	1,125	87	60
8. 2008.....	XXX	XXX	XXX	XXX	XXX	XXX	238	506	789	997	85	59
9. 2009.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	234	529	805	70	50
10. 2010.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	270	610	66	51
11. 2011.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	306	49	42

**ANNUAL STATEMENT FOR THE YEAR 2011 OF THE FICTITIOUS INSURANCE COMPANY  
SCHEDULE P -PART 4A - HOMEOWNERS**

Years in Which Losses Were Incurred	Bulk and IBNR Reserves on Net Losses and Defense Cost Containment Expenses Reported at Year End ('000 omitted)									
	1	2	3	4	5	6	7	8	9	10
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1. Prior.....	167	72	34	26	13	4	1	1	0	0
2. 2002.....	371	61	14	8	4	1	0	0	1	0
3. 2003.....	XXX	409	34	30	5	2	1	1	1	0
4. 2004.....	XXX	XXX	351	49	18	7	8	0	0	0
5. 2005.....	XXX	XXX	XXX	680	245	264	165	59	34	45
6. 2006.....	XXX	XXX	XXX	XXX	229	25	(2)	1	0	(1)
7. 2007.....	XXX	XXX	XXX	XXX	XXX	257	58	(2)	(1)	0
8. 2008.....	XXX	XXX	XXX	XXX	XXX	XXX	445	96	36	15
9. 2009.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	323	50	17
10. 2010.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	518	77
11. 2011.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	591

**SCHEDULE P -PART 4C -COMMERCIAL AUTO/TRUCK LIABILITY/MEDICAL**

Losses Were	Bulk and IBNR Reserves on Net Losses and Defense Cost Containment Expenses Reported at Year End ('000 omitted)									
	1	2	3	4	5	6	7	8	9	10
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1. Prior.....	452	453	283	265	199	106	117	88	71	60
2. 2002.....	807	380	259	166	120	70	62	54	21	20
3. 2003.....	XXX	869	465	268	174	110	70	52	26	25
4. 2004.....	XXX	XXX	906	430	227	126	75	80	44	30
5. 2005.....	XXX	XXX	XXX	725	411	221	89	73	43	44
6. 2006.....	XXX	XXX	XXX	XXX	671	360	191	105	67	56
7. 2007.....	XXX	XXX	XXX	XXX	XXX	705	378	134	104	50
8. 2008.....	XXX	XXX	XXX	XXX	XXX	XXX	654	229	134	60
9. 2009.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	663	265	164
10. 2010.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	519	290
11. 2011.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	617



**ANNUAL STATEMENT FOR THE YEAR 2011 OF THE FICTITIOUS INSURANCE COMPANY  
SCHEDULE P -PART 5A HOMEOWNERS/FARMOWNERS**

**SECTION 1**

Years in Which Premiums were Earned and Losses were Incurred	Cumulative Number of Claims Closed with Loss Payment Direct and Assumed at Year End									
	1	2	3	4	5	6	7	8	9	10
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1. Prior.....	51	7	3	1	1	0	0	0	0	0
2. 2002.....	166	199	202	202	203	203	203	203	203	203
3. 2003.....	XXX	186	214	216	217	218	218	218	218	218
4. 2004.....	XXX	XXX	149	180	182	183	184	184	184	184
5. 2005.....	XXX	XXX	XXX	155	185	187	188	189	189	190
6. 2006.....	XXX	XXX	XXX	XXX	166	191	194	195	195	196
7. 2007.....	XXX	XXX	XXX	XXX	XXX	147	173	176	177	177
8. 2008.....	XXX	XXX	XXX	XXX	XXX	XXX	225	270	274	275
9. 2009.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	219	266	269
10. 2010.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	254	296
11. 2011.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	382

**SECTION 2**

Years in Which Premiums were Earned and Losses were Incurred	Number of Claims Outstanding Direct and Assumed at Year End									
	1	2	3	4	5	6	7	8	9	10
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1. Prior.....	11	5	3	2	1	1	1	1	1	1
2. 2002.....	20	5	3	3	2	1	1	1	1	1
3. 2003.....	XXX	19	4	2	1	1	1	1	1	1
4. 2004.....	XXX	XXX	22	5	2	1	1	1	1	1
5. 2005.....	XXX	XXX	XXX	25	4	3	1	1	1	1
6. 2006.....	XXX	XXX	XXX	XXX	14	3	1	1	1	1
7. 2007.....	XXX	XXX	XXX	XXX	XXX	15	3	2	1	1
8. 2008.....	XXX	XXX	XXX	XXX	XXX	XXX	19	4	2	1
9. 2009.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	19	3	1
10. 2010.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	19	3
11. 2011.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	21

**SECTION 3**

Years in Which Premiums were Earned and Losses were Incurred	Cumulative Number of Claims Reported Direct and Assumed at Year End									
	1	2	3	4	5	6	7	8	9	10
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1. Prior.....	31	2	1	0	0	0	0	0	0	0
2. 2002.....	215	241	241	241	241	241	242	242	242	242
3. 2003.....	XXX	235	252	253	253	253	253	253	253	253
4. 2004.....	XXX	XXX	199	219	219	219	219	219	219	219
5. 2005.....	XXX	XXX	XXX	203	216	217	217	217	217	217
6. 2006.....	XXX	XXX	XXX	XXX	197	214	215	215	216	216
7. 2007.....	XXX	XXX	XXX	XXX	XXX	175	193	194	194	194
8. 2008.....	XXX	XXX	XXX	XXX	XXX	XXX	263	297	299	300
9. 2009.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	260	295	296
10. 2010.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	295	325
11. 2011.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	427

**ANNUAL STATEMENT FOR THE YEAR 2011 OF THE FICTITIOUS INSURANCE COMPANY  
SCHEDULE P -PART 5C-COMMERCIAL AUTO/TRUCK LIABILITY/MEDICAL**

**SECTION 1**

Years in Which Premiums were Earned and Losses were Incurred	Cumulative Number of Claims Closed with Loss Payment Direct and Assumed at Year End									
	1	2	3	4	5	6	7	8	9	10
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1. Prior.....	53	23	18	7	3	(1)	2	1	1	1
2. 2002.....	84	118	133	138	139	139	139	140	140	140
3. 2003.....	XXX	77	112	119	122	123	124	124	125	125
4. 2004.....	XXX	XXX	75	102	107	110	112	112	113	113
5. 2005.....	XXX	XXX	XXX	62	84	89	92	93	94	94
6. 2006.....	XXX	XXX	XXX	XXX	51	74	8	82	83	84
7. 2007.....	XXX	XXX	XXX	XXX	XXX	52	79	84	86	88
8. 2008.....	XXX	XXX	XXX	XXX	XXX	XXX	58	79	83	86
9. 2009.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	45	66	71
10. 2010.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	47	67
11. 2011.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	49

**SECTION 2**

Years in Which Premiums were Earned and Losses were Incurred	Number of Claims Outstanding Direct and Assumed at Year End									
	1	2	3	4	5	6	7	8	9	10
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1. Prior.....	38	20	13	7	6	4	3	3	2	1
2. 2002.....	34	15	9	4	3	1	1	1	1	1
3. 2003.....	XXX	31	15	6	5	2	1	1	1	1
4. 2004.....	XXX	XXX	6,354	10	8	4	2	1	1	1
5. 2005.....	XXX	XXX	XXX	26	14	7	4	2	1	1
6. 2006.....	XXX	XXX	XXX	XXX	38	13	7	4	2	1
7. 2007.....	XXX	XXX	XXX	XXX	XXX	38	13	7	4	2
8. 2008.....	XXX	XXX	XXX	XXX	XXX	XXX	37	13	7	4
9. 2009.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	38	13	7
10. 2010.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	40	13
11. 2011.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	42

**SECTION 3**

Years in Which Premiums were Earned and Losses were Incurred	Cumulative Number of Claims Reported Direct and Assumed at Year End									
	1	2	3	4	5	6	7	8	9	10
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1. Prior.....	40	16	18	6	3	(2)	2	1	1	0
2. 2002.....	168	202	217	218	220	218	218	219	219	219
3. 2003.....	XXX	153	193	193	196	196	196	195	195	195
4. 2004.....	XXX	XXX	6,354	171	177	177	178	177	177	177
5. 2005.....	XXX	XXX	XXX	128	154	155	156	155	155	155
6. 2006.....	XXX	XXX	XXX	XXX	124	141	143	143	143	143
7. 2007.....	XXX	XXX	XXX	XXX	XXX	13	149	150	150	139
8. 2008.....	XXX	XXX	XXX	XXX	XXX	XXX	141	149	149	149
9. 2009.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	121	127	128
10. 2010.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	126	132
11. 2011.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	134

**ANNUAL STATEMENT FOR THE YEAR 2011 OF THE FICTITIOUS INSURANCE COMPANY**  
**SCHEDULE P -PART 6C-COMMERCIAL AUTO/TRUCK LIABILITY/MEDICAL**  
**SECTION 1**

Years in Which Premiums Were Earned and Losses Were Incurred	Cumulative Premiums Earned Direct and Assumed at Year End (\$000 omitted)										11 Current Year Premiums Earned
	1 2002	2 2003	3 2004	4 2005	5 2006	6 2007	7 2008	8 2009	9 2010	10 2011	
1. Prior.....	256	16	38	6	(12)	16	(1)	0	3	3	3
2. 2002.....	2,651	2,903	2,914	2,915	2,906	2,906	2,905	2,905	2,905	2,905	0
3. 2003.....	XXX	2,859	3,146	3,197	3,185	3,183	3,180	3,180	3,186	3,185	(1)
4. 2004.....	XXX	XXX	2,544	2,897	2,930	2,922	2,917	2,916	2,919	2,919	(0)
5. 2005.....	XXX	XXX	XXX	2,491	2,663	2,676	2,665	2,666	2,665	2,664	(0)
6. 2006.....	XXX	XXX	XXX	XXX	2,421	2,484	2,480	2,481	2,477	2,476	(1)
7. 2007.....	XXX	XXX	XXX	XXX	XXX	2,392	2,408	2,415	2,403	2,404	1
8. 2008.....	XXX	XXX	XXX	XXX	XXX	XXX	2,397	2,419	2,422	2,421	(1)
9. 2009.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	2,344	2,346	2,340	(5)
10. 2010.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	2,302	2,328	26
11. 2011.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	2,283	2,283
12. Total.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	2,305
13. Earned Premium P -Pt1...	2,906	3,128	2,879	2,904	2,592	2,476	2,387	2,374	2,302	2,305	XXX

**SECTION 2**

Years in Which Premiums Were Earned and Losses Were Incurred	Cumulative Premiums Earned Ceded at Year End (\$000 omitted)										11 Current Year Premiums Earned
	1 2002	2 2003	3 2004	4 2005	5 2006	6 2007	7 2008	8 2009	9 2010	10 2011	
1. Prior.....	173	21	(7)	(4)	0	(0)	1	(0)	0	0	0
2. 2002.....	373	498	507	510	508	508	508	508	508	508	0
3. 2003.....	XXX	361	502	530	526	525	526	526	527	527	0
4. 2004.....	XXX	XXX	345	479	513	511	513	513	513	513	0
5. 2005.....	XXX	XXX	XXX	228	248	246	248	248	248	248	0
6. 2006.....	XXX	XXX	XXX	XXX	223	238	242	244	247	248	0
7. 2007.....	XXX	XXX	XXX	XXX	XXX	140	134	142	150	150	0
8. 2008.....	XXX	XXX	XXX	XXX	XXX	XXX	170	117	117	118	0
9. 2009.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	184	199	200	1
10. 2010.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	87	97	10
11. 2011.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	71	71
12. Total.....	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	83
13. Earned Premium P -Pt1...	545	507	490	388	271	150	173	142	113	83	XXX

