Mind the Gap—Recognizing Perceived and Ultimate Liabilities

For five consecutive years, property and casualty insurers have released previously held reserves from their balance sheets, accumulating to releases of more than $50 billion in loss and defense and cost containment (DCCE) reserves. This may give the impression that the industry as a whole—with the benefit of hindsight—has been redundantly reserved during these years. But a review of the underlying pattern of releases, in which reserves from more recent coverage years are released and used in part to fund additions to reserves in older coverage years, provides strong evidence that the industry has been deficiently reserved throughout most of its available history.

A Calendar-Year History

Figure 1 shows the history of reserve development for the property and casualty industry by calendar year. These amounts represent the sum of reserve development as reported by the industry as a whole within Schedule P, Part 2–Summary of the Annual Statement, with positive amounts representing adverse development and negative amounts representing favorable development. Consistent with all other charts in this article, results for the mortgage and financial guaranty lines of business have been excluded because of unusual development in the 2008 calendar year in particular. Note that reserve releases (i.e., favorable development) for the industry peaked in 2008, with $14.5 billion released during this year.

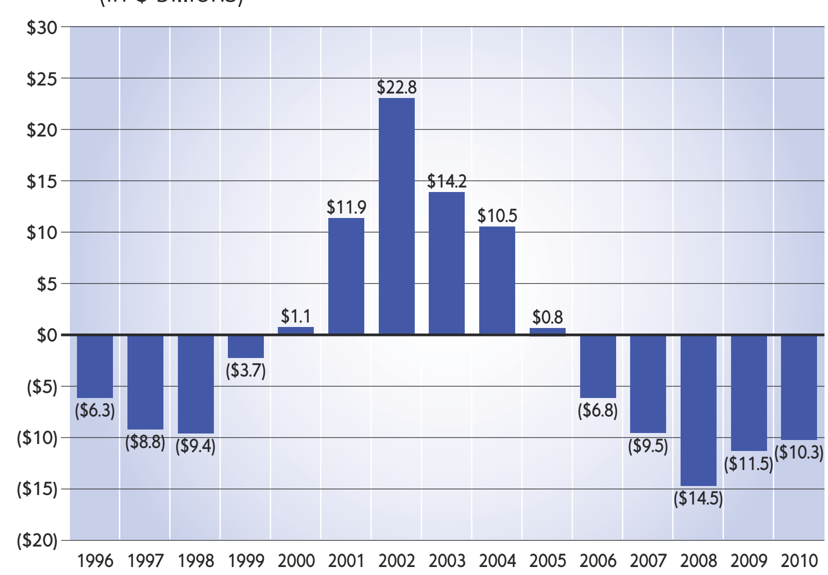
Simply reviewing reserve releases on a calendar-year basis this way might suggest that the industry has been redundantly reserved during the past five years as well as during the late 1990s. Why else would companies have released reserves during these times? For the same reason, the chart also might suggest that the industry was deficiently reserved from 2000 through 2004, with reserve strengthening peaking in 2002 with $22.8 billion of adverse development. But the pattern of reserve development by coverage year (i.e., accident or report year) tells a more complicated story.

Figure 2 shows how the development within each of the 10 most recent calendar years can be split between "prior" coverage years (i.e., coverage years 2000 and prior) and "recent" coverage years (i.e., coverage years 2001 and subsequent). The development of the recent coverage years, in blue, has been favorable since 2003. The development of the prior coverage years (shown by a rainbow of other colors), however, has been adverse in each calendar period.

This is not a phenomenon unique to this most recent decade. A review of each calendar year within the property and casualty industry's available history, in fact, demonstrates a similar pattern. That is, regardless of overall reserve development within the calendar year, whether it is favorable or adverse, older coverage years consistently have developed adversely. Causes of this adverse development include asbestos and environmental claims, workers' compensation, and other sources, as discussed further below.

All of this raises the question: Are the most recent reserve releases too large?

FIGURE 1 Calendar-Year Reserve Development for P/C Industry (in $ billions)



Source: Milliman analysis of National Underwriter Insurance Data Services from Highline Data

A Statement-Year Point of View

The cumulative effect of this adverse development is shown by statement year in Figure 3. Statement-year development indicates development that occurred subsequent to the valuation date of a given annual statement pertaining to the reserves carried within that annual statement. For example, the development shown for statement year 2000 consists of development in calendar years 2001 and subsequent pertaining to coverage years 2000 and prior.

