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FEDERAL INCOME TAXES PROVISIONS AFFECTING PROPERTY/CASUALTY INSURERS

MANUEL ALMAGRO
THOMAS L. GHEZZI

Abstract

This paper describes the most significant provisions of the current tax code (referred to as the Internal Revenue Code of 1986) affecting property/casualty insurers, and provides an analysis of the impact which changes in certain investment, underwriting, and other operating results have on insurers' taxes and after-tax earnings. The paper includes simplified tax calculations that are not intended to list exhaustively or precisely all tax provisions nor are they intended to enable the reader to precisely calculate taxes for any given insurer. The examples are intended to illustrate the dynamics and interaction of the various provisions of the tax code.

The first section of the paper provides a brief description of the provisions of the Internal Revenue Code of 1986 that most affect property/casualty insurers. The initial section is followed by a hypothetical example of an insurance company's operating results for a given year and the simplified calculation of federal income tax and net income based on the hypothetical results. The example forms a "base scenario" which is later modified to illustrate the effect on federal income taxes and after-tax net income

of varying one or more of the base assumptions while the others are held constant. In particular, the effect on net income of changing the investment mix between taxable and tax-exempt bonds is illustrated. The underlying tax calculations are redone with new operating assumptions to illustrate the effect on net income of changing underwriting income, investment rates of return on taxable and tax-exempt bonds, overall growth, and average discount factor changes. Results are compared for short tail, medium tail, and long tail lines of business.

This paper focuses primarily on the permanent provisions of the Internal Revenue Code of 1986 and not specifically on the changes introduced by the Tax Reform Act of 1986. Appendix A provides an analysis of the impact of some of the more important components of the Act. Appendix B provides a detailed description of the calculation of loss and loss adjustment expense payment patterns and discount factors mandated by the tax code.

1. INTRODUCTION

Property/casualty insurance companies, like all other corporate entities operating within the United States, are subject to the provisions of the Internal Revenue Code (IRC). Unlike other taxpayers, the property/casualty industry is afforded special treatment whereby large tax deductions are allowed for unearned premium reserves and for loss and loss adjustment expense reserves. Since insurers generally receive a large portion of their revenue (i.e., premiums) near the effective date of a given insurance policy, but pay most costs related to the policy (i.e., loss and loss adjustment expense payments) at a later point in time, the reserve deductions result in a deferral of the recognition of income by insurers. This deferral was greatly reduced by the Tax Reform Act (TRA) of 1986 through several new provisions targeted at the property/casualty industry.

It is important for insurers to recognize the impact of the various tax code provisions on their federal income tax liabilities and on net income. Insurers derive a major portion of their total net income from investment income on bonds, which are either subject to income tax or are tax-exempt. Since the yield on tax-exempt instruments is usually less than

the pre-tax return on taxable investments, the effect of the mix of taxable and tax-exempt investments on an insurer's overall tax bill becomes an important consideration in making investment decisions. Various other provisions of the Internal Revenue Code of 1986 tend to affect different lines of insurance differently. It is important for insurers to consider federal income taxes in pricing, marketing, and other operational decisions by line of business.

It must be noted that the various hypothetical examples used in this paper are based on simplified tax situations designed to illustrate the dynamics and interaction of the most important tax code provisions affecting property/casualty insurers. Of particular importance is the use of statutory income as the starting point for all tax calculations. The differences between statutory income and income calculated according to generally accepted accounting principles (GAAP) are ignored. It should be noted that the IRC requires the use of GAAP income in the alternative minimum taxable income calculations by companies that file GAAP financial statements. Therefore, insurers must not ignore the differences between statutory income and GAAP income. The differences between statutory accounting and GAAP accounting are fully described in Strain [1].

Other simplifying assumptions used in this paper are noted as appropriate.

2. PROVISIONS OF THE INTERNAL REVENUE CODE OF 1986 AFFECTING PROPERTY/CASUALTY INSURANCE COMPANIES

The following provisions of the Internal Revenue Code of 1986 are the most significant ones affecting the property/casualty insurance industry. The descriptions which follow highlight the major points, while other provisions applying to mutual insurers, special situations, or to relatively small segments of the industry are omitted. Fuller descriptions of these items are provided by the Commerce Clearing House [2] and by Gleeson and Lenrow [3].

2.1 Regular Taxable Income

The determination of regular taxable income of property/casualty insurers begins with statutory (pretax) income as calculated on page 4 of the NAIC Annual Statement. Several adjustments are made to the

statutory result to derive regular taxable income. They are:

2.1.1 Revenue Offset

Statutory income includes the change in unearned premium reserve during the tax year as a deduction. Insurers' acquisition expenses, however, are generally incurred and deducted near the time premiums are collected. Therefore, the statutory calculation does not accurately match recognition of premium income with recognition of related expenses.

To approximately adjust for this mismatch, the IRC allows only 80% of the change in unearned premium reserve as a deduction. The limitation of the deduction is accomplished through an adjustment to statutory income, referred to as 'revenue offset,' whereby 20% of the unearned premium reserve change is added to statutory income for tax purposes.

The IRC of 1986 includes special transitional provisions enacted with the TRA of 1986 to add part of the unearned premium reserve held as of December 31, 1986 to taxable income. The transition rules call for one-sixth of 20% of the December 31, 1986 unearned premium reserve to be included in taxable income for each of the next six years (1987–1992). For simplicity, we ignore these provisions in the examples which follow. Additional details of the transition rules are discussed in Gleeson and Lenrow [3], [5], as well as in Appendix A.

2.1.2 Loss and Loss Adjustment Expense Reserve Discounting

Statutory accounting generally reflects all assets and liabilities at their full, ultimate (i.e., undiscounted) value. In particular, except in some relatively minor cases, loss and loss adjustment expense reserves are deducted from earnings without explicit consideration of the time value of money.

Regular taxable income also recognizes insurers' loss and loss adjustment expense reserves as a deduction, but the deduction is computed on a discounted basis. The discounting provision is intended to reflect the time value of money over the payout period of the reserves [4]. Separate discounting calculations are required for each accident year and for each line of business included in Schedules

O and P of the NAIC Annual Statement.

The components of the reserve discounting calculations are:

- i) *Loss and Loss Adjustment Expense Payment Pattern*—Most insurers can use payment patterns based on either insurance industry aggregate Schedules O and P data or patterns calculated from their own Schedules O and P. The IRC includes detailed rules governing the precise calculation of payment patterns and insurers' options to choose the industry pattern or their own.
- ii) *Interest Rate*—Explicit instructions for the calculation of the interest rate are included in the IRC. The rate is tied to the annual "Federal mid-term rate." The Federal mid-term rate is calculated each month by the United States Department of the Treasury and is based on the average market yield of outstanding Treasury securities with remaining maturity of between three and nine years.

A more complete description of the loss reserve discounting provisions contained in the TRA of 1986 is included in Appendix B.

2.1.3 *Tax-Exempt Investment Income*

Statutory income includes all investment income, regardless of the nature of the investments generating the income. Regular taxable income, however, recognizes the fact that income from bonds issued by state or local governments for "traditional governmental purposes" [4] is exempt from federal income taxes. Therefore, tax-exempt investment income is omitted from regular taxable income.

2.1.4 *Dividends Received Deduction*

Corporations that receive dividends related to their equity investments in other domestic corporations which are subject to federal income tax are generally allowed to exclude a portion of the dividends from regular taxable income. Amendments to the IRC of 1986 contained in the Omnibus Budget Reconciliation Act of 1987 provide that, in most cases, 70% of the dividends received are excluded from regular taxable income [6]. The purpose of the dividends received deduction is to partially offset the "triple taxation" that takes place

when a corporation derives income from dividends paid by another corporation [7]. As in the case of tax-exempt investment income, the dividends received deduction reduces statutory income in the calculation of regular taxable income.

The aggregate amount of a corporation's dividends received deduction in any tax year is limited to 70% of the company's taxable income before the deduction. This limitation, however, does not apply if taxable income (prior to the deduction) is less than the unlimited dividends received deduction.

2.1.5 Proration of Tax-Exempt Income

The deduction for incurred losses is reduced by 15% of the sum of tax-exempt investment income and the dividends received deduction. Due to the potential limitation of the dividends received deduction, proration of tax-exempt investment income is calculated prior to calculation of the dividends received deduction. The proration provision applies only to tax-exempt income related to investments acquired after August 7, 1986.

While the IRC refers to proration amounts as reductions to the incurred loss deduction, we treat the amounts as additions to regular taxable income. The effect is identical since reserve discounting applies before the proration adjustment. Also, for simplicity, we assume all tax-exempt investment income and dividends received are related to investments acquired after August 7, 1986. Alternative assumptions are explored in Appendix A.

To summarize, regular taxable income =

statutory income + revenue offset – change in loss and loss adjustment expense
reserve discount

-tax-exempt investment income + proration of tax-exempt investment income

-dividends received deduction + proration of dividends received deduction.

2.2 Alternative Minimum Taxable Income (AMTI)

All corporations must calculate regular taxable income as described above and alternative minimum taxable income (AMTI). Alternative minimum taxable income is equal to regular taxable income plus all or part of various "tax preference items."

For property/casualty insurers, the most significant tax preference item, referred to as the “book income preference,” is calculated as the difference between “book income” and regular taxable income. Book income is pre-tax income as reported by the company in its usual financial reports to regulators or shareholders, or in reports prepared for other non-tax purposes. For property/casualty insurers, book income is usually either pre-tax statutory income or pre-tax income reported according to generally accepted accounting principles (GAAP income). Insurers that issue GAAP financial statements must use GAAP income as book income in calculating the book income preference item. (See Strain [1] for a discussion of differences between statutory and GAAP accounting principles.) For simplicity, we use statutory income in the calculation of the book income preference item. Fifty percent of the book income preference item is added to regular taxable income in calculating AMTI.

The most significant elements of the book income preference for property/casualty insurers are tax-exempt investment income and the dividends received deduction. The effect of these items is mitigated somewhat by revenue offset, loss reserve discounting, and proration, all of which generally increase regular taxable income but are excluded from book income. Other preference items exist but are ignored in the examples which follow. These additional preference items include certain types of accelerated depreciation and tax-exempt interest on private activity bonds. The entire amount of these preference items is included in determining AMTI.

Since all preference items other than the book income preference item are ignored in the tax examples which follow, we define AMTI to be equal to regular taxable income plus 50% of the book income preference item. Beginning with 1990, the book income preference item will be replaced by an “adjusted current earnings” (ACE) preference item, and the amount of ACE to include in AMTI will increase to 75%. At the time of this writing, the precise definition of ACE has not been determined by the Internal Revenue Service. Because of this, all examples used in this paper are based on the pre-1990 provisions. Further discussion of the 1990 provisions is included in Appendix A.

2.3 Carryovers

Carryovers are created when various provisions of the tax code result in less than full recognition of otherwise applicable tax deductions in a given tax year. Carryovers generated in a given year may be used to

offset taxable income of several years prior to and subsequent to the year creating the carryover. Three major types of carryovers generally affect property/casualty insurers:

- i) *Net Operating Loss Carryovers (NOL's)*-When regular taxable income is negative, a carryover equal to the amount of the loss is established. This carryover is referred to as a net operating loss carryover (NOL) and can be used to offset taxable income up to three years prior to the year creating the NOL and up to 15 years after.
- ii) *Capital Loss Carryovers*-Losses incurred on the sale of assets may generally only be deducted by offsetting capital gains. If capital losses realized in a given tax year are greater than capital gains, the difference is established as a net capital loss carryover. Capital loss carryovers can only be used to offset realized capital gains income. They can be carried back three years and forward five years.
- iii) *Minimum Tax Credit*-In a year in which the alternative minimum tax applies, the difference between the otherwise applicable regular tax and the alternative minimum tax generates a credit available to offset future years' regular tax. Unlike NOL's and capital loss carryovers, the minimum tax credit can only be carried forward, but it is available for an unlimited number of years. However, minimum tax credits generated as a result of the book income preference item may not be used after 1989.

The rules governing the establishment and use of carryovers are complex, and the TRA of 1986 established transition rules. A detailed description of all of the provisions is beyond the scope of this paper. Also, for simplicity, the examples which follow assume that no carryovers are available.

2.4 Regular Income Tax Rates

The general corporate tax rate of 34% applies to regular taxable income above \$335,000. Lower marginal rates apply to income brackets below \$75,000 and a slightly higher rate applies to taxable income between 75,000 and \$335,000. The same rate structure applies to property/casualty insurers as applies to corporations generally. Exhibit 1

shows the marginal tax rates by income bracket. Exhibit 2 shows the effective tax rate produced by the marginal rates applied to regular taxable income at the upper end of each bracket.

We assume the corporate tax rate applicable to regular taxable income to be 34%. This ignores the differences at lower income brackets and transitional rates established by the TRA of 1986. Additional information on the transition rules is contained in Gleeson and Lenrow [3], [5].

2.5 *Alternative Minimum Tax Rate*

The alternative minimum tax rate is 20%. The rate applies to all “brackets” of AMTI, although a minor AMTI exemption of \$40,000 applies. This exclusion is ignored in the calculations which follow.

2.6 *Federal Income Taxes*

The federal income tax due for a particular tax year is the higher of regular taxable income times the applicable regular tax rate and the alternative minimum taxable income times the alternative minimum tax rate.

3. SAMPLE INSURANCE COMPANY—BASE SCENARIO

The following assumptions are used to illustrate the calculation of federal income taxes for a hypothetical property/casualty insurer:

(1) Statutory Underwriting Profit/(Loss)	(\$15.0 million)
(2) Taxable Investment Income (\$150 million invested at 10%)	15.0 million
(3) Tax-Exempt Investment Income (\$50 million invested at 8%)	4.0 million
(4) Dividends Received (\$100 million invested; 5% dividends)	5.0 million
(5) Realized Capital Gains	5.0 million
(6) Statutory Income (1) + (2) + (3) + (4) + (5)	\$14.0 million
(7) Unearned Premium Reserve	
a. Beginning of Tax Year	\$75.0 million
b. End of Tax Year	82.5 million

(8) Loss and Loss Adjustment Expense Reserve	
a. Beginning of Tax Year	\$150.0 million
b. End of Tax Year	165.0 million
(9) Average Reserve Discount Factor	
a. Beginning of Tax Year	.8500
b. End of Tax Year	.8500

The loss and loss adjustment expense reserves and the average discount factor shown above represent all lines of business and all accident years combined to simplify the calculations which follow. In practice, separate discount factors are applied to reserves by line of business and accident year in the calculation of regular taxable income. Also, we assume that assets generating the tax-exempt income were all acquired after August 7, 1986.

These results yield the federal income tax calculations (note that all calculations are rounded to the nearest \$0.1 million) shown on the adjoining page.

4. SAMPLE INSURANCE COMPANY—ALTERNATIVE ASSUMPTIONS EFFECT ON NET INCOME

Because of the interactive effects of the various provisions of the tax code, variations in the base assumptions do not always produce an intuitively obvious change in federal income taxes due, and hence, in net income. Changing the investment income assumptions is especially interesting since the tax code treats taxable investment income differently from tax-exempt income. As noted above, tax-exempt income is subject to proration and generates a tax preference item to be included in the calculation of alternative minimum taxable income. Also, a company's investment portfolio is, to a certain extent, controllable by the company, thereby becoming a variable that can be altered to maximize after-tax income.

