An Analysis into the Leading Causes of the Subprime Mortgage Crisis: the Avoidable and Unavoidable Causes

Jonathan Dybka

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Abstract

There were many hypothesized causes of the Financial Crisis of 2008-9. This paper conducts an analysis of secondary sources to in search of the biggest and most popular associated causes. It was found that the over-issuance of subprime mortgages, the rise in the housing bubble, deregulation, shadow banks, securitization and systemic risk were all interrelated issues that culminated into the crisis. It is important to understand these causes so that we may implement the proper reforms needed to ensure they never cause an economic crisis of similar severity again.

Introduction

The Financial Crisis of 2008-9 lead to the worst economic downturn in the United States since the Great Depression. GDP dropped 9%, unemployment fell to 10% and as a result of stimulus packages the national debt rose to 14.3 trillion in 2011 (Murdock, 2012, p.536 & 539). This paper will focus mainly on the economic factors of the crisis in a historical perspective and briefly touch on psychological aspects in terms of the large human factor that played a role. To understand; what were the major factors that caused the greatest economic crisis since the 1930's? The paper discusses how the over-issuance of subprime mortgages, deregulation, shadow banks and securitization were problems in the financial industry creating systemic risk that finally materialized after the housing bubble burst in 2007.

Subprime Mortgages

One of the main causes of the Financial Crisis of 2007-09 was the excessive use of a security known as the subprime mortgage which created a domino effect of bankruptcies on Wall Street. A sub-prime mortgage is defined by Davidson (2010) as a mortgage loan to "low- and moderate-income borrowers" (pg.110). The worse a person's credit history is, the less likely they are to repay the loan, and therefore it is riskier but more profitable to own a subprime mortgage. Many banks in the U.S have been accused of aggressively making too many subprime mortgages in the pursuit of profit. Davidson's (2010) article makes the case that the reckless lending behavior by the U.S banks was encouraged by government policy leading up to the crisis in 2007 (pg.105). He explains how: in the 1970's there were calls for reform as allegations spread that banks were not providing loans to African and Hispanic Americans on a discriminatory basis (pg.106). Two laws were enacted; the *Home Mortgage Disclosure Act* and the *Community Reinvestment Act* forcing banks to report the details of mortgages made which included race and gender (pg.106). Davidson (2010) argues that as a result of these laws, banks were legally forced to make more subprime mortgages based on the findings that minority mortgage applicants had weaker credit histories on average (pg.106). One example of the legally binding repercussions of these laws was seen in 1993 when the *Federal Reserve Board* denied the merger of *Shawmut*

National Corporation and *New Dartmouth Bank* because Shawmut had a history of discriminatory lending (pg.109). Davidson (2010) does admit there is controversy in the idea, not everyone agrees that the anti-discrimination laws played a role in banks making more subprime mortgages (pg.115). He does however, explore the possibility that more subprime mortgages may have been an unintended consequence of the anti-discrimination laws mentioned above. Although it is important to consider the effect certain laws enacted by the government may have had on the increased issuance of subprime loans, Government policy is by no means the only factor involved. Credit rating agencies (CRAs) are also considered a factor in the problem. The role of CRAs is to provide an assessment of risk of certain securities so that financial institutions can make educated investment decisions. Harry McVea (2010) makes the case that the CRAs incorrectly assessed the risk of securities (pg. 710), especially complicated ones like CDOs. One of his theories for the CRAs faulty assessment of risk, results from a conflict of interest in the current system (pg.703). If a financial institution wants its security rated, it must pay a fee to the ratings agency (pg.711). It is therefore in the CRAs best interest to acquire more business and thus inflate the ratings of the securities, thus making them appear more valuable and therefore increasing the fee they receive from rating it (pg.711). This inherent flaw in the system, according to McVea (2010), was a major cause in the rise of subprime mortgages because these securities were rated with less risk than they actually contained because they were misrepresented by the CRAs (pg.714). Regardless of the factor that led to the unhealthy growth of subprime mortgage lending, another question that must be considered is how nobody seemed to detect that anything was a problem.

