The subprime mortgage crisis and its consequences[1]

By the end of 2006 the U.S. housing market began to falter. The immediately preceding boom period – which started in the late 1990s – was encouraged by excessively easy monetary policy during 2003 and 2004. In its course, lending to subprime borrowers expanded dramatically during the decade,[2] which was both a result of the boom and a force that strengthened the boom.[3] Many of these mortgages were subsequently securitized into MBS and other mortgage-related securities (usually collateralized debt obligations (CDOs)) that had multiple tranches of varying seniority. These were largely "private label" securities, since the relatively high (at least, early in the decade of the 2000s) underwriting standards of Fannie Mae and Freddie Mac largely precluded them from securitizing subprime mortgages.[4]

Crucial to the profitability of the securitization process and sale of the securities were favorable ratings for the sizable senior tranches of these securities; these ratings were provided by the three major U.S. credit rating agencies.[5] Since the 1930s, the judgments of these credit rating agencies with respect to the creditworthiness of bonds have increasingly acquired the force of law, through regulatory requirements that financial regulators have placed on the bond investments of their regulated financial institutions.[6]

Further, in the late 1960s and early 1970s the major credit rating agencies changed their business model from the "investor pays" model to an "issuer pays" model. This latter business model created the potential for substantially greater conflicts of interest than had been true under the former business model. These conflicts apparently were kept under control for ratings of corporate and government bonds. However, in regard to the complex mortgage-related

[1] The following section has been drafted in 2010 by Prof. Lawrence White after the sub-prime mortgage crisis. It is to be appended as paragraph # 8 of Chapter 4 (section C), page 39 of the original study.

[2] For example, the number of subprime mortgages that were originated almost doubled between 2003 and 2005; see Mayer et al. (2009).

[3] Further discussion of the subprime debacle can be found in Gorton (2008), Acharya and Richardson (2009), Coval et al. (2009), and Mayer et al. (2009).

[4] However, by about 2004 or 2005, both Fannie Mae and Freddie Mac loosened their underwriting standards, and began buying large numbers of "Alt-A" mortgages (i.e., those that were below prime but above subprime); the two companies also began buying large amounts of the AAA-rated tranches of CDOs and other residential mortgage-backed securities that had subprime mortgages as their underlying collateral.

[5] Further discussion of the credit rating agencies can be found in Partnoy (1999, 2002), Sylla (2002), White(2002, 2002-2003, 2006, 2007, 2009), and Richardson and White (2009).

[6] The Basel II capital requirements for banks would similarly gear capital requirements (inversely) to the bond ratings (if any) of the companies to which banks make loans.

securities, credit rating agencies were not just passive observers and raters (as is largely true for the rating of corporate and government bonds) but had a hand in the structuring of the bonds. The volumes of securities to be rated was large; the profit margins for the raters were also large; the numbers of securitizers were comparatively few, so that a securitizer's threat to take its business elsewhere unless it received the ratings that it wanted was potent; and the information set was opaque, so the likelihood that third parties might discover errors was reduced.

The securitizers wanted the percentage composition of the highest rated tranches to be as large as possible (since the highest rated tranches could be sold with the lowest interest yields and thus allowed the greatest retention of profits for the securitizers). The temptations for the credit agencies proved too great – and they succumbed.

The "originate to distribute" model for mortgage lending embodied the vertically dis-integrated processes that were described earlier in this paper and raised the potential problems of moral hazard behavior. For the previous three decades of mortgage securitization, moral hazard problems had largely been absent. However, with the continuing housing boom of this decade virtually every actor involved in the mortgage process came to believe that housing prices could only increase. In this environment, then, even a substantial deterioration of underwriting standards on newly originated subprime mortgages in 2005 and 2006 went largely unnoticed.

When house prices ceased rising in mid 2006 and then started falling, subprime mortgage defaults began accelerating, followed by "alt-A" mortgages and then even by "prime" mortgages in areas that experienced sizable house price declines. With mortgage defaults rising, the value of the CDOs that had these mortgages as their underlying collateral declined sharply in value. The initially excessively optimistic ratings on thousands of tranches of these CDOs were downgraded.

In turn, the financial institutions – including large commercial banks (and their holding companies) and large investment banks – that had invested in these tranches experienced declines in the values of their asset portfolios and thus in their capital. And, because these financial institutions tended to be highly leveraged the losses decimated the financial sector.[7]

[7] Further, some of these financial institutions had sponsored "structured investment vehicles" (SIVs) that bought highly rated tranches, issued largely short-term commercial paper for their funding (which created well known problems of "lending long and borrowing short"), and had virtually no capital to provide a cushion against losses. To protect their "reputational capital", the institutions eventually felt that they had to absorb these SIVs

Further, Fannie Mae and Freddie Mac – with leverage ratios of approximately 25-to-1 and an exposure to the credit risk on almost half of all U.S. residential mortgages – experienced rising credit losses in the first half of 2008; in early September 2008 the U.S. Government placed both companies in conservatorship, with the possible losses to the government ranging into hundreds of billions of dollars. The implicit guarantee of the U.S. Government for these companies' debt obligations has turned out to be an explicit guarantee.

Finally, the widespread defaults on mortgages in 2007 and 2008 revealed a second problem with the "originate to distribute" model that (unlike the potential moral hazard problem) had not been discussed or appreciated prior to the debacle: How could individual mortgages that had been securitized be renegotiated in the event that the borrower wasn't able to continue paying on the original terms of the mortgage?

In the context of the former vertically integrated finance system, it would be possible for the lender to negotiate directly with a faltering borrower. However, in the context of securitization, there might be hundreds of fractional owners of an individual mortgage (through their ownership interests in the resulting security), so that there was no simple one-on-one negotiation that was possible. Further, because of the varying seniority of the tranches of the mortgage-related securities, the interests of the various claimants might differ as to whether a renegotiation or a foreclosure was in their best interests. Consequently, even though the mortgage servicer might be the single party with which the borrower might have a one-on-one negotiation, the servicer might have a difficult or impossible task in representing all of the interests of all of the securities holders.

It is impossible to be as sanguine about the future of MBS as a channel for U.S. housing finance as was true earlier in his decade. Too many mistakes have been made; but it should be possible to learn from these mistakes and thus for MBS to have a future.

First, it is clear that with explicit government guarantees, MBS (so far) have not been a problem. Despite the debacle, Ginnie Mae securities (which carry the full faith and credit of the U.S. government, since Ginnie Mae is an agency of the government) have not suffered.

Second, the hybrid model that was embodied by Fannie Mae and Freddie Mac –

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onto their own balance sheets, which exacerbated their losses.

corporations that had all of the trappings of the private sector but that also had implicit (which eventually became explicit) support from the U.S. Government – is a failure. The best solution would be to expand the explicit role of government (through an expanded Ginnie Mae and through other expanded explicit programs that would help low- and moderate-income households become homeowners), while converting the operations of Fannie Mae and Freddie Mac into truly private operations.

Third, it should be possible for simple private label securitizations – say, single-stage securitizations, with multiple tranches but with relatively uniform mortgages and an abundance of information for investors – to be successful again. The bond market is a market where financial institutions are the primary buyers, rather than households. Financial institutions (as compared to "widows and orphans") ought to be able to learn from the mistakes of the recent past and to be more cautious.

In this more cautious environment, a simplified private label MBS structure, as well as an expanded Ginnie Mae, should have a future. It will surely not be as frothy, and perhaps not as large, as was true earlier in this decade. But the advantages of MBS as a channel for housing finance, as outlined earlier in this paper, seem too substantial to allow the opportunities to wither completely.

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