To understand the chart in Figure 3, consider the development shown for statement year 2000. This is the sum of the more detailed rainbow of development shown in Figure 2, in which each color shown in Figure 2 corresponds to the same color in the statement year 2000 column of Figure 3. That is, Figure 2 first shows the development that occurred in calendar year 2001 related to coverage years 2000 and prior (in black), next the development that occurred in calendar year 2002 related to these same coverage years (in red), and next the calendar year 2003 development, again just for coverage years 2000 and prior (in yellow). This continues through calendar year 2010, in which development for coverage years 2000 and prior is shown in pink. This corresponds to the "prior" year row of the Schedule P, Part 2–Summary for 2010.

Thus 2010 is the last calendar year in which we will be able to separately distinguish development for coverage years 2000 and prior. In 2011, the prior year row in Schedule P will consist of coverage years 2001 and prior. For the same reason, 10 years is the longest period of time through which we can observe development specific to any given set of coverage years.

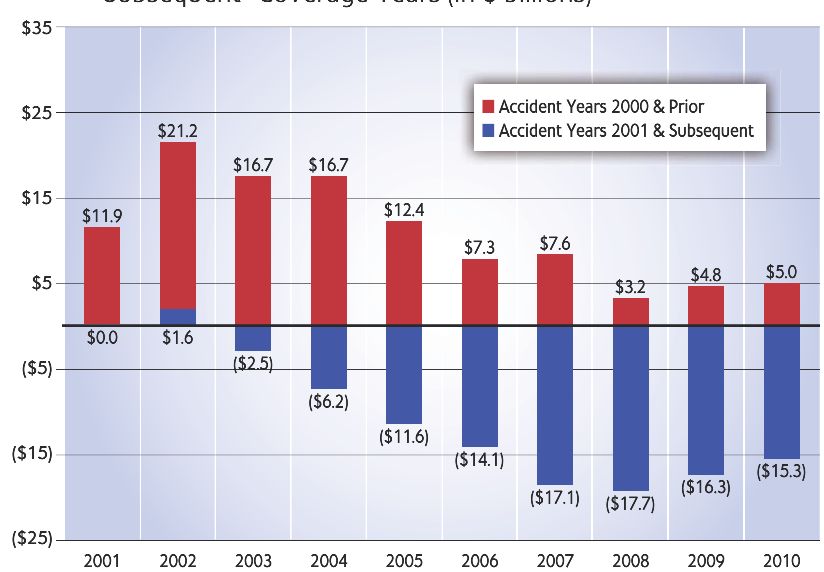
Figure 3 shows that, in total, with 10 calendar years of development considered, the industry's reserves as of year-end 2000 have developed adversely by almost $107 billion. Consider that net loss and DCCE reserves for the industry were $345 billion as of year-end 2000, indicating that reserve development for coverage years 2000 and prior has exceeded 30 percent of the carried reserves at that time. The remainder of Figure 3 can be read analogously, with portions of the bar chart below the horizontal axis representing favorable development and portions above representing adverse development.

Development of statement years from the late 1990s is particularly interesting as it shows that through calendar year 2000 development was favorable—not just overall but specific to the coverage year groups shown. Companies released reserves, presumably under the belief that their previously held reserves had been redundant. Beginning in 2001, however, companies began putting reserves back into these prior coverage years. By year-end 2004, each of these statement years had developed adversely relative to its initial reserve position, eliminating any benefit from the previously released reserves.

For example, Figure 3 shows five calendar years of favorable development specific to coverage years 1995 and prior (in black, red, yellow, and two shades of green). This development is repeated in Figure 4, in which each column represents a calendar year of development relative to the 1995 statement year, and amounts match those stacked in the 1995 column of Figure 3. The favorable development of $6.3 billion occurring during 1996 and given in black, for example, matches the amount given in black as part of the stacked 1995 statement-year column in Figure 3. In a similar manner, the favorable development of $7.4 billion occurring during 1997 and given in red in Figure 4 matches the amount given in red in the statement year 1995 column in Figure 3.

