

Securitized Instruments During the Crisis

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Abstract: A central role in the recent financial crisis was played by Collateralized Debt Obligations (CDOs) and private-label Mortgage-Backed Securities (MBS), backed by nonprime loans. However, very few studies have been done about the underlying forces that drove investor demand for these securitizations. Using micro-data on insurers' and mutual funds' bond holdings, considerable heterogeneity can be found in investor demand for securitizations in the pre-crisis period. The argument is that both investor beliefs and incentives help to explain this variation in demand. This data paints a more uniform picture of investor behavior in the crisis. Consistent with theories of optimal liquidation, investors largely traded in more liquid securities such as government-guaranteed MBS to meet their liquidity needs during the crisis and distanced themselves from less liquid securities.

Keywords: securitization, CDO, MBS, liquidity, crisis

1. Introduction.

Collateralized debt obligations (CDOs) and mortgage-backed securities (MBS) backed by nonprime loans have been at the center of the recent financial crisis. These securitized assets have grown exponentially from 2003 to early 2007 before collapsing in mid-2007. Prices for these products fell abruptly from late 2007 to 2008, inducing large losses for financial intermediaries and generating a full-blown systemic crisis in late 2008. This is a working paper, the results shown here being a work in progress.

2. Evolution.

The issue at hand is not the historic evolution of events, but rather the reasons behind the rise and subsequent fall in investor demand for CDOs and nonprime MBS. Some explanations for the pre-crisis run-up in demand could have to do with distortions that affected either investor beliefs or incentives. Beliefs-based explanations argue that a misunderstanding of the risks of investing in securitizations helped drive investor demand, while incentives-based explanations emphasize agency problems between professional investors and their principals¹.

The collapse in demand during the crisis can be argued either based on fire sales or a buyers' strike that amplified the initial fundamental shock created by declining home prices. In fire sales-based explanations, the fundamental shock was amplified by forced sales from investors with high valuations to others with low valuations, while in buyers' strike-based explanations, it was amplified by a refusal to trade due to adverse selection or other frictions².

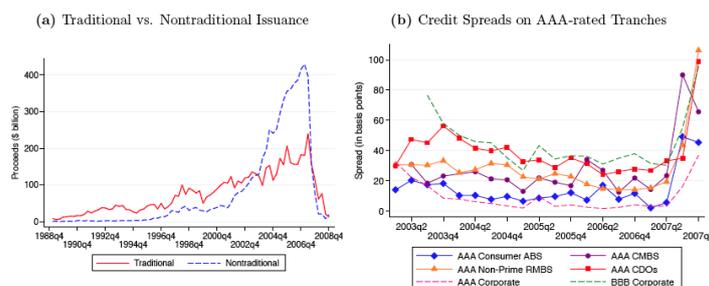
This study focuses on nontraditional securitizations, which consisted of CDOs and MBS backed by nonprime home mortgages. While we have been seeing traditional securitizations backed by prime residential mortgages, commercial mortgages, and consumer debt for decades, nontraditional securitizations are a more recent emergence. And, as Figure 1(a) shows, the rapid growth in securitization during the 2003–2007 boom was concentrated in nontraditional products.

Fig. 13 Issue and Spreads of Traditional and Nontraditional Securitizations

¹ See Coval, Jurek, and Stafford (2009) and Gennaioli, Shleifer, and Vishny (2012) for beliefs-based explanations. For incentive-based explanations, see Rajan (2005), Acharya and Richardson (2009), and Merrill, Nadauld, and Strahan (2014).

² For theoretical models of fire sales, see Shleifer and Vishny (1992, 2011), Kiyotaki and Moore (1997), Lorenzoni (2008), Brunnermeier and Pedersen (2009), Geanakoplos (2009), Stein (2012), Brunnermeier and Sannikov (2014), and Dávila (2014). See Dang, Gorton, and Holmstrom (2013), Hanson and Sunderam (2013), Milbradt (2012), and Morris and Shin (2012) for models of buyers' strikes

³ Chernenko, S., Hanson S.G., Sunderam A. (2014)



This figure shows quarterly issuance and credit spreads on traditional and nontraditional securitizations. The underlying data is from SDC. Panel A plots quarterly issuance of traditional and nontraditional securitizations. Traditional securitizations include CMBS, prime RMBS, consumer ABS, and other ABS. Nontraditional securitizations include non-prime RMBS and CDOs. Panel B plots the credit spreads on newly issued AAA-rated securitizations versus the spreads on corporate bonds. Each quarter the value-weighted average credit spread on securitizations is computed, based on the underlying collateral. This average is computed for traditional consumer asset-backed securities backed by credit card loans, automotive loans, student loans, and other personal loans (“Consumer ABS”); private residential mortgage backed securities (RMBS) backed by subprime and Alt-A mortgages (“Non-Prime RMBS”); commercial mortgage backed securities (CMBS); and collateralized debt obligations (“CDOs”). To avoid benchmarking issues attention is restricted to the spreads on floating rate notes indexed to 1-, 3-, and 6-month LIBOR. For reference the average secondary spreads over LIBOR (based on interest rate swaps) on 3-year AAA and BBB-rated corporate bonds are plotted from Barclays.

