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Current Issues in Property and Casualty

The untold story of loss reserves and future paid losses of lender captive mortgage reinsurers

First printed in *Risk and Insurance*

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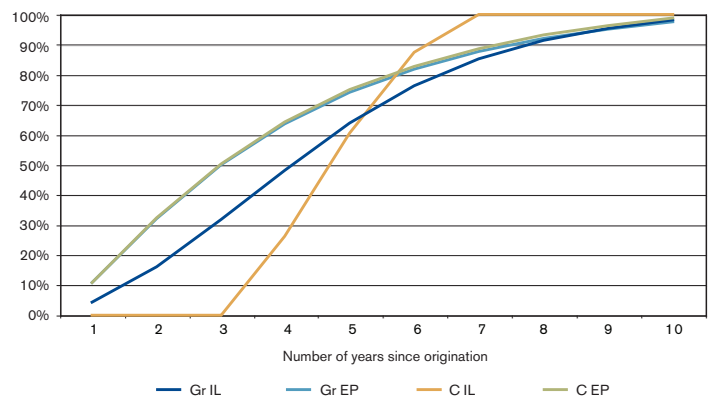
At one time, rosy forecasts of few mortgage insurance claims blunted the urgency of investigating the potential impact of future paid claims on reserves. With losses hovering far below lender captive mortgage reinsurance excess of loss attachment points, assessments of the traditional mismatch between loss reserves and future paid losses were relegated to the distant shores of a land out of sight and mind. But as a rising wave of claims has battered mortgage insurers, the need to revisit this mismatch has gained increasing urgency for lender captives, some of whom have already had to grapple with decisions such as the need for premium deficiency reserves.

The potential need of a premium deficiency reserve stems from a unique characteristic of mortgage insurance. Unlike auto insurers or writers of short-term property/casualty lines, mortgage insurers are on the hook for future losses as long as the borrower continues to pay the premium. This is because policies are generally non-cancellable by the mortgage insurer and consequently the lender captive. There is no way out of these future obligations. In a sense, mortgage insurers are liable for claims three, five, or even seven years down the road even if the loan has not yet crashed.

But statutory accounting principles only require mortgage insurers to maintain loss reserves for loans in default. The emphasis is on recognizing losses on loans that have crashed and have become or will very soon become claims.

The difference between the nature of mortgage insurance liabilities and statutory accounting requirements takes shape in an inherent mismatch between loss reserve and future paid losses. This is because mortgage insurers' booked loss reserves include paid losses on an insurer's currently delinquent loans but ignore their potential sizeable future obligations associated with the loan portfolio that will default at some time in the future but have not yet.

Figure 1:
Cumulative Distribution of Accruals Versus Number of Years Since Origination



While all mortgage insurers encounter a mismatch between loss reserves and future paid losses, the gap is much more pronounced for lender captives under aggregate excess of loss structures, which cover a book of loans that originate from a ceding company generally over a one-year period. Because these lender captives don't participate in a loss until a primary insurer's retention has been exhausted, lender captives are not required to recognize a loss until the cumulative ground-up paid losses and reserves for delinquencies—the incurred loss—exceed the aggregate loss attachment point. In practice, this means that under accounting requirements, a lender captive does not have to recognize a loss even if the primary insurer's incurred losses have reached 99% of the aggregate excess of loss' attachment point and are expected to pierce the contract's retention. Only when the ground-up incurred loss has reached the lender captive's attachment point is the lender captive generally required to post loss reserves.

Softening the blow

The potential impact of this mismatch is somewhat mitigated by a contingency reserve, which is intended to fill the gap between loss reserves and future paid claims, thereby buffering mortgage insurers and reinsurers' capital from an influx of claims. Under statutory accounting, insurers and lender captives are required to establish a contingency reserve equal to 50% of their earned premium for a period of 10 years. Releases may be made if the calendar year loss ratio exceeds 35% or by permission of a regulator.

While the contingency reserve may help to shield mortgage insurers and lender captives from shock losses, it does little to inform them about the nature of future losses. From a planning perspective, mortgage insurers, particularly lender captives, are left in the dark about future losses if the only measure used to monitor losses is their loss reserve, which only includes estimates of future payments on current delinquencies but not insurers' ultimate obligations for future delinquencies.

Forecasts of future delinquencies and written premium can help to manage planning and accounting issues such as premium deficiency reserve before they come knocking on lender captives' door. Such forecasts can be made using either deterministic or probabilistic actuarial methods that draw on ground-up aggregate losses to estimate future losses.

Ignoring the potential impact of future loss obligations may also cause lender captives to bump up against GAAP requirements for establishing a premium deficiency reserve sooner than otherwise might be expected. This is because of a difference in the calculation of a premium deficiency reserve under statutory and GAAP accounting.