**EXCERPTS FROM THE 2011 INSURANCE EXPENSE EXHIBIT FOR FICTITIOUS  
INSURANCE COMPANY**

# INSURANCE EXPENSE EXHIBIT

FOR THE YEAR ENDED DECEMBER, 31, 2011  
(To Be Filed by April 1)

OF THE Fictitious Insurance Company

ADDRESS

NAIC Group Code \_\_\_\_\_ NAIC Company Code \_\_\_\_\_ Federal Employer's Identification Number (FEIN) \_\_\_\_\_

Contact Person \_\_\_\_\_ Title \_\_\_\_\_ Telephone \_\_\_\_\_

INSURANCE EXPENSE EXHIBIT FOR THE YEAR December 31, 2011 OF THE FICTITIOUS INSURANCE COMPANY

PART I - ALLOCATION TO EXPENSE GROUPS

(000 Omitted)

Operating Expense Classifications	1	Other Underwriting Expenses			5	6
	Loss Adjustment Expense	2 Acquisition, Field Supervision and Collection Expenses	3 General Expenses	4 Taxes, Licenses and Fees	Investment Expenses	Total Expenses
1. Claim adjustment services:						
1.1 Direct.....	1,881	0	0	0	0	1,881
1.2 Reinsurance assumed.....	0	0	0	0	0	0
1.3 Reinsurance ceded.....	210	0	0	0	0	210
1.4 Net claim adjustment services (1.1+1.2-1.3).....	1,671	0	0	0	0	1,671
2. Commission and brokerage:						
2.1 Direct excluding contingent .....	0	4,759	0	0	0	4,759
2.2 Reinsurance assumed excluding contingent .....	0	0	0	0	0	0
2.3 Reinsurance ceded excluding contingent .....	0	816	0	0	0	816
2.4 Contingent - direct .....	0	121	0	0	0	121
2.5 Contingent - reinsurance assumed .....	0	0	0	0	0	0
2.6 Contingent - reinsurance ceded .....	0	9	0	0	0	9
2.7 Policy and membership fees .....	0	0	0	0	0	0
2.8 Net commission and brokerage (Lines 2.1+2.2-2.3+2.4+2.5-2.6+2.7).....	0	4,055	0	0	0	4,055
3. Allowances to managers and agents.....	0	1	3	0	0	4
4. Advertising.....	0	75	133	0	0	208
5. Boards, bureaus and associations.....	7	38	68	0	0	113
6. Surveys and underwriting reports.....	0	36	63	0	0	99
7. Audit of assureds' records.....	0	0	0	0	0	0
8. Salary and related items:						
8.1 Salaries .....	949	664	1,181	0	32	2,826
8.2 Payroll taxes .....	69	41	74	0	0	184
9. Employee relations and welfare.....	182	105	188	0	3	478
10. Insurance.....	117	8	15	0	0	140
11. Directors' fees.....	0	0	0	0	0	0
12. Travel and travel items.....	64	34	61	0	0	159
13. Rent and rent items.....	62	48	85	0	1	196
14. Equipment.....	11	15	27	0	3	56
15. Cost or depreciation of EDP equipment and software.....	30	119	211	0	0	360
16. Printing and stationery.....	5	7	12	0	0	24
17. Postage, telephone and telegraph, exchange and express.....	19	40	72	0	0	131
18. Legal and auditing.....	44	5	9	0	2	60
19. Totals (Lines 3 to 18).....	1,559	1,236	2,202	0	41	5,038
20. Taxes, licenses and fees:						
20.1 State and local insurance taxes deducting guaranty association credit of \$ 1,103.....	0	0	0	791	0	791
20.2 Insurance department licenses and fees .....	0	0	0	53	0	53
20.3 Gross guaranty association assessments.....	0	0	0	(2)	0	(2)
20.4 All other (excluding federal and foreign income and real estate).....	0	0	0	18	0	18
20.5 Total taxes, licenses and fees (Lines 20.1+20.2+20.3+20.4).....	0	0	0	860	0	860
21. Real estate expenses.....	0	0	0	0	332	332
22. Real estate taxes.....	0	0	0	0	14	14
23. Reimbursements by uninsured plans.....	XXX	XXX	XXX	XXX	XXX	XXX
24. Aggregate write-ins for miscellaneous operating expenses.....	25	47	83	0	6	161
25. TOTAL EXPENSES INCURRED	3,255	5,338	2,285	860	393	12,131

INSURANCE EXPENSE EXHIBIT FOR THE YEAR 2011 OF THE FICTITIOUS INSURANCE COMPANY

PART II - ALLOCATION TO LINES OF BUSINESS NET OF REINSURANCE

PREMIUMS, LOSSES, EXPENSES, RESERVES AND PROFITS AND PERCENTAGES TO PREMIUMS EARNED FOR BUSINESS NET OF REINSURANCE (000 Omitted)

	Premiums Written (Pg. 8, Pt. 1B, Col. 6)		Premiums Earned (Pg. 6, Pt. 1, Col. 4)		Dividends to Policyholders (Pg. 4, Line 17)		Incurred Loss (Pg. 9, Pt. 2, Col. 7)		Loss Adjustment Expense				Unpaid Losses (Pg. 10, Pt. 2A, Col. 8)				Loss Adjustment Expense				Unearned Premium Reserves (Pg. 7, Pt. 1A, Col. 5)		Agents' Balances	
	1 Amount	2 %	3 Amount	4 %	5 Amount	6 %	7 Amount	8 %	Defense and Cost Containment Expenses Incurred		Adjusting and Other Expenses Incurred		13 Amount	14 %	Defense and Cost Containment Expenses Unpaid		Adjusting and Other Expenses Unpaid		19 Amount	20 %	21 Amount	22 %		
									9 Amount	10 %	11 Amount	12 %			15 Amount	16 %	17 Amount	18 %						
1. Fire.....	2,484	XXX	2,509	100.0	1	0.0	1,554	61.9	51	2.0	129	5.1	1,402	55.9	92	3.7	130	5.2	1,133	45.1	385	15.3		
2.1 Allied Lines.....	0	XXX	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
2.2 Multiple Peril Crop.....	0	XXX	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
2.3 Federal Flood.....	0	XXX	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
3. Farmowners Multiple Peril.....	0	XXX	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
4. Homeowners Multiple Peril.....	4,555	XXX	4,445	100.0	0	0.0	3,789	85.2	74	1.7	360	8.1	1,311	29.5	55	1.2	89	2.0	2,401	54.0	1,901	42.8		
5.1 Commercial Multiple Peril (Non-Liability Portion).....	3,032	XXX	3,034	100.0	(0)	(0.0)	1,155	38.1	82	2.7	119	3.9	672	22.1	83	2.7	106	3.5	1,377	45.1	606	19.9		
5.2 Commercial Multiple Peril (Liability Portion).....	1,645	XXX	1,659	100.0	0	0.0	969	58.4	314	18.9	41	2.5	2,639	159.1	1,024	61.7	258	15.6	746	45.0	447	26.9		
6. Mortgage Guaranty.....	0	XXX	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
8. Ocean Marine.....	0	XXX	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
9. Inland Marine.....	0	XXX	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
10. Financial Guaranty.....	0	XXX	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
11. Medical Professional Liability.....	0	XXX	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
12. Earthquake.....	0	XXX	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
13. Group A&H (See Interrogatory 1).....	0	XXX	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
14. Credit A & H.....	0	XXX	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
15. Other A&H (See Interrogatory 1).....	0	XXX	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
16. Workers' Compensation.....	4,022	XXX	3,943	100.0	42	1.1	318	8.1	426	10.8	(31)	(0.8)	13,833	350.8	1,639	41.6	474	12.0	1,520	38.5	1,282	32.5		
17.1 Other Liability - Occurrence.....	3,502	XXX	3,548	100.0	1	0.0	4,110	115.8	483	13.6	299	8.4	16,050	452.4	3,466	97.3	1,175	33.1	1,648	46.4	785	22.1		
17.2 Other Liability - Claims-made.....	0	XXX	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
17.3 Excess Workers' Compensation.....	0	XXX	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
18. Products Liability.....	0	XXX	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
19.1,19.2 Private Passenger Auto Liability.....	2,804	XXX	2,732	100.0	0	0.0	1,791	65.6	81	3.0	244	8.9	2,083	76.2	238	8.7	161	5.9	954	34.9	475	17.4		
19.3,19.4 Commercial Auto Liability.....	2,250	XXX	2,223	100.0	1	0.0	1,432	64.4	130	5.9	144	6.5	2,974	133.8	321	14.4	155	7.0	1,014	45.6	758	34.1		
21.1 Private Passenger Auto Physical Damage.....	1,665	XXX	1,632	100.0	0	0.0	1,072	65.7	2	0.1	222	13.7	37	2.3	2	0.1	20	1.2	554	34.3	283	17.5		
21.2 Commercial Auto Physical Damage.....	647	XXX	646	100.0	0	0.1	456	70.6	15	2.3	54	8.4	177	27.4	51	7.9	23	3.6	291	45.0	213	33.0		
22. Aircraft (all perils).....	0	XXX	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
23. Fidelity.....	146	XXX	141	100.0	0	0.3	261	185.1	13	9.2	4	2.8	716	336.9	97	68.8	4	2.8	53	37.6	37	26.2		
24. Surety.....	0	XXX	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
26. Burglary and Theft.....	0	XXX	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
27. Boiler and Machinery.....	0	XXX	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
28. Credit.....	0	XXX	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
29. International.....	0	XXX	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
30. Warranty.....	0	XXX	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
31, 32, 33 Reinsurance-Nonproportional Assumed.....	0	XXX	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
34. Aggregate write-ins for Other Lines of Business.....	0	XXX	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
35. TOTALS (Lines 1 through 34)	26,752	XXX	26,512	100.0	46	0.2	16,907	63.8	1,671	6.3	1,585	6.0	41,894	158.0	7,068	26.6	2,595	9.8	11,691	44.1	7,172	27.1		

INSURANCE EXPENSE EXHIBIT FOR THE YEAR 2011 OF THE FICTITIOUS INSURANCE COMPANY

PART II - ALLOCATION TO LINES OF BUSINESS NET OF REINSURANCE (Continued)

PREMIUMS, LOSSES, EXPENSES, RESERVES AND PROFITS AND PERCENTAGES TO PREMIUMS EARNED FOR BUSINESS NET OF REINSURANCE (000 Omitted)