Housing Bubble

The next step is to question the rise in subprime mortgages, starting in the 1970's up to the 2000's, and why this phenomena did not alarm anyone. Sinclair Davidson (2010) referrers to an explanation: there had been a substantial rise in the housing market prior to the 2007 crash, which acted as a disguise to the rise in subprime mortgages as a normal occurrence (pg.111). As all the securities gained value, so did the subprime mortgages which made them appear less risky than they actually were (pg.105). Another reason banks may have taken on more risk is because they were over optimistic about the housing market which may have led to an increase in exposure to risk. Bubb et al. (2015) has studied the major Wall Street banks and their exposure to the housing market prior to the crisis. They determined the banks did have a large exposure to mortgage backed securities and knew about the potential risks if the housing market were to fall, the banks however, maintained their positions because they believed it was very unlikely the housing market would lose value (pg.1584). They cited a report by *Lehman Brothers* in 2005 that estimated there was only a 5% chance that the housing market would crash (pg.1584). It seems this optimistic stance was shared by all the other Wall Street banks at the time. The paper looked further into how these banks assessed their risk and found that they used historical models. It references the Chief Risk Officer of Citigroup who explained that since the second world war, the housing market never fell more than 5% in any one year. (Bubb et al. 2015, pg.1585). Aside from their models, trust was a huge factor in assessing the market. According to Dufour (2011), many people relied on the sentiment of authoritative and trustworthy sources such as the Federal Reserve, Fannie Mae and Freddie Mac (government created corporations intended to free up liquidity) etc, none of whom foresaw the events of the crisis (pg.265). This complacent reliance on authoritative sources of information seems to have led to a blind spot in the market especially in the case of the growing real estate bubble.

Deregulation

As noted above, the case was made that certain laws enacted in the 1970's may have facilitated banks in issuing more subprime mortgages (Davidson, 2010, p.110). This is an example of government intervention that may have played a role in the crisis. Another aspect of government intervention that played a role in the crisis comes in the form of deregulation. Starting in the 1980's, two laws were enacted: the *Secondary Mortgage Market Enhancement Act of 1984* and the *Tax Reform Act of 1986* (Murdock, 2012, p.518). These laws eliminated the legal barrier between commercial banks and investment banks and making it easier for a commercial bank to engage in investment banking activities and vice versa (pg.518). These laws resulted in increased profits for the banks but at the expense of a disciplined banking system (pg.518). Deregulation as a political trend continued into the Clinton administration as the *Riegle-Neal Interstate Banking and Branching Efficiency Act*; passed in 1994 to allow financial institutions to operate in any state (United States, 2011, pg.52). Banks from foreign states could compete with domestic banks (pg.52). After this law, 74 'mega-mergers' of banks occurred from 1990 to 2005 (pg.52). This led to a large concentration of assets kept in the hands of a few banks within a short period of time. Another example of this: the Commodity Futures Trading Commission's (CFTC) head; Brooksley Born sought to regulate complex securities such as derivatives with the intent that financial institutions should be transparent with their holdings and that they keep a minimum amount of capital on hand in off-chance that the derivative must be payed out (Murdock, 2012, pg.519). Born's efforts were in vain as no legislation, to regulate the derivatives market, was passed at the time (pg.519). In one example provided by Murdock, American International Group (AIG) had developed the *Credit Default Swap* (CDS) in which the mathematicians calculated a 99% chance that the company would never have to provide a payout for this security (pg.520). As a result, AIG did not keep any money aside for such an instance (pg.52). When the market crashed, AIG was put in exactly that position of having to pay out large sums of money to the holders of the CDS (pg.52). It did not have the funds to provide such a large payout and therefore had to rely on a government bailout (pg.520). If the market had been regulated (so that financial institutions would be obliged to keep a minimum amount of capital on hand to make the CDS payments) like Born had sought to do, perhaps AIG would not have needed a government bailout.

