The Global Financial Crisis: Cause and Regulatory Response

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Abstract. This paper explores the connections between the 1930s Great Depression and the 2008 Financial Crisis. It also goes into great detail regarding the causation, consequences, and changes that surrounding the 2008 Great Recession. Particularly, the change in federal monetary policy during the early 2000s saw a spike in the amount of loans and mortgages. Accompanied by the positive expectations and aspirations of the investors, the housing market boomed. As a result, financial derivatives of asset-backed securities also flooded the market. In the end, this over-inflation of the housing market and its derived products created a housing bubble, which ultimately led to a catastrophic financial crisis when too high a leverage and inability of borrowers to pay back loans burst this overly-optimistic bubble. Upon the occurrence of this financial crisis, new policies were enacted and acts were set in place. Through interpreting the findings of 2022's Nobel prize winning economists, individuals and groups alike are able to protect themselves from inevitable financial crises that take place in the future.

Keywords: Great recession; crisis prevention; monetary policy; central banking.

1. Introduction

History often repeats itself, and financial crises are no different. Financial Crises in the likes of The Great Depression of the 1930s, sent a wave of grave implications that left societies dysfunctional and crippled economies. Yet, with previous knowledge from the Great Depression, another crisis still occurred nearly 80 years later, which left arguably even more detrimental and widespread effects than its 20th century counterpart. The cycling of these economic disasters and their sustained tragic effects prompted Ben S. Bernanke, Douglas W. Diamond, and Philip H. Dybvig to explore and uncover the underlying fuses which would set off these disasters. Through their collaborative efforts in the research of banks and their role on the economy amidst a crisis, economists and policymakers alike are now able to erect precautionary measures that will work better at diminishing the repercussions that financial crises bring.

Ben S. Bernanke, former Federal Reserve Chairman of the United States of America, employed statistical and historical research in demonstrating the effects that bank crises can have on the economy. The general consensus behind the causation of the 1930s Great Depression can be attributed to four major events: the Stock Market Crash of 1929, the lost of confidence and contraction of monetary policies which ensued, the failure in maintaining the Gold Standard due to a trade surplus for the United States, and lastly, the international cooperation and lending that halted amidst the crisis [1]. Although it is true that the Great Depression and its wide scale effects could have been prevented if the US Central Bank had printed more money to aid the shortage of money supply, Bernanke believed that the shortage of money itself was not sufficient in explaining the width and depth of the crisis. Therefore, he created a mechanism which showed that it was in reality the decline of the United States banking system's ability to channel funds into valuable sectors of the economy that ultimately led to the Depression [2].

Due to the lack of confidence regarding the economy and the fear that institutions will default on long-term loans, banks began to constrain their loaning programs to only encompass large business. As a result, entire sectors of the economy such as agriculture and ordinary households went to financial hardships, leading to a spiraling recession. This largely publicized economic downturn instilled even greater panic in the general public, causing depositors to initiate bank runs that would ultimately create an artificial bank crisis crippling the money supply. Simultaneously, a tight monetary policy enacted upon by the United States Federal Reserve also played a great role in the

collapse of thousands of banks due to the interdependent nature of the unit banking system, and the lack of new money supply needed to fulfill the sharp increase in large withdrawals [3].

To combat the problems that banks face in light of a crisis without clear policies that lead to backing from the Federal Reserve, Douglas Diamond and Philip Dybvig developed a theoretical model that reveals how liquidity can be created for savers by banks, all while keeping the borrower's ability to access long term financing. The main idea behind the model is that a commercial bank's assets and loans are insured by the state; doing so will instill confidence in depositors, and limit the severity of widespread panic that have the possibility to lead to bank runs [2]. Using Bernanke, Diamond, and Dybvig's findings regarding the 1930s Great Depression, economists can similarly outline the mistakes that were made which led to the 2008 Great Recession, in an effort to prevent such disasters from arising in the future: especially crucial in the 2020s under pressure from both the COVID-19 pandemic and the Russia-Ukraine War.

