



# **The Role of Private Mortgage Insurance in the U.S. Housing Finance System**

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## I. Executive Summary

In the wake of the recent financial crisis, policymakers in the U.S. have begun to reassess the structure of the U.S. housing finance system and the federal government's role in supporting the flow of capital to the housing sector. Private mortgage insurers (PMIs) rank among the lesser known yet critical components of the current housing finance system. In order to facilitate continued discussion of housing finance reform, Genworth Financial has asked Promontory Financial Group to prepare this report on the role of PMIs in the current U.S. housing finance system. This document is intended to serve as a detailed reference guide with pertinent commentary for interested parties seeking current and historical perspective on the role of PMIs.

### *Characteristics of Private Mortgage Insurance*

All other things being equal, the risk of loss from a mortgage loan is higher when the borrower makes a smaller down payment. Private mortgage insurance (PMI) enables lenders, loan purchasers, and investors to mitigate default risk on low-down-payment residential mortgages by transferring a portion of this risk to third-party PMIs, which specialize in managing this risk over the long term. PMI takes four basic forms: flow insurance, bulk insurance, pool insurance, and reinsurance.

Flow insurance provides coverage on an individual loan basis (under standard terms set forth in a master policy) and is purchased at the time a loan is originated. When a borrower applies for a mortgage loan to finance more than a certain percentage of the value of the home (*i.e.*, a high loan-to-value mortgage), the lender may require that the loan be covered by PMI. While the lender generally selects the mortgage insurance carrier, it passes the cost of coverage on to the borrower. The lender (or any party that subsequently purchases the loan) receives the insurance benefit if the borrower defaults. In bulk transactions, the insurer agrees to provide coverage on each loan in a

larger group of loans that generally have already been originated. These loans may have flow insurance already (particularly if the loans are high loan-to-value), in which case the bulk insurance provides a second layer of protection for losses not covered by the existing insurance. Pool insurance involves the insurance of multiple mortgages that are aggregated for purposes of calculating coverage and claims. Under such an arrangement, the insurer will generally cover all losses in the pool up to an aggregate limit of losses. PMIs generally issue pool insurance in connection with mortgage securitizations. Finally, private mortgage reinsurance, in which the primary insurer passes a portion of the risk to a third-party insurer, has generally been written by “captive” reinsurers affiliated with lenders.

#### *Utility of Private Mortgage Insurance in the Marketplace*

A significant motivation for lenders to seek primary mortgage insurance arises from the loan purchasing standards of Fannie Mae and Freddie Mac (the GSEs). Under the federal laws governing the GSEs’ activities, neither entity may purchase a mortgage above 80% loan-to-value (LTV) unless the lender provides one of several enumerated credit enhancements, of which PMI is the most common. For so-called “private-label” (*i.e.*, non-GSE) asset-backed securitizations, PMI may facilitate favorable credit ratings for issued securities. Finally, banks may desire insurance for loans held on balance sheet in order to manage their own credit risk exposure in accordance with supervisory guidance or reduce the amount of regulatory capital that they must hold against high-LTV mortgages. The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 directs regulators to consider mortgage insurance as one of various risk mitigants that might qualify a loan for exemption from securitization risk retention requirements. This additional regulatory recognition may spur additional demand for PMI.

## *Regulation of Private Mortgage Insurers*

Like most insurance companies, PMIs are subject to a state-by-state regulatory regime, and many states have enacted legislation specifically tailored to mortgage insurance. States limit the ability of PMIs to take on risk through restrictions such as contingency reserve requirements; capital requirements; investment restrictions; risk concentration restrictions; and restrictions on engaging in activities other than mortgage-related insurance. The GSEs provide an additional layer of de facto regulation. Finally, while federal law generally leaves the prudential regulation of PMIs to the states, PMIs are subject to certain consumer protection laws, including the Homeowners Protection Act and the Real Estate Settlement Procedures Act.

In comparing the regulatory framework for PMIs with that of other regulated financial institutions, PMIs' contingency reserves—a long-term, countercyclical regulatory capital requirement—stand out as distinctive. The basic rationale for contingency reserves can be stated simply: PMIs contend with cyclical volumes of claims that generally stay within certain parameters but occasionally spike, with potentially catastrophic consequences for the insurer. The contingency reserve framework addresses this risk by requiring PMIs to keep in reserve 50% of premiums for ten years, in anticipation of potentially massive defaults. To a large extent, this and other aspects of the state prudential framework for PMIs reflect lessons learned from the Depression-era collapse of many institutions that offered PMI. The regulatory framework has been fairly consistent since the modern PMI industry re-emerged in 1957.

Any assessment of the framework's effectiveness must identify the episodes of severe industry stress since 1957 and consider their causes and consequences. Such episodes occurred in the 1980s and early 1990s and again today. In the 1980s and early 1990s, a combination of rolling regional recessions, poor economic and housing market conditions, imprudent underwriting patterns, and—for one carrier—massive exposure to a single failed real estate investment scheme

contributed to significant industry-wide losses. However, of the 14 PMIs in existence in 1980, only one was unable to fully repay its policyholders. The industry as a whole absorbed its full share of mortgage losses as expected.

The current U.S. housing downturn represents the most adverse scenario for PMIs since the Great Depression. While the smallest insurer has been in run-off mode since July 2008, a recent credit rating agency report expresses a tentative view that the six rated insurers will be able to pay future claims in full.<sup>1</sup> These six PMIs have been operating at a loss since 2007 but continue to insure new loans. Current challenges for the industry include competition from the Federal Housing Administration (FHA) and, in some cases, concerns about exceeding capital constraints. The current housing downturn will provide a rare and valuable benchmark for assessing the adequacy of PMIs' reserves and other risk management practices against the needs of the future housing finance system.

#### *Comparison to Other Forms of Mortgage Credit Risk Mitigation*

By assuming much of the incremental credit risk associated with high-LTV mortgages, PMI promotes the flow of credit from lenders and investors that might not otherwise have the capacity or desire to assume this risk. In this way, PMI increases the total amount of private capital available for lending to borrowers unable to afford (or unwilling to provide) a 20% down payment. Likewise, pool-level PMI on securitizations containing lower-LTV mortgages encourages lending and investment in these instruments as well. PMI thus promotes homeownership by individuals who would not otherwise be able to afford it, an objective of U.S. housing finance policy since the New Deal.

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<sup>1</sup> See Moody's Investors Service, "US Mortgage Insurance: Developing Outlook," *Industry Outlook* (August 17, 2010).

PMI can be compared with various other forms of credit risk mitigation, including: self-insurance by lenders; risk assumption by GSEs, bond insurers, or derivatives counterparties; and government mortgage insurance. From a credit availability standpoint, each of these forms of credit risk mitigation can support the provision of credit by shouldering default risk. But from an economic stability perspective, these forms of credit risk mitigation are not equally capable of bearing the severe tail risk associated with high-LTV mortgages. The following characteristics of PMIs help them manage the risks involved in their business and can serve as a point of comparison with other players:

- *Contingency reserves.* PMIs build contingency reserves during normal times and draw them down only when losses exceed statutory thresholds or insurance regulators otherwise authorize reductions.
- *Geographic diversification.* Geographic diversification serves as a bulwark against regional housing slumps by enabling PMIs to use premiums collected in more stable regions to offset losses incurred in distressed regions.
- *Lender diversification.* Because PMIs insure loans originated by many different lenders, they are less vulnerable than individual lenders to lender-specific operational or other problems affecting loan quality.
- *Delayed loss realization.* Because the covered loss amount is not established and payable until foreclosure, PMIs can build up reserves as a loan first goes delinquent, while continuing to generate premiums from other policies to offset the expected loss.
- *Acquaintance with relevant risks.* By virtue of their close involvement in underwriting, loss mitigation, and claims management activities, PMIs are relatively well positioned to understand the risks associated with high-LTV mortgage loans.

- *Incentives to avoid foreclosure.* While not a form of institutional risk management per se, a financial institution's incentives to modify loans or take other measures to avoid foreclosure impact financial stability. Because PMIs do not generally incur claims obligations unless a borrower defaults, the interests of PMIs are closely aligned with those of borrowers in this area.

While certain other financial institutions share some of these characteristics, few or none currently share all of them.

Among the various alternatives to PMI, government mortgage insurance offers the closest comparison. FHA and Veterans Administration (VA) mortgage insurance programs in particular provide significant competition for PMIs. On the most basic level, public and private insurers differ in that government insurers must adhere to the particular means and ends assigned to them by legislators, while PMIs primarily serve their shareholders. This points toward a second, equally basic, difference: obligations of the government insurers are backed by the full faith and credit of the United States. This has important implications for the role of government insurance in the housing finance system. While an explicit federal government guarantee puts taxpayer funds at risk, the government insurers, particularly the FHA, have special capabilities to continue writing large volumes of new policies during severe housing recessions. Government mortgage insurance, or government reinsurance against catastrophic losses, may have a useful role to play in preserving the availability of affordable high-LTV mortgages during severe housing downturns. However, government mortgage insurance can also cause destabilizing imbalances in normal times to the extent government insurers fail to build sufficient reserves or charge sufficient risk premiums.

## II. Introduction

In the wake of the recent financial crisis, policymakers in the U.S. have begun to reassess the federal government's role in supporting the flow of capital to the housing sector. The Federal Housing Finance Agency's (FHFA) decision in September 2008 to place Fannie Mae and Freddie Mac into conservatorship is the most immediate, though certainly not the only, impetus for this discussion. For the past forty years, the two government sponsored enterprises (GSEs) have guaranteed timely repayment of principal and interest on bonds backed by residential mortgages, helping fuel the tremendous growth of the secondary mortgage market. While the GSEs operated as private companies during this time, they benefitted from an implicit federal government guarantee (in addition to other effective government subsidies). With their entry into conservatorship, the GSEs' federal backing became explicit, and they have since drawn approximately \$148 billion from a Treasury line of credit.<sup>2</sup>

Because the GSEs are just one element in a complex mortgage finance system, the debate concerning their fate raises broader questions about U.S. housing policy. Both the Obama Administration and the U.S. Congress have begun to gather information and perspectives with a view toward legislative action in 2011. The Treasury Department formally solicited public comment on a range of housing-related questions in April 2010. Building on this outreach effort, the Treasury Department and the Department of Housing and Urban Development (HUD) jointly hosted an initial conference on the future of housing finance in mid-August. The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 requires the Treasury Department to submit to Congress by January 31, 2011 its recommendations for ending the GSE conservatorships.<sup>3</sup>

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<sup>2</sup> See Nick Timiraos, "Housing Ills Cloud Debate on Fannie," *Wall Street Journal*, Aug. 16, 2010, [http://online.wsj.com/article/NA\\_WSJ\\_PUB:SB10001424052748704296704575431531544841658.html](http://online.wsj.com/article/NA_WSJ_PUB:SB10001424052748704296704575431531544841658.html).

<sup>3</sup> Pub. L. 111-203, § 1074.

Meanwhile, the House Financial Services Committee and Senate Banking Committee have held several hearings on housing finance reform this year and plan to hold more.

Private mortgage insurers (PMIs) rank among the lesser known yet critical components of the current housing finance system. Since 1957, modern PMIs have assumed credit risk on high loan-to-value (LTV) residential mortgages, thereby encouraging lenders and investors to provide credit to borrowers who do not make a full 20% down payment. PMIs now insure the vast majority of loans over 80% LTV purchased by the GSEs.

The recent housing finance crisis is causing policymakers to reevaluate the role of mortgage insurance in a reconstituted housing finance market. For example, the House Financial Services Committee held a hearing on the role of private mortgage insurance (PMI) on August 29, 2010. In order to facilitate continued discussion, Genworth Financial has asked Promontory Financial Group to prepare this report on the role of PMIs in the current U.S. housing finance system. This document is intended to serve as a detailed reference guide with pertinent observations for interested parties seeking current and historical perspective on the role of PMIs.

The remainder of this report is organized as follows: Section III describes the major types and features of PMI. Section IV discusses the economic and regulatory factors that encourage the use of PMI. Section V reviews the major regulatory restrictions to which PMIs are subject, discusses the rationales for these restrictions, and examines their effectiveness in ensuring long-term industry resilience. Section VI compares PMI to alternative forms of mortgage credit risk mitigation or avoidance, specifically: lender avoidance of high-LTV mortgages, lender self-insurance, GSE insurance, bond insurance, credit derivatives, and government insurance programs.

### III. Characteristics of Private Mortgage Insurance

Lenders and investors face a higher risk of loss from mortgages that, all other things being equal, have higher LTVs. Borrower default on such mortgages is likely to lead to higher losses due to the narrow margin between the money lent and the value of the collateral. In addition, higher LTV mortgages are generally believed to carry a higher probability of default compared with lower-LTV mortgages.<sup>4</sup> PMI enables lenders, loan purchasers, and investors to mitigate default risk on high-LTV residential mortgages by transferring a portion of this risk to third-party PMIs.<sup>5</sup>

In the U.S., lenders commonly set the threshold for requiring PMI at 80% LTV. The 80% figure derives from the statutes governing loan purchases and guarantees by Fannie Mae and Freddie Mac, the two large GSEs that dominate the U.S. secondary mortgage market. As explained in section IV.a., the GSEs may only purchase a high-LTV mortgage if the originator provides one of three kinds of credit enhancements, of which PMI is by far the most feasible and popular. Accordingly, lenders that anticipate selling loans to the GSEs abide by the 80% threshold when determining whether to require PMI.

Lenders that plan to hold mortgages on their books or sell them to parties other than the GSEs may choose to require PMI for mortgages above or below 80% LTV, according to their risk

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<sup>4</sup> For a comprehensive survey of relevant literature on the relationship between LTV and mortgage default rates, as well as independent statistical analysis of both FHA and conventional mortgages, see GAO, *Mortgage Financing: Actions Needed to Help FHA Manage Risks from New Mortgage Loan Products*, GAO-05-194 (Washington, D.C., February 2005), <http://www.gao.gov/new.items/d05194.pdf>.

<sup>5</sup> Although insurers briefly experimented with PMI for commercial mortgages, they incurred heavy losses and exited this line of business. Unlike in the residential mortgage context, where PMI is frequently required for all loans above a certain LTV (see below), commercial mortgage lenders and borrowers purchased mortgage insurance only in particularly high-risk circumstances. This adverse selection of risk, coupled with the relatively small size of the commercial mortgage insurance market, prevented the insurers from generating a sufficient premium base over which to spread losses. Roger Blood, "Mortgage Default Insurance: Credit Enhancement for Homeownership," *Housing Finance International* (2001): 55, [http://www.housingfinance.org/uploads/Publicationsmanager/0109\\_Mor.pdf](http://www.housingfinance.org/uploads/Publicationsmanager/0109_Mor.pdf).

appetites, capital needs, and the competitive environment. There are relevant regulatory standards here as well. For example, the U.S. banking agencies have stated that they expect first-lien mortgages or home equity loans on owner-occupied, 1-to-4-family residential properties to have appropriate credit support, such as mortgage insurance or readily marketable collateral, where LTVs reach or exceed 90%.<sup>6</sup> In addition, bank regulatory capital requirements incorporate supervisory expectations that high-LTV loans be prudently underwritten.

