Premium deficiency reserves: how much and why?

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Presenters

Moderator: Joe Herbers, ACAS, MAAA
Managing Principal, Pinnacle Actuarial Resources Inc

Panelists: Justin Brenden, FCAS, MAAA
Actuarial Advisor, Ernst & Young LLP

Ken Quintilian, FCAS, MAAA
Vice President & Chief Actuary, MLMIC

Overview

- Definition of premium deficiency reserves
- Relevant accounting guidance
- Sample calculation of premium deficiency reserves
- Debate on the need for PDR opinions and the actuary's role

What are premium deficiency reserves?

Premium deficiency reserves (PDR) are required when there is a probable loss on unearned premiums.

- Required by GAAP and SAP
- Recognized when unearned premium reserve is insufficient to cover the unexpired policies' reserve runoff
- Grouped in a manner consistent with how policies are measured, with no offsetting between different groups
- May take investment income into consideration in calculation

Relevant accounting guidance

ASC 944-60-25-4 (formerly FAS 60 – Par. 33)

"A premium deficiency shall be recognized if the sum of expected claim costs and claim adjustment expenses, expected dividends to policyholders, unamortized acquisition costs, and maintenance costs exceeds related unearned premiums."

SSAP 53 – Par. 15

"When the anticipated losses, loss adjustment expenses, commissions and other acquisition costs, and maintenance costs exceed the recorded unearned premium reserve, and any future installment premiums on existing policies, a premium deficiency reserve shall be recognized by recording an additional liability for the deficiency, with a corresponding charge to operations."

ASC – Accounting Standards Codification (GAAP)
SSAP – Statement of Statutory Accounting Principals (SAP)

Relevant accounting guidance

Difference between GAAP and SAP

GAAP

- Includes expected policy dividends and deferred acquisition costs in addition to everything in SAP
- PDR charges lower DAC asset until exhausted, then separate PDR liability is established

SAP

- Only includes expected loss and loss adjustment expenses (L&LAE), unpaid acquisition costs and maintenance costs
- PDR deficiency reflected directly as a PDR liability

Relevant accounting guidance

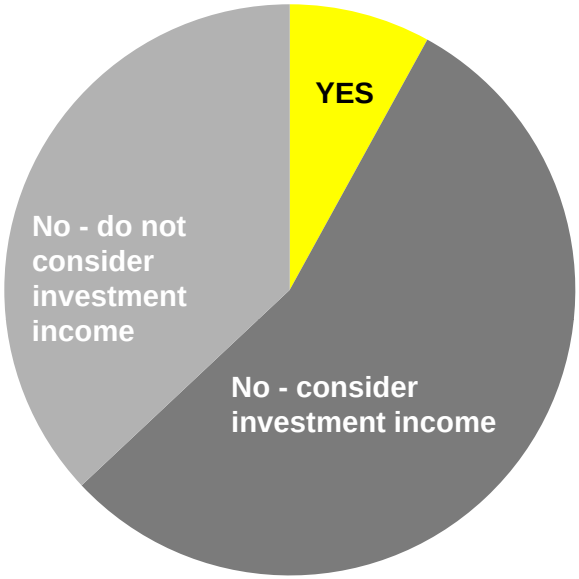
Financial statement disclosure

- Disclosure is required if PDR is established
- Statutory
  - Sample excerpt provided by SAP filing – Note to Financials No. 29
    - "As of December 31, 2010, XYZ Company had liabilities of $3,550,387 related to premium deficiency. The company considered anticipated investment income when calculating its premium deficiency reserves."
    - This may be included as write-in liability on the balance sheet.
- GAAP
  - Disclosure requirements are not as specific as statutory
  - Provides some guidance around grouping, calculation and deferred acquisition cost (DAC) offset

Current industry practice

Few companies currently record PDR

A survey of the 100 largest companies shows:



Based on 2010 SAP Filings Note 30

- 8 companies recorded PDR
- Of those companies that did record a PDR:
  - The PDR was less than 1% of NWP in all cases
  - Only 1 did not consider investment income

Source: Highline Data Property & Casualty, 2010 Key Financials for 100 Largest Entities by Net Premium Written, 2011.