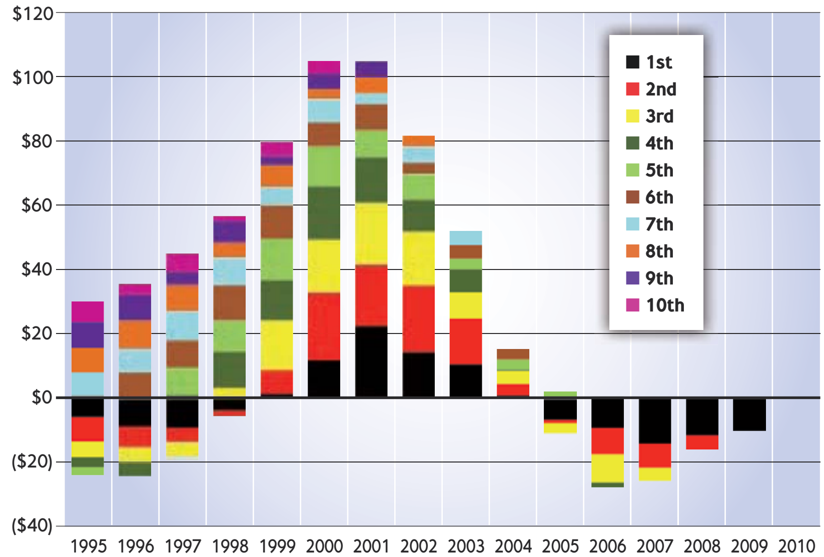
Note that adverse development specific to the 1995 and prior coverage years began in 2001 (in brown), and continued in each subsequent calendar year. While favorable development through 2000 specific to these coverage years accumulated

FIGURE 2 Calendar-Year Development Split between "Prior" and "Subsequent" Coverage Years (in $ billions)



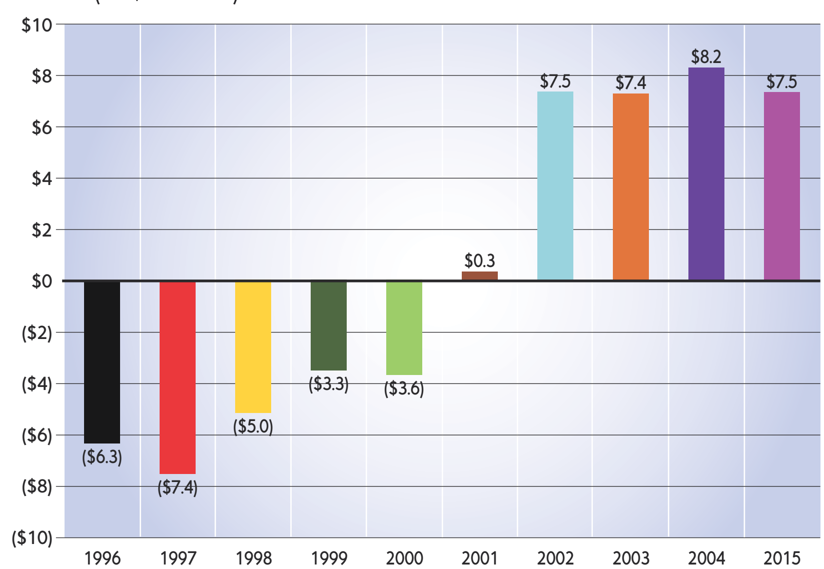
Source: Milliman analysis of National Underwriter Insurance Data Services from Highline Data

FIGURE 3 Statement-Year Development Through Dec. 31, 2010, Color-Coded by Development Lag (in $ billions)



Source: Milliman analysis of National Underwriter Insurance Data Services from Highline Data

FIGURE 4 Statement-Year 1995 Development by Calendar Year (in $ billions)



Source: Milliman analysis of National Underwriter Insurance Data Services from Highline Data

to $25.5 billion, the subsequent adverse development totaled $30.8 billion. Thus, by year-end 2005, reserves specific to coverage years 1995 and prior had developed adversely overall by $5.3 billion.

The accumulation of each of these years of development is shown by statement year in Figure 5 (for example, the 1995 bar shows the $5.3 billion of cumulative adverse development discussed above for coverage years 1995 and prior). This demonstrates what was observed above—that for each statement year in the available history through 2004, the industry has proved, with the benefit of hindsight, to be deficiently reserved. Keep in mind that the development for each of these statement years reflects at most 10 years of experience. For the older statement years in particular, therefore, the true cumulative history of adverse development very likely is understated, given that development within the prior years' row of Schedule P has been consistently adverse. Whether development to date in the more recent statement years proves understated will depend on the extent to which latent liabilities emerge from these years as they have emerged from years in the past.

