Private Mortgage Insurance
Essential Link in the Financial Services Institution Audit Chain

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Abstract

Business entities depend upon major customers, important suppliers and other organizations to provide essential operational products and services. Because of this interdependency, auditors consider the effect of the financial health of important business partners upon the firm audited. The purpose of this paper is to examine the potential effect of private mortgage insurance (PMI) firm stability upon auditors' evaluation of financial services company reserves. This study observes important measures of stability in the PMI industry, focusing upon firms providing private mortgage insurance as a principal source of revenues providing at least 70 percent of the industry's premiums in force over the past ten years. In comparing the results of the past two most severe downturns that affected the private mortgage industry to the current mortgage and housing crisis, exploratory evidence suggests that financial services may need additional reserves to prepare for potential PMI companies inability to cover future mortgage loan losses. Such observations suggest ideas about the possible future direction of the PMI industry and the regulatory and competitive environment that the financial service and private mortgage industries will face.

Keywords: Private mortgage insurance, PMI, audit chain, reserves

Introduction

Business exists with dependency upon other persons and entities. Major customers, important employees and other businesses that supply important products and services are all a necessary part of the success of business entities. Without the service of important suppliers, a business cannot provide its customers and continue as a viable concern. Therefore, businesses must be assured that their suppliers are financially sound and able partners.

External auditors face the arduous task of determining the financial stability and fair presentation of financial statements for the firm that they audit. Along with an assessment of internal control compliance and transaction substantive tests, auditors must develop comfort that the business entity will be able to acquire what it needs from other business partners in order to continue to provide its own products and services to customers in a timely manner with adequate quality.

Financial services companies provide loans to customers as their major product lines. Regulation requires that these companies reserve for loan losses. Special loans are made for borrowers who purchase homes and other forms of real estate called mortgage loans. When mortgage loans are made to borrowers who make less than a 20 percent down payment, the borrower is required to purchase private mortgage insurance (PMI), a form of insurance that protects the lender against losses due to borrower default and up to a 20% reduction in the value of the collateralized real property.

Regulation of financial services companies requires that loan reserves be maintained as a means to protect against borrower default and losses due to reduction in the value of collateral that may have to be repossessed. These reserves are made for mortgage loans, much as they are for all other types of loans. However, with PMI protection, the need for reserves diminishes, as lenders have confidence in the insurance to cover most, if not all, defaults and diminished collateral value. Certainly, that has been the case for many decades.

Today, however, private mortgage insurance companies have been pushed to near bankruptcy. While banks, savings and loans and other mortgage lenders continue to depend upon this coverage, there is concern that the PMI industry may not be able to cover all of the possible losses. This paper explores the health of the PMI industry and the likelihood of its ability to cover losses by developing a comparative model from previous real estate downturns in previous decades.

The Private Mortgage Industry

The private mortgage insurance (PMI) industry was formed in the beginning of the last century, finding its birth in the title insurance market originally in New York State (Rapkin, 1967). The New York State legislature approved the issuance of mortgage guarantee insurance in 1904, but the law permitted insurers to guarantee the payments only on mortgages owned by the institution that originated the loan. Then in 1911, New York State amended the law to allow mortgage insurers to purchase and resell mortgages. This further sanctioned activity permitted PMI companies to sell mortgages to investors while the same insurance carriers sold property title insurance policies on the same loans (Rapkin, 1967).

An interesting corollary to the current crisis is that rising real estate values from the beginnings of this nascent PMI industry allowed its growth to go untested until the Great Depression, as prior that time most properties were sold without loss. This reinforced the belief

that the PMI business had a low risk profile, a belief that was sharply rebuked by the horrible decline in real estate values during the Great Depression, combined with the PMI industry's poor business practices, inadequate capitalization and weak regulation (Puplava, 2007). Not one insurer in the mortgage insurance industry survived this period and no PMI was written again until 1957 (Schneider, 1998).

Congress passed the National Housing Act as one of its many programs aimed at a recovery of the housing market caused by the Great Depression. One of the enduring programs that still aids in mortgage availability is the Federal Housing Administration (FHA) and its Mutual Mortgage Insurance Fund, which provides mortgage insurance on FHA loans (Baker, 2010). The FHA home loan insurance program came to apply to a wide range of prospective homebuyers, but has and continues to have limitation in terms of the size of mortgages that it will insure, the property condition and the credit underwriting standards that will rule out the qualification of some prospective borrowers.