Actuarial responsibility and scope

Now:

- PDR usually set by accountants.
- Only long-duration contracts (excluding mortgage guaranty and financial guaranty) are subject to actuarial opinion.

Potential change:

- PDR opinion requirements may be expanded to short-duration and financial contracts.
- We will consider and discuss the merits and issues of this possibility later in this session

Actuarial responsibility and scope

Professional dialogue

CASTF Proposal – 2008

- Suggested actuaries take lead in calculating PDR
- Include PDR in actuarial opinion under any scenario

COPLFR Response – 2009

- PDR should be a joint effort between accountants and actuaries
- Inclusion in opinion when no PDR exists may not be worth it

FinREC Working Draft - 2011

- *Property & Liability Insurance Entities – Audit and Accounting Guide*
- Additional guidance and examples have been added

CASTF – Casualty Actuarial and Statistical Task Force (NAIC)
COPLFR – Committee on Property and Liability Financial Reporting (AAA)
FinREC – Financial Reporting Executive Committee (AICPA)

Actuarial responsibility and scope

Calculation components

- Unearned premium reserve is judgmentally broken out by line of business groupings
- Related costs to the unearned premiums:
  1) Expected L&LAE projected based on actuarial estimates
     - L&LAE, LDFs to calculate payment patterns
  2) Unamortized acquisition costs allocated to the unearned premiums
     - Includes deferred acquisition cost (GAAP) and underwriting costs (both GAAP and SAP)
  3) Maintenance costs associated with unearned portion of premiums
  4) Policyholder dividends based on company's expectations (GAAP)
- Examples outlined in the FinREC guidance

Actuarial responsibility and scope

Considering anticipated investment income

- There is no authoritative guidance on how to calculate.
  - Many suggestions are available in the FinREC guidance.
- Two main methods are the discounting method and the expected investment income method.
  - Discounting method calculates the present value (PV) of future costs related to the unearned premium.
  - Expected investment income method establishes an investment balance, which accrues investment income and is reduced by claims and maintenance payments.
- There are a number of different reasonable approaches.
  - Arguments can be made as to why each is better.
  - Judgment is required when selecting which method to use.
  - A company's approach should be consistent from year to year.

FinREC – Financial Reporting Executive Committee (AICPA)

Sample calculation of PDR

Discounting method – three scenarios

Scenario	Unearned premium	L&LAE ratio*	Maintenance cost ratio*	DAC ratio**
A	$10,000	75%	5%	25%
B	$10,000	100%	5%	25%
C	$10,000	125%	5%	25%

*L&LAE and maintenance costs paid out in the following pattern: Y1 – 35%, Y2 – 30%, Y3 – 20%, Y4 – 15%
**DAC paid up front under GAAP assumptions, ignored under SAP assumptions

Sample calculation of PDR

Discounting method – expected future costs (Scenario A)

Payment year	L&LAE*	Maintenance	Total	Discount ratio**	Present value
Y1	$2,625	$175	$2,800	0.9759	$2,733
Y2	$2,250	$150	$2,400	0.9294	$2,231
Y3	$1,500	$100	$1,600	0.8852	$1,416
Y4	$1,125	$75	$1,200	0.8430	$1,012

PV total expected costs	**$7,391**

*Project using expected payment pattern
**5% interest rate, payments made mid-year

Sample calculation of PDR

Calculating premium deficiency (GAAP)

Scenario	Unearned premiums	PV total expected costs	DAC	Expected profit*	Premium deficiency
A	$10,000	$7,391	$2,500	$109	$0
B	$10,000	$9,701	$2,500	($2,201)	$2,201
C	$10,000	$12,010	$2,500	($4,510)	$4,510

*Unearned premiums less expected costs and DAC
Premium deficiency recognized when expected profit is negative

Sample calculation of PDR

Calculating premium deficiency (SAP)

Scenario	Unearned premiums	PV total expected costs	DAC	Expected profit	Premium deficiency
A	$10,000	$7,391	—	$2,609	$0
B	$10,000	$9,701	—	$299	$0
C	$10,000	$12,010	—	($2,010)	$2,010

In this example, because the unamortized acquisition costs have already been expensed rather than established as a DAC asset under SAP, they are not included in the premium deficiency calculation.