2. Causes

Similar to the 1930s Great Depression, the 2008 Great Recession ultimately had many of the widespread effects that it did due to the failure of the Central bank to provide sufficient aid to commercial banks during a state of panic and neglect of smaller entities. Moreover, their root causes were also similar: overly optimistic investments in non-essential parts of the economy that led to a bubble economy subject to underlying threats [4]. To be exact, the overly optimistic investments were conducted by consumers using a form of high leverage that allowed them to purchase assets such as homes with low levels of initial payments and high amounts of borrowed funds, even if they did not have the ability to pay back such loans. Although a healthy economy should be alarmed by such high rates of high leverage investments, the Federal Reserve System allowed great amounts of mortgage grants to continue amongst banks. The Central Banking System believed that doing so would stimulate the economy, as high levels of investments would spur purchases of all goods and services, and in the end, combat the high levels of unemployment during the time [5]. As a result, the highly speculative investments and an overflow of subprime mortgages led to an overabundance of financial derivatives that ultimately created a financial bubble that would lead to the 2008 Financial Crisis.

2.1. The Federal Reserve's Implementation of Monetary Policy

Due to a period of high unemployment prior to the disaster, The Federal Reserve employed its main tool with traditional monetary policies, reducing interest rates, to fight the unemployment. The way that interest rate cuts work for the Federal Reserve is reducing the federal funds rate (FFR), which is the rate at which banks pay one another for overnight loans. Lowering the federal funds rate will allow banks and institutions to borrow at a lower rate. As such, an influx of funds will be available for the market. These low interest rates encourage businesses to make new investments, prompt people to acquire assets, and stimulate the purchases of major consumer durables like automobiles. In the end, all of this extra spending by the general public and institutions alike leads to a spike in employment and economic output [6]. Yet, the actual outcomes did not exactly go as planned. Investors under the assumption that the real estate would continue rising like it had in the decade rushed to apply for loans so that a down payment could be made on a house. Hence, a surplus of funds was directed to the housing market alone. The Federal Reserve guided period of national expansion provided borrowers and lenders alike with the false assumption that the housing market was "too big to fail", and along with loose monitoring from the Federal Reserve, filled the market with subprime mortgages that would directly lead to the Great Recession [7].

2.2. Subprime Mortgages

The over-the-top optimism on the future of the housing market led to loan after loan for any consumer who applied for them. As a result, borrowers without the ability to pay back the loans fill the market with these low value mortgages. In detail, previous financial models would intend and

recommend that new homeowners buy homes with at least 20 percent down, creating a leverage of 5-to-1. Yet, in the years prior to the Great Recession, new homeowners started putting down as little as five percent or less, and this meant that lenders would have to take on the substantial risk associated with such mortgages [4]. High-risk mortgages started to become available during the housing market boom originating from lenders who funded mortgages by pooling them after a repackaging and selling them to investors. To reallocate these risks, new financial products were created, where majority of the funding for subprime mortgages was provided by private-label mortgage-backed securities (PMBS) [8]. Naturally, the desire for housing resulted in a steep increase in house prices, especially in places with a shortage of housing. Moreover, the perception that there was still more to gain from the housing market, further increased housing demand and prices, fueling the already over-inflated housing bubble.

2.3. Credit Default Swaps

To compensate for the high-risks involved with lending during this time, new financial products were created as mentioned in the previous section. Perhaps the most infamous of them all, credit default swaps. They are in essence a product derived from insurance contracts, and in simple terms, can be defined as a contract that insures a business or organization against the risk of default. Similar to how insurance contracts work, credit default swaps require the buyer to pay the seller premiums that they gain from the interests of the contracts. If the company or entity does in fact default, the credit default swap allows holders of the product to exchange loan contracts or bonds for the principal amount of the loans or bonds [9]. Traditionally, CDSs were used to hedge against the apparent risks from a company's bonds defaulting. They were generally of low risk nature, and trades of them infrequent. However, in the early 2000s, CDSs began to be used as a protective measure for banks' lending subprime mortgages.: the dangerous nature of these CDSs was glossed over by the optimism regarding the housing market. And as more and more of these began to flood the market, repackaging and transfer of these products began to rise. At its peak, it is estimated that the trading volume in the CDS market had a size of around $57 trillion by June 2008 [9].