Mortgage Guarantee Insurance Corporation (MGIC), the first PMI company, was formed in 1957 and over the next two decades the industry generally did well due to the acceptance of PMI by the two Government Sponsored Enterprises—Fannie Mae and Freddie Mac (Baker, 2010). Rising home values limited the incidence of, and losses from, mortgage defaults. During this twenty-year time frame, PMI companies tended to focus more on growth and less on credit quality. In the 1980s, as house price inflation slowed—and prices fell in some areas—homeowners who could not make their mortgage payments often were unable to resolve their problems by selling their homes; instead, they defaulted on their mortgages. At the same time several PMI companies suffered substantial losses from fraud and inadequate risk diversification. Smaller, less capitalized PMI firms or firms with lack of diversification, such as Ticor Mortgage Insurance Corporation that failed in 1986 (Kristof, 1990), found that they might not be able to survive as independent entities, and industry consolidation followed. By the end of the 1980s, only half of the firms from the early 1980s remained (Canner, 1994). During the early 1980s, the PMI industry had to cope with double-digit interest rates and inflation in a period of severe recession alongside the introduction of many experimental adjustable-rate mortgages. As economic conditions worsened, primarily in the oil belt, mortgage defaults increased with a resulting dramatic rise in residential property foreclosures. PMI companies of the time paid out in excess of $6 billion in claims to its policyholders during the 1980s. This was followed by the recession at the beginning of the 1990s, after the Gulf war, seeing PMI companies paying out more than$8 billion in claims (Bryce, 2009), chiefly in California and New England. The firms whom the policies benefited were Fannie Mae, Freddie Mac, commercial banks, savings institutions, institutional mortgage investors, mortgage bankers, the Federal Deposit Insurance Corporation, and the Federal Savings and Loan Insurance Corporation.

PMI companies are required to keep three types of reserves, the most important of which is the contingency reserve. Half of each premium dollar earned goes into the contingency reserve and generally cannot be touched by the mortgage insurer for a 10-year period. The PMI industry hopes that this will ensure that significant reserves are accumulated during good times not only to handle claims under stress, but also to avoid boom-bust cycles. Therefore, unlike other financial institutions that may pay high dividends during profitable periods, PMI companies have, since the 1980s, tended to build contingency reserves during these periods in order to have adequate capital ready to pay the higher claims that inevitably occur during periods of market corrections (Bryce, 2009).

Capital Adequacy Review of PMI Industry

State insurance departments require PMI companies to operate within a conservative risk-to-capital ratio, with capital guidelines generally falling within a 25-to-1 ratio of risk to capital, which means PMI firms set aside $1 of capital for every $25 of insured risk (MICA 2010). Insured risk is defined as the percentage of each loan covered by an insurance policy. To better understand how the risk-to-capital ratios of PMI companies effect homebuyers, consider the following: For every billion dollars of capital owned by a PMI company, the PMI firm can cover the risk on 500,000 homes having a hypothetical average value of $216,216 with an average mortgage balance of $200,000. This is due to the fact that most mortgage insurance average coverage is 25% of the average loan. Under these circumstances, this is an insured risk of $25 billion. When one applies the 25-to-1, risk-to-capital ratio for every extra billion dollars of capital the industry can raise, housing financing that requires PMI can add 500,000 loans to the market (see Table I).

It is clear that a well-capitalized PMI industry is important to the continued growth of the prime mortgage financing function in the United States, as over 60% of all mortgages made over the past 30 years have be facilitated through to the secondary market though the two primary Government Sponsored Enterprises (GSE)—Fannie Mae and Freddie Mac. The majority of these GSE qualifying mortgages require private mortgage insurance policies to be purchased if the new mortgagee cannot make an equity investment in the financed residential home of 20% or more. The ability of the GSE's to accept PMI as an alternative to a 20% down payment by a borrower has been possible since 1972, and with that change the fledgling reemergence of an industry unable to survive after the losses of the Great Depression began to flourish. A symbiotic relationship between the GSE's and the PMI industry existed that was critically important to the continued success of the state and federal government's attempts to increase individual homeownership. The rapid increase in housing price inflation in the 1960's and 1970's allowed the industry to avoid any real losses and, thus, its capital structure to remain robust (Canter, 1994). Until the recent mortgage crisis, the PMI industry appeared to be well run with more than adequate capital.

Table II presents a trend analysis of the PMI industry's largest publicly-traded firms to determine how key business, asset, capital and risk ratios have changed during the past ten years. These firms included are: AIG United Guaranty, Genworth Mortgage Insurance Corporation, Mortgage Guaranty Insurance Corporation, PMI Mortgage Insurance Co., Republic Mortgage Insurance Company and Triad Guaranty Insurance Corporation, the combination of which represents over 80% of the market share of PMI policies in force over the period evaluated. PMI public company analysts and regulators use paying ability as an important element in measuring the industry's claims. This is done by observing the PMI firm's assets and reserves.

