

The role of U.S. securitized assets in the Global Financial Crisis

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In this Q&A, Head of U.S. Securitized Products John Kerschner provides an overview of the securitization process, discusses the role U.S. securitized assets played in the Global Financial Crisis (GFC), and highlights the differences between securitized markets then and now.

KEY TAKEAWAYS

- ▶ Some investors continue to be skeptical of U.S. securitized assets due to their fear of a repeat of what happened in 2008. While securitization played a meaningful role in the GFC, the full story is more nuanced, and we believe the conclusions to be drawn are more balanced.
- ▶ The origin of the crisis was largely within the housing market, as faulty subprime mortgages and other non-standard products proved to be the key catalyst for the turmoil that followed.
- ▶ In the aftermath of the GFC, tighter regulation, more accurate and conservative financial modeling from rating agencies, and stricter underwriting standards for mortgages effectively extinguished the conditions that would lead to a repeat of the crisis.

Q: Let's start with a brief overview of securitization.

Securitization isn't nearly as complex as people make it out to be. It's simply a process where you're taking a portfolio of loans – mortgage loans, credit card loans, auto loans, etc. – and combining them, putting a framework around them that describes the cash flows coming into the securitization and the cash flows going out of the securitization, and explaining what happens when there are prepayments and defaults.

The appeal of securitization is, you can take the cash flows from this pool of loans and divide them up into different layers of risk. With corporate bonds, for example, if you like a particular company and want to buy the bonds from that company, you are obligated to buy whatever rating the rating agencies put on that company. Conversely, if you like securitized auto loans, you can buy AAA rated auto loans all the way down to nonrated auto loans.

Q: What are the five main securitized subsectors?

The big one is agency mortgages, which are the mortgages that are guaranteed by the government agencies Fannie Mae, Freddie Mac, and Ginnie Mae. These loans are guaranteed by the government and then sold to investors, so they have virtually no credit risk.

The U.S. is really the only country in the world whose mortgage finance is bedrocked by a 30-year fixed-rate mortgage. Most countries have a fixed rate for a shorter period of time – one year through perhaps five years – and then it floats. But because of its government guarantee backstop, the U.S. has 30-year fixed-rate mortgages. Agency mortgages represent a \$9 trillion market that many people are aware of and familiar with because about 28% of the Bloomberg U.S. Aggregate Bond Index (Agg) is comprised of agency mortgages. If investors own a fund that is benchmarked against the Agg, they will have some exposure to agency mortgages.

Then there are non-agency mortgages, which are non-government guaranteed. These received a lot of bad press because of what happened during the GFC. There are a lot of people who don't qualify for an agency mortgage, sometimes because they're self-employed, they don't have a regular paycheck, or they work on commission, or because their house is too large and the size of their loan is too big. But there are plenty of very high-quality borrowers in the non-agency bucket. The problem with the GFC was that banks started giving loans to subprime borrowers – that is, people who probably didn't have the financial wherewithal to be able to afford a lot of these homes.

Next, asset-backed securities (ABS). The main subsectors of ABS are auto loans, credit card loans, and student loans.

And then collateralized loan obligations (CLOs), which securitize corporate debt. The corporate debt is made up of leveraged loans – also referred to as bank loans – that have floating rates, so CLOs are floating-rate vehicles.

Lastly, commercial mortgage-backed securities (CMBS) are principally commercial real estate: office buildings, malls, other types of retail, hotels, casinos, industrial properties, self-storage, multifamily or apartment housing, and prefabricated or manufactured housing such as mobile homes.

Q: Walk us through the catalyst for the 2008 financial crisis.

The catalyst was mostly subprime mortgages. In the early 2000s, banks started making loans to people of lower credit quality, aka subprime borrowers.

This is also when negative amortization (neg-am) loans became common. These are loans where the borrower is not paying enough interest on the loan to make up for the rate, so the principal balance gets higher every month instead of lower. With a standard mortgage, the borrower is paying off some interest and some principal with every payment, so at the end of 30 years, the mortgage is completely paid off. A neg-am loan is just the opposite: Every month, because the borrower isn't paying enough in interest, the principal balance goes up, and if a borrower is unable to refinance or eventually start paying down principal, that is problematic.

