

## Valuing Lender-Paid Mortgage Insurance in MBS and ABS Transactions

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### OPINION

Lender-paid mortgage insurance (MI) can provide substantial credit enhancement in mortgage-backed and mortgage-related asset-backed transactions. In some cases, lender-paid MI has contributed more than 75% of the total credit enhancement for the most senior classes.

Lender-paid MI offers insurance coverage at the individual loan level. In most respects, lender-paid MI policies are generally similar to traditional borrower-paid policies. Lender-paid MI has no impact on the frequency of borrower default, but it serves to reduce the severity of loss when borrowers default.

Because lender-paid policies offer coverage on individual loans, the benefit from the policies is limited to the amounts paid by the insurer on each individual defaulted loan, i.e., the insurance does not “cross-collateralize” the loans. Therefore, if the loss on a defaulted loan is less than the maximum coverage of the insurance policy, the additional coverage can not be applied to losses on other defaulted loans whose claims exceed their insurance coverage. The wider the range in loss severity on defaulted loans, the less the benefit that lender-paid MI offers.

The amount of credit enhancement that lender-paid MI brings to a transaction is directly related to the level of coverage, the number and quality of loans covered, and to any exclusions from coverage. The benefit is also dependent on a loan originator’s business practices, particularly with respect to appraisals. Overstated appraisals may cause the MI coverage to be insufficient to cover actual losses. In addition, a servicer’s ability to foreclose on defaulted loans and to process claims in a timely fashion is important, because failure to perform these actions may result in a claim adjustment or denial.



Because lender-paid MI cannot be cancelled in securitized transactions, it is marginally more durable than borrower-paid MI.

Finally, the benefit from lender-paid MI also depends on the rating of the insurance provider. Generally, the insurance provider should have a rating of **Aa3** or higher for the **Aaa** classes in a transaction to get the full credit that the insurance can provide. Because the benefit is dependent on the insurer's rating, transactions that rely on mortgage insurance for a significant percentage of their total credit enhancement are susceptible to downgrade risk if the insurer's rating drops.

### How Mortgage Insurance Works

Mortgage insurance covers the first losses on defaulted loans. Loans are generally said to be "covered down to" a pre-determined loan-to-value ratio ("LTV"). For example, a 90% LTV loan "covered down" to 60%, will have insurance coverage on 33% of its balance.<sup>1</sup>

If the borrower defaults on the loan, the insurance company is required to pay an amount calculated as follows:

The insurer will pay the lower of:

1.  $33\% \times (\text{Unpaid Principal Balance} + \text{Accrued Interest} + \text{Expenses})$ ; and
2. The actual Net Loss

where:

Net Loss =  $(\text{Unpaid Principal Balance} + \text{Accrued Interest} + \text{Expenses}) - \text{Liquidation Proceeds}$

Expenses = Reasonable Foreclosure and Property Disposition costs + Reasonable Wear and Tear

Similarly, an 80% LTV loan covered down to 60% will have coverage on 25% of its loan balance.

For two loans with the same principal balance, the loan with the higher LTV will have more dollars of insurance coverage, even though both loans are covered down to the same LTV of 60%. Therefore, the higher a loan's LTV, the greater the benefit it can receive from mortgage insurance if it defaults (*see below*).

	Loan A	Loan B
Loan Balance	\$100,000	\$100,000
LTV	90.00%	80.00%
Coverage %age	33.00%	25.00%
Coverage in \$s	\$33,000	\$25,000

<sup>1</sup>  $(90\% - 60\%) \div 90\% = 33\%$ .

## LENDER-PAID MORTGAGE INSURANCE

### What is Lender-paid Mortgage Insurance?

Lender-paid mortgage insurance is a general term used to describe an insurance policy whose premiums are paid by someone other than the borrower. Using lender-paid MI as a significant source of credit enhancement in MBS and ABS transactions is relatively new. The policies are offered by a number of the mortgage insurance companies such as PMI Mortgage Insurance Co. (PMI), Mortgage Guaranty Insurance Corp. (MGIC), General Electric Mortgage Corporation (GEMICO) and Radian. The policies written by the different insurers are generally similar. However, there may be slight differences in coverage levels as well as in the standards that individual insurers use to ensure compliance with the policies.