PMI takes four basic forms, as described below: flow insurance, bulk insurance, pool insurance, and reinsurance. We discuss captive reinsurance separately.

a. Flow Insurance

Flow insurance is a form of primary insurance, meaning that it provides coverage on an individual loan basis at origination. When a borrower applies for a high-LTV mortgage loan, the lender may require flow PMI to offset the increased risk associated with the smaller down payment. The insurance premiums may be structured in either of two ways. First, the applicable mortgage contract may obligate the borrower to pay insurance premiums to the servicer as part of the borrower's monthly mortgage obligation. The servicer then remits these amounts to the insurer. Alternatively, some lenders build the cost of PMI into the borrower's interest rate (so-called "lender-paid mortgage insurance"). In either event, the lender (or any party that subsequently purchases the loan) receives the insurance benefit if the borrower defaults.<sup>7</sup> Between 1990 and 2008, 12.6% of all single family mortgage originations in the U.S. had flow insurance.<sup>8</sup>

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<sup>6</sup> OCC, FRB, FDIC, and OTS, Interagency Guidance on High-LTV Residential Real Estate Lending (Oct. 8, 1999), 3, <http://www.federalreserve.gov/boarddocs/srletters/1999/sr9926a2.pdf>.

<sup>7</sup> PMI should not be confused with single premium credit insurance products, such as credit life, credit disability, credit unemployment, and credit property insurance. The events that may trigger a claim and the nature of the payout under these policies differ from PMI. Single premium credit life,

## *Underwriting*

PMIs have been described as a “second set of eyes” in the loan underwriting process, meaning that they exercise an independent influence in this process, rather than relying solely on lender judgment. As such, PMIs can impose additional market discipline on lenders. Some degree of reliance on lenders is inevitable, particularly in collecting documents from the borrower-applicant. But in most other respects, PMIs have the ability not only to impose their own underwriting guidelines but also to review individual loan files.<sup>9</sup>

The extent to which PMIs actually do so varies by insurer, by lender, and over time. In some cases, the loan undergoes largely separate (and more or less simultaneous) underwriting by the lender and the insurer. However, in many cases the insurer delegates its underwriting function to “approved” lenders with satisfactory origination and servicing procedures and histories. PMIs monitor the performance of delegated lenders by, among other things, reviewing individual loans on a sample basis and rescinding coverage after-the-fact where the lender has failed to meet contractual underwriting expectations. Conversely, lenders sometimes outsource their own underwriting functions to affiliates of PMIs on a fee basis. In structuring underwriting arrangements, PMIs and lenders are motivated by the sometimes competing objectives of speed-to-close, procedural simplicity and transparency to the borrower, cost effectiveness, and quality control.

The underwriting criteria of PMIs resemble those used by lenders and the GSEs. They include measures of borrower creditworthiness, the size of the down payment, the appraised value

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credit disability, and credit property insurance are now largely prohibited in the U.S. See Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, Pub. L. 111-203, § 1414(d).

<sup>8</sup> FHFA, “State of the Private Mortgage Insurance Industry: Implications for U.S. Mortgage Markets and the Enterprises,” *Mortgage Market Note* 09-4 (August 20, 2009), 4, [http://fhfa.gov/Default.aspx/webfiles/14779/MMNOTE\\_09-04%5B1%5D.pdf](http://fhfa.gov/Default.aspx/webfiles/14779/MMNOTE_09-04%5B1%5D.pdf).

<sup>9</sup> PMIs can also impose underwriting discipline by tracking loan performance by lender. That is, PMIs can track default rates across lenders and alert underperforming lenders to potential areas of concern.

of the property, the purpose of the loan, and the structure and interest rate of the loan. PMIs take into account their internal risk thresholds,<sup>10</sup> as well as the competitive environment, when calibrating their underwriting criteria. However, because most mortgages on which flow insurance is written are ultimately sold to the GSEs, both lenders and PMIs have, to varying degrees, deferred to GSE underwriting standards, particularly after the introduction of GSE automated underwriting systems. While reliance on the GSE automated underwriting systems facilitated quick and inexpensive underwriting decisions by lenders and PMIs in recent years, it is now generally acknowledged that the lack of transparency in these systems also obscured relevant risks. Accordingly, PMIs are unlikely to rely to the same extent on third-party underwriting systems in the foreseeable future.

Once flow insurance has been issued, the insurer cannot revise the premium amount or other terms during the life of the policy.

#### *Extent and Duration of Coverage*

The insurer's master policy sets forth the terms of insurance. If the borrower becomes delinquent on the mortgage while the PMI policy is in force, the owner or servicer of the loan must file a preliminary notice with the insurer. Only upon foreclosure does the owner or servicer generally submit the final insurance claim. The claim typically includes a percentage of the outstanding principal and accrued interest on the loan. It also includes various expenses incurred by the lender during the foreclosure process, such as legal expenses, upkeep of the property, and

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<sup>10</sup> Over time, PMIs' sophistication in evaluating and pricing the risks associated with individual loans, as well as portfolio-level risk, has grown. For additional detail on the kinds of risk management tools employed by modern PMIs, see, for example: Kristin Chen, "The Role of Mortgage Insurance in Risk Management," *International Journal of Real Estate Finance* 1, no. 2 (2000), 10-13; Roger Blood, "Managing Insured Mortgage Risk," in *The Secondary Mortgage Market: Strategies for Surviving and Thriving in Today's Challenging Markets*, ed. Jess Lederman (Chicago, Probus, 1992), 635-660; and William H. Lacy, "Risk Management: Key to Success for the 1990s," in *The Secondary Mortgage Market: Strategies for Surviving and Thriving in Today's Challenging Markets*, ed. Jess Lederman (Chicago, Probus, 1992), 661-678.

property taxes and insurance. State laws generally provide that an individual private mortgage insurer may cover no more than about 25% to 30% of an otherwise claimable amount. While at one time this restriction may have served to ensure a certain apportionment of risk between lender and insurer,<sup>11</sup> state laws now permit PMIs to provide higher levels of coverage via reinsurance arrangements, including reinsurance by affiliates of the primary insurer. For example, a primary insurer may provide flow insurance covering 40% of the gross claim amount so long as 10% to 15% of the coverage (depending on the state) is reinsured by an affiliate or third party.<sup>12</sup>

Upon filing of the claim, the insurer generally chooses between two options:

- (a) Pay the stated coverage percentage and allow the lender to retain title to the property; or
- (b) Pay 100% of the gross claim and take title to the property.

While theoretically an insurer might choose option “b” if, for example, it believes the property is worth significantly more than the foreclosure sale price, this is rare in practice; real estate management is not a core competency of PMIs. Both options are set aside if a third party pays a high price for the property at the foreclosure auction, in which case the insurer pays the difference, if any, between the claim amount and the foreclosure sale price (*i.e.*, the lender’s actual loss).<sup>13</sup>

Within and among these possible outcomes, potential losses to PMIs and insured lenders vary according to the contractual coverage level, the remaining loan balance, and the value of the

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<sup>11</sup> See Chester Rapkin et al., *The Private Insurance of Home Mortgages: a Study of the Mortgage Guaranty Insurance Corporation* (University of Pennsylvania: Institute for Environmental Studies, December 1967), 35.

<sup>12</sup> Most or all of the PMIs maintain multiple insurance subsidiaries for precisely this purpose. Today, secondary mortgage market investors willing to pay for upwards of 40% coverage can obtain it and thereby insulate themselves from losses in virtually all scenarios.

<sup>13</sup> PMIs require lenders to adhere to specific foreclosure bidding guidelines designed to encourage this result. See, *e.g.*, MGIC, MGIC Bidding Instructions (rev. June 2010), [http://www.mgic.com/pdfs/71-42970\\_bidding.pdf](http://www.mgic.com/pdfs/71-42970_bidding.pdf); PMI, PMI Loss Mitigation & Claims Reference Manual (rev. March 2010), 9, [http://www.pmi-us.com/media/pdf/resourcecenter/claims\\_forms/pmi\\_dcerefmanual.pdf](http://www.pmi-us.com/media/pdf/resourcecenter/claims_forms/pmi_dcerefmanual.pdf).

collateral, among other variables. In some cases, the resulting insurance payout, combined with the liquidation value of the mortgage collateral, is sufficient to make the lender whole, or even yield a modest profit for the lender. But in other cases the lender may experience material loss, particularly where the collateral value has plummeted.

Under federal law, flow insurance policies automatically terminate when the borrower acquires, through periodic loan payments, an equity stake in the home greater or equal to 22% of its original sale price or original appraised value. The borrower may also elect to cancel insurance when this ratio reaches 20%.<sup>14</sup> For very high-LTV mortgages, this often occurs 10-15 years into the loan term.<sup>15</sup> For mortgages with an original LTV closer to 80%, this may occur after only a few years (depending on interest rate). In addition, GSE policies permit borrowers to cancel PMI based on *current* appraised value, with minimum LTV requirements varying between 70% and 80%, depending on loan seasoning and property type.<sup>16</sup> Rapid home price appreciation leading up to the recent credit crisis enabled many high-LTV borrowers to cancel PMI fairly quickly.

### *Loss Mitigation*

PMIs take a keen interest in loss mitigation and foreclosure prevention. This interest arises both from the PMIs' first-loss exposure and from the fact that foreclosure is typically the only trigger for claims payments under PMI policies. Various corrective steps may be taken after a borrower becomes delinquent, short of foreclosure, to minimize losses to all parties. These steps include, for example, borrower counseling, loan modifications, partial forbearance, and short sales. Both the servicer and the insurer must receive permission from the other to renegotiate the terms of

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<sup>14</sup> 12 U.S.C. § 4902.

<sup>15</sup> However, due to home sales and refinancings (particularly in a declining interest rate environment) the average life of a loan is typically much shorter than its stated term.

<sup>16</sup> See, e.g., "MI Cancellation: Questions and Answers," Fannie Mae, accessed September 1, 2010, <https://www.efanniemae.com/sf/guides/ssg/relatedservicinginfo/pdf/micancellation.pdf>, 4.

a mortgage. This may occur on a loan-by-loan basis or, more often, through conditional delegations of authority. For example, the insurer may delegate to the servicer its authority to approve loan modifications for borrowers that meet certain criteria. PMIs also contact borrowers directly and negotiate solutions where the servicer could not, including during periods of intense market stress when servicers cannot keep up with high call volumes.<sup>17</sup> PMIs continue to make substantial investments in operational infrastructure to support their foreclosure prevention efforts.

b. Bulk Insurance

In addition to providing primary insurance at each loan's origination, PMIs may also provide it on a bulk basis after origination. In bulk transactions, the insurer agrees to provide coverage on each loan in a larger group of loans that have already been originated. These loans may have flow insurance already (particularly if the loans are high-LTV), in which case the bulk insurance provides a second layer of protection for losses not covered by the existing insurance. In a typical bulk transaction, loan level coverage could extend down to 50% LTV loans. Coverage is frequently subject to a deductible (borne by the lender) and a limit on losses borne by the insurer, both expressed as a percentage of the total portfolio. For example, on a \$100 million portfolio of loans, the insurer might provide coverage on each loan in the portfolio with an LTV greater or equal to 50%, subject to a 1% (\$1 million) deductible and an absolute limit of 5% (\$5 million). PMIs typically underwrite bulk transactions by reviewing sample loans from the group. Insurance premiums relating to these transactions are paid by lenders, loan purchasers, or investors. Bulk insurance was most commonly utilized in connection with riskier loans, such as subprime, Alt-A, or low documentation loans. Accordingly, the prevalence of bulk insurance has declined as the origination of such loans has declined in recent years.

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<sup>17</sup> As discussed in section VI.b., PMIs sometimes have stronger incentives to avoid borrower default than lenders or servicers.

c. Pool Insurance

Pool insurance involves the insurance of multiple mortgages that are aggregated for purposes of calculating coverage and claims. Under such an arrangement, the insurer will generally cover all losses in the pool up to an aggregate limit of losses—generally between 5% and 25% of the original principal balance in the pool.<sup>18</sup> As described above, sometimes the insurer will also limit coverage on each loan, giving the policy characteristics of both bulk insurance and pool insurance. (This arrangement is known as “modified pool insurance.”) PMIs generally issue pool insurance in connection with mortgage securitizations. Mortgages in the pool may also have flow insurance.

d. Traditional Reinsurance

Under a traditional reinsurance arrangement, the primary insurer transfers a portion of its risk to an independent reinsurer in order to accomplish certain risk management objectives, such as meeting regulatory capital requirements or decreasing loss exposure. Reinsurers traditionally do not share substantial common ownership with the primary insurer or the beneficiary of the primary insurance policy. In the world of PMI, reinsurance arrangements meeting these criteria are not readily available.

e. Captive Reinsurance

Instead, most private mortgage reinsurance is written by “captive” reinsurers affiliated with the lender. The mechanics of captive reinsurance are straightforward. The primary insurer “cedes” a portion of the periodic insurance premium to the reinsurer in exchange for the reinsurer’s commitment to share losses. In some cases the reinsurer also pays an upfront fee to the primary insurer. The reinsurer shares losses on either a “quota share” basis (*i.e.*, pro rata) or an “excess of

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<sup>18</sup> Quintin Johnstone, “Private Mortgage Insurance,” 39 Wake Forest Law Review 783 (winter 2004), 802.

loss” basis, whereby the primary insurer absorbs initial losses and often also subsequent losses above a certain intermediate threshold.

In recent years, excess of loss arrangements were far more common than quota share arrangements. Under a typical arrangement known as a 5-5-25 excess of loss arrangement, the reinsurer receives 25% of the primary insurance premiums, and its obligation to pay is triggered if losses exceed 5% of the primary insurer’s original risk exposure on policies issued in a given year. (The 5% threshold can also be defined with reference to the *number* of claims filed in a given year.) If this attachment point is met, the reinsurer is responsible for the next 5% of losses. Beyond this detachment point, the reinsurer has no obligation.<sup>19</sup> Beginning in 2008, the GSEs capped the amount of premiums that PMIs could cede under captive reinsurance arrangements to 25% of gross premiums (or gross risk).<sup>20</sup> This move aimed to preserve capital within the primary PMI industry.

Reinsurance does not absolve the primary insurer of its obligation to its insured—that is, the primary insurer remains liable for all coverage if the reinsurer fails to pay.<sup>21</sup> Accordingly, PMIs impose certain financial requirements on captive reinsurers, including:

- Initial capitalization requirements;
- Dividend restrictions;
- A prohibition on new business unless a 10-to-1 risk to capital ratio is maintained; and

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<sup>19</sup> In a number of circumstances, PMIs agreed to excess of loss arrangements in which more than 25% of premiums were paid to reinsurers. As market conditions have deteriorated, however, PMIs have increasingly balked at these “deep-cede” arrangements.

<sup>20</sup> See, *e.g.*, Freddie Mac news release “Freddie Mac Changes Mortgage Insurer Eligibility Rules to Cap Premium Cedes on Captive Reinsurance,” February 14, 2008, [http://www.freddiemac.com/news/archives/corporate/2008/20080214\\_capture.html](http://www.freddiemac.com/news/archives/corporate/2008/20080214_capture.html).

<sup>21</sup> Section VI.c. considers whether the government could play a useful role in smoothing steep housing recessions by providing catastrophic reinsurance to PMIs.