The reason behind this is that in the early 2000s, affordability was very stretched, so banks were introducing these types of loans to get more people into homes. Eventually, a combination of loans to borrowers of lower quality plus some of the affordability products like neg-am loans created a recipe for disaster.

Additionally, people assumed home price appreciation would continue to tick up indefinitely and that borrowers with neg-am loans or those with lower credit quality would be able to refinance those loans. The view was that the price of the house would go up, and borrowers would gradually build equity.

Unfortunately, it backfired in that a lot of people who got into homes ended up losing those homes during the GFC when the housing market tanked. They lost all the money they had put into that home and probably ended up much worse off than if they had never gotten on that ladder.

Following the GFC, however, subprime mortgages and affordability products no longer exist. There are non-agency mortgages that are not guaranteed, but these are very high credit quality, with stringent underwriting guidelines. If one good thing came out of the GFC, it was that the underwriting became much better for mortgages in general.

Q: What are CDOs and how did they contribute to the GFC?

With collateralized debt obligations, or CDOs, the idea was to create a new type of security out of the pieces of securitization that existed in the late 2000s. All these securitizations that generate cash flows, including ABS, CMBS, and residential mortgage-backed securities (RMBS) – primarily subprime non-agency – were put into a structure that was then divided up into different ratings.

The reason CDOs were attractive was because the rating agencies' models rest to a large extent on diversification. The idea was that by combining geographically diverse ABS, CMBS, and RMBS, if one part of the country had a problem or one asset class had a problem, the others would not. This essentially resulted in a security that required less credit enhancement, or support, because it contained a very diverse pool of assets.

CDOs evolved to become very RMBS heavy and eventually consisted almost entirely of subprime mortgages. Now, if you're taking something that is worth very little and fraught with risk, as with many of the subprime mortgages, and packaging them together, how do you end up with securities that were rated AAA?

The reason is that the rating agencies didn't have a lot of data because subprime mortgages didn't really exist before 2000. Furthermore, every model for home price appreciation assumed that housing in the U.S. would not go negative on a nationwide basis, because that had not happened since the Great Depression in the 1930s. There had been regional downturns, but nationwide, home price appreciation had never gone negative.

Back then, home price appreciation models would calculate the expected losses from mortgages if home price appreciation hit 10%, 7%, 3%, or was even flat. But that's where the model would shut off: No one was trying to forecast what would happen if home price appreciation was negative, because it had never happened. And yet, from 2006 to 2008, home price appreciation was -32% nationwide.

The rating agencies didn't have the right data, so they calibrated their models on the data they did have at that time, which never showed home price appreciation going negative. Everyone assumed housing would continue to go up, probably not at the same rate it had been, but as long it was positive, a lot of these affordability products and subprime mortgages still would have been OK. But when home price appreciation not only went negative but severely negative, it all collapsed on itself.

Q: How did synthetic CDOs compound the problem?

The CDO market played a vital role in the crisis because it added leverage to the system.

There were a lot of people who wanted to buy houses in the early 2000s. Those who had bad credit scores could go to mortgage lenders that focused on that area, and they could get a loan. But there are only so many subprime borrowers out there; it's a finite number. And the demand for these securities was high because money managers started printing CDOs. They would buy a few hundred million of these subprime mortgages and put a structure around it, get a rating agency to rate it, and issue a CDO that was backed by the subprime mortgages.

That was one layer of leverage. Then money managers started creating synthetic CDOs, which basically means you don't have a cash bond; you have a credit default swap contract. Different banks could look at a particular bond and create a credit default swap from it. Whoever owns the credit default swap would get the same cash flows from that cash bond. And if the bond defaults, whoever sold that credit default swap contract will then get a payment because it defaulted. As a result, you could have an unlimited number of credit default swaps based off one cash bond. There were probably a couple hundred billion dollars in cash bonds issued back then, but there were multiple hundreds of billions more in the form of synthetic CDOs.

Creating a CDO takes a lot of time and effort and work in terms of buying the cash bonds, doing the analysis on them, and then putting them in a framework and getting a rating agency to rate it. With a synthetic CDO, this could all be done in a matter of weeks. The process took a product that had inherent leverage and put leverage on leverage.

Q: How did other securitized sectors fare during the crisis?

