

## Lender Captives Benefit Both Lenders And Mortgage Insurers, For A Price

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After a decade of existence, lender captive entities, which are mortgage lenders established to reinsure a portion of the insurance they direct to mortgage insurers (MI), have become an integral component of the mortgage insurance industry. According to MIs' statistics, much of the new insurance written (NIW) in 2006 was subject to lender captive arrangements, and the amount reinsured ranged from 24% to 54% of that year's business.

Standard & Poor's Ratings Services considers the claims lender captives would pay during adverse economic conditions to be the primary benefit to MIs. Our 2005 report on the mortgage insurance industry expressed concern that a 40% level of ceded premium could be too high for the amount of risk assumed (see "After Tough Times, U.S. Mortgage Insurance Outlook Stabilizes," published Feb. 22, 2005, on RatingsDirect). An earlier commentary also questioned the ability of lender captives to cover all of the risks that MIs cede to them. (See "U.S. Mortgage Insurance Industry To Remain Strong Despite Negative Outlook," published Sept. 11, 2003, on RatingsDirect.)

Today, we believe it's safe to say that we no longer have such concerns. Several years of low lender losses have enhanced lender captive profitability, which in turn has improved their ability to satisfy obligations. Also, a publicly available 2005 study by the actuarial consulting firm of Milliman Inc. for a mortgage insurer detailed the economics of certain lender captives and concluded that they met the requirements for risk transfer. The study also concluded that the price the insurer paid was reasonable in relation to the risk ceded and that the use of reinsurance from lender captives improved the risk-reward trade-off.

### **About Lender Captives**

Typically, a lender captive's initial capitalization is equal to 10% of the risk it assumes. However, a lender captive cannot pay dividends to its owner unless its capitalization equals

the greater of 20% of original risk in force or 102% of the lender captive's combined contingency reserves, unearned premiums, and loss reserves.

The reinsurance coverage they provide is similar to certain forms of property-catastrophe reinsurance. The contracts are generally excess-of-loss arrangements, which reinsure a layer of aggregate excess-of-loss coverage from loans their parent lenders make. These loans are commonly prime-quality paper (FICO scores above 620 and full documentation) and, sometimes, better-quality Alt-A paper (FICO score usually above 620 with low or no documentation) and fully documented A-paper with FICO scores usually between 580 and 620.

Lender captive premiums are a percentage of the premium the mortgage lender paid to the MI. When lender captives were first formed, a 5-5-25 structure was common. In that structure, the lender captive would attach (begin to cover losses) when incurred losses and loss expenses equaled 5% of the original risk in force. The lender captive's coverage would exit (detach) when losses and loss expenses reached an additional 5% of the original risk in force, or 10% overall. In exchange, the premium paid to the lender captive was 25% of the premium collected by the mortgage insurer. By 2002, however, many lender captives sought, and got, 4-10-40 treaties, where the captive attached at 4% and exited at 14%, and received 40% of the premium collected. These levels, as well as the size of the reinsured layer, can vary, depending on the quality of the book of business. The size of the reinsured layer can also vary, depending on selected entry points, reinsurance premium levels, and the quality of the reinsured business.

Trust agreements prevent the lender from accessing its lender captive's capital until the capitalization targets are met. All book years are cross-collateralized (meaning that premium and capital collected for one policy year can pay losses from other policy years), so a lender captive's ability to satisfy its obligations improves over time.

### ***Subprime Loans Need Not Apply***

Mortgage loans that lender captives reinsure are distinctly different from subprime mortgages. For MIs, the overall exposure is modest. None of the mortgage insurance firms we rate derives more than 14% of its risk in force from loans with FICO scores below 620, and mortgage with alternative documentation account for no more than 19% of any company's portfolio.

For lender captives, exposure to subprime loans is even lower. Standard & Poor's analyzed the loans reinsured by lender captives for several MIs, and found the average FICO score for these mortgages was 702.

In the long term, the deterioration of subprime lending could be positive for MIs. As more lending practices become more conservative, mortgage originators might recognize more clearly the value of mortgage insurance, which could in turn improve business for their lender captive subsidiaries.