Table II shows these PMI firms' financial standing for the past ten years. Data in Table II demonstrates that Admitted Assets grew over the 10-year period by an average compounded rate of 5.3285% while the Insured Loss Reserve grew by during the same period at an unsustainable average compounded rate of 24.9807%. This initial observation can be compared to utilization of Contingency Reserves that were built up over the same period and then used in the last three years. The effects of the growth of the Insured Loss Reserve should also be compared later to the adequate capital position of the industry. Notable is Kriz's study (1997) showing that the private mortgage industry had an average risk-to-capital ratio of 18.63 some 15 years ago (Kriz, 1997);

however, by 2000 the initial starting point of the research for this paper the risk-to-capital ratio has improved to 11.20 (Dwight, 2003).

It is a well established mortgage insurance management principle that premium volume should be kept within a reasonable relationship to surplus (or capital and surplus in a stock company), although there is no consensus as to what that relationship should be since the purpose is first for solvency and second for strength. Policyholder surplus must be able to accommodate the impact of the changing flows of losses that might occur from both underwriting loss assumptions versus actual losses and investment results compared to investment assumptions when the mortgage insurance product is priced and sold. Since there are elements of risk from the underwriting and investment exposures, there is a rule of thumb that sets $2.00 of premiums written for each dollar of surplus as conservative underwriting leverage (Moody's, 2003), $3.00 or $4.00 of premium as safe, but beyond that caution should be observed (Beckman, 1972). Table III reflects changes in the Risk-to-Capital Ratio since 2000 along with comparisons to Total Capital, Total Net Risk in Force, Net Premiums Written and Policyholders Surplus.

Data in Table III suggests that the PMI industry previously had Policyholder Surplus-to-Net Premiums underwriting leverage risk ratios consistently below those considered to be conservative. An alternative conclusion might be that the ratios of net premiums written to policyholder surplus risk ratios used by the financial actuarial and financial ratings community and used for the property casualty industry is perhaps more relevant to the shorter risk acceptance to loss business cycle, such as auto and medical insurers. The PMI industry Risk-to-Capital ratio continues to improve over the first six years of the period under study and then shows a marked deterioration. The overall PMI industry capital, after remaining stable for the first six years of the period under study, fell more than 50% in a three year period from 2006 to 2009, thus taking the PMI industry the closest it has been to breaching the 25-to-1, Risk-to-Capital minimum ratio since the early reopening of the PMI industry in the decade of the 1950s. This data was developed in aggregate and the results have led to the following review of how individual PMI companies have reacted to the possibility of continued losses possibly triggering state insurance commission regulatory intervention. Faced with this reality, the companies under study have attempted to raise capital with some limited success.

New Term Capital Structure of PMI Industry

In light of the risk of regulatory intervention, dominate PMI players began engaging in capital raising efforts during the past year. Table IV on the next page will show that the firms that were able to raise equity in 2010. A review of Offering Documentation and SEC Filings on Electronic Data Gathering, Analysis, and Retrieval system, "EDGAR," from 144 filings suggests that most of the firms with severe capital strain could not find adequate market acceptance. Moreover, in the spring through the early summer of 2010 there was an short uptrend in housing and those firms who were ready with their offerings were able to raise capital in a very short window of opportunity as the slight recovery in the residential housing market evaporated in the late summer of 2010 (NMP, 2010). PMI Mortgage Insurance companies raised one of the larger sums in capital, taking their capital-to-risk ratio back down to 15.8 to 1 at June 30, 2010. Unfortunately reversals in the earlier trends of a slight recovery in residential housing prices turned to continued declines. With no real moderation in the national unemployment rate—one of the main drivers of delinquencies—PMI Mortgage Insurance ended 2010 having sustained

losses that depleted all the new capital raised and ending 2010 with less stockholders equity than when they started.

Research Model

To analyze the incremental loss relevance of the continued extension of the current credit crisis, and extended sector price decline of residential real estate, data is being gathered to test the following model and examine its predictive ability in forecasting future loan losses.

$$Y = X_1 + X_2 + X_3 + X_4 + e$$

Where:

Y = Losses incurred on at least 30 observations at a Standard Metropolitan Statistical Area level
X_1 = Unemployment rate per SMSA
X_2 = Increase in delinquency rate per SMSA
X_3 = Unemployment rate
X_4 = Foreclosure rate

Initial results suggest a statistically significant correlation between the Y for losses for the known loss periods for the companies in this study and the losses they incurred in the 1982-1986 and 1991-1995 time periods of extended regional residential real estate price declines associated with localized real estate bubbles, unique economic declines with patterned unemployment and the follow on higher delinquency and foreclosure activity. Moreover, the model predicts that the losses may not be covered by PMI reserve. Additional data will be observed and tested, controlling for other factors, to determine if individual variables or a combination thereof better predict losses from mortgage loans.

