The role of the US government in the 2008 Financial Crisis: Deregulation, Moral Hazard and Bailout

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Grado en Empresa Internacional

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Curso 2019-2020

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Abstract

The 2008 financial crisis was an economic shock with a global impact; However, it could have been predicted in the United States? This research thesis aims to study and discuss the relationship between the government and the financial industry in the context of the 2008 collapse. The paper specially inquires in the potential role of the state before the event and whether its rulings are a direct cause of the crisis. Furthermore, it studies the different moral hazard situations created, its circumstances and how closely are causes as a result of the deregulation. In order to understand the circumstances, the research presents the crisis background, its important and decisive episodes, its principal financial products, the aftermath and legislative prevention which is not enough.

Key words: Financial Crisis 2008 US Deregulation Moral Hazard Too big to fail CDO Interventionism Bailout

Título: El papel del estado de EEUU en la crisis financiera del 2008: Desregulación, *Moral Hazard* y Rescate Bancario.

Resumen

La crisis financiera de 2008 fue un shock económico con un impacto global; Sin embargo, ¿podría haber sido predicha en los Estados Unidos? Esta tesis de investigación tiene como objetivo estudiar y discutir la relación entre el gobierno y la industria financiera en el contexto del colapso del 2008. El estudio indaga especialmente en el papel potencial del estado antes del evento y si sus decisiones son una causa directa de la crisis. Además, analiza las diferentes situaciones de *Moral Hazard* creadas, sus circunstancias y cuán estrechamente son causas como resultado de la desregulación. Para comprender las circunstancias la investigación presenta el contexto de la crisis, sus episodios importantes y decisivos, sus principales productos financieros, su repercusión y la prevención legislativa que no es suficiente.

Palabras clave: Crisis Financiera 2008 EEUU Desregulación Moral Hazard CDO Intervencionismo Rescate Bancario

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I. INTRODUCTION

The 2008 financial crisis in the United States is a topic that has been very researched, it has been the central point of various academic papers, books and even it seems every person has some opinion or experience about it. The fact is that it not only affected the economy as whole, but its main financial product was mostly dealing with housing securities, which sometimes are considered a commodity, and therefore trading with these aggravated even more the situation for some families. Furthermore, this depression has been compared and levelled to the 1929s crash, because if there are not considered the recessions originated due to the world wars and the 2001 bubble burst that didn't caused comparable damage, the 2008 collapse was the second huge financial crisis in the history of the United States.

Some figures that illustrate a part of the magnitude of the economic disaster are such as the $600 billion in debt the investment bank Lehman Brothers filled bankruptcy (Fernandez and Wigger, 2016), the market value of CDOs and MBSs that was about $2.3 trillion in 2007 (Blundell-Wignall, A., 2008), the fine to Bank of America for their bad management that was up to $16.6 billion (Marketplace, 2019), and lastly, the fact that Bush enacted the program that allowed using up to $700 billion in order to, in few words, stabilize the situation after the crash (Sarra, J. and Wade, C., 2020 p. 129).

The 2008 crisis has been studied keeping the focus on the creation of the housing bubble, the analysis of financial products such as the CDOs and CDSs, the toxic behaviour in the financial industry leading to short-termism, the management and fall of important banks, the revolving doors between the government and the financial industry, the creation of a dangerous systemic risk, the rise of the neoliberalism and therefore deregulation, the role of the government sponsored enterprise, etc… These topics almost only comprise issues before and during the episode, consequently it must be highlighted that the difficulty on creating a paper about the subject is not the lack of information, but the massive amount of it. Thus, it might not be appropriate to write a superficial story about the event yet not to immerse so much about an issue that might be forgotten the whole natural interconnection of the circumstances.

This research thesis is structured in 3 chapters, and tries to study and question the relation between the government and the financial industry in the context of the 2008 financial crisis, inquiring more in the potential role of the state before happening and whether its rulings are a direct cause of the circumstances of the event. It begins with the de-escalated deregulation in previous decades, sets the example of the merger and creation of Citigroup in order to present the consequences and how enormous banks became a normality, and finally the role of the Federal Reserve, not a strict part of the government, yet, has legislative power that is noticeable to understand the housing bubble created.

The second topic studies different conditions that created a moral hazard situation, and how closely are caused as a result of the deregulation. First regarding the nature of the financial products, important processes such as the securitization food chain, the "players", which are questioned the performance and behaviour of financial employees and CEOs, in order to, then escalate to institutions as a whole, CRA and GSE. To conclude, the research tries to present how the apparently small actions, and not state related activities can severely affect the government and introduces the "Too big to fail" theory.