### ***Upgrading Our Assessments***

Standard & Poor's recently used its mortgage insurer capital model to assess the level of capital benefit lender captive agreements provide within the model. We defined the capital benefit as the portion of stressed losses (or losses in a depressed economic environment) forecast by the model that the MIs ceded to the lender captives and that were paid for by funds from (or due to) the lender captives. The

funds assumed to be available from lender captives were funds in trust accounts and future reclaimed ceded premium streams.

Among the lender captives examined, available funds ranged from 71% to 89% of the captive's total obligation. Although this test is consistent with 'AAA' level losses for MIs, the modeled benefits are less than the full limits of coverage lender captives provide, as not all of a given captive insurer's obligations are secured by the amounts in the trust accounts. However, if industry trends continue to wax positively, the amounts in the trust accounts, and the available capital benefit, will continue to grow.

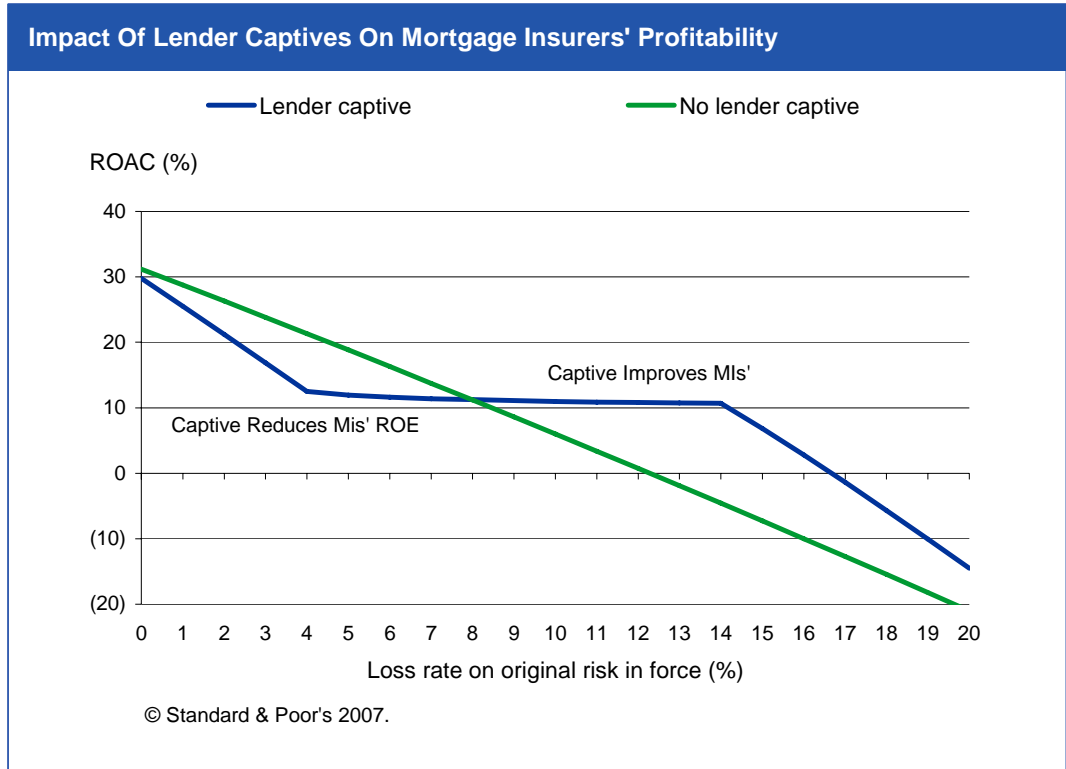
Standard & Poor's also recently changed its metric for calculating MI profitability from internal rate of return (IRR) to return on allocated capital (ROAC). We believe that ROAC, due to its similarity to ROE, is both a more appropriate and simpler way to measure mortgage insurer profitability and lender captive impact on that profitability. We calculate the ROAC metric by taking the net present value (NPV) of an MI's after-tax earnings and then dividing it by the NPV of its allocated capital. Allocated capital is the amount of capital the mortgage insurer needs to maintain capitalization with an appropriate cushion above Standard & Poor's minimum capital requirements for a 'AA' rating.