Sample calculation of PDR

Balance sheet impact (GAAP)

Scenario	DAC balance	Premium deficiency	New DAC balance	PDR liability
A	$2,500	$0	$2,500	—
B	$2,500	$2,201	$299	—
C	$2,500	$4,510	—	$2,010

Under GAAP, premium deficiency first lowers the DAC asset. Once DAC is exhausted, a separate PDR liability is established.

Under SAP, any premium deficiency would be recorded directly as a UEPR liability.

Simplification for multiple lines of business

- Full analysis may not be necessary for profitable lines.
- One approach is to eliminate lines systematically in a tiered approach.
- Tier I eliminates lines with combined ratios materially below 100%.
- Tier II solves for a minimum interest rate to achieve a PDR of zero.
  - If the rate is materially lower than the discount rate, then the line can be eliminated.
- After these calculations are complete, a full analysis can be done on the remaining lines that have not been eliminated.

Simplification for multiple lines of business

Possible difficulties

- How to choose line of business groupings
  - The more groupings that are chosen, the more likely PDR will exist.
- How to choose discount rate
  - This depends on the nature of business and expected cash flows.
  - Guidance from FinREC is useful.
- Each calculation takes time
  - In a vast majority of cases, a PDR may not be needed (i.e., PDR is zero).
  - Workload can be reduced by using tiered approach to eliminate zero-PDR lines.

Summary of the resulting landscape

- PDR is currently outside the scope of reserve opinions
- No uniform regulatory or professional requirement for actuarial review of PDR
- Few practitioners have given careful thought to actuarial PDR estimates
- Someone simply has to check the box that says it was considered
- This is usually done by accountants/auditors

Dominated by accountants - consequences

- Rules-based approaches used to set this reserve:
  - Disconnected from the logic of PDR
  - Rules of thumb instead of common sense
- 'Immateriality' becomes self-fulfilling (if you think the answer is zero, how close will you look?)
- A bias toward a smaller or zero reserve is commonplace
  - Even fairly clear guidance dismissed in favor of simplified 'rules' that reduce the reserve
  - Convoluted procedures arise, that strain the concept of PDR, but serve to reduce the estimates
- Actuaries could bring much science to the process but are rarely brought in at all

PDR in practice

- Actuarial involvement estimated at 10% of companies
- Accountants tend to focus on the immateriality of the reserve to the overall finances of the company
- Analysis is often superficial, involving underwriting input and target loss ratios
- Coarse level of review (e.g. 'all commercial' / 'all personal') results in tacit offset of profits and losses between lines
- As a result, few companies carry any PDR, even in the soft market

But why is an analysis necessary?

Argument

If companies are carrying zero or insignificant PDRs, why do an expensive analysis to prove what we already know?

Response

We don't really 'know' the right number until a proper analysis has been calculated, for all companies, with actuarial rigor

Even so, is the additional cost justified?

Argument

Companies already make huge investments in their actuarial departments and consultants. Isn't the cost of a PDR opinion requirement disproportionate to the benefit, since PDRs are infrequent and small?

Response

Even when the reserve is immaterial it can provide insight into rate adequacy

Financial reporting – only part of the issue

- An opinion requirement would improve the reserving of companies in this area, with larger and more frequent PDRs being reported
- PDR can also shed light on actuarial rate adequacy
- A sort of 'rate level opinion' to monitor company and market performance at a high level (even if the reserve is small in most cases)

Details can be made flexible

- Let the pricing actuary sign the PDR opinion (and write the report)
- Take it out of the year-end crunch
- Provide more regulatory guidance on preferred method and lines of business

But the current guidance is ambiguous!