The final part is a quick overview of the actual measures taken by the government after the crash, including TARP and ARRA, and sets the question of how much was actually the cost of the so-called bailout. Moreover, it is presented the Dodd-Frank legislation, the preventive regulation passed in order to the 2008 situation never happens again, however it is discussed its potential effectiveness.

II. DEREGULATION

The 2008 financial crisis had many players and there were different "toys" to play, and as a consequence, it is very hard to find who or what is to blame for popping the bubble and most importantly, who inflated it. However, when looking for the path that led to this situation many have argued the role of the legislative power.

To mention a few, first it is necessary to highlight the part of Paul Volcker. He was a former chairman of the Federal Reserve, and in 2009, became chairman of the Economic Recovery Advisory Board for the crisis under Obama's presidency. Volcker, as was expected given his past, tried to establish new and harder restraints on big banks pointing out that a deregulated environment was one of the causes (Appelbaum and Herhey, 2019).

But before, around 2005, Raghuram Rajan, an economist, teacher in the University of Chicago Booth School of Business, and by then, next to be Governor of the Reserve Bank of India, was one of the "predictors" of the crisis. He warned, not only about the risky products and scenarios, but, put the blame on Alan Greenspan, the chairman of Federal Reserve of the United States until 2006. During their conversations, Rajan criticised Greenspan's policy during the early 2000s of lowering interest rates to historical minimal. According to Rajan, it was a major cause of the crisis because it directly coerced Americans to load up on debt (Lahart, J. 2009). Arguing, how, the role of legislative organization was so crucial. Afterwards, he published in 2008 the paper named "The Global Roots of the Current Financial Crisis and its Implications for Regulation" (Raghuram, R., 2008.) making his position even more clear.

On May 31st 2009, Paul Krugman, awarded with the economics' Nobel, wrote an opinion's article for the New York Times with the title "Reagan Did it" (Krugman, 2009) placing the responsibility of the 2008's financial failure on 1982 President Ronald Reagan. Krugman points out how the approbation of the Garn-St. Germain Depository Institutions Act was the beginning of deregulation and the first domino's piece to fall that led to the financial crisis.

Even though three distinguished economists have been mentioned, countless scholars have proved trough their studies a high degree of causality between the deregulation and the crisis. Such as Dan Immergluck in "Core of the Crisis: Deregulation, the Global Savings Glut, and Financial Innovation in the Subprime Debacle"(Immergluck, D., 2009), Katherine Bentley in "The 2008 Financial Crisis: How Deregulation Led to the Crisis" (Bentley, K., 2015.), and Paul G. Mahoney in "Deregulation and the Subprime Crisis" (Mahoney, P.G., 2017.), to cite a few.

This part will try to present different regulations which led to a looser financial environment, and how potentially drove to the birth of the 2008's tense environment, major players and its "toys".

1. Regulation after the crash of 1929

The very first financial crisis in the United States of America was the called "Wall Street Crash of 1929" or "The Great Depression", even though it is 80 years before the 2008 crisis, some aspects have been proved similar, such as low interest rates, financial innovation and liberal/laissez-faire policies (Wisman and Baker, 2011). Their consequences are also comparable, in The Great Depression between its first years (1929-1933) more than 4000 U.S banks closed permanently which meant almost $400 million (today's value would be around 6 billion) in losses and in comparison, on September 15, 2008 the investment bank Lehman Brothers filled bankruptcy with $639 billion in assets and $619 billion in debt (Fernandez and Wigger, 2016)

Having these similarities, is compulsory to look what was the legislation made to impede from happen that crash again. The "prevention" was the Glass-Steagall Act or The 1933 Banking Act. The bill, tried to join two deep-rooted congressional projects: First, a federal system of bank deposit insurance not existing until then, and the regulation of the combination or merge of commercial and investment banking (Perkins, E.,1971).