Banks, now with the ability to quickly reallocate capital through buying protection in the form of credit default swaps, gradually lost their incentives for monitoring the loaners. Even worse, sellers of CDSs do not have the ability to monitor lenders themselves as it has no contractual relationship with the lenders. All mortgages are placed in a pool, and Notes are issued in relation to a pool that contains all mortgages.Also known as tranches, the notes with superior rating are able to have fearliest claim on interest and mortgage repayments [9]. In 2006, the ABX indices on subprime securities were introduced, which help assess the performance of subprime residential mortgage-backed securities (CDSs). Rating agencies consisted of three major firms, S&P, Moody's, and Fitch, who would give the highest rated packages of these CDSs the AAA recognition. In accordance with a risk averse mindset, CDSs with a triple A rating were typically the quickest to sell. So to rid themselves of the lower rated CDS bundles with higher risks, banks then created new pools of subprime mortgages called Collateralized Debt Obligation CDOs. It was not uncommon that banks would create multiple pools of CDOs, all stemming from an original pool of CDSs, which in the end, would be filled with high risk and low returns mortgages that were undeserving of their rating. The undeserving rating stemmed from the apparent conflict of interests between the firms and the rating agencies, where the flow of money between the two caused rating agencies to hand out highly inflated ratings. In conclusion, the low interest rates provided by the Federal Reserve, low interest rate loans offered by banks, optimistic lenders rushing into the overheating housing market, and the overflow of inaccurately rated CDSs and derivatives would ultimately cause the unthinkable: the failure of the housing market.

3. Consequences

In an effort to retract the loose monetary policies that it had erected at the start of the century and redirect money supply into other sectors of the economy, the Central Bank began to increase the Federal Interest rates. As interest rates began to rise, an inverse in growth was apparent in the housing market. In May of 2006, interest rates grew to a new high of five and a quarter percent [10]. As a result, housing prices in the United States began to drop for the first time in a decade, and so the value of the mortgages dropped significantly. Lenders began to stop defaulting on their mortgages, as they either lost the ability to pay interest, or had lost their optimism in the market. Home owners began selling their houses in an effort to repay their mortgages entirely, but a sudden spike in supply soon caused the prices of housing to dip.

Lehman Brothers, a financial firm with business focuses on mortgage-backed securities and collateral debt obligations was hit hard in this bear market. Overconfidence of the firm caused it to throw away its many chances at surviving through the housing market winter. It continued to underwrite mortgage back securities even as housing prices plummeted. At times, even operating with direct investments into the housing market. As consumers continued to default, the value of these holdings by the Lehman Brothers similarly dropped, and there was no longer a buyer pool willing to take on the mortgage back securities underwritten by financial institutions alike. As a result, its assets and securities tied to commercial or residential real estate worth nearly $111 billion experienced significant losses [11]. The consequences of the firm's high leverage investments in the past also compounded at this time, dealing an even greater blow to the frailing giant. The firm had significant losses during the bear market that were greater than those of other enterprises in these categories due to the illiquidity of its assets. Lehman Brothers actively looked for a long-term plan that would secure the company's survival. Options considered included raising stock, spinning off "toxic" assets, splitting into two publicly owned corporations, and even selling the company to investors in its whole. On September 15, 2008, Lehman Brothers Holdings, Inc. filed for Chapter 11 protection after failing to find a solution to its glaring problems, commencing the largest bankruptcy case in American history [12].

With the collapse of the financial giant, sheer terror and panic spread like wildfire through the market. In the ensuing weeks, investors pulled more than $400 billion out of the so-called prime money funds [13]. Shocks in the financial market were felt all throughout the world, not limited to only the housing market. In total, it is estimated that the United States itself lost $10.2 trillion in 2008 alone [14]. In addition, the unemployment rate in the US dramatically rose from the original 5.8 percent in 2008 to a staggering 9.3 percent in 2009, the largest single year rise the country has seen in decades [15]. The severity of these effects lasted well into the early 2010s. Consequently, the 2007-2009 financial crisis is regarded as one of the worst financial catastrophes in the entirety of mankind.

4. Changes

4.1. Dodd Frank Act

In an effort to combat the effects of the recession and reshape policies so that such economic disasters would be eliminated from occurring in the future, policy makers from different sectors came together to create preventive measures. Firstly, the Federal Reserve reinstated its low federal funds rates to near nil levels. By reducing the federal funds rate, banks could now borrow at a much lower cost, lend each other money without much consequences, and in turn, raise the money supply in the economy that can be borrowed to businesses and individuals [16]. Apart from the lowered rates, a set of new policies were also pushed out by the US policymakers. One of these policies being the Dodd Frank Act.