In this section, the dynamics of investment mix are explored through analysis of a series of graphs showing net income as the y-axis and investment portfolio mix between taxable and tax-exempt bonds as the x-axis.

REGULAR TAX

(1) Statutory Income	\$14.0 million
(2) Revenue Offset (\$82.5 million – \$75.0 million) × 20%	1.5 million
(3) Reserve Discounting Effect (\$165 million – \$150 million) – [((\$165 million × .8500) – (\$150 million × .8500)]	2.3 million
(4) Tax-Exempt Investment Income	4.0 million
(4a) Proration of Tax-Exempt Investment Income (4) × 15%	0.6 million
(5) Dividends Received Deduction \$5.0 million × 70%	3.5 million
(5a) Proration of Dividends Received Deduction (5) × 15%	0.5 million
(6) Regular Taxable Income (1) + (2) + (3) – (4) – (5) + (4a) + (5a)	\$11.4 million
(7) Regular Federal Income Tax (6) × 34%	<u>\$3.9 million</u>

ALTERNATIVE MINIMUM TAX

(8) Book Income Tax Preference Items (1) – (6), but not less than zero	\$2.6 million
(9) Alternative Minimum Taxable Income (6) + ((8) × 50%)	\$12.7 million
(10) Alternative Minimum Federal Income Tax (9) × 20%	<u>\$2.5 million</u>

FEDERAL INCOME TAX DUE

(11) Greater of Regular Tax and Alternative Minimum Tax: Max [(7), (10)]	\$3.9 million
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NET INCOME

(12) Net Income (1) – (11)	<u>\$10.1 million</u>
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4.1 Variation in Investment Mix

The base scenario includes \$150 million of the sample company's bond portfolio invested in taxables yielding 10% and the remainder (\$50 million) of the portfolio in tax-exempt bonds yielding 8%. This bond portfolio results in taxable investment income of \$15 million, tax-exempt investment income of \$4 million, tax liability of \$3.9 million, and net income of \$10.1 million. In this scenario, the regular tax applies.

Since the regular tax calculation applies to the base scenario, all taxable investment income and the prorated 15% of tax-exempt income is subject to the corporate tax rate of 34%. Therefore, the effective after-tax yields are 6.6% for taxables [$10\% - (10\% \times 34\%)$] and 7.6% for tax-exempts [$8\% - (15\% \times 8\% \times 34\%)$]. The after-tax relationship between taxable and tax-exempt bond yields implies that an additional \$10 of after-tax income is realized for every \$1,000 shifted from taxable to tax-exempt securities [$\$1,000 \times (7.6\% - 6.6\%)$].

The relationship of after-tax yields might lead one to conclude that net income is maximized by full investment in tax-exempt bonds, and that the net income for the sample company of \$10.1 million could be increased to \$11.6 million by converting the \$150 million of taxable bonds into tax-exempt investments. [$\$11.6 \text{ million} = \$10.1 \text{ million} + (\$150 \text{ million}/\$1,000) \times \10]. Such a conclusion, however, ignores the alternative minimum tax provisions of the tax code.

Exhibit 3 graphically displays net income using all base assumptions but varying the bond portfolio mix. The base scenario is labeled on the net income curve with a "+". The various other components of the graph and all inflection points are labeled as follows:

4.1.1 Regular Tax Applies

For the sample insurance company, regular tax is greater than the alternative minimum tax as long as taxable investments make up between \$200 million and approximately \$80 million of the bond portfolio. The upward-sloping section of the net income curve represents these results.

On this section of the curve, the intuitive result referred to above holds. That is, the greater the investment in tax-exempts, the greater

the after-tax income, due to the relationship between effective after-tax yields for taxable and tax-exempt bonds. The slope of this component is such that net income increases by \$10 for every \$1,000 of investment that is shifted from taxable to tax-exempt bonds. As the investment mix shifts, tax-exempt investment income rises, causing the book tax preference item to grow, while regular taxable income declines. Consequently, the alternative minimum tax gets closer to the regular tax.

4.1.2 Regular Tax = Alternative Minimum Tax

Exhibit 3 shows that the regular tax is equal to the alternative minimum tax when slightly less than \$80 million of the bond portfolio is invested in taxables.

At this point, taxable investment income is about \$8.0 million ($\$80 \text{ million} \times 10\%$) and tax-exempt income is about \$9.6 million ($\$120 \text{ million} \times 8\%$). Combined with the statutory underwriting loss of \$15 million, dividends received of \$5 million, realized capital gain of \$5 million, revenue offset of \$1.5 million, reserve discounting effect of \$2.3 million, dividends received deduction of \$3.5 million, and total proration of \$2.0 million [$\$1.5 \text{ million} (\$9.6 \text{ million} \times 15\%)$ for tax-exempt income proration and $\$0.5 \text{ million} (\$3.5 \text{ million} \times 15\%)$ for the dividends received deduction proration], these results yield regular taxable income of \$5.3 million. The indicated regular tax is \$1.8 million ($\$5.3 \text{ million} \times 34\%$).

Book income tax preference items total \$7.3 million ($\$12.6 \text{ statutory income less } \$5.3 \text{ million regular taxable income}$), resulting in alternative minimum taxable income of \$9.0 million ($\$5.3 \text{ million regular taxable income} + 50\% \text{ of } \$7.3 \text{ million in book tax preferences}$). The alternative minimum tax is \$1.8 million ($\$9 \text{ million} \times 20\%$), which is the same as the regular tax.

Regular tax equals alternative minimum tax when alternative minimum taxable income is 70% greater than regular taxable income (e.g., \$9 million is 70% greater than \$5.3 million). This relationship is due to the fact that the regular tax rate of 34% is 70% greater than the AMT rate of 20%. At this point, net income for the sample company is approximately \$10.8 million, or about \$0.7 million (7%) greater than the base scenario result of \$10.1 million.

4.1.3 Alternative Minimum Tax Applies

The alternative minimum tax applies to the sample insurance company when less than \$80 million is invested in taxable bonds. When the alternative minimum tax applies, all taxable investment income and the prorated 15% of tax-exempt income are subject to the alternative minimum tax rate of 20%. In addition, half of the remainder of tax-exempt income is included in AMTI as a tax preference item and is therefore also taxed at 20%. Therefore, under the AMT situation, the effective after-tax yields are 8.0% for taxable income [$10\% - (10\% \times 20\%)$] and 7.1% for tax-exempts [$8\% - (15\% \times 8\% \times 20\%) - (50\% \times 85\% \times 8\% \times 20\%)$]. This after-tax yield relationship implies that a reduction of \$9 of after-tax income is realized for every \$1,000 shifted from taxable to tax-exempt securities [$\$1,000 \times (7.1\% - 8.0\%)$].

Since further investment in tax-exempts beyond this point continues to increase tax preferences while regular taxable income is decreased, the alternative minimum tax continues to apply. These results imply that given the assumed relationship between pre-tax yields on taxables and tax-exempts, net income is maximized when regular tax equals the alternative minimum tax.

4.1.4 Limit on Dividends Received Deduction

The dividends received deduction is limited to 70% of the taxable income prior to the deduction. For the sample insurance company, the unlimited deduction is \$3.5 million (70% of dividends received of \$5 million). Based on these provisions, the limitation first applies when taxable income before the deduction is less than \$5 million.

The limitation first takes place under our assumptions when the bond portfolio includes about \$42 million invested in taxable securities. At this point, taxable investment income is about \$4.2 million ($\$42 \text{ million} \times 10\%$) and tax-exempt income is about \$12.6 million ($\$158 \text{ million} \times 8\%$). Combining these investment results with the other operating results noted above yields taxable income before the dividends received deduction of \$4.8 million. This amount of income implies a limited dividends received deduction of \$3.4 million ($\$4.8 \text{ million} \times 70\%$) instead of the unlimited \$3.5 million. As Exhibit 3 shows, the declining net income caused by shifting away from higher-

yielding taxable investments is accelerated by the partial loss of the dividends received deduction.

4.1.5 Dividends Received Deduction Restored

The limitation of the deduction is removed when taxable income before the deduction is less than the full deduction (i.e., for the sample insurance company, when income before the deduction is less than \$3.5 million). This relationship occurs under our assumptions when the bond portfolio includes \$26 million in taxables. The taxable investment income of \$2.6 million plus proration of \$2.1 million of the tax-exempt investment income ($\$174 \text{ million} \times 8\% \times 15\%$) combined with the underwriting and other results noted above gives taxable income of \$3.4 million. This amount is less than the unlimited dividends received deduction, and the limitation is removed.

The results displayed on Exhibit 3 and described in this section show that the optimum net income for the sample insurance company occurs when regular tax equals the alternative minimum tax. Each additional \$1,000 investment in taxables beyond the optimum level reduces net income by \$10, and each \$1,000 reduction in taxable investment holdings reduces net income by \$9.

Further insight into these conclusions is provided by Exhibits 4 and 5. Exhibit 4 shows the movement in regular taxable income, book income, and AMTI as the investment portfolio is altered. Since regular taxable income excludes all but the prorated portion of tax-exempt investment income, it continually decreases as taxables are traded for tax-exempts. Book income includes the increased tax-exempt income and therefore declines only as the result of the lower pre-tax yield on tax-exempt investments. Consequently, the relationships of book to regular income and AMTI to regular income increase as taxable investments are swapped for tax-exempts.

Regular taxes and the alternative minimum tax are equal—and net income is maximized—when AMTI is 70% greater than regular taxable income. This point is noted on Exhibit 4.

Exhibit 5 shows the indicated regular tax (regular taxable income times 34%) and the alternative minimum tax (AMTI times 20%). The two tax lines intersect where the investment portfolio includes about \$80 million in taxable bonds.

4.2 Variation in Underwriting Profit

Exhibits 6 and 7 display the net income curve with the underwriting income assumption changed from the base assumption of $-\$15$ million to $-\$20$ million and $-\$10$ million, respectively. These examples assume that the change in underwriting loss levels occurs without affecting unearned premium or loss reserves.

The alternate assumptions cause the net income curves to shift vertically and horizontally, but the shapes of the curves are the same as for the base assumptions curve. The slopes of the various segments are unchanged since they are dependent upon taxable and tax-exempt yields which are not altered from the base level.

4.2.1 Larger Underwriting Loss

The effect of changing the base underwriting loss assumption of $\$15$ million to an underwriting loss of $\$20$ million is to shift the net income curve downward and to the left. At the base investment mix of $\$150$ million in taxables and $\$50$ million in tax-exempts, an underwriting loss of $\$20$ million results in net income of about $\$6.8$ million. This result compares to $\$10.1$ million for the base scenario including an underwriting loss of $\$15$ million. Since the regular tax calculation applies, the difference in net income is totally attributable to the additional loss less tax savings based on the regular rate of 34% [i.e., $\$6.8$ million = $\$10.1$ million - $(\$5$ million \times $(100\% - 34\%))$].

Since the larger underwriting loss serves to reduce regular taxable income by $\$5$ million, fewer tax preferences are needed to obtain the 70% relationship between book income and regular taxable income required for regular tax to equal AMT. This implies that the optimum portfolio mix occurs at a greater proportion of taxable investments than is the case for the base scenario.

In our example, regular tax equals the alternative tax when the bond portfolio includes $\$116$ million in taxables. At this point, regular taxable income is $\$3.4$ million and alternative minimum taxable income is $\$5.9$ million. These results yield taxes of $\$1.2$ million and after-tax net income of just over $\$7.1$ million. This result is displayed graphically on Exhibit 6. The details of the calculation are left for the reader.

4.2.2 *Smaller Underwriting Loss*

The effect of changing the base underwriting loss assumption of \$15 million to an underwriting loss of \$10 million is to shift the net income curve upward and to the right. At the base investment mix of \$150 million in taxables and \$50 million in tax-exempts, an underwriting loss of \$10 million results in net income of just under \$13.4 million. This net income result compares to \$10.1 million for the base scenario with an underwriting loss of \$15 million. Similar to the case just described, this net income result is totally attributable to the smaller loss less additional tax based on the regular rate of 34% [i.e., $\$13.4 \text{ million} = \$10.1 \text{ million} + (\$5 \text{ million} \times (100\% - 34\%))$].

The smaller underwriting loss causes the point where regular tax equals AMT to shift to the right relative to the base scenario since regular taxable income is greater by \$5 million. More tax preference items are needed to obtain the 70% relationship between AMTI and regular taxable income derived previously. The need for greater tax preference items implies that the optimum investment mix includes fewer taxables than was the case for the base scenario.

Under the $-\$10$ million underwriting result assumption, net income is maximized when the investment portfolio includes \$44 million in taxable bonds. The resultant regular taxable income is \$7.1 million, AMTI is \$12 million, and income tax is \$2.4 million. Net income is \$14.5 million. This result is shown graphically on Exhibit 7.

These findings show that increased underwriting losses make it necessary to invest more heavily in taxable bonds in order to maximize net income. Smaller losses call for more investment in tax-exempts. As will be shown later, these results are dependent upon the relationship between taxable and tax-exempt yields.

Variations in capital gains or losses have the same impact as variations in underwriting gains or losses on net income and taxes since capital gains are treated as regular income and are not subject to special deductions or proration. Except for the separate loss carryover provisions noted previously, there is no distinction between capital gains income and underwriting income in the calculation of federal income taxes.

4.3 Variation in Yields

Exhibits 8 through 12 show the net income curve using the base scenario for all variables except for taxable and tax-exempt yields. Each exhibit represents a different set of yields to display the effect on net income.

4.3.1 Taxable Yield: 12%; Tax-Exempt Yield: 10%

Under this variation displayed on Exhibit 8, both yields are increased by the same number of percentage points, thereby maintaining the same absolute pre-tax relationship as exists under the base scenario. The absolute difference in yields between taxable bonds and tax-exempt bonds is used here instead of the more commonly used percentage relationship in order to maintain the same pre-tax dollar effect of changing the investment mix between taxable and tax-exempt bonds. The after-tax effect of the change is to shift the net income curve upward and slightly to the right, and to change the shape.

The base bond portfolio includes \$150 million in taxable investments and \$50 million in tax-exempts. Applying the yields of 12% and 10%, respectively, results in taxable investment income of \$18 million and tax-exempt investment income of \$5 million. The resultant tax liability is \$5.0 million and net income is about \$13.0 million.

The increase from the base scenario net income of \$10.1 million is attributable to the additional investment income of \$4 million generated by the higher yields, offset somewhat by greater proration (\$0.2 million), and subject to the regular tax rate of 34% [i.e., \$13.0 million = \$10.1 million + ((\$3 million additional taxable income - \$0.2 million additional proration) × 66%) + \$1 million additional tax-exempt income].

The point at which net income is maximized is shifted slightly under this alternative. The shift towards slightly greater investment in tax-exempts is primarily due to the increase in regular taxable income generated by the higher yields, thereby requiring proportionately greater tax preference income to give the 70% relationship between book income and regular taxable income needed to maximize

net income. This is offset somewhat by the faster accumulation of tax preferences due to the higher yield on tax-exempt investments.