	Commission and Brokerage Expenses Incurred (IEE Pt. 1, Line 2.8, Col. 2)		Taxes, Licenses & Fees Incurred (IEE Pt. 1, Line 20.5, Col. 4)		Other Acquisitions, Field Supervision, and Collection Expenses Incurred (IEE Pt. 1, Line 25 minus 2.8 Col. 2)		General Expenses Incurred (IEE Pt. 1, Line 25, Col. 3)		Other Income Less Other Expenses (Pg. 4, Line 15 minus Line 5)		Pre-Tax Profit or Loss Excluding All Investment Gain		Investment Gain on Funds Attributable to Insurance Transactions		Profit or Loss Excluding Investment Gain Attributable to Capital and Surplus		Investment Gain Attributable to Capital and Surplus		Total Profit or Loss	
	23 Amount	24 %	25 Amount	26 %	27 Amount	28 %	29 Amount	30 %	31 Amount	32 %	33 Amount	34 %	35 Amount	36 %	37 Amount	38 %	39 Amount	40 %	41 Amount	42 %
1. Fire.....	445	17.7	81	3.2	105	4.2	190	7.6	9	0.4	(38)	(1.5)	110	4.4	72	2.9	109	4.3	181	7.2
2.1 Allied Lines.....	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2.2 Multiple Peril Crop.....	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2.3 Federal Flood.....	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3. Farmowners Multiple Peril.....	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4. Homeowners Multiple Peril.....	867	19.5	130	2.9	169	3.8	298	6.7	1	0.0	(1,241)	(27.9)	53	1.2	(1,188)	(26.7)	179	4.0	(1,009)	(22.7)
5.1 Commercial Multiple Peril (Non-Liability Portion).....	527	17.3	85	2.8	193	6.3	347	11.4	2	0.1	528	17.4	78	2.6	607	20.0	121	4.0	728	24.0
5.2 Commercial Multiple Peril (Liability Portion).....	283	17.1	45	2.7	62	3.7	110	6.6	0	0.0	(165)	(9.9)	196	11.8	31	1.9	119	7.2	150	9.1
6. Mortgage Guaranty.....	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
8. Ocean Marine.....	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
9. Inland Marine.....	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
10. Financial Guaranty.....	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
11. Medical Professional Liability.....	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
12. Earthquake.....	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
13. Group A&H (See Interrogatory 1).....	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
14. Credit A & H.....	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
15. Other A&H (See Interrogatory 1).....	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
16. Workers' Compensation.....	350	8.9	242	6.1	159	4.0	282	7.2	(26)	(0.7)	2,129	54.0	835	21.2	2,964	75.2	405	10.3	3,369	85.4
17.1 Other Liability - Occurrence.....	482	13.6	81	2.3	224	6.3	399	11.3	31	0.9	(2,500)	(70.5)	1,030	29.0	(1,470)	(41.4)	469	13.2	(1,001)	(28.2)
17.2 Other Liability - Claims-made.....	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
17.3 Excess Workers' Compensation.....	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
18. Products Liability.....	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
19.1,19.2 Private Passenger Auto Liability.....	414	15.2	71	2.6	132	4.8	235	8.6	0	0.0	(236)	(8.6)	134	4.9	(102)	(3.7)	120	4.4	18	0.6
19.3,19.4 Commercial Auto Liability.....	328	14.8	62	2.8	115	5.2	204	9.2	2	0.1	(191)	(8.6)	169	7.6	(22)	(1.0)	130	5.8	108	4.9
21.1 Private Passenger Auto Physical Damage.....	245	15.2	39	2.4	82	5.1	146	9.0	0	0.0	(176)	(10.8)	8	0.5	(168)	(10.3)	46	2.8	(121)	(7.4)
21.2 Commercial Auto Physical Damage.....	100	15.5	19	2.9	30	4.6	53	8.2	1	0.2	(80)	(12.4)	12	1.8	(69)	(10.6)	25	3.9	(44)	(6.8)
22. Aircraft (all perils).....	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
23. Fidelity.....	14	9.9	5	3.5	12	8.5	21	14.9	13	9.2	(176)	(125.1)	38	26.7	(139)	(98.5)	17	12.3	(121)	(86.2)
24. Surety.....	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
26. Burglary and Theft.....	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
27. Boiler and Machinery.....	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
28. Credit.....	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
29. International.....	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
30. Warranty.....	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
31, 32, 33 Reinsurance-Nonproportional Assumed.....	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
34. Aggregate write-ins for Other Lines of Business.....	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
35. TOTALS (Lines 1 through 34)	4,055	15.3	860	3.2	1,283	4.8	2,285	8.6	33	0.1	(2,147)	(8.1)	2,663	10.0	516	1.9	1,741	6.6	2,257	8.5



INSURANCE EXPENSE EXHIBIT FOR THE YEAR 2011 OF THE FICTITIOUS INSURANCE COMPANY

PART III - ALLOCATION TO LINES OF DIRECT BUSINESS WRITTEN

PREMIUMS, LOSSES, EXPENSES, RESERVES AND PROFITS AND PERCENTAGES TO PREMIUMS EARNED FOR DIRECT BUSINESS WRITTEN (000 Omitted)

	Premiums Written (Pg. 8, Pt. 1B, Col. 1)		Premiums Earned (Sch. T, Line 59, Col. 3)		Dividends to Policyholders		Incurred Loss (Sch. T, Line 59, Col. 6)		Loss Adjustment Expense				Unpaid Losses (Sch. T, Line 59, Col. 7)		Loss Adjustment Expense				Unearned Premium Reserves		Agents' Balances	
									Defense and Cost Containment Expenses Incurred		Adjusting and Other Expenses Incurred				Defense and Cost Containment Expenses Unpaid		Adjusting and Other Expenses Unpaid					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
1. Fire.....	3,254	XXX	3,275	100.0	.1	0.0	1,451	44.3	.52	1.6	.37	1.1	1,627	49.7	103	3.1	131	4.0	1,478	45.1	385	11.8
2.1 Allied Lines.....	.0	XXX	.0	100.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
2.2 Multiple Peril Crop.....	.0	XXX	.0	100.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
2.3 Federal Flood.....	.0	XXX	.0	100.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
3. Farmowners Multiple Peril.....	.0	XXX	.0	100.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
4. Homeowners Multiple Peril.....	4,646	XXX	4,550	100.0	.0	0.0	3,801	83.5	.73	1.6	453	8.1	1,326	29.1	57	1.5	89	2.0	2,457	54.0	1,901	41.8
5.1 Commercial Multiple Peril (Non-Liability Portion).....	3,243	XXX	3,264	100.0	(0)	(0.0)	1,511	46.3	.83	2.5	35	1.1	3,509	107.5	93	2.8	107	3.3	1,474	45.1	606	18.6
5.2 Commercial Multiple Peril (Liability Portion).....	1,760	XXX	1,771	100.0	.0	0.0	.765	43.2	319	18.0	12	0.7	.312	17.6	1,147	64.8	260	14.7	.796	45.0	447	25.2
6. Mortgage Guaranty.....	.0	XXX	.0	100.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
8. Ocean Marine.....	.0	XXX	.0	100.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
9. Inland Marine.....	.0	XXX	.0	100.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
10. Financial Guaranty.....	.0	XXX	.0	100.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
11. Medical Professional Liability.....	.0	XXX	.0	100.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
12. Earthquake.....	.0	XXX	.0	100.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
13. Group A&H (See Interrogatory 1).....	.0	XXX	.0	100.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
14. Credit A & H.....	.0	XXX	.0	100.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
15. Other A&H (See Interrogatory 1).....	.0	XXX	.0	100.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
16. Workers' Compensation.....	4,394	XXX	4,421	100.0	42	1.0	2,114	47.8	432	9.8	(9)	(0.2)	15,995	361.8	1,836	41.5	477	10.8	1,704	38.5	1,282	29.0
17.1 Other Liability - Occurrence.....	3,749	XXX	3,773	100.0	.1	0.0	.764	20.3	490	13.0	.87	2.3	21,058	558.1	3,866	102.5	1,180	31.3	1,753	46.5	785	20.8
17.2 Other Liability - Claims-made.....	.0	XXX	.0	100.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
17.3 Excess Workers' Compensation.....	.0	XXX	.0	100.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
18. Products Liability.....	.0	XXX	.0	100.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
19.1,19.2 Private Passenger Auto Liability.....	2,804	XXX	2,822	100.0	.0	0.0	2,362	83.7	.78	2.8	406	14.4	2,744	97.2	244	8.6	161	5.7	985	34.9	475	16.8
19.3,19.4 Commercial Auto Liability.....	2,334	XXX	2,305	100.0	.1	0.0	4,222	183.2	130	5.6	302	13.1	3,409	147.9	349	15.1	156	6.8	1,052	45.6	758	32.9
21.1 Private Passenger Auto Physical Damage.....	1,661	XXX	1,636	100.0	.0	0.0	1,112	66.3	.11	0.1	198	13.7	.36	2.2	15	0.1	25	1.2	.560	34.3	283	17.3
21.2 Commercial Auto Physical Damage.....	651	XXX	641	100.0	.0	0.0	436	70.6	.4	2.3	.78	8.4	212	33.1	6	7.9	10	3.6	.289	45.0	213	33.2
22. Aircraft (all perils).....	.0	XXX	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
23. Fidelity.....	138	XXX	139	100.0	.0	0.3	(5)	(3.4)	.13	9.5	.1	0.8	1,047	753.2	109	78.2	4	2.9	.52	37.6	.37	26.6
24. Surety.....	.0	XXX	.0	100.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
26. Burglary and Theft.....	.0	XXX	.0	100.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
27. Boiler and Machinery.....	.0	XXX	.0	100.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
28. Credit.....	.0	XXX	.0	100.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
29. International.....	.0	XXX	.0	100.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
30. Warranty.....	.0	XXX	.0	100.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
34. Aggregate write-ins for Other Lines of Business.....	.0	XXX	.0	100.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
35. TOTALS (Lines 1 through 34)	28,634	XXX	28,597	100.0	46	0.0	18,533	64.8	1,685	5.9	1,600	5.6	51,275	179.3	7,825	27.4	2,599	9.1	12,601	44.1	7,172	25.1

INSURANCE EXPENSE EXHIBIT FOR THE YEAR 2011 OF THE FICTITIOUS INSURANCE COMPANY

PART III - ALLOCATION TO LINES OF DIRECT BUSINESS WRITTEN (Continued)

PREMIUMS, LOSSES, EXPENSES, RESERVES AND PROFITS AND PERCENTAGES TO PREMIUMS EARNED FOR DIRECT BUSINESS WRITTEN (000 Omitted)

	Commission and Brokerage Expenses Incurred		Taxes, Licenses & Fees Incurred		Other Acquisitions, Field Supervision, and Collection Expenses Incurred		General Expenses Incurred		Other Income Less Other Expenses		Pre-Tax Profit or Loss Excluding All Investment	
	23 Amount	24 %	25 Amount	26 %	27 Amount	28 %	29 Amount	30 %	31 Amount	32 %	33 Amount	34 %
1. Fire.....	536	17.7	.81	2.5	105	3.2	190	5.8	9	0.3	832	25.4
2.1 Allied Lines.....	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
2.2 Multiple Peril Crop.....	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
2.3 Federal Flood.....	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
3. Farmowners Multiple Peril.....	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
4. Homeowners Multiple Peril.....	1,043	19.5	130	2.9	169	3.7	298	6.5	1	0.0	(1,416)	(31.1)
5.1 Commercial Multiple Peril (Non-Liability Portion).....	634	17.3	85	2.6	193	5.9	347	10.6	2	0.1	378	11.6
5.2 Commercial Multiple Peril (Liability Portion).....	341	17.1	45	2.5	62	3.5	110	6.2	0	0.0	118	6.6
6. Mortgage Guaranty.....	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
8. Ocean Marine.....	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
9. Inland Marine.....	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
10. Financial Guaranty.....	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
11. Medical Professional Liability.....	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
12. Earthquake.....	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
13. Group A&H (See Interrogatory 1).....	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
14. Credit A & H.....	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
15. Other A&H (See Interrogatory 1).....	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
16. Workers' Compensation.....	421	8.9	242	5.5	159	3.6	282	6.4	(26)	(0.6)	712	16.1
17.1 Other Liability - Occurrence.....	580	13.6	81	2.1	224	5.9	399	10.6	31	0.8	1,177	31.2
17.2 Other Liability - Claims-made.....	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
17.3 Excess Workers' Compensation.....	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
18. Products Liability.....	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
19.1,19.2 Private Passenger Auto Liability.....	498	15.2	71	2.5	132	4.7	235	8.3	0	0.0	(960)	(34.0)
19.3,19.4 Commercial Auto Liability.....	395	14.8	62	2.7	115	5.0	204	8.9	2	0.1	(3,124)	(135.5)
21.1 Private Passenger Auto Physical Damage.....	295	15.2	39	2.4	82	5.1	146	9.0	0	0.0	(247)	(15.1)
21.2 Commercial Auto Physical Damage.....	120	15.5	19	2.9	30	4.6	53	8.2	1	0.2	(98)	(15.3)
22. Aircraft (all perils).....	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
23. Fidelity.....	17	9.9	5	3.6	12	8.6	21	15.1	13	9.4	87	62.6
24. Surety.....	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
26. Burglary and Theft.....	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
27. Boiler and Machinery.....	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
28. Credit.....	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
29. International.....	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
30. Warranty.....	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
34. Aggregate write-ins for Other Lines of Business.....	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0	.0	0.0
35. TOTALS (Lines 1 through 34)	4,880	17.1	860	3.0	1,283	4.5	2,285	8.0	33	0.1	(2,542)	(8.9)

**2011 STATEMENT OF ACTUARIAL OPINION FOR FICTITIOUS INSURANCE COMPANY**

**STATEMENT OF ACTUARIAL OPINION**

**Fictitious Insurance Company**

IDENTIFICATION

I, William H. Smith, am a Fellow of the Casualty Actuarial Society, member of the American Academy of Actuaries, and am associated with the firm of WS Actuarial Consulting. I meet the qualification standards of the American Academy of Actuaries for Statements of Actuarial Opinion for the Property and Casualty Annual Statement.