Significance for Auditors

As part of the audit of financial services companies that makes mortgage loans, auditors make reserve evaluations. Given the financial situation of most major PMI insurance companies, auditors would be wise to evaluate the reserves for the financial institutions with the assumption that some loan losses may not be recoverable from the PMI companies. A financial analysis of the PMI companies providing the coverage may be necessary to develop comfort with the loan loss reserve for the financial services company under audit.

Conclusion

According to a September 2010 announcement by the National Bureau of Economic Research (Isidore, 2010), the most current recession ended in June 2009. This "economic recovery" is based on gross domestic product growth. Yet, 18 months later, residential mortgage delinquencies and foreclosure rates on prime mortgages—the mortgages most likely to continue to have a negative effect on the private mortgage insurance carriers—persist. While the peak of delinquencies for prime mortgages occurred in the fourth quarter of 2009, in states most negatively affected by price declines such as Nevada and Florida, these delinquencies have

continued to worsen (AP, 2010). One of the reasons for this disparity is that residential real estate prices have entered a new period of price declines after a slight recovery in late 2009 and early 2010. This is causing a "double-dip" price decline of home prices nationwide as seen in recent reports from Case/Scheller and CORELogic where the following notable quotes are worth presenting (Foege, 2011).

> David Blitzer, chairman of Standard & Poor's Index Committee, told the New York Times that "signs of a double dip recession are pretty clear. We shouldn't kid ourselves, Blitzer said. The last few months have been weak." (Foege, 2011).

Radar Logic's president and CEO, Michael Feder, however, argued in his debut column for *AOL Real Estate* (January 26, 2011) that cries of a double dip in housing are misleading. Unfortunately, Feder's assessment was even gloomier.

> "This is not a second leg, he wrote. Rather, it is a continuing deterioration of value which could continue for some years to come."

Although some PMI companies showed small incomes in the second quarter of 2010, most report reverses of income caused by fresh new losses in the third quarter of 2010. Losses jumped more than 300% in the fourth quarter for Mortgage Guaranty Insurance Company, effectively using up all the capital raised in the earlier in the year. As of December 31, 2010, MGIC's risk-to-capital ratio was 19.8:1 compared with 19.4:1 as of December 31, 2009 and MGIC's book value decreased 20.0% year over year to $8.33 per share (Zacks, 2011).

Given the history of PMI failures in times of huge mortgage losses, auditors should be concerned about the weakness in the PMI industry. Audit programs likely need to be adjusted to evaluate the likelihood of PMI payments being insufficient or even absent if more mortgage failures ensue. At the very least, disclosure in footnotes of PMI insurance companies' financial health and the potential impact upon companies holding mortgage loans should be made.

Limitations and Suggestions for Future Research

The initial results of this study indicate that, should more mortgage failures follow, PMI insurance companies may be unable to cover all losses. However, this study is an exploratory study made with simple correlational measures. While this study observes financial health measures of companies providing 80% of all PMI in the United States, it does not cover all companies. Other variables may be predictive of PMI failure, and these should be sought out and evaluated.

Further exploration into auditors' use of PMI insurance companies' financial health in evaluating loan reserves needs to be performed. Additional research needs to be done to explore the longer-term effects of the regulatory takeover or liquidation of some of the weaker private mortgage insurance firms. A case study of one firm included in this study— Triad Guaranty Insurance Corporation (Triad)—would be interesting and telling. Triad received a Corrective Order (Order) from its state regulator, the Illinois Director of Insurance (Illinois Director).

Because of this continued residential real estate market uncertainty, the Illinois Director has announced that it is in the best interests of Triad's policyholders to require Triad to settle claims with a combination of cash and deferred payment obligations. The Director has issued an Order to that effect last year (Bloomberg, 2010). A summary of that Order is detailed below:

> All valid claims under Triad's mortgage guaranty insurance policies will be paid 60% in cash and 40% by the creation of a deferred payment obligation (DPO). The DPO will be represented by a separate entry in Triad's financial statements and will accrue a carrying charge based on the investment yield earned by Triad's investment portfolio. Payments of the carrying charge and the DPO will be subject to Triad's future financial performance and will require approval of the Illinois Director of Insurance (Bloomberg, 2010).