The shape of the net income curve is affected by the change in yield rates from the base scenario since, as shown previously, the slopes of the regular tax component and the alternative minimum tax component are functions of the taxable and tax-exempt yields. Taxable and tax-exempt yields of 12% and 10% result in after-tax yields of 7.9% for taxables and 9.5% for tax exempt bonds under the regular tax calculations. This implies that \$16 of additional net income results from each \$1,000 shift from taxable investments to tax-exempt investments. This is “steeper” than the base scenario result of \$10 per \$1,000 since more of the additional two points of tax-exempt interest is realized on an after-tax basis than is the case for the additional taxable yield.

The after-tax yields under the alternative minimum tax calculation are 9.6% for taxables and 8.9% for tax-exempt securities. This implies that net income decreases by \$7 for each \$1,000 of taxable bonds shifted to tax-exempt bonds.

4.3.2 Taxable Yield: 8%; Tax-Exempt Yield: 6%

Exhibit 9 shows the net income curve using the base assumptions but changing the yields to 8% for taxables and 6% for tax-exempts. This variation also retains the same absolute pre-tax differential as the base scenario, but at a lower absolute level. As observed with the last variation, the altered yield rates shift the curve and change its shape.

The observations made regarding the 12%/10% scenario generally apply to this variation as well, but the directions are reversed. For example, the base investment portfolio results in net income of about \$7.1 million, or about \$3.0 million less than the base assumptions; the optimum portfolio includes a slightly larger proportion of taxable investments due to the greater relative effect of tax preferences; the slope of the regular tax segment is not as steep as was the base scenario slope; and the slope of the AMT segment of the curve is steeper.

4.3.3 Taxable Yield: 10%; Tax-Exempt Yield: 9%

Exhibit 10 displays this scenario with its reduced difference in yields.

The most significant observations pertain to the slopes of the curve segments. The smaller difference between the pre-tax yields results in a steeper regular tax slope due to the greater relative after-tax return from tax-exempts. The nearly horizontal AMT segment indicates that the after-tax yield for taxables is nearly equal to the after-tax yield on tax-exempts.

The optimum portfolio is shifted slightly to the left due to the faster accumulation of tax preferences by the higher tax-exempt yield.

4.3.4 Taxable Yield: 10%; Tax-Exempt Yield: 7%

Exhibit 11 shows an alternative that increases the difference between taxable and tax-exempt yields.

The regular tax component is nearly horizontal, reflecting the fact that after-tax yields are nearly the same for taxable and tax-exempt bonds. The AMT component slope is steeper than the base scenario due to the significantly lower after-tax return on tax-exempts under this variation.

The maximum net income occurs with a slightly greater proportion of the bond investments in tax-exempt securities than in the base scenario. This is due to the slower accumulation of tax preferences generated by the lower tax-exempt yield. Very little difference exists among the net income results on the regular tax segment of the curve.

4.3.5 Taxable Yield: 10%; Tax-Exempt Yield: 6%

This alternative, displayed on Exhibit 12, widens the taxable/tax-exempt differential further. Although such a relationship between yields is not likely to exist for a significant period of time, the variation provides useful insights.

The effect is to make tax-exempt investments very undesirable relative to taxables. This case provides an exception to the general rule that net income is maximized when regular tax equals the alternative minimum tax. Due to the significantly greater after-tax return

on taxable bonds compared to tax-exempts, the optimum strategy is to fully invest in taxables.

These examples illustrate the sensitivity of net income to the taxable and tax-exempt investment yields. In all cases, the net income curve is shifted and the shape is changed when yields are changed.

4.4 *Variation in Growth Rate*

The base scenario assumes that unearned premium reserves and loss reserves at the end of the tax year are 10% greater than the beginning reserves. This growth creates the change in unearned premium reserves used in the revenue offset calculation and the change in loss reserves used in the discounting calculations.

The base scenario generated a revenue offset addition to income of \$1.5 million $[(\$82.5 \text{ million} - \$75 \text{ million}) \times 20\%]$. The loss reserve discounting effect on income is \$2.3 million $[(\$165 \text{ million} - \$150 \text{ million}) - ((\$165 \text{ million} \times .85) - (\$150 \text{ million} \times .85))]$. Variation in the assumed rate of reserve growth changes the components of the revenue offset and discounting calculations and therefore affects regular taxable income. Larger growth creates larger additions to taxable income and smaller (or negative) growth results in smaller additions.

Exhibit 13 displays the net income curve under five different growth scenarios. As the exhibit shows, the effect of larger growth is to shift the curve downward and to the right. Smaller growth shifts the curve upward and to the left. Since the effect of varying the growth assumption flows directly to regular taxable income, the observations made previously pertaining to the effect of varying underwriting income apply to the growth scenarios as well.

The implication of these results is that any action that has the effect of increasing premium and loss reserves during a given tax year also increases the effect of revenue offset and loss reserve discounting. While the overall deduction under an increasing growth scenario is also increased, the amount of the deduction is tempered.

Some examples of such actions which tend to increase reserves are:

- a. growth in new business;
- b. changing mix of business to longer tail lines of business;
- c. assumed portfolio transfers;

- d. loss reserve strengthening;
- e. change from claims-made to occurrence coverage;
- f. increasing policy term; and
- g. higher limits of liability.

An insurer must realize that any of the above actions will affect net income by a greater degree than simply the absolute change in reserves. The additional net income effect is the result of the greater impact of revenue offset and reserve discounting on federal income taxes.

It should be noted that the results presented in Exhibit 13 assume the same underwriting loss of \$15 million. Consequently, the varying growth assumptions likely imply varying loss ratios and/or combined ratios. Also, the simplifying assumptions are made that the composite discount factor and the overall investment income are the same as for the base scenario. In reality, growth would likely result in a different composite discount factor and in different investment income results.

4.5 Variation in Absolute Reserve Level

In addition to being sensitive to growth rates, the dollar difference between beginning and ending reserves is a function of the absolute size of these liabilities. For a given growth rate, a larger dollar reserve change results when the absolute size of beginning and ending reserves is larger. A smaller change results from lower reserve levels.

The net income curves displayed on Exhibit 14 assume varying relationships of loss reserves to premiums while all other base assumptions are held constant. The relationship to premiums is used to arbitrarily simulate short, medium, and long tail lines of business.

As the exhibit shows, short tail lines (e.g., those with reserves at the end of a particular year equal to half of the year's written premiums) derive greater net income from the same operating results due to the diminished effect of the loss reserve discounting provisions of the tax code. The effect, like that of varying underwriting results and growth, is to shift the curve vertically and horizontally. The basic shape, however, is unchanged from the base scenario.

4.6 Variation in Average Discount Factor

Variation in the average discount factor assumption has a direct effect on taxes and net income. The effect is due to the application of the discount factor to loss and loss adjustment expense reserves in the calculation of taxable income.

Exhibit 15 shows the net income curve under the base scenario using three average discount factor assumptions. The graph shows that the curve is shifted upwards and to the left as the discount factor increases. The opposite shift occurs when the average factor decreases. The effect of varying the average discount factor is to shift the curve vertically and horizontally while maintaining the same shape. The average discount factor can change due to shifts of loss reserves towards more or less mature accident years, shifts of business toward longer tail or shorter tail lines, changing payment pattern, changing discount rate, etc.

4.7 Variation in Average Discount Factor and Reserve Level Combined

Since it is most likely that lower average discount factors occur along with higher absolute reserve levels, Exhibit 16 shows net income curves which combine the results of Exhibits 14 and 15. In particular, the average discount factor of 0.9 is associated with the short tail assumption that reserves are 50% of premiums for the tax year; the base discount factor is combined with the base reserve-to-premium relationship of 1-to-1 to simulate the medium tail lines; and the 0.8 average discount factor is applied to the long tail scenario with reserves equal to twice the tax year's premium.

The results on Exhibit 16 are similar to those displayed on Exhibits 14 and 15, but the magnitude of the vertical and horizontal shifts for the short and long tail lines is greater due to the compounding effect of the discount factor and reserve level assumptions. The Exhibit 16 results indicate that significantly lower after-tax income is derived from long tail lines generating the same pre-tax results as short tail business. Each line assumes the same pre-tax statutory income of \$14 million, but the after-tax results range from approximately \$11.1 million for the short tail line to about \$10.0 million for the long tail line. This relationship reflects the greater investment income potential present with the long tail line and shows the results of the TRA of 1986's attempt to match property/casualty insurers' liabilities and assets in deriving taxable income.

5. SUMMARY

The various provisions of the IRC of 1986 that affect property/casualty insurance companies provide opportunities for insurers to manage their federal income taxes and to maximize net income. While the ultimate degree of control an insurer can exercise on taxes is somewhat limited by external factors, significant differences in net income can result from different investment, underwriting, growth, and line of business strategies.

In this paper, a base scenario is developed for a hypothetical insurance company and simplified federal income tax and net income results are calculated. Various components of the base scenario are altered while all other base assumptions are held constant in order to isolate the impact of various factors on the sample company's after-tax income.

The base scenario includes the following:

Underwriting Income	(\$15.0 million)
Amount Invested in:	
Taxable Bonds	\$150.0 million
Tax-Exempt Bonds	\$ 50.0 million
Statutory Income	\$ 14.0 million
Regular Taxable Income	\$ 11.4 million
Federal Income Tax	\$ 3.9 million
Net Income	\$ 10.1 million

This scenario includes a taxable bond yield of 10% and a tax-exempt yield of 8%. In addition, the average composite discount factor is assumed to be 0.85. Variations in the base assumptions yield the results associated with maximized net income as shown on the adjoining page.

The results shown here indicate that changing the investment mix between taxable and tax-exempt bonds can mitigate the negative effects of worsening underwriting and investment yield results. For example, the net income associated with a \$20 million underwriting loss (\$7.1 million) is less than \$5 million below the net income associated with a \$15 million underwriting loss (\$10.8 million). This is accomplished by shifting investment dollars from the lower-yielding tax-exempt bonds to the higher-yielding taxable bonds as underwriting results deteriorate. The opposite is true for improving underwriting results.

OPTIMUM BOND
PORTFOLIO MIX

<u>Assumption</u>	<u>Taxable</u>	<u>Tax-Exempt</u>	<u>Net Income</u>
Base	\$ 80 million	\$120 million	\$10.8 million
Underwriting Loss:			
(\$20 million)	\$116 million	\$ 84 million	\$7.1 million
(\$10 million)	44 million	156 million	14.5 million
Investment Yields:			
12%; 10%	\$ 78 million	\$122 million	\$14.3 million
8%; 6%	84 million	116 million	7.5 million
10%; 9%	84 million	116 million	11.9 million
10%; 7%	76 million	124 million	9.7 million
10%; 6%	200 million	0 million	9.7 million
Growth Rates:			
-5%	\$152 million	\$ 48 million	\$12.0 million
NC	128 million	72 million	11.7 million
+5%	104 million	96 million	11.2 million
+15%	56 million	144 million	10.4 million
Reserves:			
50% of WrPr.	\$ 94 million	\$106 million	\$11.1 million
200% of WrPr.	52 million	148 million	10.3 million
Avg. Discount Factor:			
.90	\$ 90 million	\$110 million	\$11.0 million
.80	72 million	128 million	10.6 million
Reserves/Discount Factor Combined			
50%/ .90	\$100 million	\$100 million	\$11.2 million
200%/ .80	34 million	166 million	10.0 million

The revenue offset and loss and loss adjustment expense discounting provisions of the IRC of 1986 produce different results for different growth rates and absolute reserve levels. Again, the bond portfolio can be used to mitigate some of the impact on net income of these provisions.

Lastly, the tax code provisions tend to affect net income from various lines of business differently. Those lines with large absolute reserve levels and with long payout patterns derive less net income from the same statutory income amount than low reserve/short payout lines derive. This result has significant pricing and profitability implications.

6. CONCLUSION

The Tax Reform Act of 1986 dramatically changed the impact of federal income taxes on property/casualty insurers. The changes generally serve to increase the amount of taxes paid by insurers and make it impossible for companies with profitable pre-tax earnings to avoid paying taxes through the use of tax-exempt securities.

In response to the new tax code, property/casualty insurers should carefully assess the tax implications of various marketing, investment, reinsurance, and pricing strategies. Careful tax planning, while no longer able to eliminate federal income tax payments in most instances, can materially increase after-tax earnings by carefully optimizing insurers' line of business and investment portfolios.

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- [2] *Tax Reform Act of 1986*, Commerce Clearing House, Inc., October, 1986.
- [3] Owen M. Gleeson and Gerald I. Lenrow, "An Analysis of the Impact of the Tax Reform Act on the Property/Casualty Industry," Casualty Actuarial Society 1987 Discussion Paper Program, p. 119.
- [4] *Internal Revenue Code*, Volumes 1 and 2, Commerce Clearing House, January, 1988.
- [5] Owen M. Gleeson and Gerald I. Lenrow, "Tax Reform: The Impact on Income Statements," *Best's Review*, July, 1987, p. 12.
- [6] Edward A. Tepper, "Tax Reform Poses Obstacles for CEOs," *National Underwriter*, February 8, 1988, p. 50.
- [7] R. W. Beckman, "Federal Income Taxes," *PCAS* LVIII, 1971, p. 1.
- [8] Internal Revenue Service Advance Notice 88-100 on Discounted Unpaid Losses, issued August 17, 1988.