I was appointed by the Board of Directors of Fictitious Insurance Company (“the Company”) on September 7, 2011, to provide this opinion for purposes of satisfying the requirements of the NAIC *Annual Statement Instructions Property/Casualty*. The intended users of this opinion are Company management, its Board of Directors and state insurance department regulators.

SCOPE

I have reviewed the December 31, 2011, loss and loss adjustment expense reserves recorded under U.S. Statutory Accounting Principles, listed in Exhibit A and included in the 2011 Statutory Annual Statement of the Company as filed with the respective state insurance departments. Those loss and loss adjustment expense reserves are the responsibility of the Company’s management; my responsibility is to express an opinion on those loss and loss adjustment expense reserves based on my review.

My review of the Company’s reserves included the use of such actuarial assumptions and methods and such tests of the actuarial calculations as I considered necessary in the circumstances and was conducted in accordance with standards and principles established by the Actuarial Standards Board. My review considered information provided to me through January 28, 2012.

The reserves listed in Exhibit A, where applicable, include provisions for disclosure items (disclosures 8 through 13) in Exhibit B.

In my review, I have relied on data and other relevant information, prepared by John J. Hoffman, Vice President and Controller of the Company. I evaluated that data for reasonableness and consistency. I also reconciled that data to Schedule P, Part 1 of the Company’s 2011 Annual Statement.

I have not reviewed the Company’s unearned premium reserves, nor have I performed any analysis to determine whether a premium deficiency reserve is needed to supplement the unearned premium reserves reported by the Company.

Appendix I. Fictitious Insurance Company

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I have not reviewed any of the Company's assets, nor have I formed any opinion as to their validity or value; the following opinion is based on the assumption that the Company's December 31, 2011, statutory-basis reserves identified herein are funded by valid assets that have suitably scheduled maturities and/or adequate liquidity to meet cash flow requirements.

OPINION

In my opinion, the amounts carried in Exhibit A on account of the items identified:

- ▶ Make a reasonable provision for all unpaid losses and loss adjustment expenses, gross and net as to reinsurance ceded, under the terms of the Company's contracts and agreements.
- ▶ Are computed in accordance with accepted standards and principles.
- ▶ Meet the requirements of the insurance laws of Florida.

RELEVANT COMMENTS

*Materiality standard*

In order to establish my materiality standard, for purposes of addressing the risk of material adverse deviation of the Company's reserves for unpaid losses and loss adjustment expenses, I have considered the following amounts:

1.	10% of the Company's net loss + loss adjustment expense reserves (10% of Exhibit A, Item 1. + Item 2.) at December 31, 2011	\$5,155,700
2.	20% of the Company's surplus at December 31, 2011	\$6,204,800
3.	The difference between the Company's surplus at December 31, 2011, and the company action level based on the NAIC's Risk-Based Capital formula	\$19,920,000

My materiality standard, for purposes of preparing the analysis in support of this Statement of Actuarial Opinion, was established at \$5,155,700, which is the smallest of the foregoing amounts.

*Risk of material adverse deviation*

I have identified the major risk factors for this company as: mass tort claims; construction defect claims; so-called "Chinese drywall" claims; cumulative injury losses; claims from large deductible workers' compensation policies; and claims related to catastrophic weather events.

Appendix I. Fictitious Insurance Company

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In my analysis I have considered these risk factors and the implications of uncertainty in estimates of unpaid losses and loss adjustment expenses in determining my range of reasonable estimates. I also observed that the difference between the Company's carried reserves for losses and loss adjustment expenses and the higher end of my range of reasonable unpaid claim estimates is greater than my materiality standard.

In light of the materiality considerations within this analysis, and after considering the potential risks and uncertainties that could bear on the Company's reserve development, I concluded that there are significant risks and uncertainties that could result in material adverse deviation of the Company's carried reserves for unpaid losses and loss adjustment expenses as of December 31, 2011.

These risk factors are described in more detail in the following paragraphs and in the report supporting this opinion.

*Mass Torts*

The Company has exposure to mass tort claims such as those involving asbestos and environmental impairment liability. The Company's management has indicated that case-basis loss and allocated loss adjustment expense reserves for such claims are established as claims are reported. Additional reserves for such claims are established by the Company's management to include the potential for future development of those claims and the reporting of latent claims. Estimation of ultimate liabilities for those types of claims is unusually difficult due to such outstanding issues as whether coverage exists, definition of an occurrence, determination of ultimate damages, and allocation of such damages to financially responsible parties. The Company's net reserves for these mass tort claims totaling \$3,739,000, which are included in the amounts listed in Exhibit A, are subject to greater inherent uncertainty than are estimates of the remainder of the Company's loss and loss adjustment expense liabilities.

*Other losses and/or risk factors subject to greater inherent uncertainty*

Additionally, at December 31, 2011, the Company has characterized construction defect claims; so-called "Chinese drywall" claims; cumulative injury losses; claims from large deductible workers' compensation policies; and claims related to catastrophic weather events, including wildfires tornadoes and hurricanes, as types of losses subject to greater inherent uncertainty than are estimates for the remainder of the Company's loss and loss adjustment expense liabilities due to pending legal interpretation, coverage disputes, length of the expected settlement pattern and high excess attachment levels. The absence of other types of losses and risk factors from this paragraph does not imply that additional factors will not be identified in the future as having contributed to significant uncertainty in the Company's estimates of unpaid losses and loss adjustment expenses.

Appendix I. Fictitious Insurance Company

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*Anticipated salvage and subrogation*

The Company's management has informed me that the reserves listed in Exhibit A provide for anticipated salvage and subrogation.

*Discounting*

Except for tabular discount for workers' compensation and other liability, the Company's management has informed me that it does not discount its reserves for unpaid losses and loss adjustment expenses.

*Pools and associations*

The company does not participate in any voluntary and involuntary underwriting pools or associations.

*Retroactive or financial reinsurance*

I have been informed by the Company's management that it is not aware of any reinsurance contract that either has been or should have been accounted for as retroactive reinsurance or financial reinsurance.

*Uncollectible reinsurance*

I have been informed by the Company's management that it is not aware of any significant uncollectible reinsurance. In my review, I have requested information from management on uncollectible reinsurance, reviewed the latest available financial ratings of reinsurers by a recognized rating service and reviewed Schedule F for indications of regulatory actions or reinsurance recoverables on paid losses over 90 days past due. The majority of the Company's ceded loss reserves are with reinsurance companies rated A or better by A.M. Best Company. Past uncollectibility levels and current amounts in dispute have been reviewed and found to be immaterial relative to surplus. Therefore, reinsurance collectibility does not appear to be an issue. I express no opinion on the financial condition of the Company's reinsurers.

*IRIS Ratios*

I have reviewed the Company's calculations of the National Association of Insurance Commissioners' Insurance Regulatory Information System (IRIS) tests that relate to the Company's December 31, 2011, loss and loss adjustment expense reserves (Test 11, One-Year Reserve Development to Surplus; Test 12, Two-Year Reserve Development to Surplus; and Test 13, Estimated Current Reserve Deficiency to Surplus). No exceptional values were noted with respect to the Company's December 31, 2011, loss and loss adjustment expense reserve tests.

Appendix I. Fictitious Insurance Company

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*Extended reporting endorsements*

According to management, the Company has no exposure to medical professional liability extended reporting endorsements, such as those relating to death, disability or retirement.

*Long-duration contracts*

Excluding financial guaranty contracts, mortgage guaranty policies and surety contracts, the Company's management has informed me that the Company does not write policies with coverage periods of 13 months or greater that are non-cancelable and not subject to premium increase.

\* \* \*

An actuarial report supporting this actuarial opinion is to be provided to the Company to be retained for a period of seven years at its administrative offices and to be available for regulatory examination.

**(Signature of William H. Smith)**

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William H. Smith, FCAS, MAAA  
777 Seventh Avenue  
Sunny City, Florida 33585  
+1 305 555-5555  
william.smith@wsactuarialconsulting.com

February 24, 2012

# FINANCIAL REPORTING THROUGH THE LENS OF A PROPERTY/CASUALTY ACTUARY

## Appendix I. Fictitious Insurance Company

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### Exhibit A: SCOPE

<u>Loss and Loss Adjustment Expense Reserves:</u>	<u>Amount</u>
1. Reserve for Unpaid Losses (Liabilities, Surplus and Other Funds page, Col 1, Line 1)	\$41,894,000
2. Reserve for Unpaid Loss Adjustment Expenses (Liabilities, Surplus and Other Funds page, Col 1, Line 3)	\$9,663,000
3. Reserve for Unpaid Losses - Direct and Assumed (Should equal Schedule P, Part 1, Summary, Totals from Cols. 13 and 15, Line 12 * 1000)	\$51,275,000
4. Reserve for Unpaid Loss Adjustment Expenses - Direct and Assumed (Should equal Schedule P, Part 1, Summary, Totals from Cols. 17, 19 and 21, Line 12 * 1000)	\$10,424,000
5. The Page 3 write-in item reserve, "Retroactive Reinsurance Reserve Assumed"	\$0
6. Other Loss Reserve items on which the Appointed Actuary is expressing an Opinion (list separately)	\$0
 <u>Premium Reserves:</u>	
7. Reserve for Direct and Assumed Unearned Premiums for Long Duration Contracts	\$0
8. Reserve for Net Unearned Premiums for Long Duration Contracts	\$0
9. Other Premium Reserve items on which the Appointed Actuary is expressing an Opinion (list separately)	\$0



FINANCIAL REPORTING THROUGH THE LENS OF A PROPERTY/CASUALTY ACTUARY

Appendix I. Fictitious Insurance Company

**Exhibit B: DISCLOSURES**

	<u>Last</u>	<u>First</u>	<u>Mid</u>
1. Name of the Appointed Actuary	Smith	William	H
2. The Appointed Actuary's Relationship to the Company. Enter E or C based upon the following: E if an Employee of the Company or Group C if a Consultant		C	
3. The Appointed Actuary has the following designation (indicated by the letter code):: F if a Fellow of the Casualty Actuarial Society (FCAS) A if an Associate of the Casualty Actuarial Society (ACAS) M if not a member of the Casualty Actuarial Society, but a Member of the American Academy of Actuaries (MAAA) approved by the Casualty Practice Council, as documented with the attached approval letter. O for Other			F
4. Type of Opinion, as identified in the OPINION paragraph. Enter R, I, E, Q, or N based upon the following: R if Reasonable I if Inadequate or Deficient Provision E if Excessive or Redundant Provision Q if Qualified. Use Q when part of the OPINION is Qualified N if No Opinion			R
5. Materiality Standard expressed in US dollars (Used to Answer Question #6)	\$5,155,700		
6. Are there significant risks that could result in Material Adverse Deviation?		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> Not Applicable <input type="checkbox"/>
7. Statutory Surplus (Liabilities, Col 1, Line 37)	\$31,024,000		
8. Anticipated net salvage and subrogation included as a reduction to loss reserves as reported in Schedule P (should equal Part 1 Summary, Col 23, Line 12 * 1000)	\$1,363,000		
9. Discount included as a reduction to loss reserves and loss expense reserves as reported in Schedule P			
9.1 Nontabular Discount [Notes, Line 32B23, (Amounts 1, 2, 3 & 4)], Electronic Filing Cols 1, 2, 3 & 4	\$0		
9.2 Tabular Discount [Notes, Line 32A23 (Amounts 1 & 2)], Electronic Filing Col 1 & 2.	\$1,365,000		