Moreover, the effects upon individual stakeholders—such as Fannie Mae, Freddie Mac, Mortgage Backed Securities Trustees and any other firm using the assumption that these firms will continue to be viable in calculating estimated loan loss reserves—should be addressed.

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Appendix – Tables

Table I

Potential Housing Value Support of MI Capital
(per every $1 billion dollars new capital invested)

New Mortgage Value Needing PMI	$	100	Billion
Assumed Average PMI Coverage		25%	
Insured Risk From New Mortgage Value of $100 Billion	$	25	Billion
Apply Minimum State Required Risk to Capital Ratio of 25 to 1	$	1	Billion Capital Required
New Home Financings Facilitated by $1 Billion Capital Assuming the Average Loan Amount of $200,000		500,000	Homes Financings Facilitated

Table II

Selected PMI Industry Assets and Reserves from 1999 to 2009
Numbers in Table II in Millions of Dollars

	2000	2001	2002	2003	2004
Admitted Assets	$ 16,150	$ 18,897	$ 19,761	$ 18,840	$ 19,510
Unearned Reserve Premium	$ 503	$ 510	$ 451	$ 481	$ 416
Insured Loss Reserve	$ 1,923	$ 2,062	$ 2,025	$ 1,845	$ 2,163
Contingency Reserve	$ 9,502	$ 11,186	$ 12,789	$ 9,644	$ 12,318
	2005	2006	2007	2008	2009
Admitted Assets	$ 20,243	$ 20,829	$ 21,964	$ 27,314	$ 28,065
Unearned Reserve Premium	$ 444	$ 433	$ 595	$ 914	$ 777
Insured Loss Reserve	$ 2,159	$ 2,336	$ 5,957	$ 13,401	$ 17,881
Contingency Reserve	$ 11,198	$ 14,018	$ 11,109	$ 7,128	$ 2,782

Table III

Selected PMI Industry Policyholder Surplus Comparisons to Net Premiums Written & Changes in Total PMI Industry Capital and Changes in PMI Industry Risk-to-Capital Ratio From 1999 to 2009

(In Millions of Dollars)

Policyholder Surplus	$ 3,689,362	$ 4,336,645	$ 3,272,973	$ 3,087,278	$ 3,937,549
Net Premiums Written	$ 3,324,382	$ 3,656,387	$ 3,789,257	$ 4,137,603	$ 3,336,039
*Net Preiums Written to Policyholder Surplus Risk Ratio	0.90	0.84	1.16	1.34	0.85
PMI Industry Capital	$ 13,190,633	$ 15,522,902	$ 16,061,517	$ 15,445,740	$ 16,255,170
PMI Industry Risk-to-Capital Ratio	11.20	11.06	11.03	9.85	9.38
	2005	2006	2007	2008	2009
Policyholder Surplus	$ 5,645,758	$ 3,469,930	$ 3,242,741	$ 4,848,589	$ 5,647,037
Net Premiums Written	$ 3,480,174	$ 3,541,558	$ 4,180,226	$ 5,034,188	$ 4,364,359
*Net Preiums Written to Policyholder Surplus Risk Ratio	0.62	1.02	1.29	1.04	0.77
PMI Industry Capital	$ 16,843,509	$ 17,488,313	$ 14,351,691	$ 11,976,399	$ 8,428,941
PMI Industry Risk-to-Capital Ratio	8.91	9.04	13.50	19.01	18.55

* A ratio of 2 (or lower) considered an accepted rule of thumb for a conservative underwriting risk leverage

Table IV

Major Private Mortgage Insurance Carriers Capital Raising Efforts In 2010

	Equity Capital Raised	
AIG United Guaranty	No	(1)
Genworth Mortgage Insurance Corporation	No	(2)
Mortgage Guaranty Insurance Corporation	Yes	(3)
PMI Mortgage Insurance Co.	Yes	(4)
Radian Group Inc.	Yes	(5)
Republic Mortgage Insurance Company	Yes	(6)
Triad Guaranty Insurance	No	(7)

(1) A subsidiary of New York-based American International Group, Inc.
(2) No capital raised - adequate capital-to-risk ratio at 12/31/2010
(3) Raised stock offering in Spring of 2010
(4) Had equity raise of $610 million in 2nd Quarter of 2010
(5) Raised stock offering in Spring of 2010
(6) Parent Company Raised Equity in 2008 and 2010
(7) Negative GAAP Net Worth at end of 2010