### ***Lender Captives Can Affect ROAC***

Although recent mortgage insurer loss rates have been lower, the median loss rate for policy years 1980 through 2003 has been about 4% (the Milliman study determined its insurer had had a loss rate of 4.1%, which is consistent with industry findings).

Our current capital model hypothesizes a nationwide recession, which would be the worst-case scenario, and from that, forecasts a loss rate of about 20%. Such a high loss rate is not outside the realm of possibility, as regional loss rates have risen to more than 15% in the past 25 years. They did so in Texas in the mid-1980s, and in Southern California in the early 1990s. This variance highlights the potential for significant volatility in borrower defaults, home prices, and loss rates for MIs, and makes assigning probabilities to outcomes with significantly higher loss rates difficult.

When loss rates (the percentage of loans in a policy year that become paid claims) rise to twice the 4% of risk in force attachment point, profitability is higher for MIs that reinsure with lender captives than for those that do not (see Chart 1). However, when favorable economic conditions such as low unemployment rates push loss rates down, profitability is lower for MIs with lender captives than for those without.



We believe the Sharpe Ratio is the correct way to assess the impact of lender captive reinsurance on an MI's risk-adjusted return. The equation for Sharpe Ratio derivation for MIs is:

$$\frac{\text{Expected Return on Allocated Capital (ROAC)} - \text{Risk Free Rate of Return}}{\text{Standard Deviation of Mortgage Insurer's ROAC}}$$

If the Sharpe Ratio is higher after reinsurance, then the MI's risk-adjusted return has benefited.

The loss rate and prepayment speed assumptions Milliman used in its study to create simulations of financial results were based on historical prepayment and loss experience. We reviewed those assumptions, and found them sound, as they confirmed our position that providing reinsurance from a deep cede lender captive (one that assumes more than 25% of the premium related to the covered business) can improve an MI's Sharpe Ratio and therefore its risk-adjusted return.

Correlations between loss ratios and prepayment speeds are almost always negative, as higher prepayment levels would reduce an MI's risk in force more quickly, which would then lead to a lower ultimate cumulative loss rate. However, correlations can vary, depending on economic conditions. In a severe recession, for example, unemployment and inflation rates generally follow the inverse relationship described by the Phillips Curve (that is, when one is high, the other is low). As interest rates generally parallel inflation rates, a severe recession would feature high unemployment, low inflation, and low interest rates. Low interest rates generally spur refinancing among those borrowers who can do so, which means prepayments could be rapid. But high unemployment could result in high mortgage payment delinquency levels, which means mortgage insurance would kick in. So this situation would see a positive correlation: high losses and high prepayment levels, which would require a high prepayment speed assumption.

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If “stagflation”—characterized by simultaneous high unemployment and high interest rates—emerges, however, a low prepayment speed assumption would yield a truer result. The last time stagflation hit was in the 1970s. MI claims experience was high, new home sales were low, and few refinancings were occurring. Even though MIs had high losses with little new income to counterbalance them, mortgage insurance was remaining in force so prepayment speeds were low.

The table shows the impact of prepayment speeds on an MI’s profitability, and demonstrates that lender captive reinsurance can be beneficial to the risk-return trade-off.

<b><i>ROAC By Public Securities Assoc. Standard Prepayment Model (PSA) And By Loss Rate</i></b>						
<i>*Profitability metric</i>	<i>Captive (%)</i>	<i>No Captive (%)</i>	<i>Captive (%)</i>	<i>No Captive (%)</i>	<i>Captive (%)</i>	<i>No Captive (%)</i>
<b><i>PSA</i></b>						
	200.0	200.0	300.0	300.0	400.0	400.0
<b><i>Loss rate (%)</i></b>						
0	28.6	28.9	29.2	29.6	29.8	30.4
2	22.7	25.5	22.0	25.5	21.2	25.5
4	16.7	22.1	14.7	21.4	12.5	20.5
8	15.8	15.1	13.6	12.8	11.2	10.4
12	15.5	7.8	13.3	4.0	10.8	(0.1)
16	9.9	0.3	6.5	(5.0)	2.8	(10.0)
20	(2.3)	(6.7)	(8.2)	(13.6)	(14.5)	(21.0)

\* Net present value after-tax earnings/net present value capital (very similar to ROE).