- Requirements that funds be held in trust and that books be cross-collateralized.<sup>22</sup>

In the years immediately preceding the recent financial crisis, strong loan performance meant that PMIs received little actual loss coverage from captive reinsurance arrangements. But the reinsurance landscape has changed significantly since the mortgage crisis began. PMIs have recently realized material recoveries from captive reinsurance, drawing on (and sometimes exhausting) trusts containing years of premium reserves accumulated by the captives. In consequence, many captive reinsurers are now in run-off mode, and the use of captive reinsurance has fallen precipitously. It is unclear whether and under what conditions the captive reinsurance market will revive.

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<sup>22</sup> These contractual requirements are generally incorporated into GSE eligibility guidelines. See Freddie Mac Private Mortgage Insurer Eligibility Requirements, Section 707; Fannie Mae Qualified Mortgage Insurer Approval Requirements, Section 7(E).

#### IV. Utility of Private Mortgage Insurance in the Marketplace

This section describes the principal reasons why mortgage lenders, purchasers, and investors seek mortgage insurance. The reasons differ depending on whether the lender intends to sell the loan and to whom, but regulatory requirements often play a major role. New risk-retention regulations to be written by federal financial regulators under the Dodd-Frank Act may provide additional inducement for market participants to seek PMI.

##### a. GSE Requirements

The most significant motivation for lenders to seek primary mortgage insurance arises from GSE loan purchasing standards. Under the federal laws governing the GSEs' activities, neither entity may purchase a high-LTV mortgage not insured by the government unless one of three conditions is met:

- (1) The seller retains at least a 10% participation in the loan;
- (2) The seller agrees to repurchase or replace the loan in the event of default; or
- (3) The portion of the unpaid principal balance above 80% is insured by a qualified mortgage insurer, as defined by the GSE.<sup>23</sup>

Of these three options, sellers generally choose the third (mortgage insurance) because the others involve seller retention of risk on sold loans (with attendant regulatory capital consequences for banks). The particular level of PMI coverage required by the GSEs depends on the LTV of the loan. With the exception of 15- and 20-year fixed-rate mortgages, Freddie Mac typically requires the following mortgage insurance coverage:

- 12% coverage for LTVs greater than 80% but less than or equal to 85%;

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<sup>23</sup> 12 U.S.C. §§ 1717(b)(5)(C) (Fannie Mae), 1454(a)(2) (Freddie Mac).

- 25% coverage for LTVs greater than 85% but less than or equal to 90%; and
- 30% coverage for LTVs greater than 90%.<sup>24</sup>

Fannie Mae's requirements are similar, except that it also requires 35% coverage for LTVs greater than 95%.<sup>25</sup> These levels of insurance effectively reduce the GSEs' loss-given-default to a level comparable to an 80% LTV loan.

The GSE purchasing standards are critical to the vitality of the PMI industry in two respects. First, they provide the PMIs' primary source of business. Absent the requirement for third-party mortgage insurance, the GSEs might choose to adopt this insurance role themselves or pursue other loss mitigation strategies,<sup>26</sup> in which case the PMIs would be relegated to insuring non-agency ("private label") securitizations and loans held in lender portfolios. Perhaps less obviously, the GSE purchasing standards help minimize an inherent challenge of the PMI industry: adverse selection. Without an external incentive or requirement to obtain mortgage insurance on all, or nearly all, high-LTV loans, lenders tend to insure only their worst credits and self-insure the rest.<sup>27</sup> This situation would put extreme pressure on the PMI business model by driving up loss probabilities in ways that can be difficult for parties other than the lender to monitor and price for. By imposing an across-

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<sup>24</sup> Freddie Mac, Mortgage Insurance Coverage Options Matrix (rev. Dec. 2008), <http://www.freddiemac.com/learn/pdfs/uw/flexmi.pdf>.

<sup>25</sup> Fannie Mae, Selling Guide: Fannie Mae Single Family (rev. Aug. 2010), 821, <https://www.efanniemae.com/sf/guides/ssg/sg/pdf/sel081210.pdf>.

<sup>26</sup> Section VI.b. considers the relative suitability of GSEs and PMIs to manage high-LTV mortgage default risk. Section VI as a whole compares PMI with other forms of mortgage credit risk mitigation.

<sup>27</sup> See James Graaskamp, "Development and Structure of Mortgage Loan Guarantee Insurance in the United States," *Journal of Risk and Insurance* 34, no. 1 (March 1967): 57. See also *infra* n.5 (noting that adverse selection poses a significant obstacle to the development of a commercial mortgage insurance market).

the-board mortgage insurance requirement on high-LTV loan purchases, the GSEs reduce lender opportunities to withhold the strongest credits (and related premium income) from insurers.<sup>28</sup>

b. Purchaser and Investor Preferences

The risk tolerances of non-GSE purchasers or investors can also lead lenders or securitizers to seek PMI, including both primary and pool-level insurance. By reducing the risk profile of mortgage-backed securities (MBS), PMI can increase the transferability of mortgage assets in the secondary market—including both high-LTV mortgages and lower-LTV mortgages. Historically, PMI accomplished this in significant part by facilitating favorable credit ratings for securitized loan portfolios. According to a recent securities analyst report, about 4% of all outstanding private label securitizations (by volume) have PMI coverage.<sup>29</sup>

However, because the recent financial crisis has led to ratings downgrades of the PMIs themselves, the ability of PMIs to deliver credit rating enhancements for securitizations has been compromised in the short term. In addition, large numbers of insurance rescissions are causing both rating agencies and investors to anticipate reduced cash flows from existing PMI coverage. PMIs may rescind coverage for fraud or misrepresentation, failure of the lender to follow prescribed underwriting guidelines, or missing documentation in the loan file.<sup>30</sup> Rescission rates of 20%-25% have been common in recent quarters, compared with long term historical rates of 5%-10%.<sup>31</sup> These elevated rates appear to reflect the significant levels of lender fraud and misrepresentation

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<sup>28</sup> In contrast, PMIs operating in Canada do not face significant adverse selection issues, since Canadian law requires that all mortgages with LTVs greater or equal to 80% be insured.

<sup>29</sup> Amherst Securities Group LP, “PMI in Non-Agency Securitizations,” *Amherst Mortgage Insight* (July 16, 2010), 1. Within this universe, PMI coverage of option ARMs is especially high, at over 8% of outstanding balances. While a small part of the private label securitization market overall, PMI coverage has played a major role in many individual securitizations. *Ibid.*, 2, 11.

<sup>30</sup> See Amherst Securities Group, “PMI in Non-Agency Securitizations,” 3, 12.

<sup>31</sup> See Moody’s Investors Service, “US Mortgage Insurers’ [sic] Remain Weakly Capitalized,” *Special Comment* (August 17, 2010), 6.

that occurred in the overheated market. At any rate, in order to address rating agency and investor concerns moving forward, PMIs may need to demonstrate that they have taken action to ensure that the loans they insure meet applicable standards at policy inception.

c. Bank Supervisory and Regulatory Capital Requirements

Lenders may also seek PMI for loans held on balance sheet. Aside from simply managing their own credit risk exposure, regulated lenders may obtain PMI to satisfy supervisors' risk management expectations and to reduce the amount of regulatory capital they must hold against high-LTV mortgages.

Supervisory guidance issued by bank regulators has encouraged the use of mortgage insurance as a credit risk mitigant. For example, the U.S. banking agencies have stated that they expect first-lien mortgages or home equity loans on owner-occupied, 1-to-4-family residential properties to have appropriate credit support, such as mortgage insurance or readily marketable collateral, where LTVs reach or exceed 90%.<sup>32</sup> The Interagency Guidelines for Real Estate Lending Policies echo this expectation, calling on banks to establish internal LTV limits in their lending policies and reflect guarantees such as mortgage insurance in their underwriting standards.<sup>33</sup> Along similar lines, the Joint Forum has recently recommended that national supervisors “take steps to require adequate mortgage insurance in instances of high LTV lending.”<sup>34</sup>

Banking regulators also encourage the use of mortgage insurance through regulatory capital standards, with the potential capital benefits of PMI varying among both existing and proposed

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<sup>32</sup> OCC, FRB, FDIC, and OTS, Interagency Guidance on High-LTV Residential Real Estate Lending (Oct. 8, 1999), 3, <http://www.federalreserve.gov/boarddocs/srletters/1999/sr9926a2.pdf>.

<sup>33</sup> See 12 C.F.R. part 365 (FDIC); 12 C.F.R. part 208, subpart E (FRB); 12 C.F.R. part 34, subpart D (OCC); and 12 C.F.R. § 560.101 (OTS).

<sup>34</sup> The Joint Forum, “Review of the Differentiated Nature and Scope of Financial Regulation: Key Issues and Recommendations,” January 2010, 51, <http://www.bis.org/publ/joint24.pdf?noframes=1>.

bank capital regimes. The Basel Committee on Banking Supervision (BCBS) published the first Basel Capital Accord, commonly called Basel I, in 1988.<sup>35</sup> Basel I assigns assets one of five risk weights, ranging from 0% to 100%. A higher risk weight means that more capital must be held against the asset. As a general matter, the benefits of insurance or guarantees against counterparty default are significantly limited under Basel I. While banks may in some cases substitute a guarantor's risk-weighting for that of the original counterparty (up to the amount of the guarantee), doing so will generally decrease the bank's capital requirements only where the guarantor is an OECD government entity or a bank incorporated in an OECD country.

However, Basel I provides significant capital relief for insurance on high-LTV loans through other means. Specifically, by helping certain high-LTV mortgage loans qualify as "prudently underwritten" under the supervisory guidance described above, PMI enables banks to apply a 50% risk weight to these loans, rather than the otherwise-applicable 100% (or higher) risk weight.<sup>36</sup> In this way, the U.S. banking agencies' regulatory capital guidelines implementing Basel I reinforce relevant real estate lending guidance.

The BCBS began reassessing its capital rules in 1999, culminating in the international adoption of the Basel II framework in June 2004.<sup>37</sup> Basel II aims to be more sensitive than Basel I to the credit risks presented by specific exposures, including both residential mortgages and the PMIs that insure them. However, general concerns over competition and safety and soundness

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<sup>35</sup> BCBS, "International convergence of capital measurement and capital standards," July 1988 (updated April 1998). BCBS publications can be viewed on the BCBS website: <http://www.bis.org/list/bcbs/index.htm>.

<sup>36</sup> See, e.g., 12 C.F.R. part 3, Appendix A, § 3(a)(3)(iii) (OCC).

<sup>37</sup> BCBS, "International Convergence of Capital Measurement and Capital Standards: A Revised Framework," June 2004.

have delayed full implementation of Basel II in the U.S.<sup>38</sup>

The global financial crisis has spurred the BCBS to reexamine Basel I and II, an effort commonly referred to as Basel III.<sup>39</sup> Although work continues, the BCBS has issued a series of proposals for comment, including a proposed loosening of the requirements for guarantors to be eligible as credit risk mitigants. This would be accomplished by eliminating the requirement that they be externally rated A- or better, a move designed to avoid the “cliff effects” that can occur when a guarantor slips below an A- rating.<sup>40</sup>

The PMI industry would benefit from and is actively seeking additional changes to Basel III. These changes include requiring additional capital for high-LTV loans and treating such loans as a separate asset class with a higher correlation factor; using original LTVs (not current property

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<sup>38</sup> See Richard J. Herring, “The Rocky Road to Implementation of Basel II in the United States” (July 2007), <http://fic.wharton.upenn.edu/fic/papers/07/0731.pdf>. Although the U.S. banking agencies released final rules implementing Basel II’s internal ratings-based (IRB) approach for the largest banks in 2007, the agencies required these banks to calculate capital based on both Basel II and Basel I during a multi-year parallel run phase, which has yet to conclude. Risk-Based Capital Standards: Advanced Capital Adequacy Framework—Basel II; Final Rule, 72 Fed. Reg. 69288 (Dec. 7, 2007). To pacify smaller domestic banks ineligible for utilizing the IRB approach, the banking agencies had initially embarked upon revisions to Basel I known as Basel IA. Risk-Based Capital Guidelines; Capital Adequacy Guidelines; Capital Maintenance: Domestic Capital Modifications; Proposed Rules and Notice, 71 Fed. Reg. 77446 (Dec. 26, 2006). But regulators later scrapped Basel IA, instead opting for the standardized approach to Basel II. Risk-Based Capital Guidelines; Capital Adequacy Guidelines: Standardized Framework; Proposed Rule, 73 Fed. Reg. 43982 (July 29, 2008). The standardized approach under Basel II has yet to be finalized in the U.S. The IRB approach to Basel II, as implemented in the U.S., permits a bank to take into account the credit risk mitigation benefits of guarantees like PMI and credit derivatives in its estimation of the probability of default (PD) and loss-given-default (LGD), subject only to the application of overall floors on certain PD and LGD assignments. 72 Fed. Reg. 69356. Under the proposed Basel II standardized approach, risk weights for residential loans depend upon LTV and range from 20% to 150%. 73 Fed. Reg. 44040.

<sup>39</sup> See BCBS, “Enhancements to the Basel II framework,” July 2009; BCBS, “Strengthening the resilience of the banking sector,” Dec. 2009; BCBS, “International framework for liquidity risk measurement, standards and monitoring,” Dec. 2009; and BCBS, “Countercyclical capital buffer proposal,” July 2010. See also BCBS press release, “Group of Governors and Heads of Supervision announces higher global minimum capital standards,” Sept. 2010.

<sup>40</sup> BCBS, “Strengthening the resilience of the banking sector,” 59.

values) and “through-the-cycle” rather than “point-in-time” probability of default models; improving the accuracy of loss-given-default models for high-LTV loans; reducing reliance on credit scores (which reflect historical performance during favorable economic periods); and requiring mortgage insurance on high-LTV loans.<sup>41</sup> International regulators are currently considering these changes, particularly the creation of a separate asset class for high-LTV loans with a corresponding higher correlation factor, but they have not yet been formalized in a BCBS proposal.

d. Impact of the Dodd-Frank Act

Under section 941 of the Dodd-Frank Act, federal regulators must promulgate rules requiring “any securitizer to retain an economic interest in a portion of the credit risk for any residential mortgage asset that the securitizer, through the issuance of an asset-backed security, transfers, sells, or conveys to a third party.”<sup>42</sup> This so-called “skin in the game” requirement is designed to ensure that companies that package and sell investment securities backed by residential mortgages have strong incentives to control the quality of these mortgages. While the Dodd-Frank Act generally requires regulators to impose a risk retention requirement of at least 5%, it provides for certain exceptions. For example, loans that meet specific “low credit risk” underwriting criteria to be promulgated by the federal banking agencies must be subject to a risk retention requirement below 5%. In addition, the agencies must exempt securitizations composed solely of “qualified residential mortgages” from the risk retention requirement altogether. The term “qualified

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<sup>41</sup> See Genworth Financial, Inc., Comment Letter in response to the BCBS Consultative Paper on Strengthening the Resilience of the Banking Sector, April 15, 2010; Mortgage Insurance Companies of America, Comment Letters in response to the BCBS Consultative Paper on Strengthening the Resilience of the Banking Sector, April 16, 2010. These comment letters can be viewed at <http://www.bis.org/publ/bcbs165/cacomment.htm>.