The Federal Deposit Insurance Corporation (FDIC) was born with the purpose to provide stability to the economy, especially in case of the fall of the banking system as it tries to insure consumer's deposits. The FDIC ensures a specific amount of checking and saving deposits for banks who are members, the deposit insurance coverage by then, was set at $2,500. Before the 2008 crash the coverage became $100,000 to $250,000 per depositor (Stammers, R., 2008). Therefore, when a bank fails, the FDIC attempts to sell the deposits and loans from the failed financial institution to a solvent one. Nonetheless, if the sale cannot be made, the customers from the failed institution will receive their deposits from the FDIC (Stammers, R., 2008). Even though, the creation of the FDIC appeased the fear of depositors after the crash and was a fundamental key for decades of relative stability in the financial system, there were detractors (Cooley, T.F., 2009). First and very importantly, the then president, Franklin D. Roosevelt, and thus, as expected, bankers in big money centres (Kennedy, S. E.,197).

Following, the Separation of commercial and investment banking was explained in four sections of the 1933 Banking Act. It forbade commercial Federal Reserve member banks to (i) deal with non-governmental securities for customers (ii) invest in non-investment grade securities for themselves (iii) underwriting or distributing non-governmental securities (iv) affiliating with companies involved in such activities (Carpenter, D.H and Murphy, M.M, 2010). The motive behind the regulation was very clear, representative Steagall believed that this measure would restrict speculative bank activities. Moreover, in Section 3, the act requires that each Federal Reserve bank must monitor a local member bank. The aim was to control whether the lending and the investing was "inappropriate" for the management of the bank's credit, especially speculative activities regarding the trade and the ownership of securities, commodities or real state (Richardson, G., 2011).

Another important section to highlight, that tried to again limit the speculation was the one called "Regulation Q". Its main goal was banning banks from paying interest on deposit in checking accounts, besides, it decreed ceilings on interest rates for in other type of accounts (Gilbert, R.A., 1986). And how banning these interest rates was able to limit the speculative behaviour of the banks? Indeed, banks generally compete for customer deposits, and therefore it forced banks to find riskier operations to able to pay the interest on the deposits (Schmitt, H.O. and Shaw, E.S.,1974).

Overall, the regulation of the banking system had its supporters who approved the limitation of commercial banks to their conventional banking activities. Some even blamed government securities during the World War I as the origin of the corruption of commercial banks and that led to the speculative excess in the 1920s (Willis, H.P and Chapman, J.H.,1934). Nonetheless, the whole Act was deeply criticized using as an argument the potential inefficiency of the banking industry, as it limited competition (Huertas,T., 1933). And even though it didn't happen a financial crisis until the 1980s-1990s, the so called "Saving and loans failure" (Moss, D., 2009), the act and in especial Regulation Q eventually led to money market funds to work around to the prohibition of paying interests.

To conclude with the 1933 Banking Act, is important to highlight that only the FDIC survived until before the 2008. Both the separation of commercial and investment banking and the regulation Q were appealed through the years gradually. And progressively the financial system became more complicated and, as a consequence, more difficult to regulate.

In addition, noteworthy regulations about the security markets were made by this time. The beginner was The Securities Act of 1933; which goal was mainly to protect investors. Mainly, to ensure more transparency in the financial statements (such as the balance sheet, the income statement and the cash flow statement), this was for investors to make more informed decisions about their investments, and second to establish laws against misrepresentation and deceitful schemes in the securities market (Mahoney, P. G., 2001). Just one year later, in 1934 it was established The Securities Exchange Act which set up the Securities and Exchange Commission (SEC). SEC's goal is to regulate the secondary trading of securities by overseeing and regulating stock exchanges and enforcing the law against criminal acts. Hence, firms must submit quarterly and annual reports to the SEC (Anderson, A.G.,1974).

In 1936, the Commodity Exchange Act set rules for exchanges in the commodities and futures market (CEA), later, in 1974 it would become the Commodity Futures Trading Commission (CFTC). Similarly, to SEC, it seeks to limit, or even abolish, short selling and to eradicate the possibility of market manipulation. Furthermore, by regulating the transaction on commodity futures exchanges, CEA it is conceived to avert and abolish obstacles on the interstate commerce in commodities (Berkovitz, D.M., 2009). To conclude, the aim of this presentation of important legislation post-crash is to set the new financial rules and organizations established, as well as to become aware of these instruments to understand future changes explained later. The evolution is due to many-sided causes such as the birth of a larger variety of products, complicated financial instruments, globalization, the introduction of computers and telecommunication, market and consumer pressure, which changed the banking industry substantially compared with 1930s, subsequently, some of the regulations and organizations established became obsolete with substantial legal loopholes (Santomero, A.M., 2001).