EXHIBIT 1

MARGINAL CORPORATE INCOME TAX RATES

After Transition Period

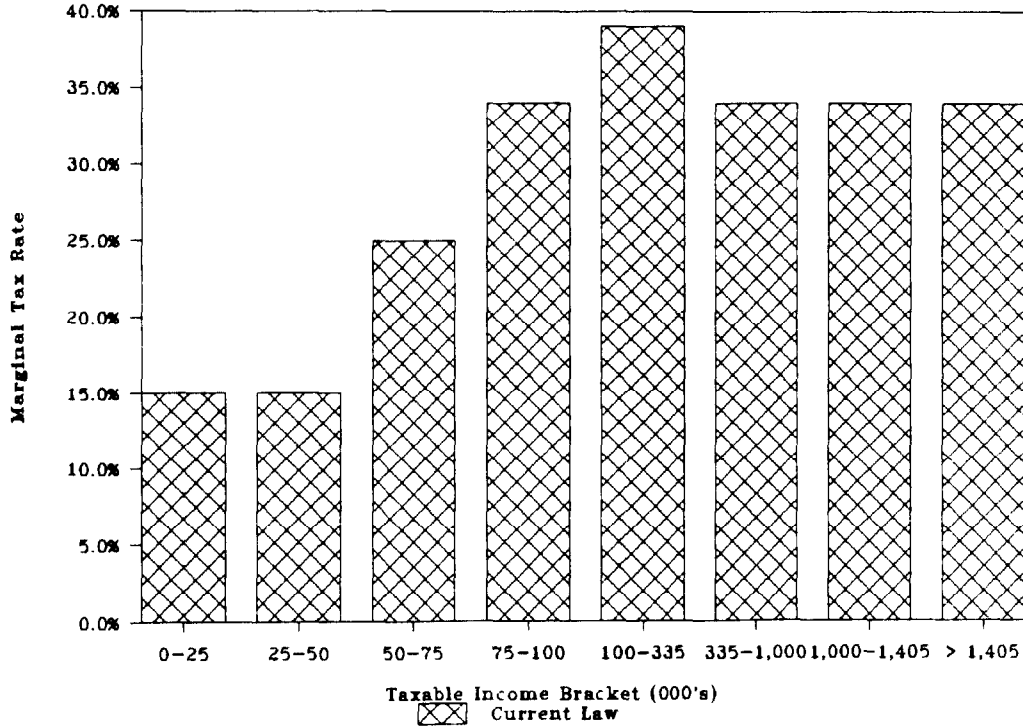


EXHIBIT 2

EFFECTIVE CORPORATE INCOME TAX RATES

After Transition Period

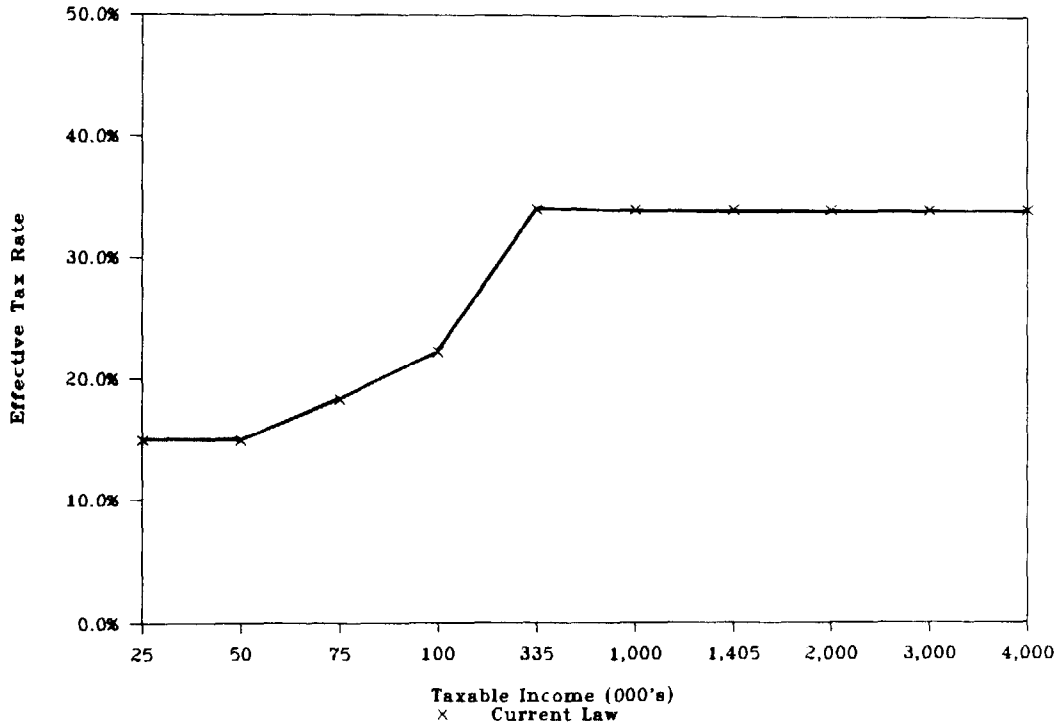


EXHIBIT 3

NET INCOME (After Federal Income Taxes)

Function of Investment Portfolio - BASE

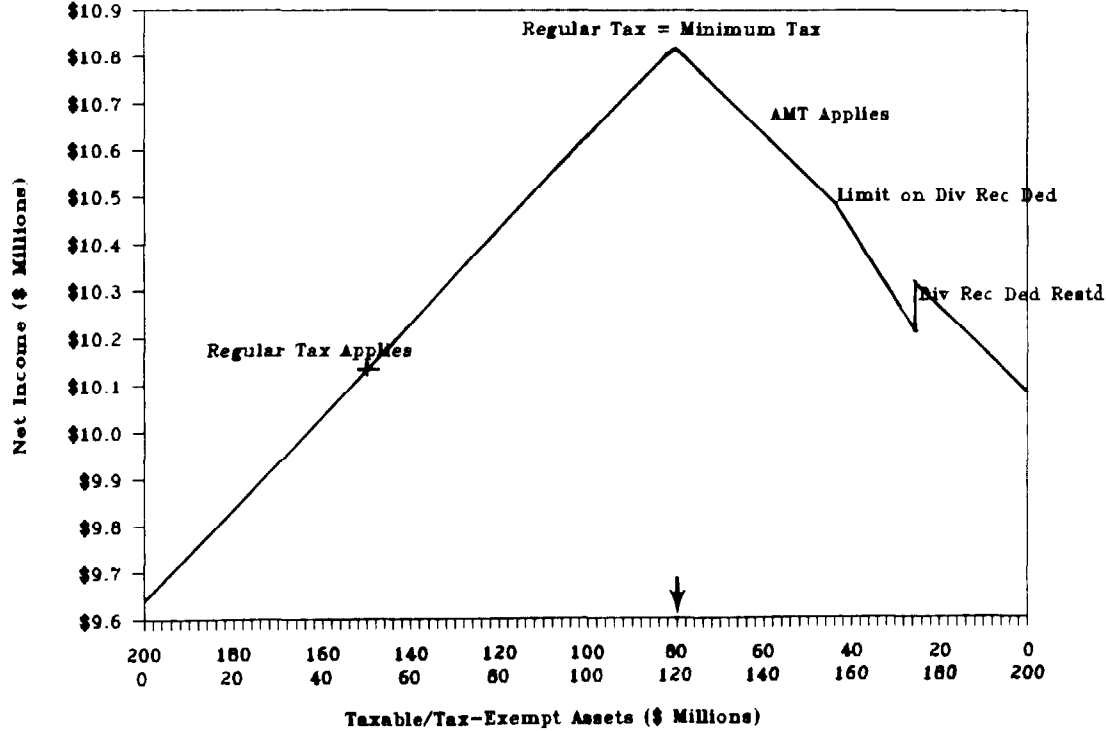
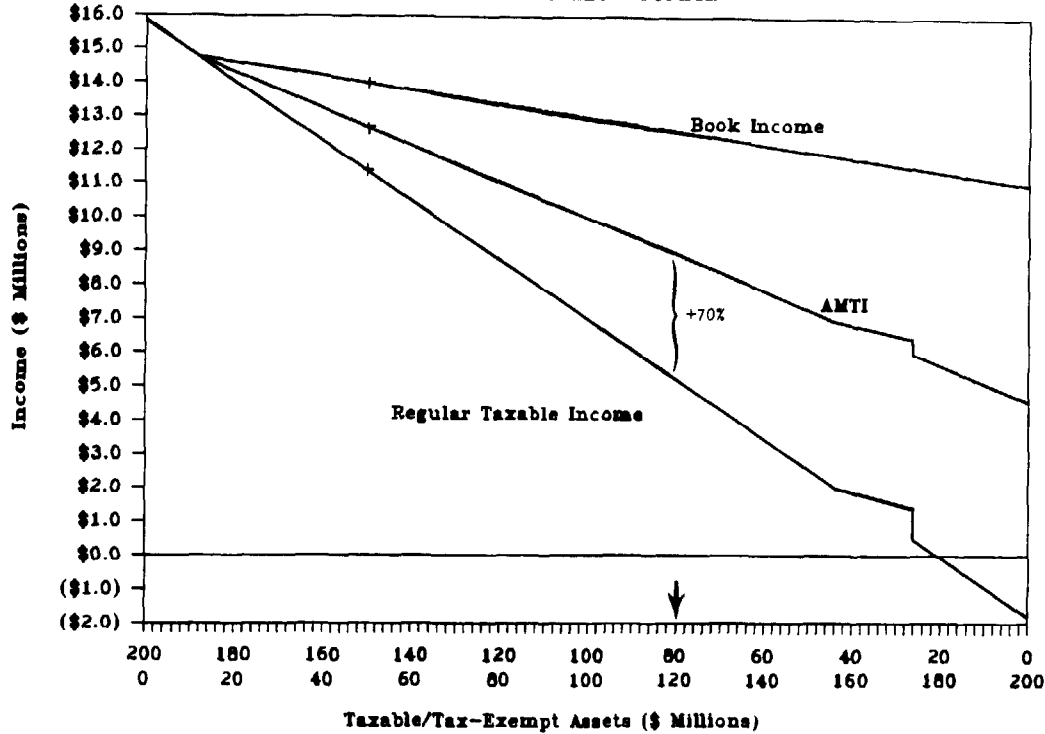


EXHIBIT 4

Regular Income vs Book Income vs AMTI

Function of Investment Portfolio



FEDERAL INCOME TAXES

EXHIBIT 5

Regular Tax vs Alternative Minimum Tax

Function of Investment Portfolio

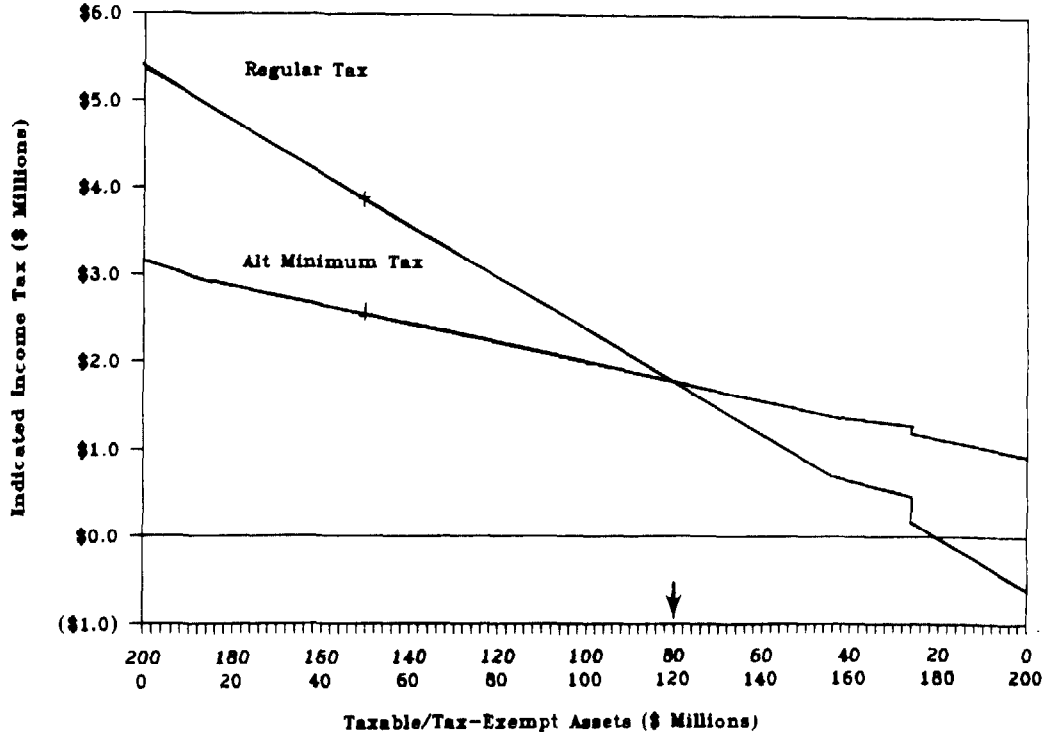


EXHIBIT 6

NET INCOME (After Federal Income Taxes)

Function of Investment Portfolio

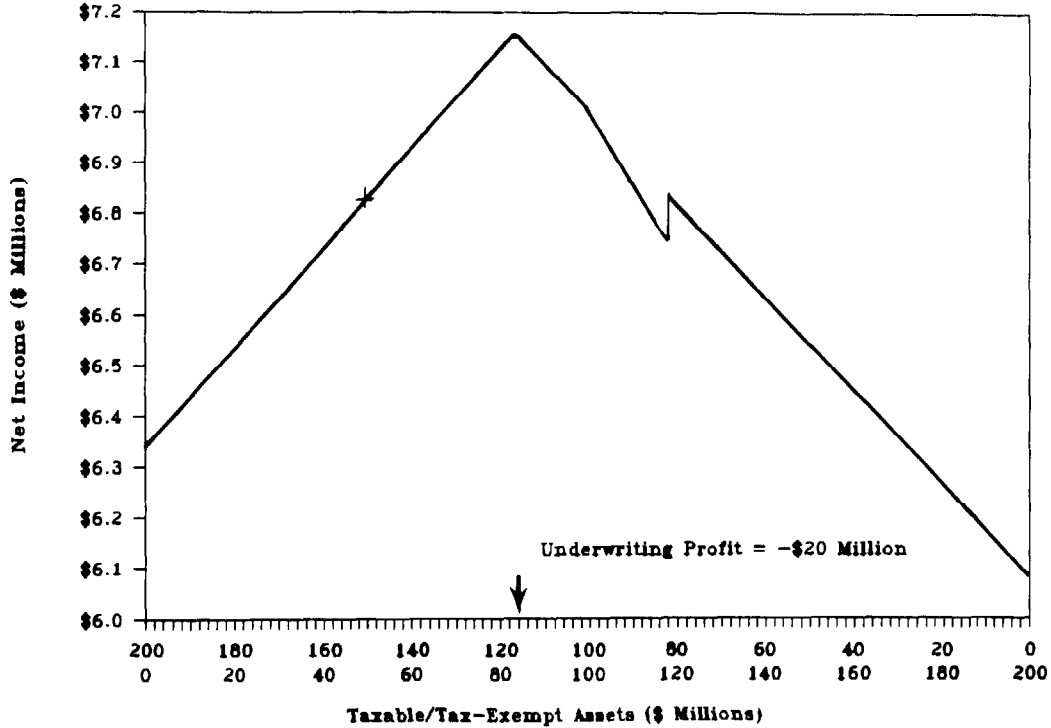


EXHIBIT 7

NET INCOME (After Federal Income Taxes)

