What the Hell Happened?: The Financial Crisis of 2007-???

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As long as the music is playing, you've got to get up and dance. We're still dancing.
- Chuck Prince, Former CEO of Citigroup, commenting on Citigroup's continued involvement in the mortgage backed security market.[1]

INTRODUCTION

And dance they did. The crisis that began in 2007 and slowly built to a dangerous crescendo in the fall of 2008, grew out of governmental action and inaction that created a context in which excessive risk taking among banks and bank-like institutions was encouraged, particularly in the mortgage-backed security market. These risks built on themselves and upon interconnections among several financial institutions. The crisis eventually undermined the stability of the financial system. Seven primary causes, working together, created the crisis. They include the securitization of mortgages, the rise of the shadow banking sector, regulatory arbitrage and conflict of interest, leverage and low interest rates, outsourcing of the mortgage broker function, the suits vs. geeks problem and bankruptcy law changes. I'll consider each in turn and then describe how they worked together to create a "perfect financial storm."[2]

THE SEVEN DEADLY FINANCIAL SINS

Mortgage securitization is the first culprit. Historically mortgages were issued and serviced by the same bank. To encourage home ownership by lowering the interest rates on home loans, the government created Fannie Mae and Freddie Mac (although both were eventually spun off as private companies). They, along with some banks, bundled together loans into securities called mortgage-backed securities (MBS). The money paid by the borrower passes through the bank to the holder of the security. By selling the loans banks were able to get more funds so they could make more loans. Selling the loans also allowed them to pass on the risk to the buyers of the securities. Both impacts tended to reduce interest rates on mortgages.

Fannie, Freddie, AIG and other financial institutions also insured those securities against default through credit default swaps. A credit default swap is just like insurance on your house or car. You pay a company a little money every so often and they agree to pay you the face value of your bond if the issuer defaults. Unlike your house or car, the insurance market for bonds was completely unregulated due largely to the lobbying efforts of Robert Rubin, Alan Greenspan and Arthur Levitt, Jr.[3] Nobody was assuring that there was a sufficient pool of financial capital backing up the swaps. The insurance on mortgage-backed securities is a key point in another context. Many security buyers assumed that the government was offering implicit guarantees—and they were correct. Fannie, Freddie and AIG were bailed out in 2008. Previous attempts to set up private mortgage-backed security markets in other countries had failed because the governments offered no guarantees.[4] There would be no MBS market without Freddie and Fannie.

Securitization itself wouldn't necessarily be unsafe if only low risk mortgages were securitized. However, successive administrations (Bush 1, Clinton, Bush 2) encouraged Fannie and Freddie to bundle "affordable" mortgages so as to expand home ownership.[5] Economists in both institutions warned against this change but upper management proceeded.[6] Mortgage backed securities containing affordable mortgages (including subprime mortgages) are very profitable as long as defaults are small. When defaults grew insurance payouts grew. Eventually payouts overwhelmed their reserves and the government bailed out Fannie, Freddie and another insurer, AIG.

The mortgage backed security market is part of a broader trend called the shadow banking sector. Increasingly firms turned away from traditional intermediaries like banks toward more direct finance because they could get better rates. For example, companies increasingly issued commercial paper, which is unsecured short-term borrowing. Reports had that amount reaching $1.5 trillion in 2007.[7] Many companies issued commercial paper for running their businesses but many also used the money to speculate in mortgage-backed securities and derivatives. This market is not regulated the way banks are and as a result the participants took riskier positions.[8] These problems are compounded because many of these companies lack capital requirements that banks possess.[9] Capital requirements help limit the risk that banks take by requiring that the bank owners contribute more of their own money (or capital) as they take on riskier assets. That way if the bet doesn't pay off they lose more of their own money.

Capital requirements enter into this story in another way: regulatory arbitrage. Regulatory arbitrage occurs when financial institutions find ways to undermine the intent of regulations, if not the letter of the law, so as to increase profits. There are a few examples but I will describe two—bizarre risk rankings and shopping for a regulator.