### Who Pays the Premiums?

In securitized transactions, the insurance premiums for the MI policies are generally paid from the excess interest available from the underlying pool of mortgage loans.

### How Do Lender-paid Policies Differ from Borrower-paid Policies?

The terms of a lender-paid mortgage insurance policy are generally the same as those for a borrower-paid mortgage insurance policy.

## VALUING LENDER-PAID MORTGAGE INSURANCE COVERAGE

### The Level of Coverage Affects the Benefit Available

The value of lender-paid MI in a transaction is affected by the level of the coverage (i.e. how far down does the coverage go). This is illustrated in *Table 1*.

In this example, the insurance covers three loans which have the same principal balance of \$95 after amortization, but have different LTVs (60%, 70% and 90%). The 70% loan and the 90% loan are covered down to 60% LTV, while the 60% LTV loan does not have MI. This results in a 33% coverage for the 90% LTV loan and a 14% coverage for the 70% LTV loan. Following liquidation, if property values decline by 50% in all cases, the 90% LTV loan suffers a loss of only 29% of its balance, while the 70% LTV loan loses 38%. The 60% LTV loan suffers the greatest loss, losing 45% of its unpaid principal balance.

Three conclusions may be drawn from the example:

- Insured loans are better protected than uninsured loans.
- Loans with higher LTVs that are covered down to the same level have more dollars of insurance coverage, and therefore, receive more benefit towards credit enhancement, than loans with lower LTVs.
- Insured loans with higher LTVs are better protected against severe declines in property values than insured loans with lower LTVs.

### The Number and Quality of Loans Covered Affects the Benefit Derived from Lender-paid MI

The value of mortgage insurance is affected by the percentage of loans in the pool that are covered by insurance, as well as by the quality of the loans covered. If only a small portion of loans is covered, there is less value in the coverage. The selection criteria of loans for coverage are also important in determining the value of the insurance coverage. Mortgage insurers often do not insure the weakest loans in a pool.

The value of mortgage insurance is greatest when the weakest borrowers are covered. Not covering the weakest borrowers reduces the value of mortgage insurance, because the better borrowers are less likely to default. Therefore, two

pools with similar insurance coverage will have final subordination levels that begin to converge, regardless of their different credit characteristics.

### Originators' Appraisal Practices Affect the Value of Lender-paid MI

The amount of benefit that a lender-paid MI policy brings to a transaction is affected by the loan originator's appraisal practices. Because the level of coverage offered under a lender-paid MI policy is based on a loan's stated LTV, it is important that the LTV be accurate. Originators who have weak appraisal practices, whereby properties are assigned higher values than they are really worth, will have understated LTVs.<sup>2</sup>

Because mortgage insurance offers coverage based on a loan's stated LTV, then the coverage level may also be understated. For example, consider a 70% LTV loan with coverage down to 60% LTV, or a coverage level of 14%. On a \$100,000 loan, the coverage would be approximately \$14,000. However, if the actual value of the property was less than its appraised value, causing the loan to be a 90% LTV loan, the actual severity of loss in case of default may substantially exceed the \$14,000 insurance coverage amount.