Obviously, subprime mortgages got the most attention and energy during the GFC, given their implosion. CMBS did not do very well either, mostly because there was just too much leverage. No one believed there would be a crash in commercial real estate, and so when that happened, a lot of the loans defaulted. Not to the same extent as in the subprime mortgage crisis, because CDOs weren't really comprised of CMBS, but it was an issue, and the asset class did not perform well.

ABS actually performed quite well. In fact, there has never been an auto ABS default in the history of auto ABS. But auto ABS, credit card ABS, and student loan ABS all pretty much performed as expected throughout the GFC.

CLOs also performed pretty well. And agency mortgages, because they had no credit risk, were fine. The big issues during the GFC were mainly the non-agency mortgages, the subprime mortgages, and commercial real estate.

Q: Do you believe any particular entities were to blame for 2008?

We often get the question, "Who is to blame?" Is it the Wall Street banks? Is it the rating agencies? Is it the regulators? Is it the money managers? Is it all of the above?

If you haven't seen the movie *The Big Short*, I very much recommend it. It's about finance during this time period and is very well done. But when you watch a Hollywood depiction, it seems like it should have been obvious what was going to happen. In reality, being in it at the time, very few people knew that what ended up happening was going to happen. And even for the handful of people who knew that this was all fraught,

getting the timing right was still an issue. Money managers that called the implosion too early lost investors because the market only continued to tick higher.

It's understandable that people are frustrated with the banks; they sold mortgage products that ended up defaulting. A lot of salespeople are on the record saying, "This is a pile of junk, but let's sell it anyway." That's very frustrating to investors. And you could argue that the rating agencies shouldn't have been rating these securities without the proper data and the proper models.

Ultimately, I think the regulators deserve the biggest part of the blame. Fannie Mae and Freddie Mac were private organizations at the time, and they were giving a lot of money to politicians and regulators in terms of contributions. The regulators basically forced Fannie and Freddie to buy a lot of subprime mortgages, which caused them to go bankrupt.

The regulators had the power to say that Fannie and Freddie shouldn't be buying these instruments, to say that the banks should have had more capital if they were going to buy subprime mortgages or be in the CDO business. And they didn't. In fact, they should have seen this coming, and they are on the record saying this wasn't going to be a problem. Obviously, it was.

Q: What changed in the wake of the crisis?

The biggest change came out of the Dodd-Frank Act, with non-qualified mortgage rules, which made the underwriting that goes into mortgages much stricter. As a result, we no longer have those subprime mortgages, and they're not coming back.

Q: What are the benefits of securitization?

The bottom line is it gives the end borrower lower rates. If you want a mortgage loan, a car loan, or a student loan, your interest rate will be lower because of securitization, because when banks can sell their loans, they are able to lend at lower rates given they won't ultimately bear the risk of default nor the cost of servicing. Some studies have shown that mortgages are somewhere between 50 to 100 basis points – 0.5% to 1.0% – lower because of securitization. The process essentially takes capital from those with excess (such as asset managers) and gives it to people that need it (such as borrowers), and that makes housing more affordable, getting a car more affordable, etc.

The GFC is a big warning pillar for the securitized market. But people tend to forget about WorldCom and Enron, which were giant corporations that committed fraud and went bankrupt in the early 2000s. It's not just securitized markets that have a history of these types of mistakes. People also tend to forget about the millions upon millions of loans that work out well and are very good for people in the end.

Q: Where were you in your career leading up to 2008?

I started my investment management career in the mid-'90s. I graduated business school and joined a small money manager called Smith Breeden. They were a mortgage specialist, and I worked on agency mortgages for about five or six years. Then they gave me the ABS/RMBS group, which they were not doing much with at the time. Given what happened with non-agency RMBS from about 2000 to 2008 – it went from virtually zero to roughly \$2.7 trillion – what was the ABS/RMBS group became the non-agency RMBS group. I was working with subprime deals, CDOs, and credit default swap contracts, and was very much in the thick of what was going on.

I left Smith Breeden near the end of 2006 and went to a commercial real estate hedge fund. Throughout the GFC, I was living the stress of investing in commercial real estate globally.

My experiences leading up to and during the GFC taught me many things, and I'm glad to help educate investors on securitized markets, then and now.

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IMPORTANT INFORMATION

Basis point (bp) equals 1/100 of a percentage point. 1 bp = 0.01%, 100 bps = 1%.

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