Sources of Development

Sources of the adverse development in prior coverage years are numerous, but the leading cause has been asbestos and environmental claims. According to A.M. Best, the industry has recognized roughly $55 billion in losses stemming from asbestos and environmental claims since 1995 (the overwhelming majority of these losses stem from coverage years prior to 1985, when the Insurance Services Office introduced the absolute pollution exclusion in its general liability policy form). Absent asbestos and environmental claims, the industry's history of reserve development would look very different, with the 1995–1997 statement years running off favorably and development for the 2000 and 2001 statement years roughly cut in half.

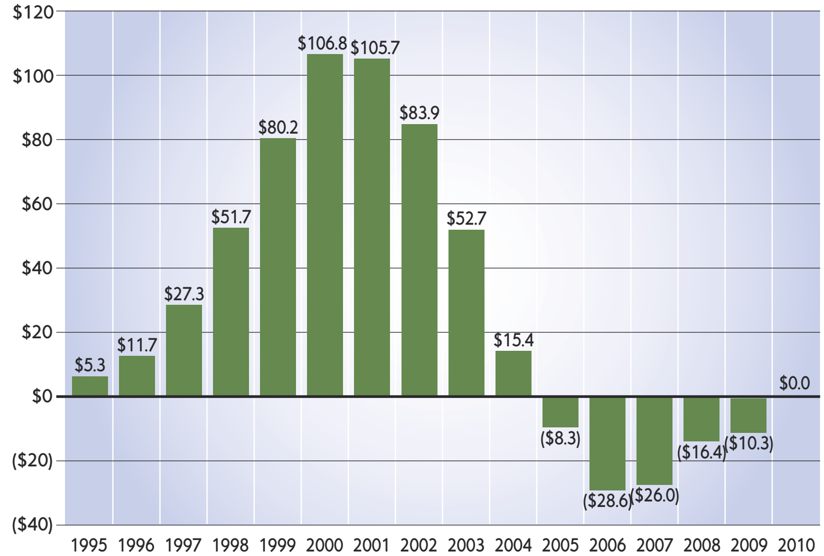
Also contributing to the industry's history of adverse development is latent development for workers' compensation. To any actuary who has worked in workers' compensation reserving, adverse development in older coverage years is not surprising. The case reserve process for workers' compensation typically is based on current medical technology, often with no provision for medical innovation or other sources of medical cost escalation. The result is adverse development, which may occur incrementally each year (known as "stair stepping") or may occur for a particular company in lump sums at multiyear intervals as case reserves that were set five to 10 years earlier are recognized en masse as insufficient for current (let alone future) cost levels. The actuarial development of incurred but not reported (IBNR) reserves in such cases is complicated by the limited history of development available for older workers' compensation claims.

Other sources of adverse development are numerous. Construction defect claims are an example of another latent exposure facing the insurance industry. Aggressive reserves carried by some companies, typically toward the end of a soft market, also will contribute to subsequent adverse development for the industry.

One interesting facet of Figure 3 is how similar the most recent statement years look to the late 1990s, when the last turn to a soft market occurred. Development for the 2006–2009 statement years to date appears quite similar to development for 1995–1998 through year-end 1999. History alone suggests that subsequent adverse development for these more recent statement years is a real possibility.

That said, one reasonably might ask from where the latent liabilities will stem. The industry certainly continues to experience adverse development in older years within workers' compensation and asbestos claims as well as areas such as construction defect. Other areas currently are not expected to produce sizable liabilities for the industry, but have the potential to be underestimated significantly. Claims stemming from climate change and Chinese drywall are two examples of areas that could develop adversely—and unexpectedly—for the industry in the future.

FIGURE 5 Statement-Year Development Through Dec. 31, 2010 (in $ billions)



Source: Milliman analysis of National Underwriter Insurance Data Services from Highline Data

What Does the Future Hold?

While future development for the industry is uncertain, consider that A.M. Best estimates that reserves for the property and casualty industry are deficient by $43 billion as of year-end 2010. Approximately half this deficiency is estimated as stemming from workers' compensation, with an additional $10 billion from asbestos claims and the rest from remaining segments. If this estimate is correct, it would be more than sufficient to offset the favorable development experienced to date in the most recent statement years.

The possibility of an ongoing reserve deficiency for the industry represents a twofold challenge for actuaries. The first is to recognize the potential for latent exposure within the books of business for which reserves are reviewed and to include reasonable provisions in analyses for this. The second is a challenge of communication. The potential for latent exposure must be explained to company management in a way that demonstrates the consistency of the indicated provision with historical experience for given reserve segments—either for the company itself or for the industry as a whole. Perhaps then we will be able to close the gap between perceived and ultimate liabilities. □

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