Function of Investment Portfolio

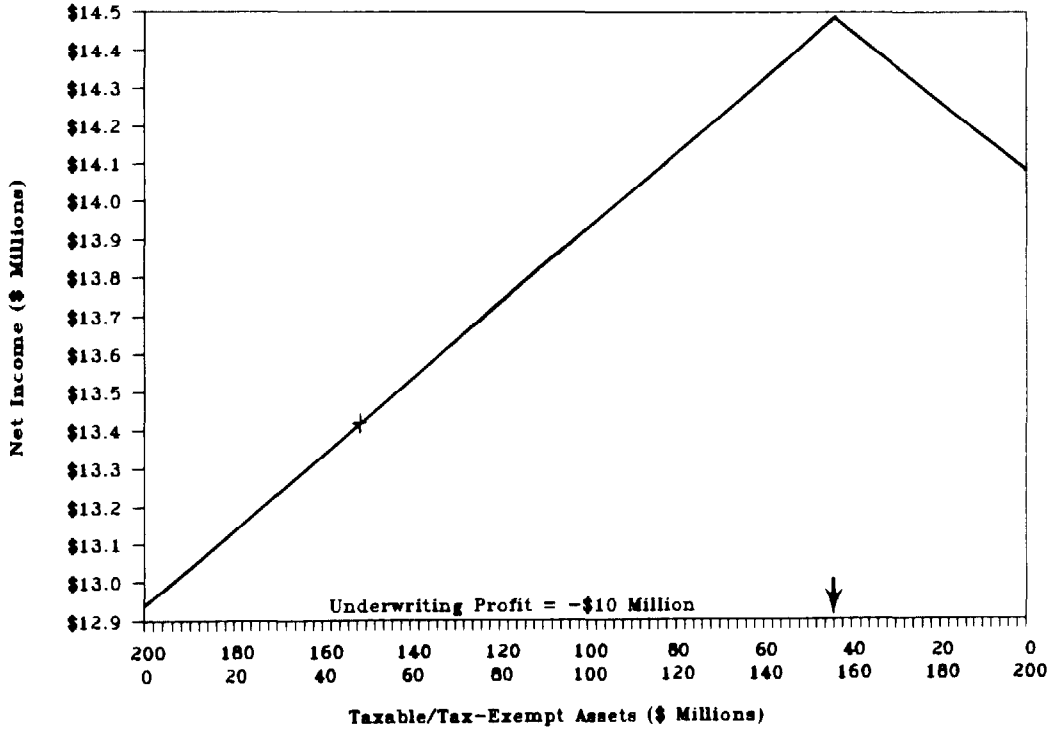


EXHIBIT 8

NET INCOME (After Federal Income Taxes)

Function of Investment Portfolio

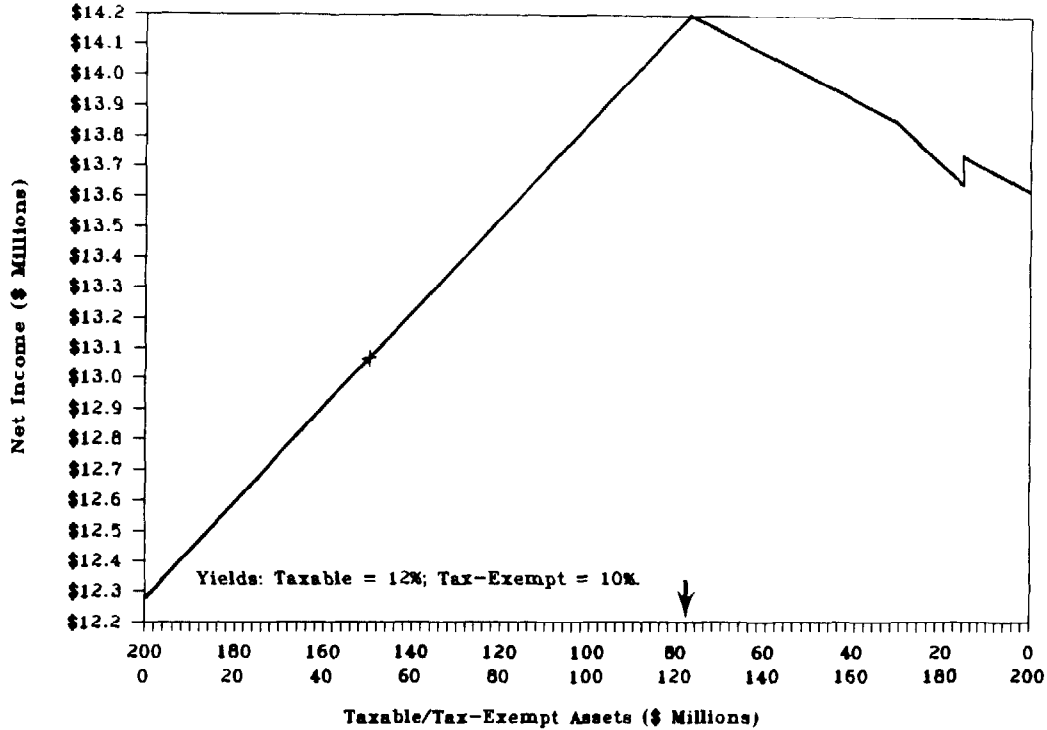


EXHIBIT 9

NET INCOME (After Federal Income Taxes)

Function of Investment Portfolio

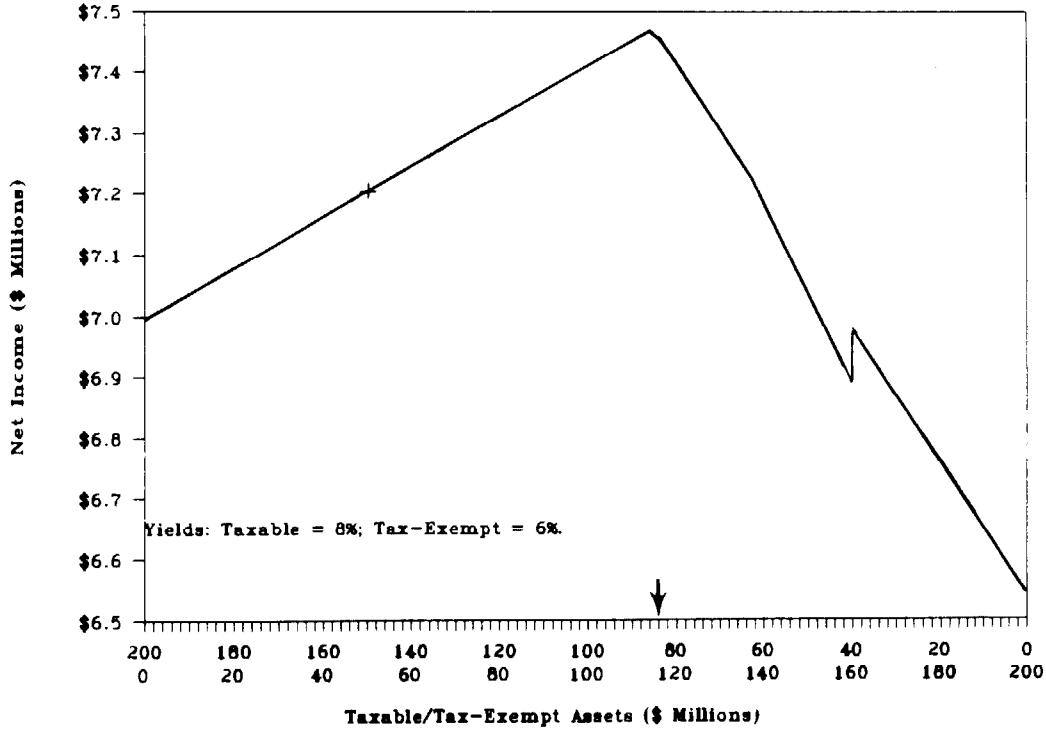


EXHIBIT 10

NET INCOME (After Federal Income Taxes)

Function of Investment Portfolio

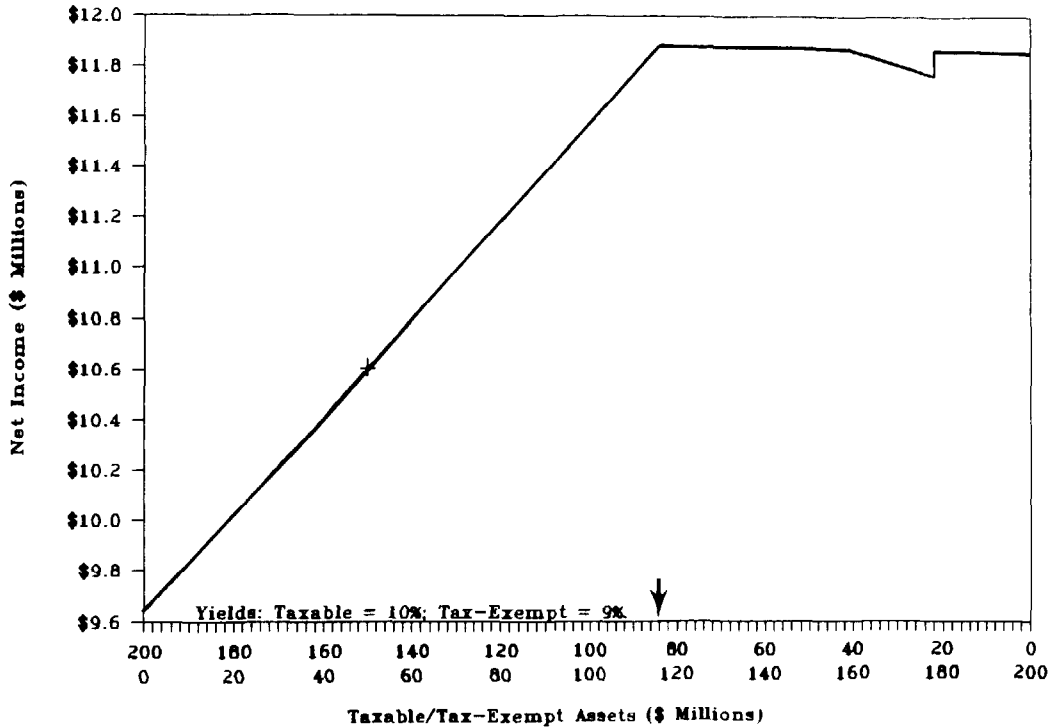


EXHIBIT 11

NET INCOME (After Federal Income Taxes)

Function of Investment Portfolio

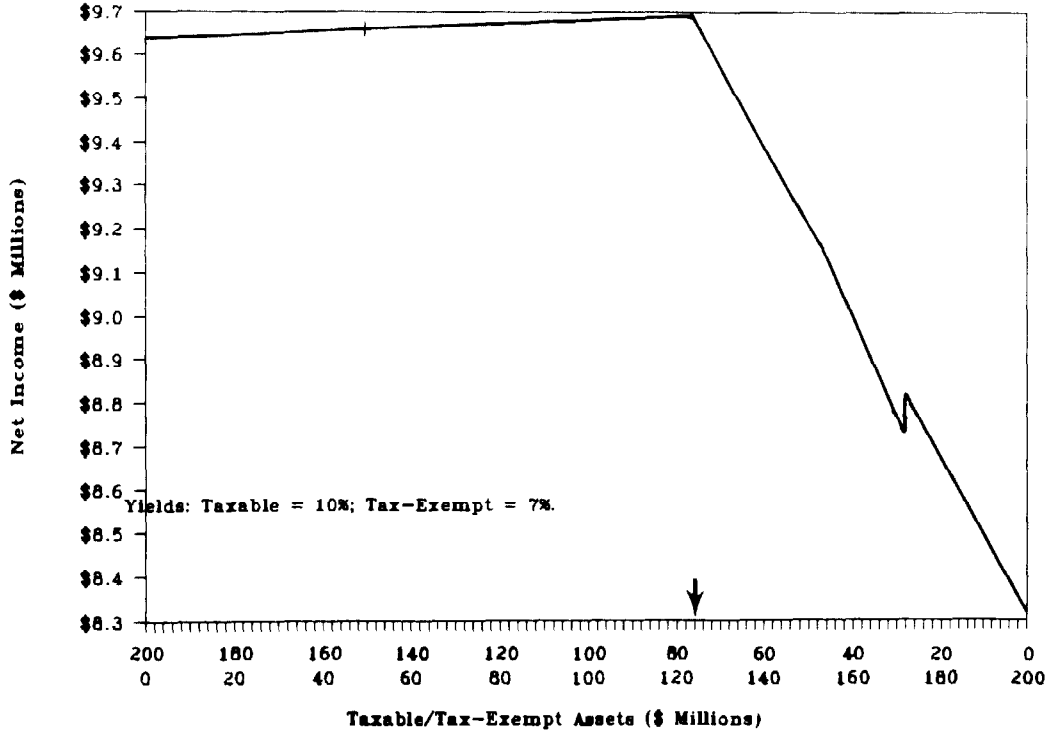
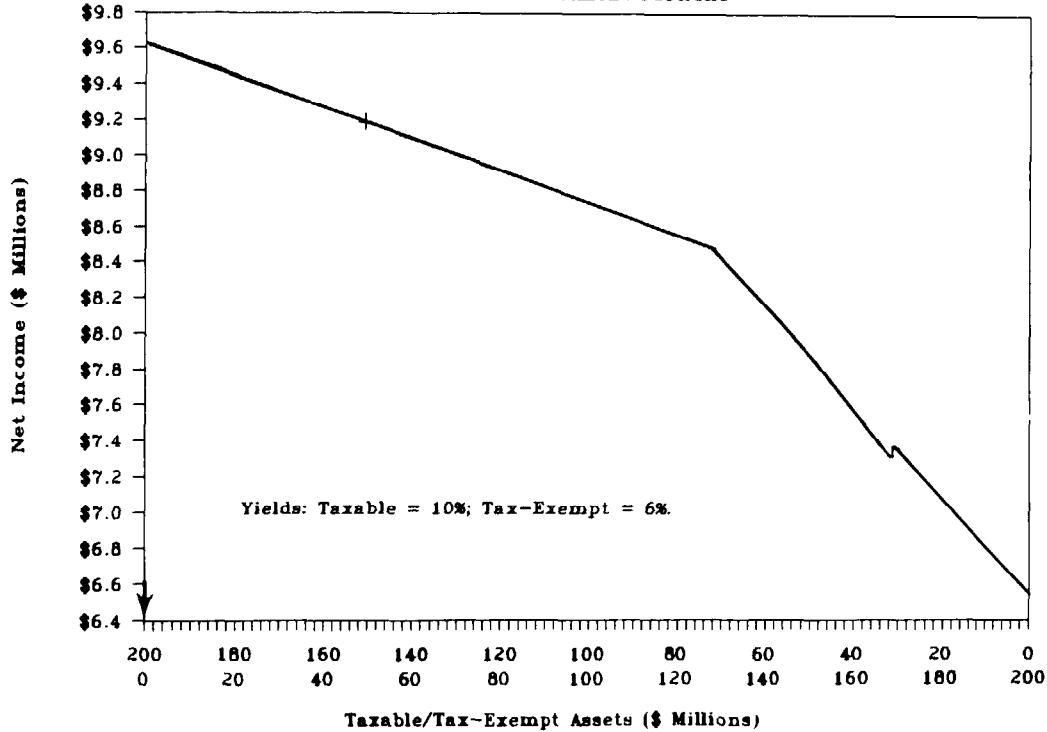


EXHIBIT 12

NET INCOME (After Federal Income Taxes)

Function of Investment Portfolio



FEDERAL INCOME TAXES

EXHIBIT 13

NET INCOME (After Federal Income Taxes)