# FINANCIAL REPORTING THROUGH THE LENS OF A PROPERTY/CASUALTY ACTUARY

## Appendix I. Fictitious Insurance Company

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10.	The net reserves for losses and expenses for the Company's share of voluntary and involuntary underwriting pools' and associations' unpaid losses and expenses that are included in reserves shown on the Liabilities, Surplus and Other Funds page, Losses and Loss Adjustment Expenses lines.	\$0
11.	The net reserves for losses and loss adjustment expenses that the Company carries for the following liabilities included on the Liabilities, Surplus and Other Funds page, Losses and Loss Adjustment Expenses lines.*	
	11.1 Asbestos, as disclosed in the Notes to Financial Statements (Notes, Line 33A03D, ending net asbestos reserves for current year), Electronic Filing Col 6	\$3,280,000
	11.2 Environmental, as disclosed in the Notes to Financial Statements (Notes, Line 33D03D, ending net environmental reserves for current year), Electronic Filing Col 6	\$459,000
12.	The total claims made extended loss and expense reserve (Greater than or equal to Schedule P Interrogatories).	
	12.1 Amount reported as loss reserves	\$0
	12.2 Amount reported as unearned premium reserves	\$0
13.	Other items on which the Appointed Actuary is providing Relevant Comment (list separately)	\$0

\* The reserves disclosed in item 11 above, should exclude amounts relating to contracts specifically written to cover asbestos and environmental exposures. Contracts specifically written to cover these exposures include Environmental Impairment Liability (post 1986), Asbestos Abatement, Pollution Legal Liability, Contractor's Pollution Liability, Consultant's Environmental Liability, and Pollution and Remediation Legal Liability.

**2011 ACTUARIAL OPINION SUMMARY FOR FICTITIOUS INSURANCE COMPANY**

**ACTUARIAL OPINION SUMMARY**

**Fictitious Insurance Company**

**December 31, 2011**

This Actuarial Opinion Summary has been prepared in conjunction with my role as Appointed Actuary for Fictitious Insurance Company (“the Company”), and in accordance with the NAIC’s Annual Statement Supplemental Filing Instructions. The information provided in this Actuarial Opinion Summary will be included in the actuarial report in support of my Statement of Actuarial Opinion, dated February 24, 2012, on the Company’s statutory-basis loss and loss adjustment expense reserves at December 31, 2011. That actuarial report is to be provided to the Company to be retained for a period of seven years at its administrative offices and to be available for regulatory examination.

	<u>Net Reserves (USD in 000s)</u>			<u>Gross Reserves (USD in 000s)</u>		
	<u>Low</u>	<u>Point</u>	<u>High</u>	<u>Low</u>	<u>Point</u>	<u>High</u>
A. Actuary’s range of reserve estimates	43,000		57,000	52,000		68,000
B. Actuary’s point estimate		50,000			60,000	
C. Company carried reserves		51,557			61,699	
D. Difference between Company carried and Actuary’s estimate (C. - A. and C. - B., if applicable)	8,557	1,557	(5,443)	9,699	1,699	(6,301)

E. The Company has not had one-year adverse development in excess of 5% of surplus in at least three of the last five calendar years, as measured by Schedule P, Part 2, Summary, and disclosed in the Five-Year Historical Data, on line 74, of the Company’s December 31, 2011 statutory-basis Annual Statement.

\* \* \*

This Actuarial Opinion Summary was prepared solely for the Company for the purpose of filing with regulatory agencies and is not intended for any other purpose. Furthermore, it is my understanding that, consistent with the Annual Statement Supplemental Filing Instructions, the information provided

Appendix I. Fictitious Insurance Company

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in this Actuarial Opinion Summary will be held confidential by those regulatory agencies and will not be made available for public inspection.

(Signature of William H. Smith)

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William H. Smith, FCAS, MAAA  
777 Seventh Avenue  
Sunny City, Florida 33585  
+1 305 555-5555  
william.smith@wsactuarialconsulting.com

March 1, 2012

## RESULTS OF IRIS RATIO TESTS FOR FICTITIOUS INSURANCE COMPANY

### OVERVIEW

Within this section of the Appendix, we will walk through the calculation and purpose of the 13 IRIS Ratios, provide possible explanations for unusual values, and show the results of the IRIS Ratio calculations for Fictitious Insurance Company using the 2011 Annual Statement.

IRIS Ratios are grouped into four categories:

- ▶ Overall ratios
- ▶ Profitability ratios
- ▶ Liquidity ratios
- ▶ Reserve ratios

We will present the material separately by category.

It is important to note that the calculations provided herein are based on the 2011 version of the *NAIC Insurance Regulatory Information System (IRIS) Ratios Manual*. Further, the ranges of “unusual values” are as provided in the 2011 IRIS manual. The National Association of Insurance Commissioners (NAIC) re-evaluates the reasonableness of the ranges periodically, in light of the current environment. For example, years ago the range of “usual” values for IRIS Ratio 6, *Investment Yield*, was between 5% and 10%. Compare that to the range in 2011 of 3% to 6.5%, which reflects the current economic environment. The current version of IRIS needs to be followed when analyzing data.

### OVERALL RATIOS

The overall ratios focus on the insurance company’s leverage, in terms of premium volume relative to surplus. There are four overall ratios:

- IRIS Ratio 1: Gross premiums written to policyholders’ surplus
- IRIS Ratio 2: Net premiums written to policyholders’ surplus
- IRIS Ratio 3: Change in net premiums written
- IRIS Ratio 4: Surplus aid to policyholders’ surplus

**IRIS Ratios 1 and 2** provide written premium-to-surplus ratios on a gross and net of reinsurance basis, respectively. The denominator is the same in each of these ratios, with the numerator differing by the amount of ceded reinsurance premium written. The source of this data can be readily found in an insurance company’s Annual Statement, from either Part 1B of the Underwriting and Investment Exhibit (U&IE) *and* the balance sheet (page 3), or Five-Year Historical Data.

The purpose of IRIS Ratios 1 and 2 is to identify companies that may be taking on more business and more risk than they can handle relative to their surplus. Unusual values are

### Appendix I. Fictitious Insurance Company

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greater than or equal to 900% on a gross basis and 300% on a net basis. The 300% ratio on a net basis corresponds to the age-old generally accepted benchmark that insurers remain within the 3-to-1 range in terms of writings relative to surplus. This ratio is higher on a gross basis in consideration of reinsurance.

The following are examples of considerations that should be made when reviewing the results of these ratios:

- ▶ The difference between the gross and net IRIS Ratio results:
  - ▶ Wide disparity could signal heavy reliance on reinsurance or involvement in fronting arrangements. Further investigation on the quality, rating and collectibility of the reinsurance should be made, as well as the level of collateral held, if any. This can be accomplished through a review of the note titled, "Reinsurance" (number 23 within the Notes to Financial Statement of the 2011 Annual Statement), Schedule F, Parts 3 through 5, and research on the financial ratings of the company's reinsurers listed in Schedule F by a recognized rating service, such as A.M. Best.
  - ▶ This does not mean that a narrow difference between the gross and net IRIS Ratio results should not be investigated, as they could signal inadequate levels of reinsurance protection, in particular if the company is exposed to catastrophe risk. Part 2 of the General Interrogatories provides information on a company's protection against excessive or catastrophic loss, although further inquiry would have to be made of the company for specific details.
- ▶ The amount of the gross premiums that stem from assumed business versus business directly written by the company:
  - ▶ Companies tend to have less control over business assumed from third parties. Those companies having a large portion of assumed business and IRIS Ratio 1 results nearing the unusual value benchmark should be subject to further investigation. This would include an understanding of the type of business assumed, attachment points, layers and limits of coverage, as well as the underwriting and price monitoring controls in place on the assumed book.
- ▶ The results relative to lines of business written:
  - ▶ Lower ratio results are preferred for company's writing long-tailed lines of business due to the uncertainty inherent in the ultimate payout of associated claims.

As displayed below, IRIS Ratios 1 and 2 can be calculated for Fictitious using data from the Five-Year Historical Data exhibit.

# FINANCIAL REPORTING THROUGH THE LENS OF A PROPERTY/CASUALTY ACTUARY

## Appendix I. Fictitious Insurance Company

Data from Fictitious Insurance Company 2011 Five-Year Historical Data (USD)					
	<u>2011</u>	<u>2010</u>	<u>2009</u>	<u>2008</u>	<u>2007</u>
6. Gross premiums written (GPW)	28,634,000	28,085,000	29,519,000	31,238,000	31,670,000
12. Net premiums written (NPW)	26,752,000	25,936,000	25,521,000	25,583,000	25,363,000
26. Surplus as regards policyholders (PHS)	31,024,000	31,608,000	35,793,000	32,572,000	34,567,000
Results of IRIS Ratios 1 and 2					
IRIS Ratio 1 (= Line 6 / Line 26)	92%	89%	82%	96%	92%
IRIS Ratio 2 (= Line 12 / Line 26)	86%	82%	71%	79%	73%

As displayed in the above table, the results of IRIS Ratio 1 for Fictitious, ranging from 82% to 96% over the period 2007 to 2011, were well within the benchmark imposed for unusual values (900%). Similarly, the results of IRIS Ratio 2, ranging from 71% to 86% over same period, were well within the 300% benchmark on a net basis.

**IRIS Ratio 3** provides the change in net written premiums, current year over prior year, as a percentage of prior year net written premium. The source of this data can be readily found in an insurance company's Annual Statement, from either Part 1B of the current year and prior year U&IEs, or Five-Year Historical Data.

The purpose of IRIS Ratio 3 is to identify companies that are growing or declining rapidly so that further investigation can be made as to the cause. Unusual values are outside of the -33% to +33% range.

The following are examples of considerations that should be made when reviewing the results of IRIS Ratio 3:

- ▶ Consistent or large increases in results:
  - ▶ Growth brings uncertainty in the types of risks written and the frequency and ultimate cost of claims. In certain markets it is difficult to expand without conceding on pricing and underwriting standards. Further investigation as to the source of the company's expansion and whether the company has been able to maintain adequate pricing and terms and conditions is warranted. In addition, a review of the results of other IRIS Ratios can serve to mitigate or augment the uncertainty. For example, a mitigating factor would be a low result for IRIS Ratios 1 and 2.
- ▶ Consistent or large decreases in results:
  - ▶ A decrease in writings also requires attention. A sharp reduction in writings may be a sign of financial stress.

Appendix I. Fictitious Insurance Company

- ▶ Unstable results year over year:
  - ▶ This may be a sign that the company does not have good controls on its underwriting or a solid business plan and therefore raises uncertainty with respect to the viability of the company in the long-term.

We can also calculate IRIS Ratio 3 from Fictitious' Five-Year Historical Data exhibit.

Data from Fictitious Insurance Company 2011 Five-Year Historical Data (USD)					
	2011	2010	2009	2008	2007
12. Net premiums written (NPW)	26,752,000	25,936,000	25,521,000	25,583,000	25,363,000
Results of IRIS Ratio 3					
IRIS Ratio 3 (= Line 12 current less prior year) /Line 12 prior year)	3%	2%	0%	1%	

As displayed in the above table, the results of IRIS Ratio 3 for Fictitious, ranging from 0% to 3% over the period 2007 through 2011, were well within the benchmark imposed for unusual values (outside the range -33% to +33%).