The table shows that an MI’s ROAC after the use of lender captive reinsurance ranges from 13% to 17%, based on a median 4.1% loss rate. Lender captives stabilize an MI’s ROAC from the attachment point (typically a 4% loss rate) until either the exit point (14% loss rate) or the depletion of claims-paying resources. The loss rate at which a typical 4-10-40 treaty becomes ROAC-neutral is between 6% and 8%, depending on actual speed of prepayment. Below that range, an MI’s profitability is lower because the reinsurance premium is more than the dollar amount of claims submitted to the lender captive. Above that range, an MI’s profitability is higher because the reinsurance proceeds will be more than the dollar amount of premiums paid to the reinsurer.

In all of the scenarios, the presence of a lender captive in the lender-mortgage insurer relationship reduced the MI’s ROAC when the loss rate is 4% or lower, and increased the MI’s ROAC when the loss rate is at least 8%.

### ***Other Benefits Of Lender Captives***

Lender captives also provide capital relief to MIs, improve alignment of mortgage insurer and lender interests, and enable modest operating efficiencies.

We believe the available capital relief is modest as a share of total industry capital. All MIs rated by Standard & Poor’s currently have capital adequacy ratios (CAR) at least 17 percentage points above the minimum for a ‘AA’ rating. Eliminating this capital benefit would not have any impact upon MI ratings, as it wouldn’t cause any company’s CAR to fall below that threshold. However, the credit given to MIs for the lender captives’ ability to pay claims could become important to MIs in the future, if the MIs extract large dividends and/or if they utilize capital by expanding significantly outside the U.S.

Because the treaties create a scenario where the lender captive, its parent (the lender), and the MI all have a stake in minimizing losses, having a captive reinsurance agreement improves the alignment of the captive parent's interest with that of the MI. However, this alignment pertains only to business ceded to the captive. Since some lenders could choose not to reinsure all of their originated loans, poor-quality loans could be submitted for mortgage insurance that would not be reinsured by their captives. But we do not believe that would happen, because MIs have extremely sophisticated models for credit analysis and would recognize any significant adverse selection in noncaptive business.

Lender captive reinsurance may also cause lenders to encourage borrowers to use mortgage insurance for loans of more than 80% of a property's purchase price, instead of pushing piggyback loans, or second loans made on a property concurrently with a first lien mortgage. Piggyback loans became popular between 2003 and 2006, and they cut significantly into the market for mortgage insurance. According to data compiled by Inside Mortgage Finance Publications, new insurance written by the seven largest private MIs on flow channel loans (individual loans) covered only 6.3% of 2005 mortgage originations, compared with 11.3% in 1998.

Piggyback loans are one of the primary reasons for this decline in penetration. Since most were adjustable-rate mortgages, low short-term interest rates translated into very affordable monthly payments for borrowers—at least until the interest rate reset. Second, lenders favored piggyback loans because they earned additional closing fees and a higher interest rate on that second mortgage. Very recently, lenders' concern about rising defaults and Congress' passage of a law allowing borrowers to claim mortgage insurance premiums as tax deductions have revitalized mortgage insurance penetration.

### ***Looking Ahead***

Although the cost of lender captive reinsurance can limit an MI's profitability if loss rates are low, Standard & Poor's believes lender captives can provide MIs with significant protections, as well as more stable profitability when economic conditions turn bad. Moreover, an MI's risk-adjusted return (as measured by the Sharpe Ratio) can be improved by the use of lender captives.

The key to whether arrangements with lender captives improve or diminish an MI's ROAC in a given year depends on the economic environment. In recent years, reinsurance treaties with lender captives have detracted from MIs' profitability because rising home prices and low unemployment led to unusually low claims. Now, home prices are slumping and loss experience is rising. If the environment weakens further, Standard & Poor's believes MIs will begin receiving payments from lender captives and the value of captive reinsurance will become more apparent.

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