<sup>42</sup> Relevant agencies include the federal banking agencies, Securities and Exchange Commission (SEC), Department of Housing and Urban Development (HUD), and Federal Housing Finance Agency (FHFA). They must jointly issue the rules within 270 days of the Act’s enactment, which occurred on July 15, 2010.

residential mortgage” must be defined by the agencies, “taking into consideration underwriting and product features that historical loan performance data indicate result in a lower risk of default.” As an example of such a product feature, the legislation mentions “mortgage guarantee insurance or other types of insurance or credit enhancement obtained at the time of origination, to the extent such insurance or credit enhancement reduces risk of default.”

While the full implications of section 941 for PMIs will not be known until the agencies promulgate implementing regulations, mortgage insurance may play an important role in the delineation of qualified residential mortgages. If so, securitizers and originators could have strong incentives to secure PMI as an alternative to mandatory risk retention. Such incentives could significantly bolster the PMI industry’s strategic position in the marketplace not only by increasing new business, but also by reducing potential adverse selection; any regulatory incentive to insure broad categories of mortgage loans reduces the likelihood that securitizers and originators will direct only their worst credits toward the PMIs.

## V. Regulation of Private Mortgage Insurers

PMIs are subject to a regulatory regime specifically tailored for mortgage insurance. While federal law imposes certain consumer protection requirements, it leaves the prudential regulation of PMIs to the states. This section begins with a brief overview of the major categories of regulatory restrictions imposed on PMIs. It then considers the rationale for these restrictions, with particular emphasis on the historical justification for PMI contingency reserves. Last, this section considers the extent to which the regulatory framework has functioned effectively during the past two housing cycles.

### a. Regulatory Framework

The regulation of PMIs for risk and solvency occurs on the state level. While some of the details vary by state, the types of restrictions are relatively uniform.<sup>43</sup> In addition, because various states apply their restrictions extraterritorially to the insurer's consolidated operations throughout the U.S., the stricter state laws often govern the nationwide operations of PMIs in practice. Standard restrictions include the following:

- *Reserve Requirements.* PMIs must maintain several types of reserves:
  - (1) "Contingency reserves" provide for major losses that might be incurred in a housing recession. PMIs must retain 50% of net earned premiums, as defined by state insurance laws, in a contingency reserve. The funds cannot be released for 10 years unless the insurer experiences high losses during a given year (typically 35% of premiums or more), in which case the insurer temporarily draws down the reserve to pay claims. State regulators may also authorize special releases from contingency reserves. The contingency reserve requirement is designed to prevent insurers from

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<sup>43</sup> See generally Johnstone, "Private Mortgage Insurance," 808-818.

declaring excessive dividends or otherwise dissipating reserves that might be needed to pay claims in a highly adverse loss scenario.

(2) “Loss reserves” (sometimes referred to as “case basis loss reserves”) cover against expected claims in the short term. Loss reserves must equal expected losses on delinquent loans of which the insurer is aware, as well as delinquent loans of which the insurer might not yet be aware.

(3) Finally, insurers must maintain “unearned premium reserves” in the amount of any premiums paid before the coverage period.

- *Capital Requirements.* PMIs must generally maintain risk-to-capital ratios not exceeding 25 to 1. Through much of the credit cycle, this requirement has little or no practical effect, because the contingency reserve requirement translates into a stricter risk-to-capital ratio. Certain requirements imposed by the GSEs and, indirectly, by the rating agencies may also translate into stricter standards.<sup>44</sup> However, the risk-to-capital ratio can assume heightened importance in adverse loss scenarios, including the 1980s and currently. Most state regulators are authorized to exercise discretion in administering the capital requirements, including through temporary waivers. Such forbearance enables capital-constrained insurers to generate additional revenue from new business. Otherwise, an insurer exceeding the maximum risk-to-capital ratio would be precluded from doing so.
- *Investment Restrictions.* State insurance regulators also restrict the ways in which PMIs may invest their reserves, including limitations on the amount of investments in any particular security. While PMIs are generally free to invest in a wide range of instruments, including

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<sup>44</sup> See Dwight Jaffee, “Monoline Restrictions, With Applications to Mortgage Insurance and Title Insurance,” *Review of Industrial Organization* 28, no. 2 (2006): 91. In the years leading up to the recent financial crisis, PMI capital ratios in the high single-digits were commonplace.

stocks, bonds, notes, and other evidence of indebtedness,<sup>45</sup> real estate investments are often off limits.<sup>46</sup>

- *Concentration Restrictions.* PMIs must limit their exposure to a single census tract, typically to no more than 10% of aggregate policyholders surplus.
- *Monoline Restrictions.* PMIs generally may not engage in activities other than mortgage-related insurance. However, PMIs may be *affiliated* with a variety of other firms.

The GSEs provide an additional layer of de facto requirements. To qualify for approval by the GSEs, mortgage insurers must comply with the laws of the states in which they are domiciled and do business, as well as certain NAIC Model Act provisions, such as those providing for minimum contingency and loss reserves. Both GSEs divide PMIs into two classes based upon the availability and level of external credit ratings. “Type I” insurers are rated by at least two of the three established rating agencies (S&P, Moody’s, and Fitch), with no rating less than AA-/Aa3.<sup>47</sup> Insurers that fail to meet the criteria for Type I, including unrated insurers, are classified as “Type II” insurers and are typically subject to geographic concentration limits, liquidity requirements, and heightened risk-to-capital requirements, among other things.<sup>48</sup> In 2008, the GSEs suspended the automatic imposition of these additional requirements as many PMIs suffered ratings downgrades.<sup>49</sup>

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<sup>45</sup> See Johnstone, “Private Mortgage Insurance,” 815 n. 129.

<sup>46</sup> See, e.g., 10 Cal. Code of Regs. § 2521 (“No mortgage guaranty insurer may invest in notes or other evidences of indebtedness secured by a mortgage or other lien upon real property.”)

<sup>47</sup> In order to achieve high ratings, PMIs have historically been required to pass a “stress test” simulating Depression-level economic conditions. Blood, “Mortgage Default Insurance,” 51.

<sup>48</sup> Fannie Mae Qualified Mortgage Insurer Approval Requirements (rev. Dec. 31, 2003), 6, [https://www.efanniemae.com/is/mis/pdf/mi\\_approval\\_reqs.pdf](https://www.efanniemae.com/is/mis/pdf/mi_approval_reqs.pdf); Freddie Mac Private Mortgage Insurer Eligibility Requirements (rev. Jan. 2008), G-7, <http://www.freddiemac.com/singlefamily/pdf/mireqs.pdf>.

<sup>49</sup> See, e.g., “Freddie Mac keeps insurers at top level post review,” Reuters, June 20, 2008.

While federal law generally leaves the prudential regulation of PMIs to the states, the Homeowners Protection Act and the Real Estate Settlement Procedures Act (RESPA) impose certain consumer protections. The RESPA provisions relating to PMI are intended to, among other things, foster price competition among PMIs by broadly prohibiting them from paying kickbacks to lenders.<sup>50</sup> The Homeowners Protection Act generally requires automatic termination of PMI on single-family, owner-occupied homes (except for certain “high risk” mortgages) when the borrower acquires 22% equity in the home and gives the borrower the right to demand cancellation at 20% equity. Lenders must provide borrowers with initial and annual disclosures to this effect. These provisions aim to ensure that borrowers do not continue to pay PMI premiums for longer than necessary.

b. Rationale for State Prudential Framework

Several of the above-mentioned prudential restrictions resemble similar restrictions imposed on other financial institutions. Banks, for example, face formal and informal concentration restrictions, capital requirements, and permissible activities restrictions. But in comparing the restrictions imposed on PMIs with those imposed on other regulated financial institutions, PMIs’ contingency reserves stand out as distinctive. No other type of financial institution is subject to more stringent reserve requirements than PMIs, and contingency reserves might be viewed as the centerpiece of these requirements.

The basic rationale for contingency reserves can be stated simply. To a greater extent than other insurers, PMIs contend with cyclical volumes of claims that generally peak quite infrequently but with potentially catastrophic consequences for the insurer. From an actuarial perspective, PMI portfolios are difficult to diversify, since the events they insure against—housing defaults—tend to

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<sup>50</sup> See Johnstone, “Private Mortgage Insurance,” 818-822.

occur in waves. The contingency reserve framework addresses this reality by requiring PMIs to accumulate large reserves in anticipation of massive defaults.

### *Early History of PMI*

A working knowledge of the history of PMI in the U.S. is essential to fully appreciate the cyclical nature of PMI and the role of prudential regulation in managing the associated risks. As one scholar of PMI regulation has observed, “[i]t was not ever thus, and each restraint represents experience acquired at great cost.”<sup>51</sup> In a nutshell, the original business of mortgage insurance arose as an essentially unregulated appendage to the title insurance industry in New York State in the late 19<sup>th</sup> century, grew to substantial scale by the 1920s, and totally collapsed during the Great Depression. The governor of New York commissioned a post-mortem report on the industry, which was submitted by George Alger in 1934.<sup>52</sup> The “Alger Report” remains the definitive early history of PMI. And while its thoughtful recommendations for regulating PMIs were disregarded at the time (New York State opted to outlaw PMI in 1938), they became the foundation for state regulation of PMIs when the industry finally re-emerged in 1957.

As the Alger Report describes, a handful of companies in New York State began issuing insurance against mortgage defaults as early as the late 1880s and early 1890s. Their authority to conduct this business apparently derived from a misinterpretation of an 1885 statute governing the permissible activities of title insurers. However, in 1904 New York law was amended to convey explicit authority under the title insurance statute for licensed companies to guarantee mortgages, as

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<sup>51</sup> Graaskamp, “Development and Structure of Mortgage Loan Guarantee Insurance in the United States,” 48.

<sup>52</sup> Report to his Excellency Herbert H. Lehman, Governor of the State of New York, by George W. Alger, Appointed under the Executive Law to Examine and Investigate the Management and Affairs of the Insurance Department with Respect to the Operation, Conduct, and Management of Title and Mortgage Guarantee Corporations under its Supervision (New York, 1934).

well as bonds. At first the authority to insure mortgages extended only to loans originated and owned by third parties. But in 1911 New York began to permit these companies to originate, purchase, and sell mortgages (and to insure the same against default and/or title defects).

By 1930, 50 companies were licensed by the New York Insurance Department to operate as PMIs.<sup>53</sup> Most also offered title insurance. These companies sold both individual loans and loan pools to investors, with guarantees of interest and principal. They generally retained servicing responsibilities on these loans and deducted their servicing and insurance premiums from the mortgage payments before passing the remainder on to the investors. (Mortgage securitization, as it is called now, had already been around for some time.) The New York PMIs were primarily in the business of selling mortgages to investors and, as far as Alger could determine, lacked any actuarial basis for calculating premiums. (For example, their fee invoices to investors generally did not distinguish between insurance premiums and servicing fees.) Alger thus believed that they were “in no true sense” insurance companies but, rather, investment companies.

The New York PMIs remained lightly regulated despite their significant role in the housing finance system. New York law required title and mortgage insurers to maintain a reserve fund set at two-thirds of paid-in capital. This fraction bore no necessary relation to the size of a company’s insurance portfolio; a company could grow through retained earnings to many times its original size without supplementing its reserve fund. In addition, the entirety of this fund could be (and for many firms was) invested in mortgages, meaning that the insurer would suffer its most severe investment losses precisely when its claims obligations were highest. To the extent an insurer needed to draw on its reserve fund, it could not issue new policies until the fund was replenished. However, New York abolished this latter restriction in 1929, a move that might have made a

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<sup>53</sup> During this same period the New York Banking Department also licensed mortgage insurers. Such companies fell outside the scope of Alger’s investigation.

difference to PMIs that adhered to the statutory reserve requirement in the first place; Alger reported that most did not. New York did impose one impressive-sounding prudential requirement: PMIs could not insure mortgages over 66.67% LTV.<sup>54</sup> However, lax appraisal standards and declining property values limited the effectiveness of this restriction. PMIs were also prohibited from insuring a single mortgage greater than 10% of their capital and surplus.<sup>55</sup>

New York PMIs prospered during the postwar period until the Great Depression. But with such small reserves, they could not survive the wave of defaults that ensued. In August 1933, the New York Insurance Department took over 18 insurers, representing most of the industry, for rehabilitation or liquidation. These companies never re-opened, and in 1938 New York made PMI illegal.

The disastrous early experience of the PMI industry revealed in dramatic fashion the extent to which PMIs are exposed to long tail events in the housing market. In normal times, PMIs experience losses that are minimal both in frequency and magnitude. But during those rare periods when homeowner defaults spike and collateral values plummet, PMIs must pay out massively. This early episode also showed the danger of permitting lightly regulated entities to engage in the business of PMI without liquid reserves commensurate with the risk they assumed. In this spirit, Alger concludes his report with his own recommendations for industry reform. He places special emphasis on one recommendation in particular: that New York adopt a maximum risk-to-capital ratio “adequate to insure against another major depression.”<sup>56</sup>

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<sup>54</sup> As originally written in 1913, this restriction applied to mortgages sold by the insurer. In 1929 it was extended to insurance on mortgages sold by third parties.

<sup>55</sup> Although New York was the epicenter of the PMI industry, other states also licensed PMIs. The Alger Report describes the regulatory environment in these other states as similarly lax, with the notable exceptions of California and Oregon. Both states imposed a 20-to-1 risk-to-capital standard.

<sup>56</sup> Alger further expressed his preference for a ratio not exceeding 10 to 1. California’s then-existing 20-to-1 ratio, he observed, had proved inadequate. Another notable recommendation contained in

## *Re-emergence of PMI*

The Federal Housing Administration (FHA) was created in 1934 in order to stimulate construction financing during the Great Depression. It was the only mortgage insurer in the U.S. until the Veterans Administration (VA) began insuring mortgages for returning World War II veterans in 1944. Together, the government insurers pioneered the 30-year, fully amortizing, high-LTV mortgage. (In the 1920s, mortgages generally lasted between 3 and 11 years, commonly amortized only partially or not at all, and typically had LTVs between 50% and 67%.<sup>57</sup>) But “conventional” mortgages (*i.e.*, those not insured by the government) continued to comprise a large majority of the housing market through the 1940s and 1950s. This was due partly to the restrictive interest rate ceilings and maximum loan amounts, cumbersome procedures, and other coverage limitations of the FHA programs.<sup>58</sup> Accordingly, an entrepreneur named Max Karl saw an opportunity for a private company to provide an alternative to FHA insurance.<sup>59</sup> In 1957, he persuaded the state of Wisconsin to license the first private mortgage insurer in twenty-five years, the Mortgage Guaranty Insurance Corporation (MGIC). MGIC’s innovative product was a 10 year

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the report was to restrict PMIs’ affiliations with other companies. The report describes numerous examples of: PMIs influencing captive or otherwise affiliated banks to accept imprudent risks; banks and nonbanks influencing captive or otherwise affiliated PMIs to accept imprudent risks; affiliated PMIs and banks misleading investors as to which entity or entities stood behind a given financial commitment; and PMIs using subsidiaries to dump problem assets in ways that hid losses from investors. In Alger’s view, strict limitations on ownership of PMIs would reduce the potential for controlling interests to corrupt the business integrity of PMIs, and similar limitations on ownership of banks and other subsidiaries by PMIs would reduce the opportunity for PMIs carry out improper schemes or exercise a negative influence on regulated banking subsidiaries.