*Table 1*  
**Calculating the Amount of Mortgage Insurance Proceeds**

<b>Property and loan information</b>			
	<b>Loan #1</b>	<b>Loan #2</b>	<b>Loan #3</b>
Original Property Value	\$167.00	\$143.00	\$111.00
Orig Loan Amount	\$100.00	\$100.00	\$100.00
Loan Amount at Default	\$95.00	\$95.00	\$95.00
Original LTV	60.00%	70.00%	90.00%
Loan Interest Rate (Annual)	10.00%	10.00%	10.00%
<b>Insurance Information</b>			
Mortgage Insurance	None	Down to 60%	Down to 60%
Mortgage Insurance Coverage	0%	14%	33%
<b>Liquidation Proceeds Assuming 50% Home Price Depreciation</b>			
Liquidation Proceeds	\$83.00	\$71.00	\$55.50
<b>Expenses and Accrued Interest</b>			
Accrued Interest Until Sale			
22 months at 10%	17.50	17.50	17.50
Broker Commission (6%)	5.00	4.25	3.25
Forclosure, REO Repair, REO Disposition Costs	7.00	7.00	7.00
Force-placed insurance (hazard)	1.50	1.25	1.00
<b>Total Expenses</b>	<b>31.00</b>	<b>30.00</b>	<b>28.75</b>
Net Liquidation Proceeds	\$52.00	\$41.00	\$21.75
Plus: Mortgage Insurance Proceeds	\$ -	\$18.00	\$41.00
<b>Equals: Total Proceeds</b>	<b>\$52.00</b>	<b>\$59.00</b>	<b>\$67.75</b>
Net Loss	\$43.00	\$36.00	\$27.25
Net Loss as a %age of Current Loan Balance	45%	38%	29%

<sup>2</sup> It is possible that originators have a greater tolerance for appraisal variance for loans where the LTV is believed to be very low.

### Distribution of Loss Severity<sup>3</sup> Affects the Overall Amount of Credit Enhancement Provided by Lender-paid MI

Determining the benefit of lender-paid MI for mortgage pools is dependent not only on the amount of the coverage and LTV of each loan, but also on the range of loss severity for defaulted loans with the same LTV.

The loss severity for loans with the same LTV can vary.<sup>4</sup> Loss severity can range from zero to over 100% of a loan's balance. The wider the range of loss severity, the less is the value of mortgage insurance, and the greater is the need for credit enhancement from other sources. This is illustrated in *Table 3*.

*Table 3* shows a pool of equal-sized loans in which every loan has an LTV of 80% and all the loans are covered by

Table 2

	Scenario 1	Scenario 2
No. of Loans	100	100
Principal Bal. Of each loan	\$100,000	\$100,000
LTV of each loan	80%	80%
Covered "down to"	60%	60%
Insurance Coverage Level	25%	25%
Severity Assumption	100% of loans default with 35% Severity	50% of loans default with 70% Severity, 50% default with 0% severity
Average Severity	35%	35%
Insurance pays:	25% of the loans' principal balance for each loan	25% of the principal balance for loans with 70% severity, 0% for the loans with 0% severity
<b>Loss covered by Insurance</b>	<b>25%</b>	<b>12.50%</b>
<b>Loss not covered by Insurance</b>	<b>10%</b>	<b>22.50%</b>

mortgage insurance down to 60%, which is the equivalent of 25% coverage. All the loans have defaulted, with an average loss severity of 35%. However, the distribution of losses is very different in the two scenarios depicted: in Scenario 1, each loan experiences a uniform loss severity of 35%, while in Scenario 2, the loss severity is not uniform and half the loans experience no loss while the other half experience 70% severity.

In Scenario 1, mortgage insurance will contribute 25% of the principal balance of each loan, causing the loss on each loan that is not covered by insurance to be 10%. The total loss for the pool that is not covered by insurance is also 10%.

In Scenario 2, the loss for the pool that is not covered by insurance is much greater than in Scenario 1. Mortgage insurance will contribute nothing to the 50% of the loans that default with no loss severity. On the remaining 50%, which experience 70% severity, the mortgage insurance will pay 25%, leaving 45% of the loss uncovered. Overall, the pool experiences a loss of 22.50% that the insurance does not cover. Therefore, it is clear that the narrower the band of loss severity on defaulted loans, the more value the insurance coverage provides.

### The Benefit of Increased Coverage is Dependent on the Distribution of Loss Severity on Defaulted Loans

Increasing the depth of coverage has an important impact on the level of benefit that lender-paid MI brings to a pool of loans. The impact is related to the distribution of loss severity on defaulted loans. The deeper the coverage, the smaller the number of loans that will have loss severity in excess of the MI coverage.