First, the FDIC inexplicably gave lower risk rankings to MBSs with AA or AAA ratings than to an equivalent amount of loans with 20-40% down.[10] The lower the risk ranking of a loan or security, the less of the bank owner's capital is required to back up the loan. As a result the current rules encouraged banks to buy MBSs rather than make conventional loans with 20-40% down. This is odd. Many AA and AAA rated MBSs likely had low and no down payment loans among them. There's actually no way to know because the rating agencies never examined the loans, they simply applied a model to determine the likelihood of default. However, I would argue that no AAA rated MBSs—again, many of which contained low and no down payment mortgages—were safer than a comparable amount of loans with 20-40% down. Putting down that much money makes default costly to the borrower and makes it unlikely that the borrower will end up "under water" (having a mortgage worth more than their home). It's an important signal of borrower honesty and commitment to pay back the loan. I suspect (and that is all that it is—a hunch) that the federal government encouraged the FDIC to weigh the risks this way so as to encourage the securitization of affordable mortgages, thus reducing interest rates on subprime mortgages and ultimately expanding home ownership much in the same way successive administrations encouraged Fannie and Freddie to securitize "affordable" mortgages.

The second example involves the inexplicable ability of banks to choose which government agency would regulate them. Naturally they chose the one that regulated them most lightly. According to Professor Patricia McCoy of the University of Connecticut Law School, that was typically the Office of Thrift Supervision.[11] In the current Obama proposal, OTS will be eliminated.[12]

Regulatory arbitrage combined with a clear conflict of interest to contribute to growing financial instability. The agencies that provided the securities ratings were paid by the firms seeking the rating. If the ratings agency wanted more business from the firms then they needed to give their customers what they wanted—AA or AAA ratings.

Other changes within the mortgage market encouraged poor lending practices. In decades past mortgage brokers were bank employees who would suffer if the loans they made failed. However, many banks outsourced this function to independent contractors. These contractors were paid a fee per loan so they had an incentive to make more loans and often looked the other way when people, for example, couldn't verify their income. Most banks would securitize the loans so they lacked an incentive to ensure the borrowers could pay back the loans, either. Banks and unregulated finance companies then made it easier to get loans by giving low and no down payment loans.

Recent government actions also contributed to the crisis. Many banks, particularly investment banks[13], borrowed money at low interest rates so they could increase their profits by purchasing more MBSs. Some investment banks were borrowing $30 for every $1 they had in investor capital. Prior to 2004 such high leverage rates were prohibited. Investment banks had to limit their leverage ratios to 15:1. However the SEC eliminated that requirement after much lobbying from the banking industry.[14] Low interest rates from 2001-2005, a result of the Fed's attempt to stimulate the economy, made borrowing inexpensive for all: banks and potential home buyers.

The opening quote also suggests another problem, one economist Arnold Kling calls the "Suits vs. Geeks" problem.[15] Geeks are financial engineers who determine the risk that banks are undertaking.

Suits are upper management. The geeks warned the suits that firms were taking great risks and should retrench.[16] The suits either didn't understand the risks or didn't care because they were making large profits. The opening quote suggests that they didn't care.

Finally, there are the changes in bankruptcy law. In 2005 bankruptcy law changed in a way that made declaring bankruptcy harder. That emboldened banks to make riskier loans because they knew people would be less likely to declare bankruptcy and be able to reorganize their debts.