<sup>57</sup> Rapkin et al., *The Private Insurance of Home Mortgages: a Study of the Mortgage Guaranty Insurance Corporation*, 14-15. For a detailed history of the evolution of fixed-rate mortgages in the U.S., see Richard Green and Susan Wachter, “The American Mortgage in Historical and International Context,” *Journal of Economic Perspectives* 19, no. 4 (2005), 93-114, [http://repository.upenn.edu/cgi/viewcontent.cgi?article=1000&context=penniur\\_papers](http://repository.upenn.edu/cgi/viewcontent.cgi?article=1000&context=penniur_papers).

<sup>58</sup> See Rapkin et al., *The Private Insurance of Home Mortgages: a Study of the Mortgage Guaranty Insurance Corporation*, 2, 16.

<sup>59</sup> See Bobby Baker, “Magic Max: How Mr. Karl Created a Booming Industry from a Little Company,” *Wall Street Journal*, March 14, 1973.

guarantee against default, covering 20% of the loan balance, accrued interest, and expenses. Its success gave rise to an additional 11 (smaller) PMI competitors by 1964.

Unlike their predecessors several decades earlier, which were essentially mortgage sellers offering ancillary guarantees, the new PMIs were licensed as monoline insurers.<sup>60</sup> The spirit, if not the letter, of Alger's recommendations informed the new PMI statutes created by several states to regulate these new entities.<sup>61</sup> The earliest comprehensive statutes required contingency reserves in the amount of 50% of annual earned premiums, to be withdrawn only after 15 years, unless loss rates necessitated otherwise. Risk-to-capital ratios were set at 25 to 1. Loss reserves and unearned premium reserves were also required. Two early statutes (California and Illinois) restricted permissible coverage to 20% of outstanding loan balance (capped in California at 80% of actual loss, which factored in recovery on the collateral). According to one thorough study of the era, this "serve[d] to divide the risk between insurer and lender, creating an incentive for each to act prudently in evaluating loan applications."<sup>62</sup> These two states also imposed a concentration limit of 10% of policyholders surplus. In short, while the calibration of certain standards has evolved on the margins, the basic legal framework created around 1960 to protect against the insolvency of PMIs remains in force today.

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<sup>60</sup> On the economic justification for imposing monoline requirements on title and mortgage insurers, see Jaffee, "Monoline Restrictions, With Applications to Mortgage Insurance and Title Insurance."

<sup>61</sup> Interestingly, some of the more comprehensive state statutes closely resembled model language proposed by the industry itself. See Rapkin et al., *The Private Insurance of Home Mortgages: a Study of the Mortgage Guaranty Insurance Corporation*, 34.

<sup>62</sup> *Ibid.*, 35. It is not clear where the 20% figure came from, if not the actual practices of MGIC at the time. As mentioned in section III.a., modern reinsurance arrangements have rendered such restrictions (now set somewhat higher at 25%-30%) largely irrelevant. But in practice, lenders generally retain material risk under modern PMI policies due to contractual coverage limits and captive reinsurance arrangements.

c. Effectiveness of Regulatory Framework

The state prudential framework was designed to ensure that PMIs could fulfill their claims obligations over the long term. Accordingly, any assessment of the framework's effectiveness must identify the episodes of severe industry stress since 1957 and consider their causes and consequences. Such episodes occurred in the 1980s and early 1990s and are taking place again today. This subsection briefly considers the industry experience during these periods.

*The 1980s and early 1990s*

A combination of rolling regional recessions, poor housing market conditions, imprudent underwriting patterns, and, in one case, massive exposure to a single failed real estate investment scheme contributed to significant industry-wide losses in the 1980s:

- *Housing market.* The U.S. housing market in the 1980s and early 1990s experienced a rolling series of predominantly regional recessions—beginning with the farm and Rust Belt states in the early 1980s, followed by the energy-producing states in the mid-1980s, and finally New England and California in the early 1990s.<sup>63</sup> Some of the most severe conditions of this period occurred in the “oil patch” states of Arkansas, Louisiana, Mississippi, and Oklahoma, where 30-year, fixed-rate, first-lien mortgages on owner-occupied single family properties originated in 1983 and 1984 had a 10-year cumulative default rate of 14.9%. (The housing recession in these states was so severe that it became the benchmark loss experience against

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<sup>63</sup> See generally David C. Wheelock, “What Happens to Banks When Housing Prices Fall? U.S. Regional Housing Busts of the 1980s and 1990s,” *Federal Reserve Bank of St. Louis Review* 88, no. 5 (September/October 2006), 413-429, <http://research.stlouisfed.com/publications/review/06/09/Wheelock.pdf>; FDIC, “FYI Revisited; U.S. Home Prices: Does Bust Always Follow Boom,” *FYI: An Update on Emerging Banking Issues* (May 2, 2005), <http://www.fdic.gov/bank/analytical/fyi/2005/050205fyi.html>.

which the Office of Federal Housing Enterprise Oversight, a predecessor of the FHFA, stress-tested the GSEs' financial strength after 2001.<sup>64</sup>)

- *Underwriting standards.* The early 1980s marked a rapid shift in PMIs' insurance portfolios from almost exclusively fixed-rate mortgages with mostly sub-90% LTVs to substantial numbers of "innovative" adjustable-rate 90%+ LTV mortgages. Many borrowers defaulted shortly after their first interest rate resets, as has been the case recently.<sup>65</sup>
- *Failed investment scheme.* Several PMIs had significant exposure to mortgages and MBS originated by an enormous real estate syndication company, Equity Programs Investment Corp. (EPIC), that collapsed in 1985. Tigor Mortgage Insurance Company alone had a \$166 million exposure to EPIC.<sup>66</sup> Unlike the general housing market conditions and underwriting patterns that affected the PMI industry as a whole, Tigor's massive exposure to EPIC is generally regarded as an idiosyncratic risk management lapse principally on the part of one insurer.<sup>67</sup>

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<sup>64</sup> See Department of Housing and Urban Development, Office of Federal Housing Enterprise Oversight, Final Rule: Risk Based Capital, 66 Fed. Reg. 47730, at 47732 (September 13, 2001).

<sup>65</sup> See Andrea R. Priest, "Overaggressiveness of Mortgage Insurers Haunts Industry," *American Banker*, July 25, 1986; Greenhouse, Steven, "Mortgage Insurers' Shaky House," *San Francisco Chronicle*, September 23, 1985.

<sup>66</sup> See Bruce Keppel, "Tigor Briefs State on Potential Loss: Ailing Real Estate Syndication Firm Causes Concern," *Los Angeles Times*, August 24, 1985. For additional background on the EPIC fiasco, see Thomas N. Herzog, "History of Mortgage Finance With an Emphasis on Mortgage Insurance," Society of Actuaries monograph (2009), 34-36, <http://www.soa.org/library/monographs/finance/housing-wealth/2009/september/mono-2009-mfi09-herzog-history.pdf>. A highly detailed account of EPIC's collapse also appears in *In re: Epic Mortgage Insurance Litigation*, 701 F. Supp. 1192 (E.D. Va. 1988).

<sup>67</sup> The industry responded by creating and funding a company, Policyholders Benefit Corporation, to provide replacement mortgage insurance for loans which had been insured by Tigor. Policyholders Benefit Corporation was liquidated in 2001 following run-off of Tigor legacy policies and settlement of legacy claims up to a certain stop-loss limit.

These factors yielded about eight consecutive years of industry losses from the early 1980s until 1990,<sup>68</sup> as well as considerable industry restructuring. Of the 14 PMIs in existence in 1980, only one (Ticor) was unable to fully repay its policyholders. Another, Pamico Mortgage Insurance Company, was ordered by its regulator to cease new policy issuances in the mid-1980s but ultimately paid its claims in full. Two other PMIs, Verex Assurance Inc. and Investors Mortgage Insurance Company, entered voluntary run-off when their parent companies declined to contribute additional capital. Meanwhile, a series of acquisitions by GE Capital Mortgage Insurance (now Genworth Financial) and Commonwealth Mortgage Assurance Company (now Radian Guaranty Inc.) contributed to further consolidation. Finally, two new players, Triad Guaranty Insurance Corporation and Amerin Guarantee Corporation, entered the industry in 1988 and 1993, respectively. By 1994 the industry was comprised of 9 companies.<sup>69</sup>

The industry's experience in the 1980s and early 1990s is enlightening in several respects. First, it illustrates the importance of strong underwriting and risk management to the long term health of PMIs. Like other players in the housing finance system, PMIs face competitive pressures that, at times, can lead them to under-price (or assume excessive) risk. Virtually no amount of reserving will fully immunize PMIs from imprudent risk taking. Yet, in spite of an industry-wide deterioration of underwriting quality in the early 1980s, the industry as a whole successfully met its claims obligations, paying out over \$6 billion during this decade and another \$8 billion in the 1990s. While economic conditions in the 1980s and early 1990s may not represent a sufficiently rigorous test of industry resilience—certainly these conditions fall short of the national Depression-level scenario that George Alger would have expected modern PMIs to survive—this era nevertheless

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<sup>68</sup> See Blood, "Managing Insured Mortgage Risk," 636.

<sup>69</sup> See Herzog, "History of Mortgage Finance With an Emphasis on Mortgage Insurance," 33-38. Our discussion of industry developments in this paragraph also draws from discussions with industry participants.

provides a useful benchmark. At a minimum, it seems to show that the industry can withstand a period of prolonged regional housing depreciation and elevated foreclosure levels at a time when industry underwriting standards are somewhat lax. With one relatively minor exception (Ticor), the PMI industry performed as expected by absorbing its full share of mortgage losses in the 1980s and early 1990s. And despite the above-mentioned entry, exit, and consolidation of various industry players during these years, existing policyholders experienced little disruption.

This era also illustrates the difference between an insurer's solvency and its willingness or capacity to write new business. As the risk-to-capital ratios of certain PMIs approached regulatory limits in the mid-1980s, two insurers were forced by regulators into run-off mode, and two others elected to cease issuance of new policies. With the exception of Ticor, these insurers paid their claims in full (and, as noted above, the remaining insurers cooperated in covering some of Ticor's obligations as well). This raises the question whether solvency is the best metric for evaluating the effectiveness of the state prudential framework, or whether capacity to continue writing steady volumes of new insurance through a housing downturn (with or without regulatory capital forbearance by supervisors) should be expected.

The answer may depend on the severity and duration of the downturn. While policy-writing capacity under stress is a desirable countercyclical mechanism, it comes at a cost. Contingency reserves are designed to ensure solvency in highly adverse scenarios. When these scenarios materialize, PMIs become capital constrained and must reduce the pace of new policy issuance. Otherwise, the insurer exposes itself to a serious risk of insolvency in the event the economy worsens even further—a possibility that other market participants do not permit PMIs to ignore. As capital increases, new business can increase accordingly. For PMIs to maintain constant policy-issuing capacity through the cycle without becoming capital constrained, they would need to amass sufficient reserves to withstand a more severe downturn. Only then could they continue to write

new business without depleting reserves to unsafe levels. But maintenance of larger capital buffers requires higher premiums, a cost borne by the borrower. Thus, in calibrating solvency requirements for PMIs, the states must strike a balance between safety and cost.<sup>70</sup>

### *The Recent Financial Crisis*

The current U.S. housing downturn represents the most adverse scenario for PMIs since the Great Depression. Unlike the regional housing recessions of the 1980s and early 1990s, today's slump is national in scope, with states like Florida, Nevada, Arizona, and California particularly hard hit. National 90-day delinquency rates on residential mortgage loans, which had generally hovered around 1% during the two decades preceding 2007, rose precipitously to around 5% during the first quarter of 2010. Delinquencies have been especially high in the subprime segments of the market, reaching the mid teens early this year (and, for ARMs in particular, the high teens).<sup>71</sup>

The current size and state of the PMI industry, discussed further below, owes partly to the unfavorable market conditions that have taken hold since 2007. But competitive factors that developed before the recent downturn also played an important role. Specifically, in the half-dozen years immediately preceding the recent housing collapse, PMIs lost significant market share to piggyback lending.<sup>72</sup> Piggyback lending is the practice of simultaneously originating an 80% LTV first-lien mortgage and a second-lien mortgage financing some or all of the rest of the purchase

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<sup>70</sup> As discussed further below, government mortgage insurance can help resolve this dilemma by filling the void when adverse market conditions force PMI contraction. Alternatively, government reinsurance might place a floor under the potential losses of PMIs and thereby increase the capacity of PMIs to issue new policies through the cycle.

<sup>71</sup> Extensive current and historical data on U.S. housing market conditions is available through HUD's website at <http://www.huduser.org/portal/periodicals/ushmc.html>. Additional statistics, including state-specific data, are published by the Federal Reserve Bank of New York on a quarterly basis: <http://data.newyorkfed.org/creditconditions/>.

<sup>72</sup> See, e.g., William B. Gwinner and Anthony Sanders, "The Sub Prime Crisis: Implications for Emerging Markets," World Bank policy research working paper (September 2008), 8-9, <http://ihfp.wharton.upenn.edu/SubprimeReadings/Gwinner%20TheSubprimeCrisis.pdf>.

price.<sup>73</sup> A common form of piggyback (or simultaneous second) mortgages was the 80-10-10 mortgage, composed of an 80% LTV first mortgage, a 10% junior mortgage (typically adjustable rate and shorter term than the first mortgage, but with interest-only payments), and a 10% down payment. Variations with much lower down payments were also common.

By splitting what would otherwise be a 90% LTV mortgage loan into an 80% LTV first mortgage and a 10% LTV second mortgage, lenders accomplished at least two objectives. First, lenders ensured that they could sell the main portion of the loan (*i.e.*, the first mortgage) to the GSEs without securing mortgage insurance. While the GSEs cannot purchase a 90% LTV mortgage without insurance (or other credit enhancements), they routinely purchased uninsured 80% LTV first mortgages without regard to the existence of a piggyback mortgage.<sup>74</sup> Second, lenders were able to offer piggyback loans to borrowers at lower prices than insured loans, thereby achieving a competitive advantage in the marketplace. Piggyback lenders could do so because monthly payments for piggyback loans did not include mortgage insurance premiums.<sup>75</sup> However, this “advantage” came at the cost of significant credit risk exposure on the second mortgage, which lenders often retained on balance sheet without any credit enhancement. In retrospect, many piggyback lenders radically underpriced these second mortgages in relation to the risks they posed. While profits from piggybacks padded lender balance sheets in the short term, the impending wave of defaults had the opposite effect.

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<sup>73</sup> See Robert B. Avery, Kenneth Brevoort, and Glenn Canner, “The 2006 HMDA Data,” *Federal Reserve Bulletin* (December 2007), A84, <http://www.federalreserve.gov/pubs/bulletin/2007/pdf/hmda06final.pdf>; FHFA, “State of the Private Mortgage Insurance Industry: Implications for U.S. Mortgage Markets and the Enterprises,” 6.

<sup>74</sup> In fact, the GSEs charged the same guarantee fee for 80% LTV first mortgages with piggybacks as they did for those without piggybacks. In other words, the GSEs did not incorporate the cumulative LTV (CLTV) of all mortgages on the same property into their fee schedules.