Function of Investment Portfolio

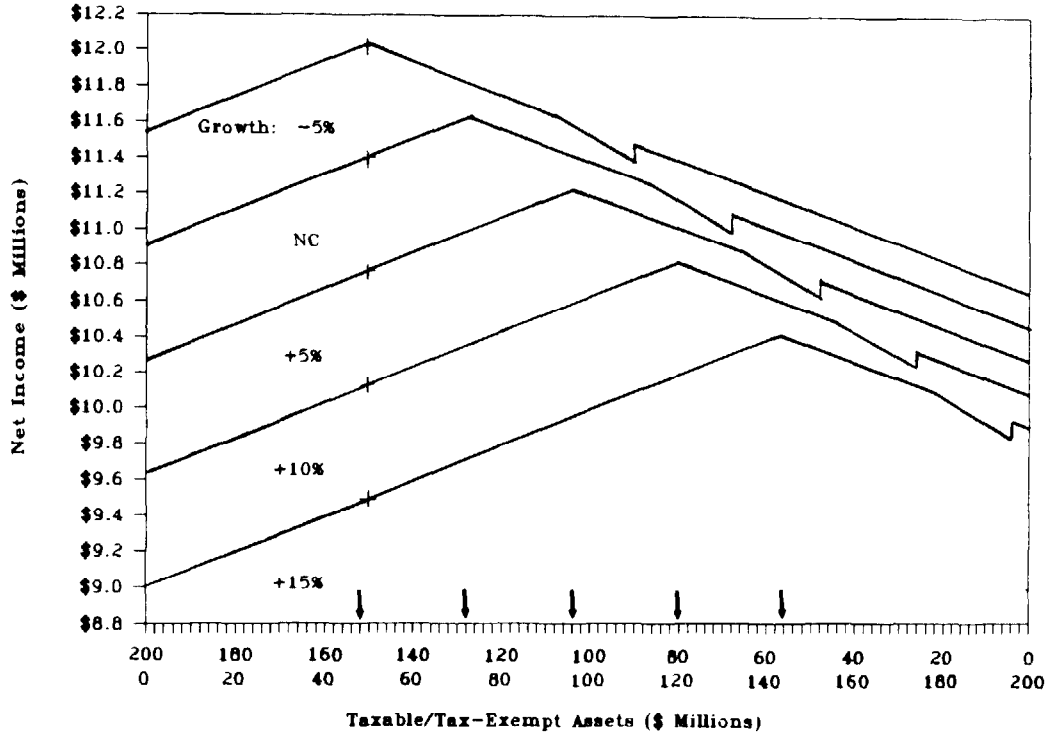


EXHIBIT 14

NET INCOME (After Federal Income Taxes)

Function of Investment Portfolio

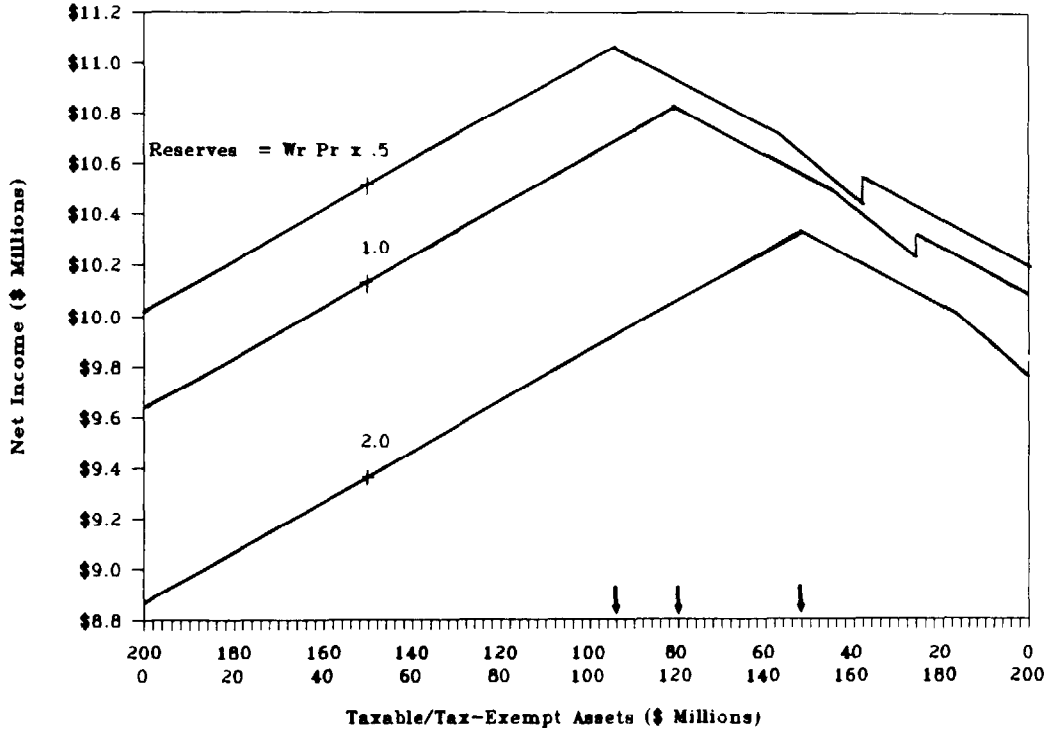


EXHIBIT 15

NET INCOME (After Federal Income Taxes)

Function of Investment Portfolio

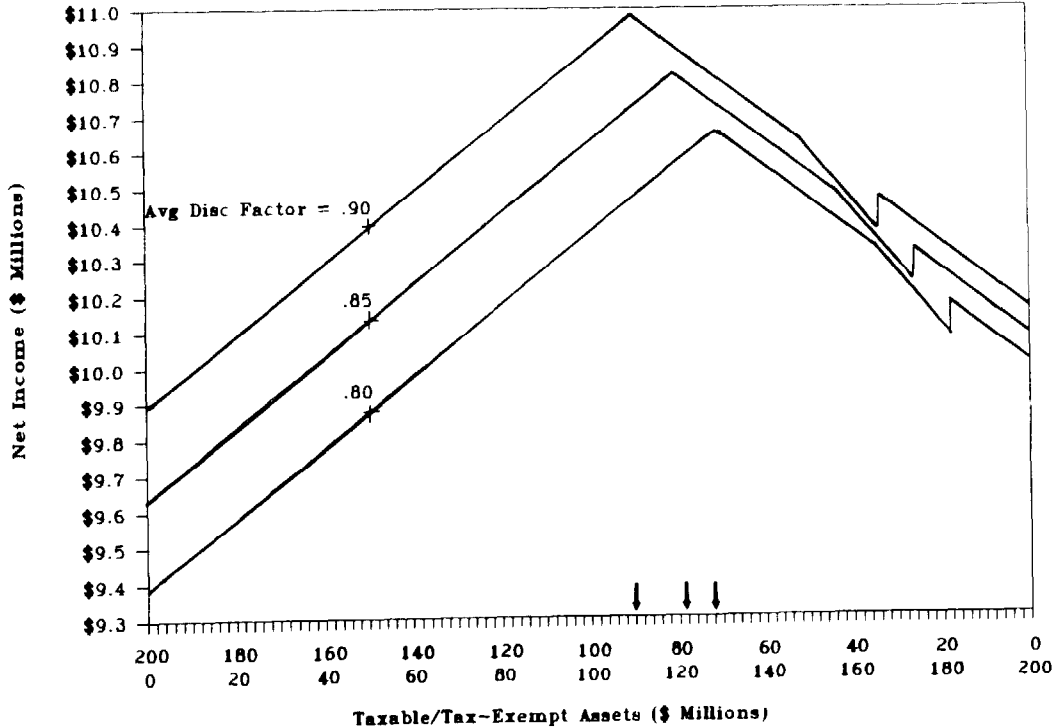
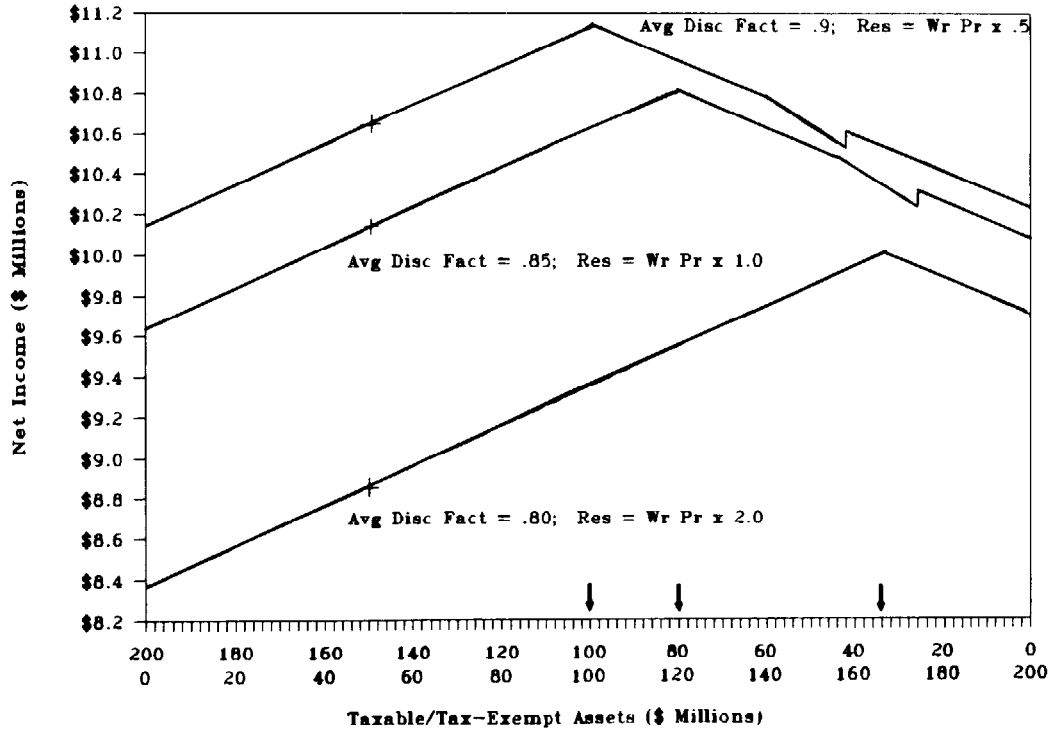


EXHIBIT 16

NET INCOME (After Federal Income Taxes)

Function of Investment Portfolio



APPENDIX A
TRANSITION PROVISIONS OF THE TAX REFORM ACT OF 1986

The Tax Reform Act of 1986 contains several transition rules which have a significant impact on property/casualty insurance companies. In this appendix, four of these rules are noted, but only two are discussed in detail.

First, the revenue offset provision of the TRA of 1986 redefines earned premium as written premium less 80.0% of the change in the unearned premium. This change is an attempt to better match the recognition of income with related expenses. In addition, the Internal Revenue Code requires that 20.0% of the unearned premium as of the 1986 calendar year-end be taken into income ratably over six years. In other words, approximately 3.3% of the 1986 year-end unearned premium is added to taxable income each year for the period 1987 through 1992.

The second transition item deals with tax-exempt investment income. As previously mentioned, the proration provision of the IRC calls for 15% of tax-exempt investment income to be deducted from incurred losses. This provision, however, applies only to investment income earned on tax-exempt investments purchased after August 7, 1986. Therefore, for a period of time, insurers will have a portion of tax-exempt investment income which is not subject to the proration provision. Exhibit A-1 shows a comparison of the net income curve assuming that all investment income is derived from investments purchased after August 7, 1986 (this is the base scenario) to the net income curve assuming all investments are purchased before August 7, 1986.

The third transition item is known as the "fresh start" provision. This provision "forgives" the discount in the 1986 year-end loss reserves by allowing a deduction of an amount equal to the difference between the undiscounted and discounted 1986 year-end loss reserves, during the 1987 tax year. The significance of the fresh start forgiveness can be seen by comparing the formula for calculating tax basis incurred losses with and without this provision:

Tax Basis Incurred Loss Without Fresh Start Forgiveness:

Paid Losses + (1987 Year-end Discounted Reserves –
1986 Year-end Undiscounted Reserves)

Tax Basis Incurred Loss With Fresh Start Forgiveness:

Paid Losses + (1987 Year-end Discounted Reserves –
1986 Year-end Undiscounted Reserves) + Fresh Start
Amount

where the Fresh Start Amount = (1986 Year-end Undiscounted Reserves
– 1986 Year-end Discounted Reserves)

Assuming a composite discount factor of .85, the fresh start amount adds 15% of the 1986 year-end loss reserves to incurred losses.

The discounting of loss reserves and the fresh start provision combine in a manner causing a double deduction of the fresh start amount. Exhibit A-2 shows the calculation of the fresh start amount and the contribution to the tax basis incurred loss from accident years 1986 and prior. Note that the total of the tax basis incurred losses equals the fresh start amount. This result should be no surprise since the tax basis incurred losses are a result of the emergence of the interest underlying the reserves. The 1986 reserves were deducted from taxable income in years prior to 1987. The tax incurred loss generated in 1987 and subsequent, as a result of emerging interest, thus constitutes a second deduction.

The final transition item to be discussed in this appendix is the change in the definition of alternative minimum taxable income (AMTI) that will occur with tax years beginning in 1990. For the purposes of this discussion, it is assumed that there are no preference items other than the book income preference item. This simplifying assumption is made so that we may set AMTI equal to regular taxable income prior to the book income preference item.

For tax years beginning in 1987, 1988, and 1989, the book income preference item is determined as follows. A factor of 50% is applied to the difference between book income and regular taxable income and the result is limited to positive values. AMTI is then the sum of regular taxable income and the book income preference item. The book income preference item ends with the 1989 tax year.

Starting with tax years beginning in 1990, the book income preference item is replaced with a preference item based on “adjusted current earnings” (ACE). The new preference item is determined by applying a factor of 75% to the difference between adjusted current earnings and regular taxable income. The result may be either positive or negative, but may only be negative to the extent that the cumulative value of the new preference item in prior years (1990 and subsequent) has been positive.

At the time of the writing of this paper, the definition of “adjusted current earnings” had not yet been determined. However, an early reading indicates that it will be book income restated using tax basis discounted reserves. Exhibit A-3 displays the net income curves under the pre-1990 AMTI provisions and under an approximate post-1990 AMTI approach. Exhibit A-3 uses statutory income adjusted to include discounted loss reserves as an approximation for ACE.

