“The Origins of the Financial Crisis”

By Martin Neil Baily, Robert E. Litan, and Matthew S. Johnson

The Brookings Institution, November 2008

SUMMARY

The financial crisis that has been wreaking havoc in markets in the U.S. and across the world since August 2007 had its origins in an asset price bubble that interacted with new kinds of financial innovations that masked risk; with companies that failed to follow their own risk management procedures; and with regulators and supervisors that failed to restrain excessive risk taking.

A bubble formed in the housing markets as home prices across the country increased each year from the mid 1990s to 2006, moving out of line with fundamentals like household income. Like traditional asset price bubbles, expectations of future price increases developed and were a significant factor in inflating house prices. As individuals witnessed rising prices in their neighborhood and across the country, they began to expect those prices to continue to rise, even in the late years of the bubble when it had nearly peaked.

The rapid rise of lending to subprime borrowers helped inflate the housing price bubble. Before 2000, subprime lending was virtually non-existent, but thereafter it took off exponentially. The sustained rise in house prices, along with new financial innovations, suddenly made subprime borrowers — previously shut out of the mortgage markets — attractive customers for mortgage lenders. Lenders devised innovative Adjustable Rate Mortgages (ARMs) — with low "teaser rates," no down-payments, and some even allowing the borrower to postpone some of the interest due each month and add it to the principal of the loan — which were predicated on the expectation that home prices would continue to rise.

But innovation in mortgage design alone would not have enabled so many subprime borrowers to access credit without other innovations in the so-called process of "securitizing" mortgages — or the pooling of mortgages into packages and then selling securities backed by those packages to investors who receive pro rata payments of principal and interest by the borrowers. The two main government-sponsored enterprises devoted to mortgage lending, Fannie Mae and Freddie Mac, developed this financing technique in the 1970s, adding their guarantees to these "mortgage-backed securities" (MBS) to ensure their marketability. For roughly three decades, Fannie and Freddie confined their guarantees to "prime" borrowers who took out "conforming" loans, or loans with a principal below a certain dollar threshold and to borrowers with a credit score above a certain limit. Along the way, the private sector developed MBS backed by non-conforming loans that had other means of "credit enhancement," but this market stayed relatively small until the late 1990s. In this fashion, Wall Street investors effectively financed homebuyers on Main Street. Banks, thrifts, and a new industry of mortgage brokers originated the loans but did not keep them, which was the "old" way of financing home ownership.

Over the past decade, private sector commercial and investment banks developed new ways of securitizing subprime mortgages: by packaging them into "Collateralized Debt Obligations" (sometimes with other asset-backed securities), and then dividing the cash flows into different "tranches" to appeal to different classes of investors with different tolerances for risk. By ordering the rights to the cash flows, the developers of CDOs (and subsequently other securities built on this model), were able to convince the credit rating agencies to assign their highest ratings to the securities in the highest tranche, or risk class. In some cases, so-called "monoline" bond insurers (which had previously concentrated on insuring municipal bonds) sold protection insurance to CDO investors that would pay off in the event that loans went into default. In other cases, especially more recently, insurance companies, investment banks and other parties did the near equivalent by selling "credit default swaps" (CDS), which were similar to monocline insurance in principle but different in risk, as CDS sellers put up very little capital to back their transactions.

These new innovations enabled Wall Street to do for subprime mortgages what it had already done for conforming mortgages, and they facilitated the boom in subprime lending that occurred after 2000. By channeling funds of institutional investors to support the origination of subprime mortgages, many households previously unable to qualify for mortgage credit became eligible for loans. This new group of eligible borrowers increased housing demand and helped inflate home prices.

These new financial innovations thrived in an environment of easy monetary policy by the Federal Reserve and poor regulatory oversight. With interest rates so low and with regulators turning a blind eye, financial institutions borrowed more and more money (i.e. increased their leverage) to finance their purchases of mortgage-related securities. Banks created off-balance sheet affiliated entities such as Structured Investment Vehicles (SIVs) to purchase mortgage-related assets that were not subject to regulatory capital requirements Financial institutions also turned to short-term "collateralized borrowing" like repurchase agreements, so much so that by 2006 investment banks were on average rolling over a quarter of their balance sheet every night. During the years of rising asset prices, this short-term debt could be rolled over like clockwork. This tenuous situation shut down once panic hit in 2007, however, as sudden uncertainty over asset prices caused lenders to abruptly refuse to rollover their debts, and over-leveraged banks found themselves exposed to falling asset prices with very little capital.

While ex post we can certainly say that the system-wide increase in borrowed money was irresponsible and bound for catastrophe, it is not shocking that consumers, would-be homeowners, and profit-maximizing banks will borrow more money when asset prices are rising; indeed, it is quite intuitive. What is especially shocking, though, is how institutions along each link of the securitization chain failed so grossly to perform adequate risk assessment on the mortgage-related assets they held and traded. From the mortgage originator, to the loan servicer, to the mortgage-backed security issuer, to the CDO issuer, to the CDS protection seller, to the credit rating agencies, and to the holders of all those securities, at no point did any institution stop the party or question the little-understood computer risk models, or the blatantly unsustainable deterioration of the loan terms of the underlying mortgages.

A key point in understanding this system-wide failure of risk assessment is that each link of the securitization chain is plagued by asymmetric information – that is, one party has better information than the other. In such cases, one side is usually careful in doing business with the other and makes every effort to accurately assess the risk of the other side with the information it is given. However, this sort of due diligence that is to be expected from markets with asymmetric information was essentially absent in recent years of mortgage securitization. Computer models took the place of human judgment, as originators did not adequately assess the risk of borrowers, mortgage services did not adequately assess the risk of the terms of mortgage loans they serviced, MBS issuers did not adequately assess the risk of the securities they sold, and so on.

The lack of due diligence on all fronts was partly due to the incentives in the securitization model itself. With the ability to immediately pass off the risk of an asset to someone else, institutions had little financial incentive to worry about the actual risk of the assets in question. But what about the MBS, CDO, and CDS holders who did ultimately hold the risk? The buyers of these instruments had every incentive to understand the risk of the underlying assets. What explains their failure to do so?

One part of the reason is that these investors — like everyone else — were caught up in a bubble mentality that enveloped the entire system. Others saw the large profits from subprime-mortgage related assets and wanted to get in on the action. In addition, the sheer complexity and opacity of the securitized financial system meant that many people simply did not have the information or capacity to make their own judgment on the securities they held, instead relying on rating agencies and complex but flawed computer models. In other words, poor incentives, the bubble in home prices, and lack of transparency erased the frictions inherent in markets with asymmetric information (and since the crisis hit in 2007, the extreme opposite has been the case, with asymmetric information problems having effectively frozen credit markets).