2. Deregulation in late 1970s and 1980s

Since the 1930s, United States has become into one or the largest economy in the world, and consequently it comprehends some of the biggest and main financial markets around the world (Ayhan M., K. and Csilla, L., 2017). Yet, this path has been determined by a variety to different elements and a dynamic and ever-changing regulatory framework. In fact, the previously mentioned framework's main characteristic may be the endless swing of pendulum, travelling between two opposites, looser or a more rigid regulation. The motivations and therefore forces of this oscillation were for instance the desire of higher financial stability, more economic freedom, the concern of a potential oligopoly and its consequences, among others (Sherman, M., 2009). During the decade of the 1970s, the role of the state in the economy was questioned and the "laissez faire" belief became popular mainly because of the Chicago School of Economics. Scholars such as Milton Friedman and George Stigler motivated that the liberalism dogma influence the regulations made during this decade and forwards (Peltzman, S., 1989).

In fact, the deregulation facilitated the stimulation of complex banking organizations, this trend led the industry to conglomerate and then, achieve greater consolidation. Consequently, banks got bigger and therefore under one organization different financial services were performed, this led to an increase of sophistication of the services (Gallagher, S., 2019). In this part, it will be explained what the scenario in this decade was and how it changed due to the new laws.

To sum up the situation, because of the Regulation Q, commercial banks were still facing restrictions on interest rates, in the deposit and lending sides of their business (Sherman, M., 2009). In addition, at the late 1970s, inflation provoked that market interest rate rose above the limits decreed by Regulation Q. In fact, the restrictions were designed for when the inflation was around 3 or 4 percent, but at that time, inflation became as high as 10 even 11 percent (Gilbert, R.A., 1986). Therefore, investors tried to seek and identify opportunities to be an alternative to traditional deposit accounts. Besides, Regulation Q ceilings were raised three times during the decade (1970, 1973, 1979), and apparently was not sufficient (Federal Reserve Bank of Minneapolis, 1988).

These frustrations during the 1970s culminated in 1980 with the Depository Institutions Deregulation and Monetary Control Act (DIDMCA). The law signed by then president Jimmy Carter made a substantial change in the banking industry (Gilbert, R.A., 1986).

First, it set up a committee to supervise the complete termination of interest rate ceiling during the next six years. As follows, depository institutions would be able to offer account with competitive rates of return taking into account inflation (Johnson, H.J., 2000). The title 1 of the act was called The Monetary Act, and it required banks who accept deposits, to periodically report to the Federal Reserve System (FRS), and maintain required reserve minimums, which were reduced dramatically (Kaufman, G.G., 1980). Bank reserves being so low is considered an expansionary policy as they are able to lend out more, on the other hand, it means more endangerment and to be more exposed financially (Tarver, E., 2020). Secondly, in the title 2 named Depository Institutions Deregulation Act, the regulation gave more power to the Federal Reserve as it required non-member banks to recognize Fed decisions (Allen, P., R., Wilhelm, W.J., 1988).

Only two years later, another important bill was passed, The Garn-St. Germain Depository Institutions Act of 1982 (GSGDIA). The legislation had a lot of purposes, and one of them was to boost the housing industry. As a consequence, its principal idea was to improve the financial stability to institutions involved in home mortgage lending, and in doing so, to assure the availability of home mortgages (Ureche-Rangau, L. and Burietz, A., 2010).

Therefore, not only banks were the middle point of the regulation, but specially thrifts. Thrifts are savings and loans associations, the main difference between commercial banks is that they fall under a its particular regulation, for example these institutions are able to borrow money from the Federal Home Loan Bank System (Kagan, J., 2018). Hence, it can be said that the Garn - St Germain Act aimed to ease the pressures on banks, thrifts, and their insurance funds (Gillian,G., 1983).

First, the act went forward in loosening cap rate, already laxed in DIDMCA. Additionally, it allowed Thrifts to breach interest rate ceilings on deposits in order to stand competitive and appealing in comparison to commercial banks (Hamlin, A., Hillyard, R., 1991). Moreover, financial requirements became more permissive in order to avoid Thrifts and Savings and Loans institutions in general, to be constrained with rigid restraints (Reinstein, A., 1995).

Another part of the Act specified the impediment of the enforcement of the due-on-sale clause in determined scenarios even though the ownership changed (12 U.S. Code § 1701j–3).The due-on-sale clause is an arrangement in a mortgage contract that compel that the mortgage has to be repaid in partially or fully to the party that secures the mortgage (Kagan, J., 2019). However, in order to protect the lender, the bill thwarted that the borrower could sell the property in order to earn a higher market rate on its repaid funds. This situation happens when the bank, thrift or financial institutions holds a below-market-interest mortgage, and the borrower wants to benefit from that (Segal,T., 2020).