<sup>75</sup> In addition, while borrowers have long been permitted to deduct interest payments on second mortgages for federal income tax purposes, PMI premiums were not tax deductible until 2006.

While PMIs avoided many of the worst-performing loans during the credit bubble, they nevertheless gained considerable exposure to mortgage risk in recent years, including, in some cases, material subprime exposure. And like virtually all players in the housing finance system, PMIs have suffered serious losses. The hardest-hit insurer, Triad Guaranty Insurance Corp., has been in run-off mode since July 2008.<sup>76</sup> Triad was among the smaller players in the industry, and its underwriting practices were generally viewed as lax. In addition, Triad relied heavily on deep-cede captive reinsurance arrangements and modified pool insurance, particularly in the Alt-A market, placing it in a particularly precarious position in relation to other PMIs.<sup>77</sup> The other six PMIs have been operating at a loss since 2007<sup>78</sup> but continue to satisfy all of their claims paying obligations.

Piggyback loans no longer threaten PMIs' market share, but a confluence of factors has restrained the pace of new policy issuance. First, the GSEs have increased the fees that they charge lenders for purchasing high-LTV loans. Many PMIs have increased their own rates as well. Second, both the PMIs and the GSEs have tightened their underwriting standards. In contrast, the FHA's fees and underwriting standards remained generally at pre-crisis levels until quite recently.<sup>79</sup> These differences, coupled with statutory increases in FHA loan limits, have contributed to a dramatic

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<sup>76</sup> Due to its uncertain claims-paying ability, the Illinois Insurance Department has ordered Triad to pay 40% of all current claims in "deferred payment obligations"—essentially IOUs. A summary of the Illinois Director of Insurance's Corrective Order, effective June 1, 2009 is available at <http://www.tgic.com/dpo.php>.

<sup>77</sup> See Bear Stearns, "Triad Guaranty Inc.: Premiums versus Claims – the Jury's Still out" (March 21, 2007), 9. See also Moody's Investors Service, "US Mortgage Insurers' [sic] Remain Weakly Capitalized" (August 17, 2010).

<sup>78</sup> See FHFA, "State of the Private Mortgage Insurance Industry: Implications for U.S. Mortgage Markets and the Enterprises."

<sup>79</sup> The FHA did decide to stop making loans to borrowers with FICO scores below 580. "The 2009 HMDA Data: The Mortgage Market in a Time of Low Interest Rates and Economic Distress," Federal Reserve Board (Sept. 20, 2010), 21. Recent increases in FHA premiums and new statutory authority for the FHA to change its premium structure may reduce FHA's competitive advantage. See generally Testimony of David H. Stevens, Assistant Secretary of Housing and FHA Commissioner, before the House Committee on Financial Services (September 22, 2010), [http://financialservices.house.gov/Media/file/hearings/111/HUD\\_Testimony092210.pdf](http://financialservices.house.gov/Media/file/hearings/111/HUD_Testimony092210.pdf).

increase in FHA market share relative to PMIs during the current downturn.<sup>80</sup> Finally, in some cases, capital constraints or concerns about approaching such constraints have also caused PMIs to reduce new policy issuance.<sup>81</sup> However, capital forbearance from state insurance regulators, waiver of minimum ratings requirements by the GSEs, and increasing industry confidence regarding anticipated losses have lessened the potential impact of regulatory capital constraints.

It is perhaps too early to predict with confidence how the industry will fare in the current downturn. State foreclosure moratoria and federally subsidized mortgage modification programs may be forestalling many insurance claims for the moment, and the U.S. economy remains weak. A recent credit rating agency report expresses a tentative view that the six rated insurers (Triad is no longer rated) will be able to pay future claims in full.<sup>82</sup> Among these firms, differences in past underwriting standards are evident across several metrics, including risk-to-capital ratios, which ranged from 15.4 to 24.3 at year-end 2009. Recent positive developments include new capital raises by several PMIs, as well as the existence of a new entrant to the industry, Essent Guarantee Inc. Backed by \$600 million in startup capital, Essent's emergence indicates that the markets continue to have some level of confidence in the long term viability of the PMI business model.

In short, while one relatively small insurer might or might not be actuarially insolvent, the conditions of the remaining firms are viewed by some experts as reasonably stable, if still uncertain, with significant variance by company. The current housing downturn will provide a rare and

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<sup>80</sup> See "The 2009 HMDA Data: The Mortgage Market in a Time of Low Interest Rates and Economic Distress," Federal Reserve Board (Sept. 20, 2010), 19-20.

<sup>81</sup> See, for example, Standard & Poor's, "Significant Operating Losses Continue to Pressure U.S. Mortgage Insurers' Capital Adequacy Ratios," Ratings Direct (August 21, 2009), [http://www2.standardandpoors.com/spf/pdf/media/Significant\\_Operating\\_Losses\\_10\\_03\\_09.pdf](http://www2.standardandpoors.com/spf/pdf/media/Significant_Operating_Losses_10_03_09.pdf).

<sup>82</sup> See Moody's Investors Service, "US Mortgage Insurance: Developing Outlook," *Industry Outlook* (August 17, 2010).

valuable benchmark for assessing the adequacy of PMIs' reserves and other risk management practices in the future.

## VI. Comparison to Other Forms of Mortgage Credit Risk Mitigation

By assuming much of the credit risk associated with high-LTV mortgages, PMI promotes the flow of credit from lenders and investors that might not otherwise have the capacity or desire to assume this risk. In this way, PMI increases the total amount of private capital available for lending to borrowers unable to afford, or unwilling to provide, a 20% down payment. Likewise, pool-level PMI on securitizations containing lower-LTV mortgages encourages lending and investment in these instruments as well. Much of the modern secondary mortgage market has been made possible by various forms of credit risk mitigation, including GSE guarantees, PMI, government mortgage insurance, and structural credit enhancements on private label securitizations.

This section compares PMI to other forms of credit risk mitigation and avoidance, with particular attention to the comparative advantages of each alternative in supporting credit availability and economic stability. The principal alternatives include:

- Avoidance of high-LTV lending;
- Self-insurance by lenders;
- Risk assumption by GSEs, bond insurers, or derivatives counterparties; and
- Government mortgage insurance.

In comparing these other forms of credit risk mitigation and avoidance with PMI, this section attempts to distinguish between “inherent” differences and “contingent” differences. The purpose of this distinction is to separate the necessary or fundamental features of various alternatives from the features that they merely happen to display at the moment, often due to regulatory requirements or similar institutional considerations. Doing so makes it easier to see the range of plausible options for reducing or distributing high-LTV mortgage default risk in the housing finance system.

a. Avoidance of High-LTV Lending

The recent spike in mortgage defaults across the country has increased public awareness that loose underwriting practices (*e.g.*, “no-doc” loans) and unconventional payment terms (*e.g.*, option ARMs) pose serious risks to both lenders/investors and borrowers. In a more general sense, all agree that excessive credit availability contributed to the recent financial crisis and that lenders must refocus on “responsible” lending. Many view some level of borrower down payment as a component of responsible lending. On a functional level, down payments protect credit providers by decreasing borrower incentives to “walk away” from a depreciating home and by mitigating losses in the event of default. As noted in section III, high-LTV loans generally carry a higher likelihood of default and higher losses-given-default compared with other loans.

However, there is a difference between responsible credit and risk-free credit. Mortgage lenders have originated large volumes of high-LTV loans for many decades, and the vast majority of these loans have performed well. Critics might legitimately question whether the risks associated with an extremely high-LTV loan—say, 100% LTV—are reasonable. Indeed, PMIs generally will not underwrite insurance on such “extreme” high-LTV loans. But while reasonable people will differ in defining the absolute lowest level of down payment that lenders should require from certain borrowers, few would suggest that the risks associated with high-LTV lending outweigh the rewards in general.

In part this reflects the significance of the rewards. A broad policy consensus dating back to the New Deal has favored promotion of affordable homeownership in the U.S. This consensus is premised on the benefits of homeownership to individual homeowners and the local community. For the individual homeowner, monthly mortgage payments represent a forced savings vehicle, with the potential to build significant wealth over the long term due to the leveraged nature of the investment. For the larger society, homeownership is understood to increase civic engagement,

since homeowners have a vested interest in the quality of local schools, infrastructure, and other aspects of the community that renters may lack. While the risks to the taxpayers of a housing finance system backed by implicit or explicit government guarantees have come under serious scrutiny in recent times, broad support for homeownership as a social good persists.

It is beyond question that the availability of high-LTV mortgage credit has expanded opportunities for homeownership. For some potential borrowers, the unavailability of high-LTV mortgages would only delay homeownership for a brief period, but for others it would delay homeownership for many years or perhaps indefinitely. In relation to median home prices in many U.S. cities today, a full 20% down payment, plus closing costs and applicable reserve and escrow requirements, equates to an impressive sum for would-be purchasers of all ages.

The policy argument in favor of responsible high-LTV lending also rests on the premise that the associated risks, both to individual lenders and the larger financial system, can be managed. This is where a properly functioning PMI industry can play a critical role. As monoline financial institutions whose primary focus is understanding, pricing, and holding capital against high-LTV mortgage default risk, PMIs provide a mechanism to increase the risk-absorbing capacity of the housing finance system. Absent such a mechanism, the willingness and capacity of modern lenders to originate high-LTV mortgages would almost certainly decline.

b. Risk Retention or Assumption by Other Financial Institutions

Various other players in the private sector currently retain or assume high-LTV mortgage default risk to some degree. These players include mortgage lenders, GSEs, monoline bond insurers, and institutional derivatives counterparties. From a credit availability standpoint, any party that shoulders default risk plays an important role in supporting the provision of credit. But from an economic stability perspective, all parties are not equally capable of bearing the severe tail risk

associated with high-LTV mortgages. The recent financial crisis has illustrated that willingness to assume risk does not always correlate with capacity to assume risk, and large disparities of this sort can pose systemic risks for the housing finance system and larger economy.

The following characteristics of PMIs, some discussed already, help them manage the risks involved in their business and can serve as a point of comparison with other players:

- *Contingency reserves.* As discussed in section V, PMIs maintain contingency reserves designed to absorb heavy losses in a severe housing downturn. PMIs build these reserves during normal times and draw them down only when losses exceed statutory thresholds or otherwise prompt insurance regulators to authorize reductions.
- *Geographic diversification.* All existing PMIs operate nationally (and some internationally). Geographic diversification serves as a bulwark against regional housing slumps by enabling PMIs to use excess premiums collected in stable regions to offset losses incurred in distressed regions. While PMIs are not required to operate nationwide (and in this sense their geographic diversification may be contingent), this appears to be an enduring feature of the industry.
- *Lender diversification.* Because PMIs insure loans originated by many different lenders, unforeseen weaknesses in the quality of loans originated by a small number of lenders—whether due to undetected operational or other problems at these lenders—pose smaller risks to PMIs than they do to individual lenders that self-insure.
- *Delayed loss realization.* PMIs enjoy a structural advantage in managing the timing of losses. Because PMIs' claims obligations do not arise until after foreclosure—a process drawn out over many months and, in some cases, years—they have extra time to provision against

delinquent loans and other expected losses (*e.g.*, by increasing required loss reserves) and to generate earnings from new business in the meantime.

- *Acquaintance with relevant risks.* As discussed in section III, PMIs often delegate their day-to-day review underwriting functions to lenders. However, the insurer controls its own underwriting criteria and monitors lenders' adherence to these criteria. The insurer also engages at the loan level in loss mitigation efforts and claims management. All of these activities assist PMIs in understanding the risks associated with high-LTV mortgage loans.
- *Incentives to avoid foreclosure.* While not a form of institutional risk management per se, a financial institution's incentives to modify loans or take other measures to avoid foreclosure impact financial stability. The Obama Administration's active sponsorship of sustainable loan modification programs illustrates the important role of foreclosure avoidance measures in stabilizing a stressed housing market: foreclosures contribute to excess housing supply, which further depresses property values. Foreclosure avoidance also impacts the interests of troubled borrowers, for whom the consequences of foreclosure can be devastating. In this area, the interests of PMIs are closely aligned with those of borrowers. Like all insurance companies, PMIs seek to avoid paying claims if the policy entitles them to avoid it, and this often means finding a way to avoid foreclosure.

The discussion that follows considers the extent to which other players share these characteristics.

### *Lenders*

Mortgage originators currently bear risk on both insured and uninsured high-LTV mortgages that they retain on balance sheet. They also retain risk on first- and second-lien mortgages that they sell and/or securitize, often through structural credit enhancements such as retained securitization

interests and overcollateralization.<sup>83</sup> To some extent risk retention, or self-insurance, is an appropriate role for originators, since they are best positioned to evaluate the borrower's creditworthiness and the various local factors that contribute to loan quality. But in other respects, the lender may have limited capacity to manage default risk. Some lenders operate nationwide, but others operate only in one region or community. Geographically concentrated lenders may have difficulty mitigating exposure to local economic conditions. In addition, an individual lender's concentration in its own loans renders it more susceptible to idiosyncratic operational or other risk-management failures affecting loan quality than PMIs or other players that aggregate lender risks. Furthermore, lenders of all sizes cannot match PMIs' flexibility in managing the timing of losses. Lenders rely on borrower payment streams to maintain liquidity and account for losses when "incurred." Thus, unanticipated levels of delinquencies impact their businesses immediately.

From a prudential perspective, non-bank lenders are not subject to capital requirements and could, therefore, pose significant risks to the financial system if they became major repositories for high-LTV mortgage credit risk. In contrast, federally regulated lenders are subject to regulatory capital requirements, but these requirements do not operate in the same way as PMIs' contingency reserves. Bank capital requirements are formulated as ratios of capital to risk-weighted assets—essentially a much more sophisticated version of PMIs' risk-to-capital ratios. Unlike contingency reserves, these requirements do not result in massive reserve accumulations in good times. While the BCBS has recently proposed a framework of countercyclical capital buffers that will increase the banking system's resilience during economic downturns, these buffers simply adjust the required capital ratios through the economic cycle and do not represent a fundamental rethinking of risk-based capital regulation. On the other hand, the current design of bank capital regimes is a

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<sup>83</sup> Overcollateralization describes the practice of issuing MBS with an aggregate face value lower than the face value of the associated mortgage collateral. Depending on the performance of the collateral, some or all of the overcollateralization amount may be released back to the issuer.

contingent feature of banks; these regimes could be revised if for whatever reason policymakers and/or regulators desired to shift more high-LTV mortgage credit risk to bank balance sheets. But without major changes to the current prudential framework, PMIs' system of contingency reserves appears to leave them significantly better equipped to manage the long term catastrophic risk associated with high-LTV mortgage lending.

From a foreclosure prevention perspective, lender incentives vary. With respect to first-lien mortgages held on balance sheet, lenders have strong incentives to maximize the net present value (NPV)<sup>84</sup> of their loans through modifications and other mitigation measures.<sup>85</sup> This incentive is actually weakened by the presence of PMI, since insurance reduces the lender's potential loss-given-foreclosure. (This is one reason why PMIs play such an active role in loss mitigation.) Alternatively, where the lender sells its loans into the secondary market and assumes the role of servicer, its incentives become more complicated. Specifically, while investors can contractually permit the lender to modify loans in ways that maximize the NPV of a loan portfolio, the servicer may perceive a greater risk of investor lawsuits if it is aggressive in modifying loans than if it errs on the side of inaction. Institutions that service first-lien mortgages while retaining related second-lien mortgages on balance sheet may have even stronger incentives to abstain from modifications.<sup>86</sup> Thus, while PMIs' overall contribution to foreclosure prevention incentives in the portfolio lending context seems mixed, they may have a more straightforwardly positive role to play in preventing foreclosures on securitized mortgages.