EXHIBIT A-1

NET INCOME (After Federal Income Taxes)

Function of Investment Portfolio

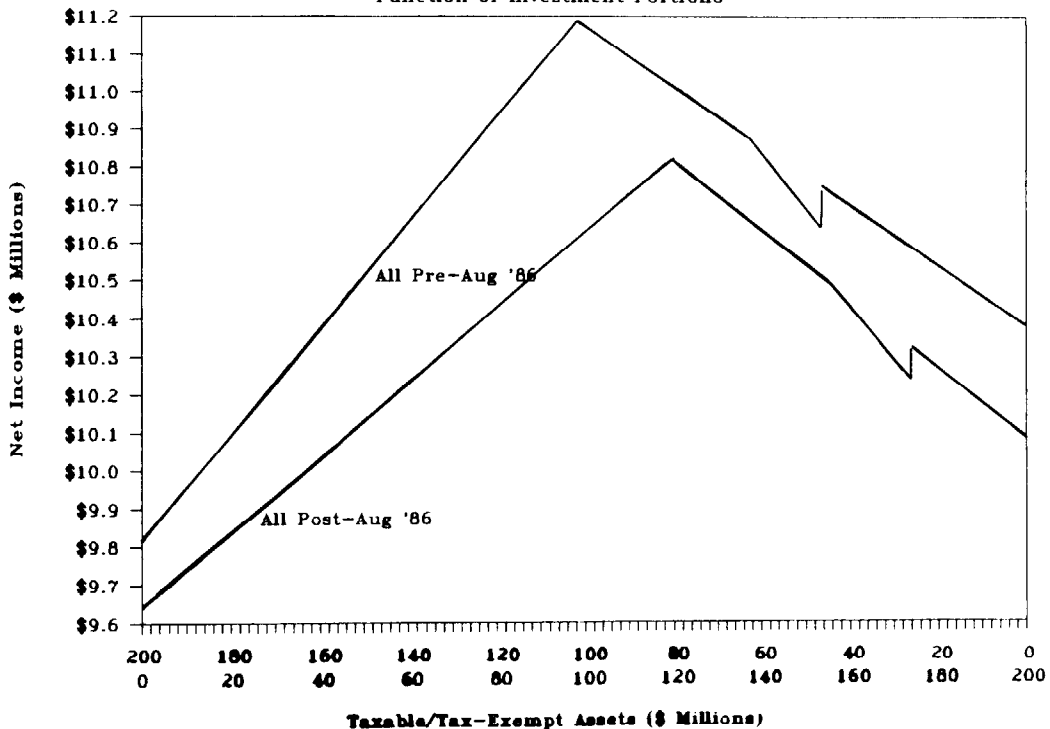


EXHIBIT A-2

FRESH START AMOUNT DETERMINATION AND TAX BASIS INCURRED LOSS

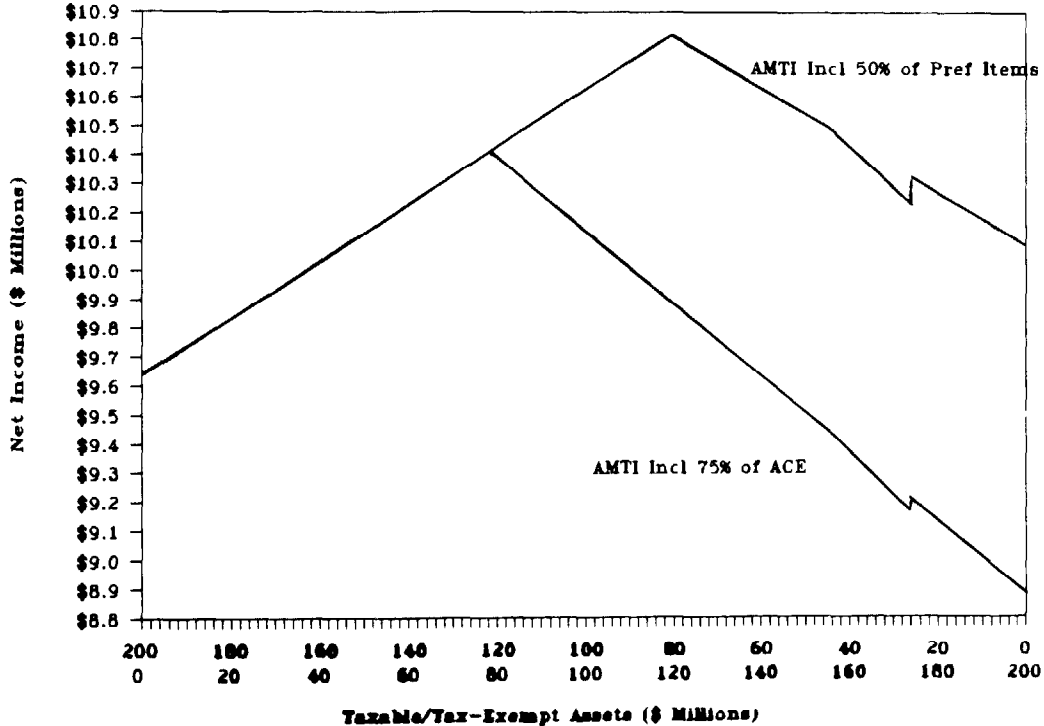
	Calendar Year Ending											
	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
1. Undiscounted Loss & LAE Reserves	182,882	128,345	77,991	41,886	22,896	12,225	5,675	2,562	969	236	47	0
2. Discounted Loss & LAE Reserves	150,300	102,470	61,847	33,111	17,936	9,464	4,415	2,000	764	183	36	0
3. Fresh Start Amount	32,582											
	Calendar Year											
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	Total
4. Paid Loss & LAE	54,537	50,354	36,105	18,990	10,671	6,551	3,113	1,593	734	189	47	182,882
5. Change In Loss & LAE Reserve												
Undiscounted	(54,537)	(50,354)	(36,105)	(18,990)	(10,671)	(6,551)	(3,113)	(1,593)	(734)	(189)	(47)	
Discounted	(47,831)	(40,623)	(28,736)	(15,176)	(8,472)	(5,049)	(2,415)	(1,236)	(581)	(147)	(36)	
6. Incurred Loss & LAE												
Statutory Basis	0	0	0	0	0	0	0	0	0	0	0	
Tax Basis	6,707	9,731	7,370	3,815	2,199	1,502	698	357	153	42	11	32,582

NOTE: Amounts in thousands. Paid and Reserve numbers are for accident years 1986 and prior only.

EXHIBIT A-3

NET INCOME (After Federal Income Taxes)

Function of Investment Portfolio



FEDERAL INCOME TAXES

APPENDIX B
LOSS AND LOSS EXPENSE RESERVE DISCOUNTING

The discounting of loss and loss expense reserves, for tax purposes, is accomplished by applying discount factors to the full value reserves by accident year and Annual Statement line of business. It should be noted that if a company discounts reserves, the reserves are to be grossed up before applying tax discount factors. However, the company must have disclosed the amount of discount in order to be allowed to gross its reserves up.

The discount factors for each annual statement line depend on a payment pattern, which varies by line, and an interest rate. The IRS has prescribed very specific rules for the calculation of each of these two elements.

Payment Pattern

The IRC directs the Secretary of the Treasury to establish payment patterns for each line of business reported on Schedules O and P, for each determination year. A determination year is defined as one for which a payment pattern has been determined. Determination years start with 1987, and occur every fifth year thereafter.

Separate rules apply in the derivation of the payment pattern for Schedule P lines and for Schedule O lines. In both cases, the data for calculating the pattern comes from the most recently filed Annual Statement, creating a two-year lag between the year to which the pattern applies and the data on which the pattern is based.

If for a particular line of business (except for the International and Reinsurance lines reported on Schedule O) a company has sufficient prior loss experience to place it in the top 90% of all companies writing that line, it may use data from its own Annual Statement to determine the payment pattern for use in discounting reserves. In addition to the volume criterion, use of company data to derive payment patterns is allowed only if the company has written premium for the particular line of insurance for at least the number of years that unpaid losses are required to be reported for that line of business on the Annual Statement [8]. If a company does not have enough experience to determine a payment pattern based on its own data, it must use the patterns published by the

IRS. For the International and Reinsurance lines shown in Schedule O, the industry aggregate pattern based on all Schedule P lines combined must be used. Once the company has elected to use the company's own pattern or the industry pattern, that election is valid until the next determination year.

Companies electing to use the industry pattern must use it for the accident year coinciding with the determination year and the following four accident years. If the company pattern is elected, the pattern is revised for each subsequent accident year using the information in the most recently filed Annual Statement of the company. Once a payment pattern is established for an accident year, it is used for that accident year until all reserves are paid out.

Interest Rate

The interest rate promulgated by the IRS is based on a rolling sixty-month average of 100% of the midterm applicable federal rates (AFR) effective as of the beginning of each calendar month. The sixty-month period ends with the month before the beginning of the calendar year for which the determination is made. The midterm AFR is based on the yield of U.S. Government securities with maturities between three and nine years.

For accident years 1987 and prior, the rate is based on the AFR for calendar months of August through December of 1986, resulting in an interest rate of 7.20%. The rate for accident year 1988 is based on the AFR for calendar months of August 1986 through December 1987, resulting in an interest rate of 7.77%. The average continues to include more months each year until a maximum of sixty months is included. At that time the oldest month is dropped when a new month is added to the average.

Discount Factors for Schedule P Lines

Columns (1) through (8) of Exhibit B-1 display the derivation of the payment pattern for a Schedule P line of a hypothetical company. The incremental percentage paid in Column (5) is calculated by taking the first difference of Column (4). Subject to the two exceptions to be discussed later, any portion of losses unpaid after ten years of age is assumed paid in the following year. Thus, the adjusted incremental

percentage paid in Column (8) reflect an additional 1.0% payment from the tenth prior year in order to make the sum of all the incremental percentages equal 100%.

The adjusted incremental percentage payments, along with the promulgated discount rate, determine the discount factors. Payments are assumed to be made in the middle of the year. For example, the discount factor for the seventh prior accident year is determined as follows:

$$\frac{(3.0 \times v^{1/2}) + (2.00 \times v^{3/2}) + (1.00 \times v^{5/2})}{(3.00 + 2.00 + 1.00)} = \frac{5.53988}{6.00000} = .923314,$$

where $v = (1.07200)^{-1}$.

There are two exceptions which may apply in determining the payment pattern for Schedule P lines. The first involves the extension of the pattern, up to an additional five years, in the case of long tail lines. A line is subject to this extension if the percentage outstanding after ten years exceeds the percentage paid during the tenth year. In this event, the percentage paid in the tenth year is used repeatedly for up to an additional five years or until the cumulative percentage reaches 100%. If, after repeated use of the tenth year payment, the cumulative percentage paid has not reached 100%, then the pattern is forced to reach 100% at the end of the sixteenth year. Actual reserves may not have been fully paid out, but for the purposes of determining discount factors the payment pattern is assumed to end. Any reserves outstanding beyond this age are assumed paid in the following year. Exhibit B-2 displays an example of the extension of payments using the data for the industry automobile liability line. Note that the percentage unpaid at the end of ten years is 1.02%, and exceeds the payment of 0.32% in the tenth year.

The second exception deals with reversals in the payment pattern. The Code makes specific provision for the case where the incremental percentage paid in the tenth year is negative. In the event this occurs, the last three years of incremental percentage payments are averaged and used repeatedly, until the cumulative pattern reaches 100%. If the three-year average is negative, then a four-year average is used and so forth. Exhibit B-3 displays an example of a line with negative percentage paid in the tenth year.

Other complications that require special handling as prescribed by IRS Notice 88-100 pertain to discount factors for accident years not separately reported in the Annual Statement and to zero or negative discount factors.

Discounted reserves for accident years not separately shown on the Annual Statement (i.e., “and prior” accident year reserves) are calculated by using a composite discount factor. The composite discount factor reflects the distribution among accident years of unpaid losses in the “and prior” category, and the discount factors applicable to each of the prior accident years. An example of the calculation of the composite discount factor for industry general liability data is shown in Exhibit B-4. Note that the composite factor changes over time.

When a company uses its own data to calculate the payment pattern for use in discounting, it is possible for zero or negative discount factors to arise (a zero discount factor = 1.0; a negative discount factor is one that is less than zero). This situation must be resolved by use of a “substitute discount factor,” calculated by blending the positive discount factors immediately preceding and succeeding the zero or negative discount factor [8]. If two or more consecutive zero or negative discount factors occur, substitute factors are calculated starting with the most recent accident year generating the zero or negative factor, and moving to the older years until all zero or negative discount factors are eliminated. An example of this elimination is shown in Exhibit B-5.

Discount Factors for Schedule O Lines

Exhibit B-6 sets forth the calculation of discount factors for Schedule O lines, using the industry automobile physical damage data. As mentioned previously, special rules apply to the International and Reinsurance lines.

For Schedule O, a four-year payout is assumed, with reserves outstanding after two years paid equally over the last two years. For the physical damage line, 83.12% of the accident year losses are paid during the first twelve months. A disposal rate of 93.49% is applied to the outstanding portion of 16.88%, resulting in 15.78% paid in the second twelve months. The balance of the outstanding of 1.10% is assumed paid in equal amounts over the following two years.

EXHIBIT B-1
CALCULATION OF RESERVE DISCOUNT FACTORS
SCHEDULE P LINES
NO LONG TAIL EXTENSION
DISCOUNT RATE 7.20%

Accident Year (1)	Losses Paid (2)	Losses Incurred (3)	Cumulative Percentage Paid (2)/(3) (4)	Incremental Percentage Paid (5)	Percentage Unpaid 1.0 - (4) (6)
1975 & Prior	\$100,000	\$100,000	NA	NA	NA
1976	108,900	110,000	99.00%	2.00%-A	1.00%-B
1977	117,370	121,000	97.00	3.00	3.00
1978	125,114	133,100	94.00	3.00	6.00
1979	133,233	146,410	91.00	4.00	9.00
1980	140,114	161,051	87.00	4.00	13.00
1981	147,040	177,156	83.00	6.00	17.00
1982	150,051	194,872	77.00	10.00	23.00
1983	143,620	214,359	67.00	12.00	33.00
1984	129,687	235,795	55.00	25.00	45.00
1985	77,812	259,374	30.00	30.00	70.00

Accident Year (7)	Adjusted Incremental Percentage Paid (8)	Long Tail Extension of Payments (9)	Adjusted Percentage Unpaid (10)	Discounted Percentage Unpaid (11)	Loss Reserve Discount Factor (11)/(10) (12)
All Prior	NA	0.00%	0.00	0.00%	0.965834
14th Prior	NA	0.00	0.00	0.00	0.965834
13th Prior	NA	0.00	0.00	0.00	0.965834
12th Prior	NA	0.00	0.00	0.00	0.965834
11th Prior	NA	0.00	0.00	0.00	0.965834
10th Prior	1.00%		0.00	0.00	0.965834
9th Prior	2.00		1.00	0.97	0.965834
8th Prior	3.00		3.00	2.83	0.944211
7th Prior	3.00		6.00	5.54	0.923314
6th Prior	4.00		9.00	8.07	0.896145
5th Prior	4.00		13.00	11.39	0.875919
4th Prior	6.00		17.00	14.49	0.852087
3rd Prior	10.00		23.00	19.31	0.839460
2nd Prior	12.00		33.00	27.67	0.838459
1st Prior	25.00		45.00	37.40	0.831129
Current	30.00		70.00	59.03	0.843352
Total	100.00%	0.00%			

NOTES: (2) & (3) 1985 Annual Statement, Schedule P—Part 1, Columns 6 & 11.

(5) First difference of Column (4).

(8) & (9) After application of extension and negative payment tests.

(10) Reverse sum of Columns (8) & (9).

(11) Column (8) & (9) discounted at the indicated discount rate.

A Percentage paid in penultimate year.

B Percentage unpaid at end of penultimate year.