PUTTING THE PIECES TOGETHER

The federal government tried to expand homeownership by creating the government-sponsored enterprises (GSEs) Fannie Mae and Freddie Mac. These GSEs created the mortgage-backed security market, which lowered interest rates on home loans. Successive administrations then encouraged these GSEs to securitize affordable (subprime) loans, thus lowering the interest rates of these loans. Now, people who otherwise couldn't get loans (generally risky borrowers) were able to get loans. Independent mortgage brokers increasingly made loans to people who couldn't handle the payments, and banks went along with this because making these loans was profitable and they were able to sell the loans. Bankruptcy law changes further emboldened them to make loans that people probably couldn't afford. Banks, particularly investment banks, were borrowing (leveraging) so as to speculate more, particularly on mortgage-backed securities. Historically low interest rates and an institutional context that encouraged home borrowing helped create a housing bubble—a situation in which housing prices were above what was justified by fundamental factors such as income. Geeks warned the suits about the potential dangers but were largely ignored. When interest rates began rising in 2006 the bubble started to deflate. People who bought a house anticipating a rise in price that would allow them to refinance were unable to do so. Defaults began rising and continued to rise, which undermined the mortgage-backed security market whose payments and ultimate value depended upon people paying their mortgages. Mortgage-backed securities began falling in value and many ultimately ended up worthless. Insurers of these securities, such as Fannie, Freddie and AIG eventually saw insurance payments overwhelm their reserves, causing them to seek and receive a bailout. Bank balance sheets worsened as banks that made subprime loans and those that owned MBSs found the values of these assets declining. Their liabilities—what they owed—were now greater than their assets—what people owed them. When this happens a bank becomes insolvent and will either close or take even greater risks in order to save itself.

Had this problem been isolated to parts of the shadow-banking sector it wouldn't be an issue. However, the widespread ownership of MBSs made banks nervous about who owned them. Equally important, since home prices continue to fall nobody knows what these MBSs are worth. This creates a situation in which risk becomes uncertainty. Risk is quantifiable. One can multiply the probability of each outcome by the payoff for each outcome, sum them up and get an expected value for some asset. When risk becomes uncertainty, nobody knows the probability distribution and as a result people cannot value assets. That generates fear and a flight to quality. Investors only want to own high quality assets—with U.S government securities being the highest quality. In addition to the financial flows that federal agencies can document after the fact, a flight to quality quickly causes the returns on low risk assets to fall (as people increase their demand for them) and higher risk assets to rise (as people dump them and buyers demand a large risk premium). The interest rate on one-month treasury bills, a very safe asset, fell to almost zero.[17] At the same time the three-month LIBOR rate (London Inter-Bank Offer: the interest rate banks charge each other for three-month loans), a bellwether rate, rose from 2.8% in mid-September 2008 to over 4.8% in mid-October of 2008[18], a large increase in a short period. All loans linked to LIBOR went up by an equal or greater amount as banks reevaluated the price they charged for risk, often deciding to stop lending to many borrowers altogether. Hence, many businesses found it increasingly difficult or impossible to borrow money. This sequence caused the credit crunch.

The Federal Reserve Bank, or Fed for short, first engaged in conventional monetary policy by increasing the money supply and cutting interest rates. When it became clear that conventional measures wouldn't work, the Fed resorted to unprecedented actions under the power granted it in section 13(3) of the Federal Reserve Act.[19] Examples of these actions included lending to investment banks, buying mortgage-backed securities, lending money to entities that planned to buy commercial paper, buying commercial paper directly and lending money to facilitate the purchase of Bear-Stearns, among others.[20] Conventional policy plus these added measures seem to have restored confidence in the financial sector.[21] The thirty-year mortgage rate fell below 5% in May of 2009[22], commercial paper spreads have fallen back to levels not seen since early 2007 and the one month LIBOR fell below 1% in June 2009. Mortgage rates and other long-term rates even began to rise in June 2009. This development is probably a good sign. Long-term interest rates tend to rise when investors expect the economy to improve and demand for borrowing to increase. It may also be a response to an expected increase in inflation. Either way, it suggests a more common economic context. The crisis period is over. What happens next (I hope) is creating new rules of the game to prevent it from happening again.

NOTES

[1] Robert L. Borosage, "Keep Dancing, Chuck," *The Huffington Post*, January 23, 2008. http://www.huffingtonpost.com/robert-l-borosage/keep-dancing-chuck_b_82790.html.
[2] The term "perfect financial storm" suggested by Neil Pelkey, private e-mail to Brad Andrew, 10/13/08.
[3] Timothy Noah, "Robert Rubin's Free Ride," *Slate*, 1/09/09. http://www.slate.com/id/2208371/.
[4] Kenneth A. Snowden, "Mortgage Securitization in the United States: Twentieth Century Developments in Historical Perspective," in Michael Bordo and Kenneth Sylla eds., *Anglo-American Financial Systems: Institutions and Markets in the Twentieth Century* (New York: Irwin Professional Publishing, 1995).

