Premium deficiency reserves: how much and why?

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CAS Casualty Loss Reserve Seminar
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Overview

Today we will discuss:

- What premium deficiency reserves are
- Relevant accounting guidance
- Actuarial responsibility and scope
- Sample calculation of premium deficiency reserves

What are premium deficiency reserves?

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

► Recognized when unearned premium reserve is insufficient to cover the unexpired policies' runoff

► Required by GAAP and SAP

► Grouped in a manner consistent with how policies are managed and measured, with no offsetting between different groups

► May take into consideration investment income in calculation

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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."

Relevant accounting guidance

On grouping

- GAAP: “Insurance contracts shall be grouped consistent with the enterprise’s manner of acquiring, servicing, and measuring the profitability of the insurance contracts.”
- Statutory: “Insurance contracts shall be grouped in a manner consistent with how policies are marketed, serviced, and measured.”

On investment income:

- GAAP: “An insurance enterprise shall disclose whether it considers anticipated investment income in determining if a premium deficiency relating to short duration contracts exists.”
- Statutory: “If a reporting entity utilizes anticipated investment income as a factor in the premium deficiency calculation, disclosure of such shall be made in the financial statements.”

Relevant accounting guidance

Financial statement disclosure

- Disclosure is required if PDR is established
- Statutory
  - Use of anticipated investment income must be disclosed
  - Sample excerpt provided by SAP filing – Note to Financials No. 29
    - “As of December 31, 2009, 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
  - Should still describe basis for calculation

Relevant accounting guidance

Differences 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
- Reporting typically done on a consolidated basis

SAP

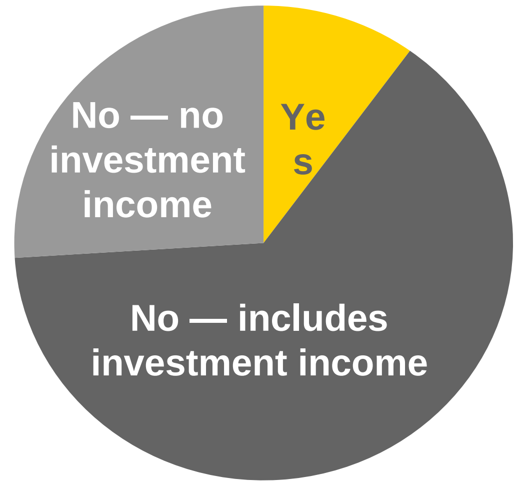
- Only includes expected loss and loss adjustment expenses (L&LAE), unpaid acquisition costs and maintenance costs
- PDR deficiency reflected directly as a PDR liability
- Reporting at legal entity level

Relevant accounting guidance

A minority of companies record PDR

A survey of the 100 largest companies SAP Filings Note 29 indicates that only 10 companies recorded PDR

- Only one company recorded PDR greater than 1% of net written premium



Also, based on 2009 write-in liability data from A.M. Best, 80 out of 2,351 companies specified PDR as a write-in liability

- More companies may include PDR in their unearned premium reserve (UEPR)

Source: Highline Data Property & Casualty, 2009 Key Financials for 100 Largest Entities by Net Premium Written, 2010.

Actuarial responsibility and scope

Now:

- PDR are usually set by accountants.
- Actuaries may or may not be involved.
- 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.

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 exist may not be worth it

FinREC – 2010

- Guidance is undergoing revamp and examples have been released
- *Property & Liability Insurance Entities – Audit and Accounting Guide*

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) Policyholder dividends based on company's expectations (GAAP)
  3) Unamortized acquisition costs allocated to the unearned premiums
     - Includes deferred acquisition cost (GAAP) and underwriting costs (both GAAP and SAP)
  4) Maintenance costs associated with unearned portion of premiums
     - Costs associated with maintaining records relating to insurance contracts and with processing of premium collections and commissions

Actuarial responsibility and scope

Considering anticipated investment income

- There is no authoritative guidance on how to calculate.
  - Many suggestions are available in the FinREC release.
- FinREC examples use expected yield on invested assets
  - Calculated as ratio of investment income to total invested assets.
- 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.
- A company's approach should be consistent from year to year.

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 (A)

Payment year	L&LAE*	Maintenance	Total	Discount ratio**	Present value
Y1	$2,625	$175	$2,800	.9759	$2,733
Y2	$2,250	$150	$2,400	.9294	$2,231
Y3	$1,500	$100	$1,600	.8852	$1,416
Y4	$1,125	$75	$1,200	.8430	$1,012
				PV total expected cost	**$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.

Tiered approach for multiple lines of business

- Full analysis of each line of business may not be necessary if PDR is zero.
- One approach is to eliminate lines systematically in a tiered approach.
- Tier I eliminates lines with combined ratios materially below 1.0.
- 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.

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 may take significant 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

- PDR reflect inadequacy of unearned premium reserve.
- PDR are required by accounting standards, but responsibility is not defined.
- CASTF and COPLFR have discussed actuarial responsibilities.
- FinREC is currently revamping accounting guidance.
- Calculation is simple by nature, but requires judgment in many areas.

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