Shadow Banking Industry

The crisis was enabled, in part, due to the lack of transparency which is now known as the shadow banking industry. A shadow bank is simply a bank that performs activities that are not regulated (Sanches, 2014, pg.9). Since they are not regulated they are not required to reveal their assets to the government like a commercial bank would. A big part of their business activities took place in the repo market (pg.9). The repo market is simply a place where institutional investors can put their cash in a safe place with a high yield (pg.9). Shadow banks fulfill this need by using their accumulated cash to make overnight loans (pg.9). It's called the repo market because the borrower has to provide collateral in the form of U.S treasuries so if they cannot repay, the bank will not suffer a complete loss because it can *repossess* its loan by taking the treasuries (pg.10). The repo market grew very quickly prior to the crisis: transactions had gone from a $2 trillion market in 1997 to $7 trillion in 2008 (pg .10). Despite being a new phenomena, shadow banks had grown so quickly that it is estimated they were just as large as commercial banks by the time the crisis struck (Sanches, 2014, pg .9). As the market grew, borrowers looked for other forms of collateral other than U.S treasuries. A popular option instead, was to use mortgage backed securities (MBS) (Sanches, 2014, pg .10). MBSs were assumed to be safe like U.S treasuries (pg.11). Because they are mortgages pooled together, it was assumed that it would be unlikely that mortgages from around the country would default all at once (pg .11). In 2007 however, house prices began to decline (Sanches, 2014, pg .11). Depositors in the repo market began to worry about their investment and began to pull their money out of the banks which froze the market (pg .11). These fears created a systemic crisis (Sanches, 2014, pg .12). A problem highlighted by Kaufman (2012) is that: by definition the activities of shadow banks are unaccounted for, which would not be a problem if not for the fact that they are intertwined with the rest of the economy (pg. 44). It was discussed earlier how: in the 1980's the legal barrier between commercial and investment banks was dissolved and the two started to engage in each others activities. Also, being just as large as commercial banks signifies their influence on the economy (Sanches, 2014, pg .9). According to Kaufman (2012), there has been a concentration of wealth in the past 30 years (pg. 44). He discussed how: in 1990, 10% of all the financial wealth was held by the top 10 banks and since then the top 10 now hold about 75% (pg. 44). This coincides with the statistics that the total number of banks has decreased. In 1985 there were 18 000 banks which has now been reduced to 8000 (pg. 44). This concentration of wealth has increased the risk in the financial industry because the actions of a few banks will have a bigger impact on the industry and economy as a whole. The statistics lead up to the early 2000's which is exactly when the crash happened (2008) therefore the concentration of wealth probably worsened the situation because when a few banks failed it brought the entire industry.

If the wealth was more spread out over a large number of banks, maybe a few bank failures would not have mattered so much.

Securitization

The concept of securitization must be studied as a key cause of the Subprime Mortgage Crisis. Securitization is a broad term used to define the pooling of assets together and sold as a single entity which generates income (MacKenzie, 2011, pg.1791). After the Great Depression, the government started creating corporations: Fannie Mae (f.1938), Ginnie Mae (f.1970) and Freddie Mac (f.1971) with the intent that they buy mortgages from banks to free up liquidity so that they could issue more mortgages (MacKenzie, 2011, pg.1790-1791). It was these organizations that came up with the idea of putting many mortgages together -pooling them- and then selling them to private investors for a profit (pg.1791). This is how the first mortgage backed securities (MBS) were created; by government corporations. It didn't take long for private companies to see the advantages of MBSs with *Salomon Brothers* being the first private company to create them in 1977 (MacKenzie, 2011, p.1792). As discussed earlier, the credit ratings agencies are partly to blame for providing faulty estimates for the value of certain securities. It must also be noted that the more complicated a security is, the harder it is to value it correctly. According to MacKenzie (2011), *asset backed securities* (ABS) were intentionally pooled together from different regions of the country (pg.1816). The logic was that there had never been a crash in the housing market that spanned the whole country (except the Great Depression), therefore pooling mortgages from different regions of the country was viewed as lowering the risk of the ABS as a whole (pg.1816). We now know that the diversified geographic regions did not mitigate the risk of the security during the crisis (pg.1816). Effort has been made to try to mitigate the risks of these securities but it still begs the question as to why banks had so much exposure to them in the first place. The *collateralized debt obligation* (CDO) is defined by Gallagher (2015) as: “CDO portfolios generally combine a variety of assets (e.g., bonds, mortgages, other ABS, swaps), and the associated credit risk is subdivided into different risk classes" (pg.33). Therefore a CDO is a security made up of other securities that make payment at certain intervals (like bonds) and the person who owns it gets the regular payments. One reason why the CDO may have been overused is because banks superstitiously assumed that the more were issued the higher their stock price would go. They associated one event (issuing CDOs) as the cause of another positive event (a rise in stock price) (Gallagher, 2015, pg.36). Gallagher (2015) argues that certain banks came to this conclusion by watching the stock price of their competitors rise with their increased use of the CDO (pg.46). Banks saw specifically that a 0.1 unit increase in their stock price and associated it with a 2.5% increase in the amount of CDOs issued (pg.46). They wrongly assumed the correlative relationship to be a causative one. This is an excellent example of the psychological factors that played a role in the crisis as bad decisions were made on a superstitious basis. Risk in general however, is becoming harder to evaluate whether this is from the emergence of more complex securities or because the world is coming more connected. According to Dufour (2011); risk in the modern world is becoming harder to evaluate. As a result of globalization; factors become more complex as business is conducted across many borders and not face to face (electronic communication) (pg.261). This increase of connection causes problems as risks can affect more areas geographically than it once could. Dufour (2011) refers to it as a separation of 'time and space' (pg.261). Perhaps with too much information available to us, as is the case nowadays with electronic communication, it becomes harder to discern patterns and trends in the market.