EXHIBIT B-2
 CALCULATION OF RESERVE DISCOUNT FACTORS
 SCHEDULE P LINES
 INDUSTRY—AUTO LIABILITY
 DISCOUNT RATE 7.20%

Accident Year (1)	Losses Paid (2)	Losses Incurred (3)	Cumulative Percentage Paid (2)/(3) (4)	Incremental Percentage Paid (5)	Percentage Unpaid 1.0 - (4) (6)
1975 & Prior	\$91,306,371	\$91,545,592	NA	NA	NA
1976	11,389,407	11,506,437	98.98%	0.32%-A	1.02%-B
1977	12,853,464	13,027,563	98.66	0.23	1.34
1978	14,534,843	14,766,868	98.43	0.64	1.57
1979	16,266,022	16,633,374	97.79	1.24	2.21
1980	17,105,852	17,717,217	96.55	2.73	3.45
1981	18,974,882	20,225,872	93.81	4.76	6.19
1982	19,808,529	22,243,403	89.05	8.82	10.95
1983	20,047,428	24,986,353	80.23	15.03	19.77
1984	18,397,279	28,217,053	65.20	30.88	34.80
1985	10,734,519	31,281,287	34.32	34.32	65.68

Accident Year (7)	Adjusted Incremental Percentage Paid (8)	Long Tail Extension of Payments (9)	Adjusted Percentage Unpaid (10)	Discounted Percentage Unpaid (11)	Loss Reserve Discount Factor (11)/(10) (12)
All Prior	NA	0.00%	0.00	0.00%	0.965834
14th Prior	NA	0.00	0.00	0.00	0.965834
13th Prior	NA	0.06	0.00	0.00	0.965834
12th Prior	NA	0.32	0.06	0.06	0.965836
11th Prior	NA	0.32	0.38	0.36	0.955694
10th Prior	0.32%		0.70	0.65	0.925519
9th Prior	0.32		1.02	0.91	0.895529
8th Prior	0.23		1.34	1.16	0.866551
7th Prior	0.64		1.57	1.31	0.831890
6th Prior	1.24		2.21	1.83	0.830789
5th Prior	2.73		3.45	2.91	0.843689
4th Prior	4.76		6.19	5.36	0.866075
3rd Prior	8.82		10.95	9.60	0.876600
2nd Prior	15.03		19.77	17.47	0.883812
1st Prior	30.88		34.80	30.82	0.885530
Current	34.32		65.68	58.58	0.891776
Total	99.30%	0.70%			

NOTES: (2) & (3) 1985 Annual Statement, Schedule P—Part 1, Columns 6 & 11.

(5) First difference of Column (4).

(8) & (9) After application of extension and negative payment tests.

(10) Reverse sum of Columns (8) & (9).

(11) Column (8) & (9) discounted at the indicated discount rate.

A Percentage paid in penultimate year.

B Percentage unpaid at end of penultimate year.

EXHIBIT B-3
CALCULATION OF RESERVE DISCOUNT FACTORS
SCHEDULE P LINES
NEGATIVE PAID IN PENULTIMATE YEAR
DISCOUNT RATE 7.20%

Accident Year (1)	Losses Paid (2)	Losses Incurred (3)	Cumulative Percentage Paid (2)/(3) (4)	Incremental Percentage Paid (5)	Percentage Unpaid 1.0 - (4) (6)
1975 & Prior	\$100,000	\$100,000	NA	NA	NA
1976	105,600	110,000	96.00%	1.00%-A	4.00%-B
1977	117,370	121,000	97.00	3.00	3.00
1978	125,114	133,100	94.00	3.00	6.00
1979	133,233	146,410	91.00	4.00	9.00
1980	140,114	161,051	87.00	4.00	13.00
1981	147,040	177,156	83.00	6.00	17.00
1982	150,051	194,872	77.00	10.00	23.00
1983	143,620	214,359	67.00	12.00	33.00
1984	129,687	235,795	55.00	25.00	45.00
1985	77,812	259,374	30.00	30.00	70.00

Accident Year (7)	Adjusted Incremental Percentage Paid (8)	Long Tail Extension of Payments (9)	Adjusted Percentage Unpaid (10)	Discounted Percentage Unpaid (11)	Loss Reserve Discount Factor (11)/(10) (12)
All Prior	NA	0.00%	0.00	0.00%	0.965834
14th Prior	NA	0.00	0.00	0.00	0.965834
13th Prior	NA	0.00	0.00	0.00	0.965834
12th Prior	NA	0.67	0.00	0.00	0.965834
11th Prior	NA	1.67	0.67	0.64	0.965834
10th Prior	1.67%		2.33	2.21	0.947300
9th Prior	-1.00		4.00	3.67	0.917908
8th Prior	3.00		3.00	2.46	0.819732
7th Prior	3.00		6.00	5.19	0.865255
6th Prior	4.00		9.00	7.74	0.860039
5th Prior	4.00		13.00	11.08	0.852601
4th Prior	6.00		17.00	14.20	0.835454
3rd Prior	10.00		23.00	19.04	0.827992
2nd Prior	12.00		33.00	27.42	0.831003
1st Prior	25.00		45.00	37.17	0.826028
Current	30.00		70.00	58.82	0.840293
Total	97.67%	2.33%			

NOTES: (2) & (3) 1985 Annual Statement, Schedule P—Part 1, Columns 6 & 11.

(5) First difference of Column (4).

(8) & (9) After application of extension and negative payment tests.

(10) Reverse sum of Columns (8) & (9).

(11) Column (8) & (9) discounted at the indicated discount rate.

A Percentage paid in penultimate year.

B Percentage unpaid at end of penultimate year.

EXHIBIT B-4

SHEET 1
 CALCULATION OF RESERVE DISCOUNT FACTORS
 SCHEDULE P LINES
 INDUSTRY—GENERAL LIABILITY
 DISCOUNT RATE 7.20%

Accident Year (1)	Losses Paid (2)	Losses Incurred (3)	Cumulative Percentage Paid (2)/(3) (4)	Incremental Percentage Paid (5)	Percentage Unpaid 1.0 - (4) (6)
1975 & Prior	\$23,480,898	\$25,101,360	NA	NA	NA
1976	2,702,169	3,081,827	87.68%	1.02%-A	12.32%-B
1977	2,812,829	3,245,716	86.66	2.17	13.34
1978	3,050,437	3,610,079	84.50	4.28	15.50
1979	3,339,115	4,162,493	80.22	5.11	19.78
1980	3,548,964	4,724,863	75.11	8.92	24.89
1981	3,429,366	5,180,556	66.20	10.99	33.80
1982	3,181,315	5,762,517	55.21	15.13	44.79
1983	2,493,908	6,222,045	40.08	14.69	59.92
1984	1,752,555	6,901,148	25.40	16.19	74.60
1985	824,218	8,957,695	9.20	9.20	90.80

Accident Year (7)	Adjusted Incremental Percentage Paid (8)	Long Tail Extension of Payments (9)	Adjusted Percentage Unpaid (10)	Discounted Percentage Unpaid (11)	Loss Reserve Discount Factor (11)/(10) (12)
All Prior	NA	7.23%	0.00%	0.00%	0.965834
14th Prior	NA	1.02	7.23	6.98	0.965834
13th Prior	NA	1.02	8.25	7.50	0.908971
12th Prior	NA	1.02	9.27	7.98	0.860875
11th Prior	NA	1.02	10.28	8.42	0.819168
10th Prior	1.02%		11.30	8.84	0.782316
9th Prior	1.02		12.32	9.23	0.749278
8th Prior	2.17		13.34	9.59	0.719322
7th Prior	4.28		15.50	11.04	0.712184
6th Prior	5.11		19.78	14.43	0.729563
5th Prior	8.92		24.89	18.39	0.739097
4th Prior	10.99		33.80	25.77	0.762351
3rd Prior	15.13		44.79	34.65	0.773635
2nd Prior	14.69		59.92	46.93	0.783308
1st Prior	16.19		74.60	57.97	0.776987
Current	9.20		90.80	69.71	0.767789
Total	88.70%	11.30%			

NOTES: (2) & (3) 1985 Annual Statement, Schedule P—Part 1, Columns 6 & 11.

(5) First difference of Column (4).

(8) & (9) After application of extension and negative payment tests.

(10) Reverse sum of Columns (8) & (9).

(11) Column (8) & (9) discounted at the indicated discount rate.

A Percentage paid in penultimate year.

B Percentage unpaid at end of penultimate year.

EXHIBIT B-4
SHEET 2
EXAMPLE CALCULATION OF COMPOSITE DISCOUNT FACTOR
FOR YEARS NOT REPORTED SEPARATELY
SCHEDULE P LINES
INDUSTRY—GENERAL LIABILITY
DISCOUNT RATE: 7.20%

Accident Year (1)	Nominal Percentage Unpaid (2)	Cumulative (3)	Discounted Percentage Unpaid (4)	Cumulative (5)	Composite Discount Factor (3)/(2) (6)
All Prior	0.00%		0.00%		0.965834
14th Prior	7.23	7.23%	6.98	6.98%	0.965834
13th Prior	8.25	15.48	7.50	14.48	0.935533
12th Prior	9.27	24.74	7.98	22.46	0.907575
11th Prior	10.28	35.03	8.42	30.88	0.881620

- NOTES: i. In the 1987 Annual Statement, accident years 1976 & prior are not reported separately. The 1976 accident year would correspond with the 11th prior year.
- ii. The nominal and discounted percentages unpaid are based on the payment pattern after adjustment for the negative payment and long tail extension tests.

**EXHIBITS ARE CONTINUED ON
THE NEXT PAGE**

EXHIBIT B-5
SHEET I
EXAMPLE OF ELIMINATION OF NEGATIVE DISCOUNT FACTORS
SCHEDULE P LINES
NEGATIVE DISCOUNT FACTOR
DISCOUNT RATE: 7.20%

Accident Year (1)	Losses Paid (2)	Losses Incurred (3)	Cumulative Percentage Paid (2)/(3) (4)	Incremental Percentage Paid (5)	Percentage Unpaid 1.0 - (4) (6)
1975 & Prior	\$25,000	\$25,000	NA	NA	NA
1976	18,750	37,500	50.00%	-45.00%-A	50.00%-B
1977	53,438	56,250	95.00	10.00	5.00
1978	71,719	84,375	85.00	5.00	15.00
1979	101,250	126,563	80.00	5.00	20.00
1980	99,668	132,891	75.00	10.00	25.00
1981	90,698	139,535	65.00	10.00	35.00
1982	80,582	146,512	55.00	10.00	45.00
1983	69,227	153,838	45.00	15.00	55.00
1984	48,459	161,529	30.00	5.00	70.00
1985	42,401	169,606	25.00	25.00	75.00

Accident Year (7)	Adjusted Incremental Percentage Paid (8)	Long Tail Extension of Payments (9)	Adjusted Percentage Unpaid (10)	Discounted Percentage Unpaid (11)	Loss Reserve Factor (11)/(10) (12)
All Prior	NA	46.43%	0.00%	0.00%	0.965834
14th Prior	NA	0.71	46.43	44.84	0.965834
13th Prior	NA	0.71	47.14	42.52	0.901948
12th Prior	NA	0.71	47.86	40.35	0.843227
11th Prior	NA	0.71	48.57	38.33	0.789228
10th Prior	0.71%		49.29	36.45	0.739548
9th Prior	-45.00		50.00	34.69	0.693819
8th Prior	10.00		5.00	-11.10	-2.220316
7th Prior	5.00		15.00	-0.70	-0.046507
6th Prior	5.00		20.00	4.18	0.208921
5th Prior	10.00		25.00	8.73	0.349078
4th Prior	10.00		35.00	17.80	0.508547
3rd Prior	10.00		45.00	26.26	0.583601
2nd Prior	15.00		55.00	34.16	0.621027
1st Prior	5.00		70.00	46.35	0.662142
Current	25.00		75.00	48.07	0.640881
Total	50.71	49.29%			

NOTES: (2) & (3) 1985 Annual Statement, Schedule P—Part 1, Columns 6 & 11.

(5) First difference of Column (4).

(8) & (9) After application of extension and negative payment tests.

(10) Reverse sum of Columns (8) & (9).

(11) Column (8) & (9) discounted at the indicated discount rate.

A Percentage paid in penultimate year.

B Percentage unpaid at end of penultimate year.

EXHIBIT B-5

SHEET 2
 EXAMPLE OF ELIMINATION OF NEGATIVE DISCOUNT FACTORS
 SCHEDULE P LINES
 NEGATIVE DISCOUNT FACTOR
 DISCOUNT RATE: 7.20%

Accident Year (1)	Loss Reserve Discount Factor [Sheet 1, Col. (12)] (2)	Elimination of Most Recent Negative (3)	Elimination of Next Most Recent Negative (3)
All Prior	0.965834	0.965834	0.965834
14th Prior	0.965834	0.965834	0.965834
13th Prior	0.901948	0.901948	0.901948
12th Prior	0.843227	0.843227	0.843227
11th Prior	0.789228	0.789228	0.789228
10th Prior	0.739548	0.739548	0.739548
9th Prior	0.693819 <i>D</i>	0.693819 <i>G</i>	0.693819
8th Prior	-2.220316 <i>C</i>	-2.220316 <i>F</i>	0.532186 <i>H</i>
7th Prior	-0.046507 <i>B</i>	0.370554 <i>E</i>	0.370554
6th Prior	0.208921 <i>A</i>	0.208921	0.208921
5th Prior	0.349078	0.349078	0.349078
4th Prior	0.508547	0.508547	0.508547
3rd Prior	0.583601	0.583601	0.583601
2nd Prior	0.621027	0.621027	0.621027
1st Prior	0.662142	0.662142	0.662142
Current	0.640881	0.640881	0.640881

NOTES: i. *B* and *C* are the negative discount factors to be eliminated. ii. $F = A + [(D - A)/3]$. iii. $H = E + [(G - E)/2]$.

EXHIBIT B-6
 CALCULATION OF RESERVE DISCOUNT FACTORS
 SCHEDULE O LINES
 INDUSTRY—AUTOMOBILE PHYSICAL DAMAGE

	1985	1984	1983 & Prior	
(1) Accident Year:				
(2) Calendar Year 1985 Paid Losses:	13,876,758	1,743,502	(128,871)	
(3) Unpaid Losses as of 12/31/85:	2,818,293	121,443	84,756	
(4) Total:	16,695,051	1,864,945	(44,115)	
(5) Percentage Paid/Disposal Rate:	83.12%	93.49%	NA	
(6) Accident Year:	Current	1st Prior	2nd Prior	All Prior
(7) Unpaid at Beg. of Calendar Year:	100.00%	16.88%	1.10%	0.55%
(8) Disposal Rate:	83.12%	93.49%	50.00%	100.00%
(9) Incremental Percentage Paid:	83.12%	15.78%	0.55%	0.55%
(10) Cumulative Percentage Paid:	83.12%	98.90%	99.45%	100.00%
(11) Unpaid at End of Year:	16.88%	1.10%	0.55%	0.00%
(12) Discounted Unpaid at End of Year:	16.20%	1.03%	0.53%	0.00%
(13) Loss Reserve Discount Factor:	0.95964	0.93340	0.96583	0.96583

NOTES: (2) Payments net of salvage & subrogation. (9) = (7) × (8).
 (4) = (2) + (3). (10) = Cumulation of row (9).
 (5) = (2) / (4). (11) = 1 - (10).
 (7) = (11) from previous column. (12) = Sum of discounted remaining incremental percentage payments.
 (8) = (5). (13) = (12) / (11).