**IRIS Ratio 4** provides the ratio of surplus aid to policyholder surplus and is meant to identify companies that rely heavily on reinsurance as a means to enhance surplus. Insurance companies receive a ceding commission from their reinsurers for placing business with those reinsurers. Under statutory accounting, the treatment of ceding commissions is similar to the way that an insurance company treats policy acquisition costs, the "signs" are just different. While acquisition expenses are a direct charge to income and surplus as they are incurred, ceding commissions are recognized as a credit to income and surplus when they are incurred. Surplus aid represents the amount of enhancement to surplus in the current period as a result of ceding commission that has been taken into income on its ceded unearned premium. Formulaically,

Surplus aid =

$$\frac{\text{Estimated reinsurance commission rate}}{\text{Unearned premium on reinsurance ceded to non-affiliates}}$$

where,

Estimated reinsurance commission rate =

$$\frac{\text{Ceding commissions from reinsurance, including contingent commissions}}{\text{Total written premiums ceded to reinsurers (affiliates and non-affiliates)}}$$



Appendix I. Fictitious Insurance Company

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Ceding commissions from reinsurance for the current year are found in Part 3, Expenses of the U&IE of the Annual Statement, column 2 (other underwriting expenses), line 2.3 (reinsurance ceded, excluding contingent) plus line 2.6 (contingent – reinsurance ceded).

Total written premiums ceded to reinsurers is found in Part 1B, Premiums Written of the U&IE of the Annual Statement, column 4 (reinsurance ceded to affiliates) plus column 5 (reinsurance ceded to non-affiliates) totals.

Unearned premium on reinsurance ceded to non-affiliates is found in Schedule F, Part 3, reinsurance ceded of the Annual Statement, column 13 totals for the following three categories of unaffiliated reinsurers:

1. Authorized and unauthorized other U.S. unaffiliated insurers
2. Authorized and unauthorized mandatory and voluntary pools
3. Authorized and unauthorized other non-U.S. insurers

IRIS Ratio 4 is the ratio of surplus aid, as calculated above, to policyholders' surplus.

Unusual values are greater than or equal to 15%, and may be a sign that policyholders' surplus is inadequate. Therefore, when IRIS Ratio 4 produces values greater than 15%, certain other IRIS Ratio tests dependent upon policyholders' surplus are recalculated to remove surplus aid. These are:

- IRIS Ratio 1: Gross premiums written to policyholders' surplus
- IRIS Ratio 2: Net premiums written to policyholders' surplus
- IRIS Ratio 7: Gross change in policyholders' surplus
- IRIS Ratio 10: Gross agents' balances (in collection) to policyholders' surplus
- IRIS Ratio 13: Estimated current reserve deficiency to policyholders' surplus

Further, when IRIS Ratio 4 produced unusual values, the company's reinsurance treaties should be evaluated to assess the impact that cancellation could have solvency.

The following provides the calculation of IRIS Ratio 4 for Fictitious.

# FINANCIAL REPORTING THROUGH THE LENS OF A PROPERTY/CASUALTY ACTUARY

## Appendix I. Fictitious Insurance Company

Data from Fictitious Insurance Company 2011 Annual Statement (USD)		
	2011	Source
(1) Surplus Aid	403,172	= (2) * (9) * 1000
(2) Estimated reinsurance commission rate	44%	= (3) / (6)
(3) Total ceding commissions from reinsurance	825,000	= (4) + (5)
(4) Reinsurance ceded, excluding contingent	816,000	Underwriting & Investment Exhibit, Part 3, Column 2, Line 2, 3
(5) Ceding Commission from reinsurance	9,000	Underwriting & Investment Exhibit, Part 3, Column 2, Line 2, 6
(6) Total written premiums ceded to reinsurers	1,882,000	= (7) + (8); = Five Year Historical Data GPW minus NPW
(7) Reinsurance ceded to affiliates	0	Underwriting & Investment Exhibit, Part 1B, Column 4, Total
(8) Reinsurance ceded to non-affiliates	1,882,000	Underwriting & Investment Exhibit, Part 1B, Column 5, Total
(9) Unearned premium on reinsurance ceded to non-affiliates	920	= Sum of (10) through (17)
(10) Authorized Other U.S. Unaffiliated Insurers	626	Schedule F, Part 3, Column 13, Total (000 omitted)
(11) Authorized Mandatory Pools		Schedule F, Part 3, Column 13, Total (000 omitted)
(12) Authorized Voluntary Pools	50	Schedule F, Part 3, Column 13, Total (000 omitted)
(13) Authorized Other Non-U.S. Insurers	201	Schedule F, Part 3, Column 13, Total (000 omitted)
(14) Unauthorized Other U.S. Unaffiliated Insurers	28	Schedule F, Part 3, Column 13, Total (000 omitted)
(15) Unauthorized Mandatory Pools		Schedule F, Part 3, Column 13, Total (000 omitted)
(16) Unauthorized Voluntary Pools		Schedule F, Part 3, Column 13, Total (000 omitted)
(17) Unauthorized Other Non-U.S. Insurers	15	Schedule F, Part 3, Column 13, Total (000 omitted)
(18) Surplus as regards policyholders (PHS)	31,024,000	Page 3, Line 37, Column 1
Results of IRIS Ratio 4		
IRIS Ratio 4	1.30%	= (1) / (18)

As displayed in the above table, the result of IRIS Ratio 4 of 1.30% for Fictitious was well within the benchmark imposed for unusual values (greater than or equal to 15%).

### PROFITABILITY RATIOS

The profitability ratios focus on the insurance company's profitability from an operations, investment and surplus perspective. There are four profitability ratios:

IRIS Ratio 5: Two-year overall operating ratio

IRIS Ratio 6: Investment yield

IRIS Ratio 7: Gross change in policyholders' surplus

IRIS Ratio 8: Change in adjusted policyholders' surplus

**IRIS Ratio 5** essentially provides a company's combined ratio over a two-year period, offset for investment income earned over that period. In IRIS Ratio 5, the combined ratio is calculated as loss and loss adjustment expense (LAE) incurred plus policyholder dividends

Appendix I. Fictitious Insurance Company

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incurred, divided by earned premium, plus other underwriting expenses less other income, divided by written premium. The investment income ratio is calculated as the ratio of investment income earned divided by earned premium.

Two-year operating ratio =  
 Two-year combined ratio - Two-year investment income ratio

where,

Combined ratio =  

$$\frac{\text{Net loss and LAE} + \text{Dividends to policyholders incurred}}{\text{Net earned premium}} + \frac{\text{Other underwriting expenses} - \text{Other income incurred}}{\text{Net written premium}}$$

Investment income ratio =  

$$\frac{\text{Investment income earned.}}{\text{Net earned premium}}$$

The source of this data can be readily found in an insurance company's Annual Statement, from the Statement of Income and Part 1B of the U&IE.

The purpose of IRIS Ratio 5 is to identify companies that are operating unprofitably. A two-year period is used in the calculation to smooth unusual fluctuations due to a "bad" loss or investment year. Unusual values are greater than or equal to 100%, meaning that the company is operating at an underwriting loss, even after consideration of investment income.

When reviewing the result of this ratio, consideration should be made for the cause by looking at each of the components of the calculation. During the financial crisis, companies experienced a significant decline in investment income and therefore did not achieve as much of a benefit in the offset afforded in the calculation. Further, adverse development on prior accident years will have an impact on the combined ratio, but such development may not be reflective of profitability on the company's current operations or current reserving.

IRIS Ratio 5 is calculated for Fictitious in the following table.

FINANCIAL REPORTING THROUGH THE LENS OF A PROPERTY/CASUALTY ACTUARY

Appendix I. Fictitious Insurance Company

Data from Fictitious Insurance Company 2011 Annual Statement (USD)				
	2011 (Current Year)	2010 (Prior Year)	Sum over 2-Year	Source
(1) Combined Ratio	108%	94%	101%	= (2) + (8)
(2) Loss Ratio	76%	62%	69%	= (3) / (7)
(3) Loss & LAE plus Dividends to Policyholders incurred	20,208,000	15,838,000	36,046,000	= (4) + (5) + (6)
(4) Losses incurred	16,907,000	12,798,000	29,705,000	Statement of Income, Line 2, Columns 1 and 2, respectively
(5) Loss Adjustment Expenses (LAE) incurred	3,255,000	3,008,000	6,263,000	Statement of Income, Line 3, Columns 1 and 2, respectively
(6) Dividends to policyholders	46,000	32,000	78,000	Statement of Income, Line 17, Columns 1 and 2, respectively
(7) Net premiums earned	26,512,000	25,535,000	52,047,000	Statement of Income, Line 1, Columns 1 and 2, respectively
(8) Expense Ratio	32%	32%	32%	= (9) / (13)
(9) Expenses Incurred	8,450,000	8,194,000	16,664,000	= (10) + (11) - (12)
(10) Other underwriting expenses	8,483,000	8,240,000	16,723,000	Statement of Income, Line 4, Columns 1 and 2, respectively
(11) Aggregate write-ins for underwriting deductions	-	1,000	1,000	Statement of Income, Line 5, Columns 1 and 2, respectively
(12) Total other income	33,000	47,000	80,000	Statement of Income, Line 15, Columns 1 and 2, respectively
(13) Net premiums written	26,752,000	25,936,000	52,688,000	Underwriting & Investment Exhibit, Part 1B, Column 6, Total*
(14) Investment Income Ratio	16%	19%	18%	= (15) / (16)
(15) Investment income earned	4,290,000	4,860,000	9,150,000	Statement of Income, Line 9, Columns 1 and 2, respectively
(16) Net premiums earned	26,512,000	25,535,000	52,047,000	Statement of Income, Line 1, Columns 1 and 2, respectively
Results of IRIS Ratio 5				
IRIS Ratio 5	84% = (1) - (14) for two-year period			
<i>*Also provided in Five-Year Historical Data</i>				

As displayed above, the result of IRIS Ratio 5 for Fictitious of 84% was well within the 100% benchmark imposed for unusual values.

**IRIS Ratio 6** provides the yield in the company's investment portfolio over the past year. IRIS Ratio 6 is calculated as net investment income earned during the year divided by the average of cash plus invested assets over the current and prior year. The source of this data can be readily found in an insurance company's Annual Statement, from the balance sheet and Statement of Income.

The purpose of IRIS Ratio 6 is to identify companies earning unusually low or high yields, potentially indicating a risky, inefficient or expensive investment strategy. Unusual values are

## FINANCIAL REPORTING THROUGH THE LENS OF A PROPERTY/CASUALTY ACTUARY

### Appendix I. Fictitious Insurance Company

outside of the 3.0% to +6.5% range. That is, it is expected that companies will achieve a 3.0% to 6.5% yield on their invested assets during the year. The NAIC can change the range of usual (or unusual) values over time, in consideration of the financial markets.

When reviewing the result of this ratio, consideration should be made for the cause by looking at each of the components of the calculation, and further investigation into the types of investment should be made.

The following provides the calculation of IRIS Ratio 6 for Fictitious.

Data from Fictitious Insurance Company 2011 Annual Statement (USD)				
	2011 (Current Year)	2010 (Prior Year)	Sum over 2-Year	Source
(1) Net investment income earned	4,290,000			Statement of Income, Line 9, Column 1
(2) Cash and invested assets	88,551,000	88,534,000	88,542,500	= (3) + (4) - (5); Average over two-year
(3) Total cash and investment assets	87,825,000	87,784,000		Page 2, Line 12, Columns 3 and 4, respectively
(4) Investment income due and accrued	726,000	750,000		Page 2, Line 14, Columns 3 and 4, respectively
(5) Borrowed money	-	-		Page 3, Line 8, Columns 1 and 2, respectively
Results of IRIS Ratio 6				
IRIS Ratio 6	5.0% = $2 * (1) \text{ current year} / [(2) \text{ for two-year period} - (1) \text{ current year}]$			

As displayed in the above table, the result of IRIS Ratio 6 for Fictitious of 5.0% was right around the midpoint of the expected benchmarks of 3.0% to 6.5% for usual values. This means that the company earned a return on its invested assets within what would be considered the “norm” for companies in 2011.

**IRIS Ratio 7** is what the NAIC calls “the ultimate measure of improvement or deterioration in the insurer’s financial condition during the year.”<sup>1</sup> It provides the change in policyholder surplus, current year over prior year, as a percentage of prior year surplus, with the surplus figures coming directly from the company’s balance sheet. We note that historical surplus figures are also provided in the Five-Year Historical Data of the company’s Annual Statement.