[5] Roger Congleton, “On the Political Economy of the Financial Crisis and Bailout of 2008,” updated 5/27/09, unpublished manuscript, George Mason University, pp. 7-8.
[6] Arnold Kling, “My View on the Crisis—A Summary Statement,” *EconLog,* 10/2/08; Corine Hegland, “Why the Financial System Collapsed,” *National Journal*, April 11, 2009.
[7] David Reilly and Carrick Mollenkamp, “Conduits in Need of a Fix,” *Wall Street Journal,* August 30, 2007.
[8] Mark Thoma, “Blog Posts that Don’t Compute,” *Economist’s View*, June 15, 2009. http://economistsview.typepad.com/economistsview/2009/06/blog-posts-that-dont-compute.html; Mark Thoma, “Making Financial Regulation Work: 50 More Years,” *The Hearing, Washington Post*, 6/12/09. http://voices.washingtonpost.com/hearing/2009/06/banking_regulation_imposed_in.html?wprss=hearing.
[9] James Hamilton, *Econobrowser*, 9/6/07. http://www.econbrowser.com/archives/2007/09/borrowing_short.html.
[10] “Key Aspects of the Proposed Rule on Risk-Based Capital Standards: Standardized Framework,” FDIC, 7/29/2008. http://www.fdic.gov/news/news/financial/2008/fil08069a.html.
[11] Chana Joffe-Walt, “Regulating AIG: Who Fell Asleep on the Job?,” *Planet Money*, NPR. http://www.npr.org/templates/story/story.php?storyId=104979546.
[12] “Obama’s Financial Reform Plan: The Condensed Version,” *Washington Wire, Wall Street Journal*, June 17, 2009. http://blogs.wsj.com/washwire/2009/06/17/obamas-financial-reform-plan-the-condensed-version/.
[13] Investment banks primarily make their money through speculation and arranging deals such as takeovers and mergers. They are not subject to the same rules as commercial banks that primarily make their money by getting money from depositors and lending it out. In general, investment banks are less regulated than commercial banks.
[14] Stephen Labaton, “Agency’s 04 Rule let Banks Pile up New Debt,” *New York Times*, 10/2/08. http://www.nytimes.com/2008/10/03/business/03sec.html?_r=1.
[15] Arnold Kling, “The Fantasy Testimony Continues,” *EconLog*, 10/14/2008, http://econlog.econlib.org/archives/2008/10/the_fantasy_tes.html.
[16] Arnold Kling, “The Fantasy Testimony Continues,” EconLog, 10/14/2008, http://econlog.econlib.org/archives/2008/10/the_fantasy_tes.html; Jerry Z. Muller, “Our Epistemological Depression,” *The American*, January 29, 2009. http://american.com/archive/2009/our-epistemological-depression.
[17] US Treasury – Daily Yield Curve for 2008. http://www.ustreas.gov/offices/domestic-finance/debt-management/interest-rate/yield_historical_2008.shtml.
[18] Mortgage Indexes: WSJ LIBOR: Historical Data, 2008. http://mortgage-x.com/general/indexes/wsj_libor_history.asp?y=2008.
[19] Andrew Hill, “Teaching Monetary Policy in Turbulent Times,” presentation at the Robert Morris University Teaching Economics Conference, 2/20/09.
[20] Ibid.
[21] Little of the stimulus money has been spent and as a result has had little impact on the economy. TARP money may have helped but given the small amount of money spent relative to Fed actions (the Fed’s efforts were triple what was spent on TARP) it’s safe to say its impact is minor.
[22] Freddie Mac, “Freddie Mac Weekly Mortgage Market Surveys.” http://www.freddiemac.com/pmms/pmms30.htm; see “Commercial Paper Rates and Outstanding,” Federal Reserve Bank, http://www.federalreserve.gov/releases/cp/ and Money Café, http://www.moneycafe.com/library/3monthlibor.htm.