Under statutory accounting SSAP No. 58, a premium deficiency reserve is required "when the anticipated losses, loss adjustment expenses, commissions and other acquisition costs, and maintenance costs exceed the recorded unearned premium reserve, contingency reserve, and the estimated future renewal premium on existing policies..." But under GAAP accounting, a contingency reserve is not considered as a component in the calculation.

In a sense, an insurer's lines of defense—its loss and unearned premium reserves, future premium, contingency reserves and premium deficiency reserve under statutory accounting—are short by one string—the contingency reserve—under GAAP accounting. Without the additional buffer of a contingency reserve under GAAP accounting, mortgage insurers, particularly lender captives that are

prone to wide mismatches between loss reserves and future paid losses, may have to come to terms with the need for establishing a premium deficiency reserve sooner rather than later.

This is especially the case in today's turbulent market when huge losses have been posted by primary mortgage insurers. Lender captives' downstream losses are not far off. As these losses flow onto lender captives' books and forecasts of losses are increased, some lender captives may also have to face the question of whether premium deficiency reserve is needed under GAAP requirements.

What may also compress the time that lender captives have to consider their options is that both statutory and GAAP accounting require loss estimates to include future paid loss on nondelinquent loans that may turn bad as well as currently delinquent loans in the calculation of a premium deficiency reserve.

Indeed, the possibility of having to post premium deficiency reserves is more than mere theory. In 2008, a couple of primary mortgage insurers posted premium deficiency reserves for their bulk insurance products, and Radian followed suit with a premium deficiency reserve on its second-lien mortgage insurance book of business.

The end run

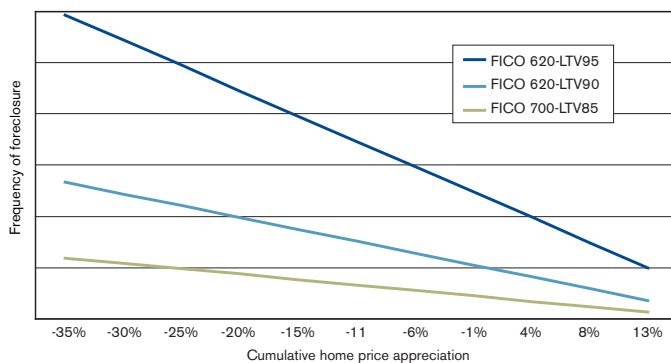
Forecasts of future delinquencies and written premium can help to manage planning and accounting issues such as premium deficiency reserve before they come knocking on lender captives' door. Such forecasts can be made using either deterministic or probabilistic actuarial methods that draw on ground-up aggregate losses to estimate future losses. Deterministic methods treat assumptions as fixed quantities, whereas probabilistic methods rely on assumptions that vary, typically as distributions. These estimates then can be compared against the lender captive's reinsurance structure to determine the magnitude and timing of losses, a process that can inform a lender captive about when losses would hit its book. Regardless of the methods the analysis should also include a loan-level review of each borrower, loan and property characteristics to reflect the loss and prepayment performance.

Premium and loss models can be built to encompass a combination of underwriting and economic variables. Underwriting variables might include loan information such as loan-to-value (LTV), FICO scores, amortization period, interest-only component; the purpose of the loan; type of property and occupancy; and loan size. Additionally economic variables might include home price appreciation (HPA), unemployment, and interest rates, among other factors. But models don't necessarily have to be that complicated to provide valuable information about future cash flows.

Including just one highly predictive variable can infuse a loss model with enormous power. Perhaps the best example is HPA.

The close relationship between falling home prices and rising rates of foreclosure is fairly common knowledge, but there is considerable variation in frequency of foreclosure depending on the characteristics of an insurer's book of loans. This relationship is clearly portrayed in Figure 2 by the markedly steeper slope or rapidly rising rate of foreclosures for loans with riskier FICO /LTV levels given the same type of loans, in this case loans portfolios of three traditional mortgages—fixed rate, 30-year term and 30-year amortization—on primary residence. Analyzing the impact of just one variable like HPA can shed light on loss forecasts of future loss obligations that are likely to flow from a specific loan portfolio.

Figure 2: Illustration of Frequency of Foreclosure Versus Cumulative Home Price Appreciation



Loss estimates are, however, only half of the equation. Much like losses, premium cash flows are affected by specific characteristics of a loan portfolio. And like loss estimates, premium forecasts can be greatly refined by incorporating one or two predictive variables in a cash flow model.

But how would a manager know the extent to which one force will drain or, for that matter, bolster future cash flows for his or her specific book of loans unless these variables are worked into an analysis?

Assessing the impact of the movement in these variables and their inter-relationship can give managers a handle on cash flow streams well in advance of the day when claims roll in the door. And what better way to manage the inherent mismatch between loss reserves and future paid loss and plan a course of action around gnarly accounting issues than to have the information to make an informed decision? In an age when shock events are all too common, planning for the pitfall that we can see on the road ahead may be one of the best defenses against the unknown.

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