Unusual values are outside of the -10% to +50% range. That is, a decrease in a company’s surplus by 10% or more, or an increase by 50% or more, is considered a signal for the analyst

<sup>1</sup> NAIC, *Insurance Regulatory Information System (IRIS) Ratios Manual*, 2009, page 19.

## Appendix I. Fictitious Insurance Company

to perform further inquiry and investigation. The NAIC recognizes that 10% is conservative; however, decreases in policyholder surplus are of course a greater concern than increases. Increases in surplus of 50% or more are very unusual for a stable company absent an acquisition or redistribution of capital amongst affiliates and therefore would be a sign of financial instability. According to the NAIC, "a number of insolvent insurers reported dramatic increases in policyholders' surplus prior to insolvency."<sup>2</sup>

Using the Five-Year Historical Data exhibit, we can calculate the result of IRIS Ratio 7 over the past four years.

Data from Fictitious Insurance Company 2011 Annual Statement (USD)					
	2011	2010	2009	2008	2007
26. Surplus as regards policyholders (PHS)	31,024,000	31,608,000	35,793,000	32,572,000	34,567,000
Results of IRIS Ratios 7					
IRIS Ratio 7 (= Line 26 current less prior year / Line 26 prior year)	-1.8%	-11.7%	9.9%	-5.8%	

As displayed in the above table, the result of IRIS Ratio 7 for Fictitious exceeded did breach the -10% mark for unusual values in 2010 at -12%.

**IRIS Ratio 8** is similar to IRIS Ratio 7, with the exception that current-year policyholders' surplus is adjusted to remove changes in surplus notes, capital paid-in or transferred, and surplus paid-in or transferred. Removal of these items provides a picture of the improvement or deterioration in financial results due to operations. The source of the data used in the calculation of IRIS Ratio 8 is the balance sheet and Statement of Income of the company's Annual Statement.

Unusual values are outside of the -10% to +25% range. That is, a decrease in a company's surplus resulting from operations by 10% or more, or an increase by 25% or more, is considered a signal for the analyst to perform further inquiry and investigation. The lower bound benchmark is the same as in Ratio 7; however, the upper bound of +25% is lower, reflecting the expectation that operations would not typically cause an increase in surplus by more than 25%.

The calculation of IRIS Ratio 8 is shown below for Fictitious.

<sup>2</sup> Ibid.

FINANCIAL REPORTING THROUGH THE LENS OF A PROPERTY/CASUALTY ACTUARY

Appendix I. Fictitious Insurance Company

<b>Data from Fictitious Insurance Company 2011 Annual Statement (USD)</b>			
	<b>2011 (Current Year)</b>	<b>2010 (Prior Year)</b>	<b>Source</b>
(1) Adjusted policyholders' surplus	(584,000)	(4,546,000)	= (2) - (3) - (4) - (8) - (12)
(2) Policyholders' surplus	31,024,000	31,608,000	Statement of Income, Line 39, Columns 1 and 2, respectively
(3) Change in surplus notes	-	-	Statement of Income, Line 29, Columns 1 and 2, respectively
(4) Capital paid-in or transferred	-	-	= (5) + (6) + (7)
(5) Paid in	-	-	Statement of Income, Line 32.1, Columns 1 and 2, respectively
(6) Transferred from surplus (Stock Dividend)	-	-	Statement of Income, Line 32.2, Columns 1 and 2, respectively
(7) Transferred to surplus	-	-	Statement of Income, Line 32.3, Columns 1 and 2, respectively
(8) Surplus paid-in or transferred	-	361,000	= (9) + (10) + (11)
(9) Paid in	-	361,000	Statement of Income, Line 33.1, Columns 1 and 2, respectively
(10) Transferred to capital (Stock Dividend)	-	-	Statement of Income, Line 33.2, Columns 1 and 2, respectively
(11) Transferred from capital	-	-	Statement of Income, Line 33.3, Columns 1 and 2, respectively
(12) Policyholders' surplus prior year	31,608,000	35,793,000	Statement of Income, Line 21, Columns 1 and 2, respectively
<b>Results of IRIS Ratio 8</b>			
IRIS Ratio 8	-2%	-13%	= (1) / (12)

As displayed in the above table, the result of IRIS Ratio 8 for Fictitious did breach the -10% mark for unusual values in 2010 at -13%. This is consistent with the finding from IRIS Ratio 7; however, it shows that the surplus enhancement during 2010 of \$361,000 helped to cushion the impact of the change in surplus observed in IRIS Ratio 7.

This ratio is telling us that the unusual value in 2010 is attributed to the company's operations. However, going back and reviewing the components of IRIS Ratio 5, we see that the company's combined ratio for 2010 was 94%, indicating that the company was operating at a profit from its underwriting results. Further, the investment income ratio in 2010 was 19%, which was higher than in 2011. So the decrease in the company's surplus was not a result of the company's income; net income earned in 2010 was positive, at \$4.955 million (see page 4, line 20, column 2). We therefore need to look to the capital and surplus account within the Statement of Income for the reason.

Within column 2 of the capital and surplus account, we see the biggest decrease in surplus came from dividends to stockholders totaling \$10.023 million in 2010. This was more than

Appendix I. Fictitious Insurance Company

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\$7 million higher than dividends made in 2011 and was the reason for the decrease in surplus greater than 10%. Further investigation would determine why the company made such a large dividend payment in 2010 and whether regulatory approvals were required and obtained.

LIQUIDITY RATIOS

The liquidity ratios focus on the amount of liquid assets that the insurance company has to cover its obligations. There are two liquidity ratios:

IRIS Ratio 9: Adjusted liabilities to liquid assets

IRIS Ratio 10: Gross agents' balances (in collection) to policyholders' surplus

**IRIS Ratio 9** provides an indication of the company's ability to pay its financial obligations out of assets that are readily convertible into acceptable forms of payment (i.e., cash). In this calculation, an insurance company's liabilities are adjusted to remove deferred agents' balances, as these balances are not liquid assets. Liquid assets include the following:

- ▶ Bonds, excluding affiliates
- ▶ Stocks, excluding affiliates
- ▶ Cash, cash equivalents and short-term investments, excluding affiliates
- ▶ Receivable for securities
- ▶ Investment income due and accrued

Unusual values are those in 100% or greater, suggesting that the company would not be able to pay its liabilities with current liquid assets as defined above.

The primary source of this information is the balance sheet, with investments in parent, subsidiaries and affiliates coming from Five-Year Historical Data, lines 42 through 45 in the 2011 Annual Statement.

The following provides the calculation of IRIS Ratio 9 for Fictitious.



FINANCIAL REPORTING THROUGH THE LENS OF A PROPERTY/CASUALTY ACTUARY

Appendix I. Fictitious Insurance Company

Data from Fictitious Insurance Company 2011 Annual Statement (USD)			
	2011 (Current Year)	2010 (Prior Year)	Source
(1) Adjusted Liabilities	63,862,000	63,141,000	= (2) - (3)
(2) Total liabilities	68,976,000	68,068,000	Page 3, Line 28, Columns 1 and 2, respectively
(3) Deferred agent's balances	5,114,000	4,927,000	Page 2, Line 15.2, Columns 3 and 4, respectively
(4) Liquid assets	79,759,000	79,960,000	= (5) + (6) + (9) + (10) + (11) - (12)
(5) Bonds	58,676,000	58,861,000	Page 2, Line 1, Columns 3 and 4, respectively
(6) Stocks	19,374,000	19,116,000	= (7) + (8)
(7) Preferred stocks	34,000	35,000	Page 2, Line 2.1, Columns 3 and 4, respectively
(8) Common stocks	19,340,000	19,081,000	Page 2, Line 2.2, Columns 3 and 4, respectively
(9) Cash, cash equivalents and short-term investments	983,000	1,233,000	Page 2, Line 5, Columns 3 and 4, respectively
(10) Receivables for securities	-	-	Page 2, Line 9, Columns 3 and 4, respectively
(11) Investment income due and accrued	726,000	750,000	Page 2, Line 14, Columns 3 and 4, respectively
(12) Investments in parent, subsidiary and affiliates	-	-	= (13) + (14) + (15) + (16)
(13) Affiliated bonds	-	-	Five-Year Historical Data, Line 42, Columns 1 and 2, respectively
(14) Affiliated preferred stocks	-	-	Five-Year Historical Data, Line 43, Columns 1 and 2, respectively
(15) Affiliated common stocks	-	-	Five-Year Historical Data, Line 44, Columns 1 and 2, respectively
(16) Affiliated short-term investments	-	-	Five-Year Historical Data, Line 45, Columns 1 and 2, respectively
<b>Results of IRIS Ratio 9</b>			
IRIS Ratio 9	80%	79%	= (1) / (4)

As displayed above, the result of IRIS Ratio 9 for Fictitious Insurance Company was 80% in 2011, about 20 points below the 100% benchmark for unusual values. This ratio was consistent with that in 2010 of 79%.

**IRIS Ratio 10** provides the ratio of agents' balances in the course of collection to policyholders' surplus. The purpose is to show how dependent a company's surplus is to assets that may not be collectible upon liquidation or are of questionable liquidity.

The source of the data is the balance sheet of the company's Annual Statement. Unusual values are greater than or equal to 40% of surplus.

## Appendix I. Fictitious Insurance Company

The following provides the calculation of IRIS Ratio 10 for the current and prior year for Fictitious.

Data from Fictitious Insurance Company 2011 Annual Statement (USD)			
	2011 (Current Year)	2010 (Prior Year)	Source
(1) Uncollected premiums and agent's balances in course of collection	2,626,000	2,866,000	Page 2, Line 15.1, Columns 3 and 4, respectively
(2) Policyholders' surplus	31,024,000	31,608,000	Page 3, Line 37, Columns 1 and 2, respectively
Results of IRIS Ratio 10			
IRIS Ratio 10	8%	9%	= (1) / (2)

As displayed above, the result of IRIS Ratio 10 for Fictitious was 8% in 2011, which was well below the 40% threshold for unusual values. This was consistent with the result in 2010 of 9%.

## RESERVE RATIOS

The reserve ratios focus on the development of an insurance company's net loss and LAE reserves for purposes of understanding reserve adequacy. These are probably the most important ratios to the property/casualty actuary and where the actuary places most attention, as these ratios are specifically commented on by the appointed actuary in the SAO.

There are three reserve ratios:

- IRIS Ratio 11: One-year reserve development to policyholders' surplus
- IRIS Ratio 12: Two-year reserve development to policyholders' surplus
- IRIS Ratio 13: Estimated current reserve deficiency to policyholders' surplus

**IRIS Ratio 11** is the same one-year development test as provided in the Five-Year Historical Data exhibit within the Annual Statement (line 74 in the 2011 Annual Statement). It measures development in the company's net loss and LAE reserves over the past year, whether adverse or favorable, relative to prior year surplus. Essentially, this test looks to see how much surplus would have been absorbed or enhanced in the prior year as a result of adverse or favorable development in the corresponding net loss and LAE reserves. Adverse development is shown as an increase to reserves and therefore a positive number. Results of IRIS Ratio 11 equal to or greater than 20% are considered unusual.

The following table provides the calculation of IRIS Ratio 11 for Fictitious over the period 2008 through 2011.