As mortgage insurance coverage becomes deeper, the benefit it yields increases at varying rates. This is illustrated in *Table 3*.

<sup>3</sup> Loss severity here refers to the loss severity percentage, or the amount of the Net Loss divided by the unpaid principal balance of the loan at the time of default.

<sup>4</sup> Severity is influenced by (among other things) a servicer's skill in foreclosing on and selling defaulted properties, real estate prices and supply in different markets, and the physical condition of the property. Loss severity will be affected by the amount of accrued interest on the defaulted loan, which in turn is affected by the servicer's ability to foreclose and sell REO property quickly, as well as on state foreclosure laws. We have seen situations where loans with small balances have suffered high loss severity percentages because of the high fixed costs associated with foreclosure and property disposition.

Table 3

Severity*	No. of Defaulted Loans	Principal Bal.	Loss Coverage Level			
			No Coverage	Coverage to 60% LTV	Coverage to 50% LTV	Coverage to 40% LTV
10%	5	\$500,000	\$50,000	\$0	\$0	\$0
20%	15	\$1,500,000	\$300,000	\$0	\$0	\$0
30%	25	\$2,500,000	\$750,000	\$250,000	\$0	\$0
40%	30	\$3,000,000	\$1,200,000	\$600,000	\$300,000	\$0
50%	8	\$800,000	\$400,000	\$240,000	\$160,000	\$80,000
60%	6	\$600,000	\$360,000	\$240,000	\$180,000	\$120,000
70%	5	\$500,000	\$350,000	\$250,000	\$200,000	\$150,000
80%	3	\$300,000	\$240,000	\$180,000	\$150,000	\$120,000
90%	2	\$200,000	\$180,000	\$140,000	\$120,000	\$100,000
100%	1	\$100,000	\$100,000	\$80,000	\$70,000	\$60,000
<b>Total</b>	<b>100</b>	<b>\$ 10,000,000</b>	<b>\$ 3,930,000</b>	<b>\$ 1,980,000</b>	<b>\$ 1,180,000</b>	<b>\$ 630,000</b>

\* Loss severity before application of mortgage insurance proceeds.

The table shows the distribution of loss severity for 100 loans, each with the same balance (\$100,000) and LTV (80%),<sup>5</sup> at different levels of MI coverage. However, the actual severity of loss for each loan ranges from 10% to 100% of the loan's balance, with the majority of the loans having loss severity between 20% and 40% of their unpaid principal balance. With no MI at all, the loss on the pool would be \$3.93 million. If mortgage insurance down to 60% LTV was purchased for each loan, then 20 loans would not have any loss at all, and the remaining 80 loans would have the first 25% of their losses covered. The amount of loss not covered by insurance in the 60% coverage scenario would be \$1.98 million. Increasing the coverage level by taking it down to 50% would result in 45 loans being entirely insured, and reduce losses not covered by insurance to \$1.18 million. In other words, increasing the coverage level to 50% from 60% would cause uncovered losses to decline by \$0.80 million. Extending coverage another 10%, down to 40%, would reduce losses not covered by insurance to \$0.63 million, a \$0.55 million increase in benefit from the 50% coverage level. Moody's assumes that the dispersion of loss severity will be greater at the higher rating levels. Therefore, the benefit provided by lender-paid MI is lower at the higher rating levels, compared to the benefit at the lower rating levels.

## EXCLUSIONS TO LENDER-PAID MORTGAGE INSURANCE POLICIES AND ADJUSTMENTS TO CLAIMS

### Exclusions to Claims

Lender-paid mortgage insurance policies typically do not cover losses resulting from fraud, special hazard or bankruptcy cramdown.<sup>6</sup>

Losses from fraud can be a result of appraisal fraud, or misrepresentations by borrowers of their income and/or assets. Special hazard losses (e.g., losses from earthquake damage) are generally not covered by lender-paid MI, and bankruptcy "cramdowns" are also excluded. Therefore, credit enhancement from other sources is necessary to protect against these risks.