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<sup>84</sup> A modification increases a loan's NPV where the expected value of future principal and interest (adjusted to reflect the likelihood of re-default) exceeds the lender's net proceeds from immediate foreclosure. In some cases, immediate foreclosure maximizes NPV.

<sup>85</sup> In the context of piggyback loans, however, lenders often have strong incentives to resist modifications, since second-lien holders generally have less invested in the loan and, therefore, less room to make concessions to the borrower before impairing their own NPV.

<sup>86</sup> See *infra* n.85.

## *GSEs*

While GSEs are prohibited by law from fully bearing the additional default risk associated with high-LTV mortgages, they share certain inherent characteristics with PMIs. Their duopoly status gives them a geographically diverse risk portfolio, albeit one limited to the U.S., and they are also diversified by lender. They have significant underwriting experience and generally conservative underwriting practices. While lenders originate loans purchased by the GSEs, the latter set the underwriting criteria and have mechanisms for monitoring compliance with those criteria. Their role in the current housing finance system and their influence over lenders and servicers enables them to monitor loan performance and influence mitigation efforts. As guarantors of MBS, the GSEs have strong incentives to favor loss mitigation outcomes that maximize NPV if left to their own devices. One might expect them to manifest a bias in favor of foreclosure prevention while under government conservatorship. Both enterprises have implemented the federal Home Affordable Modification Program (HAMP), which provides financial incentives for lenders/investors and servicers to avoid foreclosure. All servicers of mortgages owned or guaranteed by the GSEs must participate in the HAMP.

Nevertheless, there are impediments to GSE-assumption of this default risk. Unlike PMIs, the GSEs lack flexibility in managing the timing of losses, since they must make timely payments to investors whether or not the loans are performing, and because, like lenders, they account for losses when “incurred.” They also lack a countercyclical reserve such as the PMI contingency reserve, although, as with federally regulated lenders, this is a contingent difference that could be remedied. But perhaps most significantly, the GSE duopoly already serves as the repository of most credit default risk in the U.S. housing market. Adding more default risk on high-LTV mortgages would further concentrate risk in entities whose highly publicized failures necessitated a substantial

taxpayer bailout during the current financial crisis. Broader dispersion of this risk seems more appropriate.

### *Monoline Bond Insurers*

While the primary conventional mortgage bond insurers are the GSEs,<sup>87</sup> private sector bond insurers, such as Ambac and MBIA, also provide insurance akin to pool insurance on asset-backed securities, including MBS. At first blush, the monoline bond insurers seem to share a number of desirable features with PMIs. They are, for example, required to maintain contingency reserves.<sup>88</sup> They are also quite diversified geographically, both in the U.S. and abroad, and diversified by lender. As insurers, they have strong incentives to support foreclosure prevention measures that maximize the NPVs of individual loans.<sup>89</sup>

But while bond insurers do not face inherent structural impediments to diligent and knowledgeable oversight of mortgage lenders and servicers, their underwriting oversight was especially weak in the years preceding the recent financial crisis, even by the declining standards of the boom-era mortgage industry.<sup>90</sup> This may reflect the bond insurers' relative inexperience. These firms initially guaranteed only municipal and state government-issued securities, which both

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<sup>87</sup> FHA and VA mortgages are generally purchased and securitized by other private issuers, and most of the resulting securities are guaranteed by Ginnie Mae. A wholly-owned government corporation, Ginnie guarantees the timely payment of interest and principal on MBS backed by federally insured loans (primarily those issued by the FHA and VA). Ginnie itself does not purchase mortgages. For a description of circumstances in which Ginnie incurs losses, see [http://www.ginniemae.gov/about/ann\\_rep/annual\\_financials05.pdf](http://www.ginniemae.gov/about/ann_rep/annual_financials05.pdf), 34.

<sup>88</sup> See, e.g., NY CLS Ins. § 6903. Most monoline bond insurers are subject to New York state law.

<sup>89</sup> However, the incentives of PMIs to avoid foreclosure may be somewhat stronger. In the primary insurance context, a PMI's obligation to pay is triggered by borrower default. In contrast, a bond insurer's obligation to pay is triggered by issuer default. Foreclosures do not necessarily increase the probability of issuer default and may actually reduce this probability where foreclosure maximizes individual loan NPVs.

<sup>90</sup> See NY State Insurance Dept. Circular Letter No. 19 (2008), "Best Practices for financial guaranty insurers," 9-10.

investors and credit rating agencies assumed to approach a “zero underwriting loss” business model. During the recent credit bubble, however, the bond insurers ventured from their monoline roots and began to guarantee other classes of securities backed by riskier underlying assets, such as subprime mortgages.<sup>91</sup>

Yet the bond insurers did not appear to adjust their pricing and level of due diligence on the underlying assets to fully reflect the shift in risk. Bond insurers’ credit ratings began to slip with the first sign of the housing market collapse, as credit rating agencies realized that bond insurers did not, in fact, have a near “zero underwriting loss” business model and ratcheted up capital levels necessary to maintain triple-A ratings. Since that time, credit ratings have continued to deteriorate. Many bond insurers are now in run-off mode, due both to capital constraints and their inability to attract business without strong credit ratings.<sup>92</sup> Others have opted to split their less risky municipal bond insurance businesses from their remaining financial guarantee businesses.<sup>93</sup> The New York State Insurance Department has also taken steps to increase capital requirements for bond insurers and to improve underwriting and risk management standards.<sup>94</sup> The suitability of bond insurers to shoulder high-LTV mortgage default risk in future secondary market transactions will depend partly on the results of these reform efforts.

Finally, similar to the GSEs, the bond insurers do not enjoy the benefits of delayed loss realization.

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<sup>91</sup> In addition to direct guarantees, bond insurers created minimally-capitalized special purpose vehicles that entered into credit default swaps with counterparties that were themselves backed by the bond insurers. See *ibid.* Issues associated with credit default swaps are discussed more fully below.

<sup>92</sup> See, *e.g.*, Ambac Financial Group, Inc. 2009 Form 10-K, 59-60.

<sup>93</sup> See, *e.g.*, MBIA Inc. 2009 Form 10-K, 49.

<sup>94</sup> See NY State Insurance Dept. Circular Letter No. 19 (2008), “Best Practices for financial guaranty insurers.”

### *Derivatives Counterparties*

Credit derivatives, such as credit default swaps (CDS), represent another vehicle for transferring mortgage credit risk. In a CDS, the “purchaser” buys credit protection from the “seller” relating to an underlying reference asset or pool of assets. In exchange for premiums paid by the purchaser, the seller agrees to compensate the purchaser for certain losses if an agreed upon “credit event” occurs.

While not historically regulated as one, a CDS is functionally an insurance product, and its terms can be structured to resemble pool mortgage insurance. Therefore, the main distinction between PMI and CDS is the nature of the counterparty. Historically, *any* party could provide credit protection in an uncleared CDS, so long as it found a willing purchaser and met certain investor-protection-oriented “eligibility” standards. This was, of course, the main deficiency of CDS compared to pool mortgage insurance; unlike PMIs, many CDS sellers have been essentially unregulated. Even where the effective protection seller was a regulated bond insurer, the special purpose entity (SPE) serving as the legal counterparty could prove unreliable. Differences in counterparty regulation, such as capital and reserve requirements, as well as the existence of completely unregulated counterparties, have made credit derivatives a less reliable alternative to PMI, especially during severe tail risk events associated with the housing market.

Under the Dodd-Frank Act, many CDS will be subject to a central clearing requirement, in which case the central counterparty will impose credit standards and collateral requirements on the seller. At present, the derivatives market has not constructed a framework of minimum counterparty standards comparable to the state regulatory framework for PMIs. Given the identities and histories of the institutions responsible for creating the new CDS clearing framework, it seems unlikely that the regulatory framework for central CDS counterparties will resemble the framework applicable to PMIs. Thus, although we cannot yet compare the two sets of solvency and liquidity

standards, we feel reasonably confident in predicting that they will be different from each other, notwithstanding the strong similarity between the two regulated product sets.

c. Government Insurance

Among the various alternatives to PMI, government mortgage insurance offers the closest comparison. FHA and VA mortgage insurance programs in particular provide significant competition for PMIs.<sup>95</sup> But important differences between the government and private insurance programs exist along multiple dimensions, including:

- Eligible borrowers;
- Eligible lenders;
- Extent of coverage;
- Minimum down payment;
- Premium cost and timing of required payments;
- Size and structure of eligible loans;
- Underwriting standards;
- Processing time;
- Eligible properties;
- Statutory capital requirements;
- Loss mitigation activities; and
- Authority to rescind coverage.

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<sup>95</sup> The Rural Housing Service and several states also sponsor mortgage insurance programs, although these are much smaller in scale. See Johnstone, “Private Mortgage Insurance,” 784 n. 4.

A few key features of the government programs deserve mention here. The major FHA programs<sup>96</sup> provide essentially a full guarantee, including 100% of the principal balance and most costs associated with borrower default. The FHA will currently insure mortgages with down payments as low as 3.5%, and borrowers may finance the FHA's insurance premiums into the loan. But while the principal FHA programs do not have borrower income limitations, they do cap the size of eligible loans, with caps pegged to median home prices in specific regions (the current upper limit is \$729,750, although caps in most regions are substantially lower). The VA program, in contrast, applies only to veterans and (sometimes) their spouses. For all but the smallest loans, the VA insures only 25% of the loan amount, subject to a cap. The VA does not generally require a down payment.<sup>97</sup> Appendix A describes additional features of these programs.

To a significant extent, the specific features of these government programs reflect contingent political judgments about their proper roles, and many features could be changed with the stroke of a legislative pen. For example, the FHA could shift to a partial guarantee structure akin to a typical PMI policy (which could improve incentives for FHA lenders to exercise underwriting discipline) without necessarily changing its basic identity as a government insurer. But product differences among the public and private insurers also reflect underlying inherent differences. On the most basic level, public and private insurers differ in that government insurers must adhere to the particular means and ends assigned to them by legislators, while PMIs primarily serve their shareholders. The particular missions served by the government insurers are subject to frequent change—and some perceive a disconnect between the FHA's current loan limits and its

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<sup>96</sup> The largest of these programs is backed by the single-family Mutual Mortgage Insurance Fund.

<sup>97</sup> For additional program details, see [http://portal.hud.gov/portal/page/portal/HUD/program\\_offices/housing](http://portal.hud.gov/portal/page/portal/HUD/program_offices/housing), <http://www.benefits.va.gov/homeloans/>. For a high level summary of program differences as of 2004, see Johnstone, "Private Mortgage Insurance," 822-826.

putative mission of serving low-income borrowers—but the simple fact that Congress can assign a mission to government insurers renders them powerful tools for advancing specific social objectives that PMIs cannot profitably address.<sup>98</sup>

This points toward a second, equally basic, difference: obligations of the government insurers are backed by the full faith and credit of the United States. This has important implications for the role of government insurance in the housing finance system. In light of recent experiences with the GSEs’ “implicit” guarantee, it almost goes without saying that an explicit federal government guarantee puts taxpayer funds at risk. This factor alone may provide a reason to avoid unnecessary reliance on government insurance in segments of the market where PMI thrives. But it also points to an important comparative strength of government mortgage insurance. As discussed in section V.c., many PMIs were forced to scale back new business drastically in the 1980s and to some extent again recently due to high loss exposures and looming capital constraints (among other factors). Though large contingency reserves enable PMIs to continue paying claims in highly adverse economic scenarios, they do not always permit PMIs to continue incurring additional risk. In these circumstances, the government insurers, particularly the FHA, can step in to absorb the additional risk and smooth out the bottom of the cycle.

This occurred in the 1980s and again today. In 1984, PMIs had three times the market share, measured by number of insured mortgages, as the FHA. But by 1987, the FHA had well over twice the market share as the PMIs, which had become capital constrained. By 1992, the PMIs’ market share again surpassed that of the FHA. A similar pattern has begun to emerge over the past

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<sup>98</sup> For a detailed discussion of the ways in which differences in insurance coverage between private and government insurers reflect the different purposes and financial realities faced by these players, see Rapkin et al., *The Private Insurance of Home Mortgages: a Study of the Mortgage Guaranty Insurance Corporation*, 46.

several years. In 2008, the PMIs again had three times the market share as the FHA.<sup>99</sup> But today the situation has reversed itself, with FHA loans now comprising 75% of the insured mortgage market.<sup>100</sup>

However, the FHA has been able to write new policies at this heightened level only by dropping far below its statutory 2% capital requirement. By the end of 2009, the capital ratio of the FHA's Mutual Mortgage Insurance Fund had dropped to about 0.5%, and the agency has not committed to a fixed timetable for remedying the deficiency.<sup>101</sup> In addition, the FHA's increased market presence over the past two years might be attributed not only to PMIs' decreased policy writing capacity but also to the FHA's below-market pricing on certain loans. This may be having the effect of crowding out some of the healthier PMIs that are otherwise positioned to write larger volumes of policies. (Recent increases in FHA premiums and new statutory authority for the FHA to change its premium structure should help to address these problems.) Thus, while historical experience suggests that government mortgage insurance may have a useful role to play in preserving the availability of affordable high-LTV mortgages during severe housing downturns, care must be taken to ensure that the government builds up sufficient long-term reserves and charges

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<sup>99</sup> See Dwight Jaffee and John Quigley, "Housing Policy, Subprime Mortgage Policy, and the Federal Housing Administration" (University of California, Berkeley, August 2007), 16, [http://elsa.berkeley.edu/users/quigley/pdf/JQ\\_Housing\\_Policy\\_to\\_Lucas\\_080807.pdf](http://elsa.berkeley.edu/users/quigley/pdf/JQ_Housing_Policy_to_Lucas_080807.pdf). However, the FHA's expanded market presence has increased its risk profile and engendered doubts about its future solvency. See Nick Timiraos, "Red-Ink Fears Prompt Mortgage Backer to Raise Fees," *Wall Street Journal*, August 24, 2010, <http://online.wsj.com/article/SB10001424052748704340504575447673683601094.html>.

<sup>100</sup> See Testimony of Marti Rodamaker, on behalf of the Independent Community Bankers of America, before the House Subcommittee on Capital Markets, Insurance and Government Sponsored Enterprises (July 29, 2010), <http://www.icba.org/files/ICBASites/PDFs/RodamakerTestimony72910.pdf>.

<sup>101</sup> See Testimony of Mathew J. Sciré, Director, Financial Markets and Community Investment, GAO, before the Senate Committee on Banking, Housing, and Urban Affairs (September 23, 2010), <http://www.gao.gov/new.items/d101066t.pdf>.

sufficient risk premiums to reasonably protect the taxpayers. This is a somewhat challenging task within the politically-charged field of housing finance.