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Appendix I. Fictitious Insurance Company

Data from Fictitious Insurance Company 2011 Five-Year Historical Data (USD)					
	<u>2011</u>	<u>2010</u>	<u>2009</u>	<u>2008</u>	<u>2007</u>
73. Development in estimated losses and loss expenses incurred prior to current year (Schedule P, Part 2, Summary, Line 12, Col. 11; <i>in 000s</i> )	(875)	(1,354)	(1,618)	(1,935)	(918)
74. Percent of development of losses and loss expenses incurred to policyholders' surplus of prior year end (line 73 divided by Page 4, Line 21, Col. 1 x 100)	(2.8)	(3.8)	(5.0)	(5.6)	(2.6)
26. Surplus as regards policyholders (PHS)	31,024,000	31,608,000	35,793,000	32,572,000	34,567,000
Results of IRIS Ratios 11					
IRIS Ratio 11 (= Line 74 above; = Line 73 / Line 26 prior * 1000)	-2.8%	-3.8%	-5.0%	-5.7%	

As displayed in the above table, Fictitious' loss and LAE net reserves developed favorably over the period 2007 through 2011. As a result, IRIS Ratio 11 has historically been negative, ranging from -3% to -6%, and therefore well below the benchmark imposed for unusual values (greater than or equal to +20%).

The trigger of an "unusual" value is a current year ratio greater than or equal to 20%. This will capture reserve deficiencies in the immediate prior year. In addition to this warning, the AOS serves to notify regulators of any trends whereby development in three of the prior five years exceeds 5%. The AOS has a lower threshold than IRIS 11, as it serves to identify those companies that consistently underestimate their loss and LAE reserves.

**IRIS Ratio 12** is the same two-year development test as provided in the Five-Year Historical Data exhibit within the Annual Statement (line 76 of the 2011 Annual Statement). It measures development in the company's net loss and LAE reserves over the past two years, relative to surplus at the end of the second prior year. Similar to Ratio 11, results of test 12 equal to or greater than 20% are considered unusual.

The following table provides the calculation of IRIS Ratio 12 for Fictitious over the period 2009 through 2011.

# FINANCIAL REPORTING THROUGH THE LENS OF A PROPERTY/CASUALTY ACTUARY

## Appendix I. Fictitious Insurance Company

Data from Fictitious Insurance Company 2011 Five-Year Historical Data (USD)					
	<u>2011</u>	<u>2010</u>	<u>2009</u>	<u>2008</u>	<u>2007</u>
75. Development in estimated losses and loss expenses incurred 2 years before the current year and prior year (Schedule P, Part 2, Summary, Line 12, Col. 12); <i>in 000s</i>	(2,602)	(2,906)	(3,680)	(2,544)	(1,059)
76. Percent of development of losses and loss expenses incurred to policyholders' surplus of second prior year end (Line 75 divided by Page 4, Line 21, Col. 2 x 100)	(7.3)	(8.9)	(10.6)	(7.3)	(3.0)
26. Surplus as regards policyholders (PHS)	31,024,000	31,608,000	35,793,000	32,572,000	34,567,000
Results of IRIS Ratios 12					
IRIS Ratio 12 (= Line 76 above; = Line 75 / Line 26 2 <sup>nd</sup> prior * 1000)	-7.3%	-8.9%	-10.6%		

As displayed in the above table, Fictitious' IRIS Ratio 12 results have historically been negative, ranging from -7% to -10%, and therefore well below the benchmark imposed for unusual values (+20%).

**IRIS Ratio 13** is a hindsight test. It looks at a company's net outstanding loss and LAE reserves at the immediate prior two years relative to calendar year earned premium for those years and adds to the reserves development that has emerged over that period (one-year development for the immediate prior year; two-year development for the year prior to that). The test then applies the average of the resulting two "adjusted" loss ratios to earned premium for the recent year (2011) to determine what the outstanding loss reserve should be for that year (2011). A calculated deficiency in recorded loss and LAE reserves of 25% or more is deemed to be unusual.

The purpose of this test is to identify companies that may not have gotten their reserves "right" in the past. The expectation inherent in this test is if companies have had adverse development in the past, they will probably have adverse development in the future. Regulators want to see if companies who have had such adverse development have corrected for it in their current estimates.

The following are examples of considerations that should be made when reviewing the results of IRIS Ratio 13:

- ▶ The losses and premiums are not matched in Ratio 13; the numerator is unpaid loss and LAE for all accident years, whereas the denominator is earned premium for the current accident year.

## FINANCIAL REPORTING THROUGH THE LENS OF A PROPERTY/CASUALTY ACTUARY

### Appendix I. Fictitious Insurance Company

- ▶ This mismatch obstructs the usefulness of the ratio because growth or decline in premium volume, or changes in the mix of business between short- and long-tailed lines, will distort the “outstanding” loss ratio.
- ▶ Similarly, because it is strictly a quantitative test, IRIS Ratio 13 cannot take into account qualitative factors that may mitigate adverse development in the future on current reserves, such as change in mix of business.
  - ▶ A good example is a company that had observed adverse development on its CAL line in the prior two years but significantly changed their product mix in the current year to be more heavily weighted toward short-tailed homeowners business. As a result of this change in mix, such adverse development would not be expected in the future.

IRIS Ratio 13 requires use of the prior year Annual Statement. While we have not included the 2010 Annual Statement for Fictitious, we have included the required values in the following table to calculate the result of IRIS Ratio 13 for 2011.

	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>Source</u>
One-Year Development			(875)	(1) Schedule P, Part 2, Line 12, Column 11; Five-Year Historical Data, Line 73
Two-Year Development			(2,602)	(2) Schedule P, Part 2, Line 12, Column 12; Five-Year Historical Data, Line 75
Earned Premium	25,618	25,535	26,512	(3) Stmt of Income, Line 1, divided by 1,000
Loss Reserves	41,643	40,933	41,894	(4) Page 3, Line 1, divided by 1,000
Reinsurance Payable on Paid Losses	-	-	-	(5) Page 3, Line 2, divided by 1,000
LAE Reserves	9,955	9,664	9,663	(6) Page 3, Line 3, divided by 1,000
Policyholder Surplus	35,793	31,608	31,024	(7) Page 3, Line 37, divided by 1,000
<b>Result of IRIS Ratio 13</b>	<b><u>2009</u></b>	<b><u>2010</u></b>	<b><u>2011</u></b>	<b><u>Source</u></b>
IRIS Ratio 13				
Outstanding Loss Ratios	201%	198%	194%	(8) Sum of (4) thru (6), divided by (3)
Restated Loss and LAE Reserves	48,995	49,722		(9) Sum of (4) thru (6), + (1) for 2010 or + (2) for 2009
Restated Outstanding Loss Ratios	191%	195%		(10) = (9) divided by (3)
Average Outstanding Loss Ratio			193%	(11) = average of row (10)
Implied Loss and LAE Reserves			51,165	(12) = (11) * (3)
Actual Loss and LAE Reserves			51,557	(13) Sum of (4) through (6)
Deficiency/(Redundancy)			(392)	(14) = (12) - (13)
Ratio of Def/(Red to PHS)			-1%	(15) = (14) divided by (7)

As displayed in the above table, Fictitious' IRIS Ratio 13 result was -1% for 2011, which was well below the benchmark imposed for unusual values (greater than or equal to 25%).

## **APPENDIX II. CANADIAN FINANCIAL STATEMENTS**

### **2011 BALANCE SHEET FOR ALL PROPERTY/CASUALTY INSURANCE COMPANIES**

## Total Canadian Property and Casualty Companies

### CONSOLIDATED ASSETS

As At Q4 - 2011

(in thousands of dollars)

Cash and Cash Equivalents	\$	2,222,025
Investment Income Due and Accrued		409,599
Assets held for sale		42,846
Investments:		
Short Term Investments		1,352,378
Bonds and Debentures		48,098,853
Mortgage Loans		373,410
Preferred Shares		3,236,951
Common Shares		6,728,144
Investment Properties		16,887
Other Investments		1,605,832
<b>Total Investments</b>	\$	61,412,454
Receivables:		
Unaffiliated Agents and Brokers		1,348,157
Policyholders		159,707
Instalment Premiums		6,577,574
Other Insurers		374,417
Facility Association and the "P.R.R."		248,471
Subsidiaries, Associates & Joint Ventures		174,842
Income Taxes		5,749
Other Receivables		278,668
Recoverable from Reinsurers:		
Unearned Premiums		1,208,257
Unpaid Claims and Adjustment Expenses		7,592,262
Other Recoverables on Unpaid Claims		730,809
Interests in Subsidiaries, Associates & Joint Ventures		1,634,236
Property and Equipment		213,884
Deferred Policy Acquisition Expenses		2,965,054
Current Tax Assets		249,511
Deferred Tax Assets		653,933
Goodwill		574,129
Intangible Assets		1,105,556
Other Assets		434,693
<b>Total Assets</b>	\$	90,616,835

## Total Canadian Property and Casualty Companies

### CONSOLIDATED LIABILITIES AND EQUITY

As At Q4 - 2011

(in thousands of dollars)

#### Liabilities

Overdrafts	\$	295,220
Borrowed Money and Accrued Interest		24,036
Payables:		
Agents and Brokers		583,950
Policyholders		62,516
Other Insurers		249,867
Subsidiaries, Associates & Joint Ventures		356,319
Expenses Due and Accrued		1,014,488
Income Taxes Due and Accrued		616
Other Taxes Due and Accrued		395,194
Policyholder Dividends and Rating Adjustments		29,365
Encumbrances on Real Estate		-
Unearned Premiums		17,528,620
Unpaid Claims and Adjustment Expenses		41,294,310
Unearned Commissions		220,308
Premium Deficiency		1,157
Liabilities Held for Sale		-
Current Tax Liabilities		72,251
Deferred Tax Liabilities		378,790
Provisions and Other Liabilities		2,081,584
<b>Total Liabilities</b>	<b>\$</b>	<b>64,588,591</b>

#### Equity

Share Capital Issued and Paid		9,861,584
Contributed Surplus		1,143,947
Other		17,966
Retained Earnings		13,191,336
Reserves		347,349
Accumulated Other Comprehensive Income (Loss)		1,466,061
Non-controlling Interests		-
<b>Total Equity</b>	<b>\$</b>	<b>26,028,243</b>
<b>Total Liabilities and Equity</b>	<b>\$</b>	<b>90,616,835</b>



**2011 INCOME STATEMENT FOR ALL PROPERTY/CASUALTY INSURANCE  
COMPANIES**

**Total Canadian P&C**  
**CONSOLIDATED STATEMENT OF INCOME**  
Year to date: End of Q4 - 2011  
(in thousands of dollars)

**Underwriting Operations**

Premiums Written		
Direct	\$	29,853,183
Reinsurance Assumed		2,417,428
Reinsurance Ceded		4,462,442
Net Premiums Written	\$	27,808,170
Decrease (Increase) in Unearned Premiums		(597,361)
Net Premiums Earned	\$	27,210,809
Service Charges		132,409
Other		(14,188)
Total Underwriting Revenue	\$	27,329,030
Gross Claims and Adjustment Expenses		21,145,947
Reinsurers' Share of Claims and Adjustment Expenses		2,726,019
Net Claims and Adjustment Expenses		18,419,928
Acquisition Expenses		
Gross Commissions		5,064,602
Ceded Commissions		812,096
Taxes		946,630
Other		1,219,479
General Expenses		1,977,176
Total Claims and Expenses	\$	26,815,719
Premium Deficiency Adjustments		266
Underwriting Income (Loss)	\$	513,045

**Investment Operations**

Income		1,930,901
Realized Gains (Losses)		836,280
Expenses		100,221
Net Investment Income	\$	2,666,961

**Other Revenue and Expenses**

Income (Loss) from Ancillary Operations net of Expenses		(1,519)
Share of Net Income (Loss) of Subsidiaries, Associates & Joint Ventures		72,267
Gains (Losses) from Fluctuations in Foreign Exchange Rates		9,211
Other Revenues		739,677
Finance Costs		25,513
Other Expenses		113,076
Net Income (Loss) before Income Taxes	\$	3,861,053

**Income Taxes**

Current		783,295
Deferred		11,767
Total Income Taxes	\$	795,062

Extraordinary Items net of Income Taxes -

Net Income (Loss) for the Year \$ 3,065,991

**Attributable to:**

Non-controlling Interests		-
Equity Holders	\$	3,065,991