In many securitizations where credit enhancement is provided by lender-paid MI, the insurers are not underwriting the loans themselves, but delegating the underwriting to the loan origi-

<sup>5</sup> The distribution of loss severity in *Table 3* is for illustrative purposes only.

<sup>6</sup> In certain instances, a bankruptcy court can reduce the principal amount or interest rate on amounts owed by a borrower. This is called a "cramdown".

nator. If the originator does not follow the agreed-upon underwriting guidelines, the mortgage insurer is not required to pay a claim on default.

### **Adjustments to Claims**

Claims not meeting the insurer's standards are often adjusted by insurers. Mortgage insurance policies require servicers to take certain actions within prescribed time periods and to cooperate with the insurers. For instance, the servicer has to notify the insurer of defaulting borrowers, has to commence foreclosure within a certain time frame, has to submit claims within a certain time period, has to market the property in a timely fashion and has to mitigate loss. If these actions are not followed, a mortgage insurer may reduce the amount of accrued interest it will pay and may even deduct the amount by which it was prejudiced as a result of the servicer not doing the required action.

A study conducted by one of the mortgage insurers reviewed claims the insurer adjusted against pool policies it had written, based on a sample of loans. Over a six-year period, on average, the requested claim settlement amounts were adjusted by approximately 11%.

A servicer's ability to file insurance claims in a timely and accurate manner can have a direct bearing on the amount of benefit derived from lender-paid MI. There is a greater risk that subprime servicers, who often do not have much experience filing mortgage insurance claims, will not file claims in a timely fashion compared to servicers of "A" quality loans, who typically have substantial experience dealing with the mortgage insurance companies.

### **LENDER-PAID MI IS marginally MORE DURABLE THAN BORROWER-PAID MI**

Lender-paid mortgage insurance is more durable than borrower-paid mortgage insurance. Borrowers can cancel their insurance when their loans' LTVs decline below 80% as a result of amortization (and, in some states, because of price appreciation). However, as a practical matter, a 30-year mortgage experiences slow amortization in the first 10 years of the loan's life,<sup>7</sup> resulting in few loans being eligible for cancellation of the borrower-paid insurance due to loan amortization. Therefore, the benefit from non-cancellable lender-paid insurance, compared to borrower-paid MI, is slight.

### **MORTGAGE INSURER MUST HAVE SUFFICIENT INSURANCE FINANCIAL STRENGTH**

Up until now, the mortgage insurers that have written lender-paid mortgage insurance on subprime loans in transactions where Moody's has rated the highest class of securities **Aaa** have had strong insurance financial strength ratings of at least **Aa3**.

While the presence of a **Aa3** rated insurer is sufficient to support **Aaa** rated securities, the ratings of the securities are clearly linked to the rating of the mortgage insurer. In the event of a downgrade of a **Aa3** rated insurer, there is a likelihood that the **Aaa**-rated securities will also be downgraded.

### **CONCLUSION**

Lender-paid mortgage insurance policies can provide substantial credit enhancement in a transaction backed by mortgage collateral. The benefit of the insurance is highly dependent on the number of loans covered and their quality, the depth of the coverage, and the extent of exclusions from coverage. The value that lender-paid MI brings to a pool of loans is tempered by the distribution of loss severity on defaulted loans. Loan originators' appraisal practices can have an impact on the benefit that can be derived from lender-paid MI, as can servicers' abilities. Finally, ratings for transactions where lender-paid MI is a source of credit enhancement may be affected by a downgrade in the insurer's rating.

<sup>7</sup> Most losses on mortgage loan pools occur during this period.

## **APPENDIX**

***The Following issuers used lender-paid mortgage insurance to provide credit enhancement in 2000.***

New Century

First Franklin

Wells Fargo

C-Bass

Novastar

Metropolitan

Accredited

Long Beach

First Greensboro

Countrywide

Structured Asset Securities Corp. (SASCO)

Credit Suisse First Boston/Donaldson, Lufkin & Jenrette

IndyMac

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