With the financial systems needing a great deal of improvement, the Dodd Frank Act was enacted to make the appropriate updates and repairs. The scope of the Dodd Frank Act is extensive: in particular, it has 849 pages, 16 titles, and 225 new rules spread among 11 agencies [17]. First, title X

of the law establishes the Consumer Finance Protection Bureau to address deceptive products and, more broadly, irresponsible lending practices (see also title XIV, subtitles A and C).This set of measures most directly targeted the falsified sales of CDSs and securities prevalent leading up to the financial crisis. Secondly, subtitle B and title IX, subtitle D of title XIV in the Dodd Frank Act establishes requirements for specific underwriting standards for residential mortgages., creating benefits for new types of mortgages, such as the underwriting of qualified residential mortgages. Thirdly, Title IX, Subtitle D of the Act mandates that companies performing securitization on all products retain at least 5% of the credit risk themselves. This came into consideration as firms such as the Lehman Brothers held great leverages without putting much collateral "in the game. Next, in title IX, subtitle C, the Dodd Frank act sets out to increase the regulation of the rating agencies handing out ratings for securities and its derived products, a focus being placed on removing any potential conflicts of interest they may have with the issuers of asset-backed securities, as well as create new systems that cuts back on the reliance of such rating agencies, in order to raise consumer information and increase transparency in a pool of asset backed securities [17].

4.2. Basel III

Apart from the Dodd Frank Act, The Basel Committee - earlier known as the Committee on Banking Regulations and Supervisory Practices - came together to push out the Basel I, II, and III, which were all policies set at introducing certain regulations on the amount of capital that banks must keep in their reserves based on the risk of their assets and leverage that they were performing. This came as a point of urgency as a large portion of panic and overflow of asset backed securities in the market came from a lack in supervision and regulation of the practices of banks. In essence, Basel II and III were all updated iterations of Basel I. The Basel Committee first established the minimal regulatory ratio for banks with global operations [18]. This was different from the Dodd Frank Act in that Basel also attempted to encompass foreign banks. Covered banks had to have enough regulatory capital on hand to account for, on a risk-adjusted basis, at least 8 percent of their entire assets. The Basel Committee defined the fundamental definition of what regulatory capital means in order to build an agreement over what it is. Assets qualifying as regulatory capital were divided 2 tiers: Tier 1 and Tier 2. Tier 1 capital typically encompasses the value of assets, such as common equity and qualifying sorts of preferred stock. Naturally, the inferior instruments—often referred to as "supplementary" capital—are allocated to Tier 2. Subordinated term debt and specific hybrid instruments are two examples of this "supplementary" capital. In short, Basel outlined the risk-adjusted capital requirement that banks had to hold, with total capital required by the banks split equally between Tier 1 and Tier 2 - a characteristic that Basel II and subsequent Basel revisions mainly left unmodified [18].

5. Conclusion

In conclusion, the 2008 financial crisis along with its 1930 counterpart teaches economists and policymakers alike great lessons regarding the operations of financial systems and the inherent risks that come with overgrowth that lacks regulation and actual value and substance. Without such instances of financial depressions and recessions, improvements to the financial systems cannot be made. In some ways, experiencing such a financial crisis can be beneficial to the future of the economy. Realizing the defects in our banking systems and the failure to suppress panic amidst the discovery of certain issues made way for reforms in the financial system that ensured a certain level of capital was held in order to deal with panic from the public. Inability of rating agencies and firms to provide transparent and open information on the trading of assets also birthed the creation of acts that outline new rating practices and monitor schemes. Sending individuals to jail for their actions also most certainly acts as a cautionary tale to those looking to indulge in fraudulent practices. Although extreme economists might argue that a free market with open trade leads to inevitable financial crises and should therefore be eliminated, new precautionary measures put in place after the

occurrence of a financial crisis will in part mitigate much of the damage that could occur in the future. Yet as a we will only know of a crisis after it occurs, using the knowledge we have acquired from previous crises will aid us in averting future crisis, especially amidst the threats from the Covid-19 pandemic and Russia-Ukraine war: hence the importance of findings from 2022's Nobel Economics laureates.

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