To the extent a countercyclical role for the government in the mortgage insurance market is considered desirable, direct provision of mortgage insurance by the government is only one of several options. In Canada, for example, PMIs may secure government reinsurance, for a premium, against 90% of their risk-in-force. Under this arrangement, the Canadian government pays out only if the primary insurer becomes insolvent. From the perspective of insured mortgage lenders and investors in Canadian mortgage instruments, the additional security against insurer credit risk provided by the government reinsurance facilitates more favorable regulatory capital treatment for insured assets (*i.e.*, a 0% sovereign risk weighting, rather than a higher private counterparty risk weighting, applies to the reinsured portion of the asset), which itself reflects the added safety of the insurance. From the primary insurer's perspective, the government backstop potentially expands its customer base without fundamentally altering its risk tolerance; because the government backstop is triggered only after the primary insurer fails, moral hazard is minimized.

Alternatively, the government could provide catastrophic coverage structured as traditional excess-of-loss reinsurance to PMIs. This alternative might further reduce cyclicity in the mortgage insurance industry by absorbing losses and preserving additional underwriting capacity for primary insurers on a going-concern basis. On the other hand, a greater degree of government supervision of primary insurers may be necessary to compensate for the moral hazard inherent in excess-of-loss reinsurance. While a full comparison of different options for public/private risk sharing is beyond the scope of this paper, these examples illustrate that a system of separate and competing public and private insurers is far from the only option.

## VII. Conclusion

In describing the role of PMIs in the U.S. housing finance system, this report has considered the nature and varieties of PMI, their market justifications, the relevant regulatory framework, and the relationship between PMI and other forms of mortgage credit risk mitigation or avoidance. While the report does not focus on policy options for the future, it provides relevant information and concepts for those considering the role that PMIs should play. Two key points should be kept in mind. First, high-LTV mortgage lending is relatively risky, and by assuming these risks, mortgage insurance enables more lenders and investors to supply capital for these mortgages. Second, PMIs are subject to distinctive regulatory requirements designed to ensure that they withstand Depression-level housing market scenarios. Other financial institutions might not be similarly equipped to manage long-tail mortgage default risk.

Because PMIs are so heavily reliant on GSE purchasing standards, they have a strong interest in the outcome of GSE reform. But the PMIs' business model pre-dated their role in insuring agency-related mortgages, and PMIs continue to offer credit protection on lender-retained loans and private label securitizations. That said, government requirements and incentives for the purchase of PMI help PMIs avoid adverse selection problems. To the extent policymakers desire to encourage or mandate use of PMI in the future, many options exist. For example, primary mortgage insurance coverage commonly extends to 25%-30% of a given claim, but other levels of coverage are possible. In addition, while traditional reinsurance is not generally available for PMIs, a government reinsurance backstop could be one means of providing stability in a severe housing crisis.

## Appendix A: Comparison of Private and Government Mortgage Insurance and Guarantee Programs

Factor	Private Mortgage Insurance	Government Programs
Minimum down payment	Required by a few states	The Housing Emergency Recovery Act of 2008 (HERA) raised the down payment on FHA-insured mortgages from 3 to 3.5 percent. In some cases VA does not require a down payment.
Loan coverage level	Varies	FHA insures the entire loan balance; VA guarantees a percentage of the loan.
Limit on size of the mortgage insured or guaranteed	None via regulation. But PMI guidelines all impose some cap on size of loans they will insure.	Pursuant to HERA, beginning in 2009, the loan limit for FHA-insured mortgages for one-unit properties is 115 percent of the local area median home price, as determined by HUD, with a floor of 65 percent of \$417,000 (or \$271,050) and a ceiling equal to 150 percent of the Enterprises' limit. Limits vary by geographic region and for 2 - 4 unit properties. Beginning in 2009, the VA's guarantee of loans above \$144,000 is 25 percent of the new Enterprise loan limit base or the limits for the high cost areas.
Up-front mortgage insurance premium	Required; varies with loan characteristics and premium plan.	Required by FHA; VA requires an up-front funding fee.
Monthly premium	Premiums vary based on the size of the down payment, type of mortgage, and amount of insurance coverage.	FHA borrowers pay an annual insurance premium that starts at .5 percent of the loan balance and declines over time. There is no insurance premium for VA mortgages.
Cancellation of insurance	Can usually be canceled when the homeowner acquires 20 percent equity in the home. Under Federal law, MI must be cancelled automatically when the borrower has paid the loan down to 78 percent of the original home value.	For FHA mortgages with terms greater than 15 years, the annual mortgage insurance cancels when the LTV ratio reaches 78 percent, provided the borrower has paid the annual mortgage insurance premiums for at least 5 years.
Deductibility of borrower-paid mortgage insurance	Yes, up to a certain income level, through the 2010 tax year.	Yes, up to a certain income level, through the 2010 tax year.
Income limits	None	None.
Interest rate	Market driven	Market driven
Regulation	State regulated. Regulation extends to reserves for losses, capital, etc.	FHA and VA mortgage programs are administered by agencies of the U.S. government.
Premium Rates	Subject to regulatory approval	Set by statute

Source: FHFA, "State of the Private Mortgage Insurance Industry: Implications for U.S. Mortgage Markets and the Enterprises," August 2009.

## Appendix B: Bibliography

1. Alger, George W. *Report to His Excellency Herbert H. Lehman, Governor of the State of New York. Moreland Commissioner's Report.* New York, October 5, 1934.
2. Allen, Donald and Thomas Chan. "The Efficiency of Residential Mortgage Guarantee Insurance Markets." Federal Reserve Bank of St. Louis working paper 1997-013A (1997), 13. <http://research.stlouisfed.org/wp/1997/97-013.pdf>.
3. Amherst Securities Group LP. "PMI in Non-Agency Securitizations." *Amherst Mortgage Insight* (July 16, 2010).
4. Arthur D. Little, Inc. "The Private Mortgage Insurance Industry: Final Report To the FNMA and FHLMC." April 1975.
5. Avery, Robert B., Kenneth Brevoort, and Glenn Canner. "The 2006 HMDA Data." *Federal Reserve Bulletin* (December 2007), A84. <http://www.federalreserve.gov/pubs/bulletin/2007/pdf/hmda06final.pdf>
6. Bear Stearns. "The Trouble With Captive Reinsurance: An Analysis of Excess of Loss Structures." Equity research report, March 2003.
7. Bear Stearns. "Triad Guaranty Inc.: Premiums versus Claims – the Jury's Still out." Equity research report, March 21, 2007.
8. Blood, Roger. "Managing Insured Mortgage Risk." In *The Secondary Mortgage Market: Strategies for Surviving and Thriving in Today's Challenging Markets*, edited by Jess Lederman, 635-660. Chicago: Probus Publishing Company, 1992.
9. Blood, Roger. "Mortgage Default Insurance: Credit Enhancement for Homeownership." *Housing Finance International* (2001). [http://www.housingfinance.org/uploads/Publicationsmanager/0109\\_Mor.pdf](http://www.housingfinance.org/uploads/Publicationsmanager/0109_Mor.pdf).
10. Browne, Diana D. "The Private Mortgage Insurance Industry, the Thrift Industry, and the Secondary Mortgage Market: Their Interrelationships." 12 *Akron Law Review* 631 (1978).
11. Canner, Glenn and Wayne Passmore. "Private Mortgage Insurance." *Federal Reserve Bulletin* 80 (October 1994).
12. Canner, Glenn and Wayne Passmore. "Credit Risk and the Provision of Mortgages to Lower-Income and Minority Homebuyers." *Federal Reserve Bulletin* 81 (November 1995).
13. Canner, Glenn, Wayne Passmore, and Brian Surette. "Distribution of Credit Risk Among Providers of Mortgages to Lower-Income and Minority Homebuyers." *Federal Reserve Bulletin* 86 (1996). <http://www.federalreserve.gov/pubs/bulletin/1996/1296lead.pdf>.
14. Chen, Kristin. "The Role of Mortgage Insurance in Risk Management." *International Journal of Real Estate Finance* 1, no. 2 (2000).

15. FDIC. “FYI Revisited; U.S. Home Prices: Does Bust Always Follow Boom.” *FYI: An Update on Emerging Banking Issues*, May 2, 2005.  
<http://www.fdic.gov/bank/analytical/fyi/2005/050205fyi.html>.
16. Federal Housing Finance Agency. “State of the Private Mortgage Insurance Industry: Implications for U.S. Mortgage Markets and the Enterprises.” *Mortgage Market Note* 09-4. August 20, 2009. [http://fhfa.gov/Default.aspx/webfiles/14779/MMNOTE\\_09-04%5B1%5D.pdf](http://fhfa.gov/Default.aspx/webfiles/14779/MMNOTE_09-04%5B1%5D.pdf).
17. Federal Reserve Board. “The 2009 HMDA Data: The Mortgage Market in a Time of Low Interest Rates and Economic Distress (Draft).” To be published in the *Federal Reserve Bulletin* (Sept. 20, 2010). <http://www.federalreserve.gov/pubs/bulletin/2010/pdf/hmda2009.pdf>.
18. GAO. *Mortgage Financing: Actions Needed to Help FHA Manage Risks from New Mortgage Loan Products*. GAO-05-194 (Washington, D.C., February 2005).  
<http://www.gao.gov/new.items/d05194.pdf>.
19. Genworth Financial, Inc. December 31, 2009 Form 10-K, filed February 26, 2010.
20. Graaskamp, James. “Development and Structure of Mortgage Loan Guarantee Insurance in the United States.” *Journal of Risk and Insurance* 34, no. 1 (March 1967).
21. Green, Richard and Susan Wachter. “The American Mortgage in Historical and International Context.” *Journal of Economic Perspectives* 19, no. 4 (fall 2005).  
[http://repository.upenn.edu/cgi/viewcontent.cgi?article=1000&context=penniur\\_papers](http://repository.upenn.edu/cgi/viewcontent.cgi?article=1000&context=penniur_papers).
22. Gwinner, William B. and Anthony Sanders, “The Sub Prime Crisis: Implications for Emerging Markets,” World Bank policy research working paper (September 2008),  
<http://ihfp.wharton.upenn.edu/SubprimeReadings/Gwinner%20TheSubprimeCrisis.pdf>.
23. Hearing on “Future of Housing Finance: The Role of Private Mortgage Insurance” before the Subcommittee on Capital Markets, Insurance and Government Sponsored Enterprises of the House Committee on Financial Services, July 29, 2010.  
<http://financialservices.house.gov/Hearings/hearingDetails.aspx?NewsID=1339>.
24. Herring, Richard J. “The Rocky Road to Implementation of Basel II in the United States” (July 2007). <http://fic.wharton.upenn.edu/fic/papers/07/0731.pdf>.
25. Herzog, Thomas N. “History of Mortgage Finance With an Emphasis on Mortgage Insurance.” Society of Actuaries monograph, 2009.  
<http://www.soa.org/library/monographs/finance/housing-wealth/2009/september/mono-2009-mfi09-herzog-history.pdf>.
26. *In re: Epic Mortgage Insurance Litigation*, 701 F. Supp. 1192 (E.D. Va. 1988).
27. Jaffee, Dwight. “Monoline Restrictions, With Applications to Mortgage Insurance and Title Insurance.” *Review of Industrial Organization* 28, no. 2 (2006).  
<http://faculty.haas.berkeley.edu/JAFFEE/Papers/094IRIO2006.pdf>.

28. Jaffee, Dwight and John Quigley. "Housing Policy, Subprime Mortgage Policy, and the Federal Housing Administration." University of California, Berkeley, August 2007.  
[http://elsa.berkeley.edu/users/quigley/pdf/JQ\\_Housing\\_Policy\\_to\\_Lucas\\_080807.pdf](http://elsa.berkeley.edu/users/quigley/pdf/JQ_Housing_Policy_to_Lucas_080807.pdf).
29. Johnson, Joseph and George Flanigan. "Private Mortgage Guarantee Insurance." *CPCU Annals*, December 1973.
30. Johnstone, Quintin. "Private Mortgage Insurance." 39 *Wake Forest Law Review* 783 (winter 2004).
31. Lacy, William H., President and CEO of Mortgage Guarantee Insurance Co. "Risk Management: Key to Success for the 1990s." In *The Secondary Mortgage Market: Strategies for Surviving and Thriving in Today's Challenging Markets*, edited by Jess Lederman, 661-678. Chicago: Probus Publishing Company, 1992.
32. MGIC Investment Corporation. December 31, 2009 Form 10-K, filed March 1, 2010.
33. Moody's Investors Service. "US Mortgage Insurance: Developing Outlook." *Industry Outlook* (August 17, 2010).
34. Moody's Investors Service. "US Mortgage Insurers' [sic] Remain Weakly Capitalized." *Special Comment* (August 17, 2010).
35. Mortgage Insurance Companies of America. *2009-2010 Fact Book & Member Directory*.  
<http://www.privatemi.com/news/factsheets/2009-2010.pdf>.
36. Mulherin, J. and Walter Muller, III. "Resolution of Incentive Conflicts in the Mortgage Industry." *Journal of Real Estate Finance and Economics* 1, no. 1 (1988).
37. Mulherin, J. and Walter Muller, III. "Volatile Interest Rates and the Divergence of Incentives in Mortgage Contracts." *Journal of Law, Economics, and Organization* 3 (Spring 1987).
38. O'Leary, Erin. "Predatory Lending and its Insurance Consequences." 16 *Connecticut Insurance Law Journal* 261 (fall 2009).  
<http://www.insurancejournal.org/content/repository/16/5.pdf>.
39. PMI. "The Value of Mortgage Insurance: Supporting Sustainable Homeownership that Strengthens Communities." [http://www.pmi-us.com/media/pdf/news/Value\\_of\\_MI.pdf](http://www.pmi-us.com/media/pdf/news/Value_of_MI.pdf).
40. Rapkin, Chester, J. Robert Ferrari, Roger Blood, and Grace Milgram. *The Private Insurance of Home Mortgages: a Study of the Mortgage Guaranty Insurance Corporation*. University of Pennsylvania: Institute for Environmental Studies, December 1967.
41. Standard & Poor's. "Lender Captives Benefit Both Lenders And Mortgage Insurers, For A Price." Research report, May 24, 2007.  
<http://ihfp.wharton.upenn.edu/Main%20Course%20Readings%5CModule%20VIII%20-%20Extending%20Mortgage%20Lending%20and%20Housing%20Services%20to%20Lower%20Income%20Groups%5CMortgage%20Insurance/D-S&P%20-%20Lender%20Captives.pdf>.

42. Standard & Poor's. "Significant Operating Losses Continue to Pressure U.S. Mortgage Insurers' Capital Adequacy Ratios." Ratings Direct, August 21, 2009.  
[http://www2.standardandpoors.com/spf/pdf/media/Significant\\_Operating\\_Losses\\_10\\_03\\_09.pdf](http://www2.standardandpoors.com/spf/pdf/media/Significant_Operating_Losses_10_03_09.pdf).
43. Wheelock, David C. "What Happens to Banks When Housing Prices Fall? U.S. Regional Housing Busts of the 1980s and 1990s." *Federal Reserve Bank of St. Louis Review* 88, no. 5 (September/October 2006): 413-429.  
<http://research.stlouisfed.org/publications/review/06/09/Wheelock.pdf>.
44. Zywicki, Todd and Joseph Adamson. "The Law and Economics of Subprime Lending." 80 *University of Colorado Law Review* 1 (2009).