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Asset-Quality Misrepresentation as a Factor in the Financial Crisis

A [provocative new paper](#) by Tomasz Piskorski, Amit Seru, and James Witkin (2013, henceforth PSW) presents evidence in support of a popular theory of the financial crisis. That theory is that issuers of mortgage-backed securities (MBS) misrepresented the credit quality of the loans backing those bonds. Without the proper information about what they were buying, MBS investors lost so much money that the entire financial system nearly buckled as a result. A closer look at the evidence, however, shows that any deception in the marketing of MBS had little or no effect on investor decisions, so it is unlikely that MBS misrepresentation played a significant role in the financial crisis.

The basic approach of the PSW paper is to compare two sets of loan-level mortgage datasets in a search for issuer misrepresentation. One set of records is provided by the MBS issuers themselves (formally known as trustees), while the other is a set of loan-level records from a credit bureau. PSW assumes that if they find an MBS trustee reported one fact about a given loan while the credit bureau data shows something different, then the MBS trustee misrepresented the loan. For example, assume that a trustee reported that the borrower on a particular loan was an owner-occupier, not an absentee investor. PSW consulted the credit bureau data to see whether the bureau reported a borrower living at the same address as the property. If this was not the case, then PSW say the loan was misrepresented by the MBS trustee as a loan for an occupier when in reality it was a loan for an investor (and thus much riskier than advertised).

Loans backed by investor properties were likelier to default

The headline finding is that misrepresentation was present. According to PSW, about 7 percent of investor loans were misrepresented as backed by owner-occupied homes. PSW also find that loans backed by investor-owned properties were much more likely to default, and that MBS issuers systematically failed to report the existence of second liens.

The link between misrepresentation about MBS and the mortgage crisis may at first glance seem obvious. MBS investors constructed their forecasts of loan defaults using the loan characteristics reported by MBS trustees. When defaults turned out to be higher than the investors expected—because the MBS trustees had misrepresented the loan characteristics—massive investor losses and a financial crisis resulted.

Yet the historical record reveals something puzzling. Despite the ostensible misrepresentation by trustees, investor forecasts of MBS performance were exceptionally accurate. The table comes from a Lehman Brothers analyst report from 2005 and provides forecasts of the performance of securitized subprime loans under varying scenarios for house prices. The bottom row of this table gives the "meltdown" scenario: three years of house-price declines at an annual rate of 5 percent. Under this scenario, Lehman researchers expected subprime deals to lose about 17 percent. In reality, prices fell 10 percent per year—double the rate in the meltdown scenario—yet the actual losses on subprime deals from that vintage are expected to come in around 23 percent.

Conditional Forecasts of Losses on Subprime Investments

Name	Scenario	Probability	Cumulative loss
(1) Aggressive	11% House Price Appreciation (HPA) over the life of the pool	15%	1.4%
(2)	8% HPA for life	15%	3.2%
(3) Base	HPA slows to 5% by end of 2005	50%	5.6%
(4) Pessimistic	0% HPA for the next three years, 5% thereafter	15%	11.1%
(5) Meltdown	-5% for the next three years, 5% thereafter	5%	17.1%

Source: Lehman Brothers, "HEL Bond Profile across HPA Scenarios," in *U.S. ABS Weekly Outlook*, August 15, 2005.

This table shows that investors knew that subprime investments would turn sour if housing prices fell. The "meltdown" scenario for housing prices implies cumulative losses of 17.1 percent on subprime-backed bonds. Such losses would be large enough to wipe out all but the highest-rated tranches of most subprime deals. The table also shows that investors placed small probabilities on these adverse price scenarios, a fact that explains why they were so willing to buy these bonds.

If issuers were lying about the quality of the loans, then why did the investors produce such reasonable forecasts of loan defaults?

There are two closely related answers. The first comes from information economics: rational investors were properly skeptical of any information they couldn't verify, so they rationally assumed that there was some misrepresentation going on. The logic here is exactly that of the celebrated "lemons" model of George Akerlof, who won a Nobel Prize for his insight about the effect of asymmetric information on markets. Assume, for example, that used-car buyers know that used-car sellers have private information about the quality of the cars that they bring to the market. As a result, potential buyers assume that they will be offered only low-quality used cars (lemons), so these buyers offer appropriately low prices for all cars in the used-car market. The same skepticism was likely to be present in the market for mortgages. In our case, pooling across mortgage loans and securitization deals means that investors will sometimes overestimate the share of misrepresented loans and sometimes underestimate it, but on average they get it right.

The second, related, answer to the question of why misrepresentation doesn't matter is that this lack of trust leads investors to base their forecasts on the historical performance of the loans. In other words, investors do not construct a theoretical model of how often an idealized owner-occupant should default. Rather, the investors simply measure the previous default probabilities of loans that were *represented* as going to owner-occupants. As long as misrepresentation doesn't significantly change over time, the forecasts based on the investors' reduced-form statistical models would not have underpredicted defaults. (Indeed, the table above shows that this method seems to have worked pretty well.) Of course, one might worry that the misrepresentation problem did get worse over time. However, although the authors claim in the abstract that the problem got worse, the results in the paper show that differences between the level of misreporting in 2005 and 2006 and 2007 were minimal. Moreover, in many cases, the differences have the wrong sign.

Looking elsewhere for an explanation

At the end of the day, the PWS paper—like many others written since the crisis—tries to explain a fact that isn't really a fact. Investors didn't really think of securitized subprime loans as less risky than they actually were. The documentary evidence repeatedly shows that investors understood the risk inherent in purchasing MBS that were backed by loans to people with bad credit histories. As the table shows, analysts expected 17.1 percent losses in the meltdown scenario. If we assume a 50-percent loss rate for each default, then overall losses of 17.1-percent imply that 34.2 percent of the loans—more than a third—would go to foreclosure. With the benefit of hindsight, we can see that the real problem for investors was not that they didn't think subprime borrowers would default if house prices fell. Rather, they didn't think house prices would fall in the first place.

Finally, it is important to stress that the quantitative effects of the level of misrepresentation found in the paper are economically insignificant. Remember that the harm of misrepresentation for an investor arises because misrepresentation leads investors to under-forecast defaults. Quantitatively, the largest finding of misrepresentation reported by PSW is that 15 percent of purchase mortgages had some form of misrepresentation, and that the misrepresented loans were 1.6 times more likely to default. So, if an investor assumes that none of the loans were misrepresented, then a simple calculation shows that actual defaults are likely to come in about 1.09 times higher than forecast:

$$(0.85 \times 1) + (0.15 \times 1.6) = 1.09$$

This calculation implies that if a naïve investor forecasted, say, 8 percent defaults for a pool of subprime loans, then the true number would actually be 8 percent x 1.09 = 8.72 percent. But even this figure overstates the effect of misrepresentation, because it assumes that the investors had access to a "pure" data set that was uncontaminated by misreporting. In any case, for subprime loans originated in 2006, actual defaults came in about 40 percentage points over what was expected. In other words, even if we assume investors were completely naïve, misrepresentation can, at most, explain 0.72 percentage points out of 40.

We feel researchers should look elsewhere for an explanation for why investors lost so much money during the housing crisis. A good place to start is the belief by all actors in the drama—borrowers, Wall Street intermediaries, and investors—that housing prices could only go up.

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