The existing regulatory and accounting guidance is being variously interpreted

Response

- It is not as ambiguous as people think
- Some of the variations in practice strike one as creative efforts to reduce PDR
- As actuaries we can bring more clarity to the existing guidance
- We can also pursue regulatory guidance to clarify gray areas

Example: Lines-of-business debate

- Current accounting guidance requires detailed breakdown of PDR by line

- Guidance is not specific on by-line breakdown
  - Stat: “how policies are marketed, serviced, and measured”
  - GAAP: “grouped consistent with…manner of acquiring, servicing, and measuring the profitability”

- Negative (profitable) PDR lines may not offset positive lines

Lines-of-business debate

- Strong financial incentive to reduce PDR by using as few subdivisions as possible

- Current 'rule-of-thumb' practice often goes beyond the principle expressed in the accounting guidance
  - 'All commercial' vs. 'all personal'
  - 'All property' vs. 'all casualty'

Arguments for more detail

- Companies generally "market, service, and measure" their business at least at annual statement LOB level of detail
- This minimum would not generate undue burden
- While additional levels are possible, the actuary judges the reasonable level of detail
- Like with loss reserves, all business is included in the analysis somewhere, if there is any unearned premium (no size threshold)
- More specific regulatory guidance would help greatly

Ok, but even then company practice will vary

Argument

Different companies and actuaries will take significantly different approaches to calculating their PDR. How can we compare results, and which approach is right?

Response

The same thing is true of many actuarial methods. Practitioners should select something logical and internally consistent

Select a logical, intuitive method

- (Short-duration) PDR is based on adequacy of unearned premium - that is, rates
- As such, investment income should be considered
- Except for prepaid expenses, each 'quantum of time' should generate its own constant 'quantum of PDR', with little or no offset between periods
- Seek a bright line between earned/past (loss reserves) and unearned/future (unearned premium reserves)
- Use discounting approach, to match future losses with future premiums
- Select a consistent method for each line and at each evaluation

But, are we even qualified?

Argument

Right now, many companies and auditors viewed PDR as an "accounting decision" as opposed to an "actuarial decision". We need accountants' help in areas like investment income and underwriting expenses, which are not "actuarial". Is actuarial responsibility for PDR even appropriate?

Response

We don't have to pass the buck to the accountants. We can sign the opinion, and just get their help when needed. We are the experts at ratemaking, including all its components.

Precedent – loss reserve opinions

- Many actuaries objected to this obligation
- Accountants would have been happy to take it
- The industry is better off now with robust oversight by actuaries
- So is the Profession – greater demand for our services

Doesn't seem that controversial

- The PDR would benefit from an opinion requirement
  - Separate opinion, or separate line from loss reserves
  - Opinion required on reasonableness of both zero and non-zero PDRs
  - Signed by an actuary appointed for PDR
- Actuaries are the experts on the elements of PDR
  - Ratemaking is a core actuarial skill
  - Requires selection of trend rates, interest rates, other actuarial parameters
- Actuaries approach such analysis from a principles-based perspective
  - Illogical approaches would be reduced
  - PDR would become more common and be more useful

Final thoughts – 'expanded PDR' pros

- Easy for actuaries to calculate
- Reserve adequacy improves both disclosure and solvency
- Improves compliance with existing requirements
- Can also provide insight into aggregate rate adequacy
- Most useful if calculated line-by-line

Final thoughts – 'expanded PDR' cons

- A lot of effort for a trivial or zero reserve
- Accountants already consult actuaries when appropriate
- The variety of methods reduces usefulness of result
- In practice, rate adequacy insight will be negligible
- A new source of liability for the opining actuary

Further Questions?

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