During the 2003–2007 boom there was considerable heterogeneity across investors in their demand for nontraditional securitizations. At a macro level, while both insurers and mutual funds increased the share of their portfolios allocated to nontraditional securitizations, these increases were not inline with the broader credit market; as issuance boomed, insurers and mutual funds became increasingly underweight relative to the whole market.

Which investor characteristics were associated with larger holdings of nontraditional securitizations? Chernenko, S, Hanson S.G., Sunderam A. (2014) start with mutual funds and estimate cross-sectional regressions relating portfolio weights in nontraditional securitizations to a variety of fund and manager characteristics. Among mutual funds with the same objective, fund manager experience stands out relative to other fund characteristics: experienced managers invested significantly less in nontraditional securitizations than inexperienced managers. What explains the relationship between fund manager experience and securitization holdings? As suggested by the growing literature on reinforcement learning, the greater demand of inexperienced managers may have been due to differences in beliefs⁴. Consistent with this, managers who were active during the credit market disruptions following the 1998 Russian default invested significantly less than other managers. Personal experience during the market disruption appears to have a significant importance: the effect appears to be driven by managers whose funds suffered poor returns or heavy outflows in 1998. Overall, these results suggest that beliefs, influenced in part by prior experiences, played an important role in driving mutual fund demand for nontraditional securitizations. Holdings of nontraditional securitizations were higher among larger insurers and insurance companies that had fixed income portfolios managed by external managers. Among the largest 100 insurers, which together hold almost 90% of total assets, holdings of nontraditional securitizations were concentrated among poorly capitalized insurers. These findings are consistent with the notion that misaligned incentives played a role in driving insurer demand for nontraditional securitizations. Among small insurers, the key principal-agent relationship was between the insurer, which may have lacked the expertise necessary to directly invest in securitizations, and external portfolio managers. Among larger insurers, the key principal-agent relationship was between creditors and equity holders.

What happened to investor demand for securitizations after the onset of the crisis in mid-2007? For both mutual funds and insurance companies trading in nontraditional securitizations declined through the boom from 2003–2007 and was extremely low during the 2007–2009 bust. On the contrary, trading in corporate bonds remained relatively stable from 2003–2010. This is consistent with the buyers’ strike hypothesis, which emphasizes market freezes due to adverse selection or other frictions. However, mutual funds with large holdings of nontraditional securitizations suffered larger outflows during the crisis. Consistent with theories of fire sales where investors follow optimal liquidation strategies, funds met these redemptions primarily by selling liquid government-guaranteed MBS and not by selling illiquid nontraditional securitizations.

⁴ See, for instance, Greenwood and Nagel (2009), Malmandier and Nagel (2011, 2014), and Campbell, Ramadorai, and Ranish (2013).

All in all, the literature on investor holdings of securitizations presents a multifaceted picture of the boom in nontraditional securitization and a more uniform picture of the bust. Among mutual funds, beliefs appear to have been a key driver of holdings of nontraditional securitizations, while incentives appear to have played an important role among insurers. In the bust, investors behaved similarly. They traded very little in nontraditional securitizations, preferring to transact in more liquid securities to meet their liquidity needs.

3. Conclusions.

Nontraditional securitizations—nonprime RMBS and CDOs—were at the heart of the recent financial crisis. The demand for these securities helped feed the housing boom during the early and mid-2000s, while rapid declines in their prices during 2007 and 2008 generated large losses for financial intermediaries, ultimately imperiling their soundness and triggering a full-blown crisis.

A series of facts about the demand for nontraditional securitizations is presented in this paper, summarized from the literature on the subject. First, heterogeneity across securitization types and investors is key to understanding the crisis. Beliefs appear to have been an important driver of mutual fund holdings of nontraditional securitizations. Although they did not face stronger performance-flow relationships, inexperienced mutual fund managers invested significantly more in these products than experienced managers. Consistent with the idea that beliefs—shaped by past firsthand experiences—played an important role, managers who had suffered through the market dislocations of 1998 invested substantially less in nontraditional securitizations than those who had not.

For insurance companies, incentives appear to have played an important role, though the nature of the relevant incentive conflict seems to have varied across small and larger insurance firms. Among small insurers, the key principal-agent relationship was between the insurer, which may have lacked the expertise necessary to directly invest in securitizations, and external portfolio managers. Among larger insurers, the key principal-agent relationship was between debt and equity holders.

While investor heterogeneity is important in the boom, the story of the bust is more uniform. The bust is characterized by a decline in aggregate trading volume for nontraditional securitizations. Consistent with the idea that adverse selection and other frictions contributed to a buyers' strike in these markets, prices fell significantly, even though very little trade took place. Insurers and mutual funds that needed liquidity traded largely in the market for GSE MBS. These results underscore the importance of optimal liquidity management in the context of fire sales.

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