Systemic Risk

Systemic risk is a concept used to describe the chance of an entire industry collapsing (Silberman, 2015). The banks were intertwined and therefore shared risk. If one bank took on too much risk, it would pose a systemic risk to the entire market (Silberman, 2015). Contributing to the systemic risk seen in the financial industry was a reckless mindset to take on a lot of risk and thus creating a moral hazard. A moral hazard is when a person/institution takes on more risk or even acts recklessly because they know they will be rescued/bailed out (Silberman, 2015). The popular phrase 'too big to fail' illustrates the moral hazard on Wall Street (Silberman, 2015).

According Bell et al. (2015) the systemic risk in the financial market was a result of a highly competitive environment which encouraged a high amount of risk taking (pg.1). Despite the high amount of risk taking, the subprime mortgage market was considered small and therefore not a threat. Ben Bernanke even said -after the crisis- that the subprime mortgage market was not big enough to pose a threat to the economy (Bell et al., 2015, pg.12). In the onset of the crash in 2007, the IMF declared there had been a loss of about $500 billion in the subprime market (pg.12). This information was not taken with due alarm because it was relatively small when compared with other crashes such as the dot.com bubble where equities lost about $5 trillion (pg.12). The reason the subprime mortgage market initiated the crash was because there was inherent systemic risk in the rest of the banking industry. So even a small market like that of the subprime mortgages could drag the intertwined industry down with it (pg.12). The systemic risk was caused by a lack of information the outside world had especially in terms of the shadow banks. When the market started to fall there was uncertainty as to how exposed individual banks were. As a result, all the banks suffered from the fear and uncertainty of the public which indiscriminately pulled its money out of (pg.13). This fear and uncertainty created created a freeze in the market which meant banks could not find funding anymore. The lack of funding was a direct cause in the bankruptcies of Northern Rock, Lehman Brothers and Bear Stearns (pg.14). Many expert have called for reforms to ensure the systemic risk in the financial industry stays low. Mishkin (2010) discussed the need for a regulator to oversee and monitor the levels of systemic risk in the financial industry (pg.504). A ‘systemic regulator’ could actively monitor the situation to prevent another financial crisis from occurring (pg.504). He specifically proposed that the ‘systemic regulator’ should be the Federal Reserve itself, since they currently hold the title of *lender of last resort* where they have the capital necessary to provide bailouts in situations that might require it (pg.504). This solution therefore, suggests a bigger role for the Fed, not just being able to rescue the economy but to actively monitor areas such as the financial industry to prevent crises from getting worse in the first place.

Conclusion

The crisis can be narrowed down to six major causes. All of them interrelated problems that finally reached their epitome and manifested themselves in 2007. They were; the over-issuance of subprime mortgages, the rise in the housing bubble, deregulation, shadow banks, securitization and systemic risk. We see in the 1970's an initiative to end discriminatory lending. Forcing banks (with real consequences) to issue more mortgages is one of the first instances where government intervention caused a rise in the issuance of subprime mortgages. Another cause for the rise in subprime mortgages was a result of credit rating agencies which underestimated the amount of risk associated with mortgage backed securities. The housing bubble prior to the crash, fostered an optimistic sentiment that the real estate market would continue to rise. Institutions believed there was a low chance the market would drop and overleveraged themselves. Deregulation in the 1980's blurred the lines between commercial and investment banks which changed the landscape of the financial industry. This created a hyper competitive environment in which irresponsible risks were taken in order to maintain profits. The lack of regulation also created 'shadow banks' in which financial institutions were not obliged to report their activities. Shadow banks being just as large as their commercial counterparts meant that their actions were highly influential to the U.S economy. The secretive nature and their use of highly complex securities, such as CDOs, created uncertainty in the market. The institutions that used complex securities, such as the CDO, had a hard time determining their risk level. On top of that, they saw a rise in the stock price of their competitors and superstitiously associated that with an increase in CDO issuance. This sentiment led to an overall increase in the number of CDOs issued thus increasing systemic risk. The subprime market was not considered big enough to have a major influence in the U.S economy. It did end up however, having a grand effect as a result of the systemic risk in the financial industry. A few companies went bankrupt as a result of subprime mortgages and dragged the whole industry down with them. As a result of all these factors, the real estate market - once thought to be safe- dragged the entire US (followed by the world) economy down with into the worst economic crisis since the Great Depression.

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