An interesting point about this is that in 1974, before the Garn – St Germain was signed, it was regulated the possible actions of the other part, the financial institution, and it works completely the opposite. The bank can sell the mortgage to another financial institution (normally sold as a part of a financial product) in order to take advantage and profit from the different interest rates. To a greater extend, the lender doesn't need the authorisation of the borrower, and the borrower may never know if its mortgage has been sold to another party (12 US Code 1454).

Moreover, The federal law named "Purchase and sale of mortgages; residential mortgages; conventional mortgages; terms and conditions of sale or other disposition; authority to enter into, perform, and carry out transactions" has suffered several modifications through the years, however leaves an open door to speculate with real estate assets, really exploit and a cause of the 2008 financial crisis (12 US Code 1454). The Act involves furthermore modifications such as the creation of New Money Deposit Account (MMDA), it also conceived Super NOW accounts for business and government agencies (Commitments of Traders, 2009).

To summarize the Garn – St Germain Act of 1982, not only commercial banks got deregulated but specially thrifts (savings and loans institutions) in order to become more competitive, and to facilitate homeownership (Kaswll, M., M., 1984).

In addition, the deregulation of Thrifts institutions, has been studied by several scholars as a direct consequence of the so-called Saving and Loans Crisis. As Ureche-Rangau, L. and Burietz, A. discussed in their research "Is there a link between the american s&l crisis of the 80s and the subprime crisis? An analysis of bank returns", the deregulation led to new opportunities embodying higher risk (Ureche-Rangau, L. and Burietz, A., 2010). The Saving and Loan Crisis went through the decades of 1980s and 1990s, but it prompted a massive bailout, the failure of the Federal Saving and Loan Insurance Corporation (FSLIC) escalated from $15 billion to $500 billion through The Financial Institutions Regulatory Reform and Enforcement Act (FIRREA) in 1989 that also try to regulate the Thrift industry (Reinstein, A. and Steith, P., 1995).

Lastly, another noteworthy legislation happened in 1984, and was the Secondary Mortgage Market Enhancement Act (SMMEA). First, it permitted financial institutions to invest in mortgage-backed securities, as follows, the private mortgage-backed securities (set up by investment banks) would not compete with government mortgage-backed securities (created by Government Sponsored Enterprises), but instead they should be in the market of private investments, for example along with mutual funds (Chiquier, L., Hassler, O., 2004). Furthermore, the bill authorized a nationally recognize statistical rating organization (NRSRO), that mortgage-backed securities will be rated such as Treasury Bonds (Securities and Exchange Commission, 2014).

To conclude, the result of the SMMEA was a big investment growth in the real estate market, which inevitably led to a massive pool of money available for homebuyers. It derived to the creation of new financial products, and so, homebuyers had a vast range of loan options. The final consequence was that more Americans would ultimately be able to purchase a house (Gál, Z., 2011).

3. Deregulation in the 1990s and early 2000s

The first wave of deregulation was the 1970s and the 1980s, but there was a second wave during the 90s, starting when Bill Clinton took presidency. After the 1980s-decade, structural problems such as stagnant growth of the aggregate demand in the US, global imbalances and an increasing adaptation of technology tools indirectly caused and led to the financial deregulation (Crotty, J., 2003).

Furthermore, the Saving and Loans Crisis and its actors were still damaged, therefore the finance industry and specially the real estate market, weren't at their finest moment, and that was partly responsible for the moderate recession during 1990 and 1991 (Lea, M.J, 1994). The data showed a huge drop in the construction of new homes, as in 1986 were build 1.8 million and by 1991 the number fall to 1 million, the lowest amount since World War II (Fannie Mae, 1992). In addition, the banking industry was modernizing, and the financial innovations were in an unregulated framework leading to unexplored scenarios, sometimes with unexpected risk (Orhangazi, Ö., 2014). In fact, during 1990s a financial product peaked in popularity: The derivatives. It was during the 1970s they became more acclaimed and used by the investors, however, in 1992 trading became electronic and that allowed the commerce of derivatives, securities and commodities products in a worldwide scenario (Oreskovich, H., 2018).

To conclude with the introduction, it must be highlighted that all the deregulatory bills explained during this decade were approved and voted by the both majoritarian parties, Democrats and Republicans. The Congress showed unity and even some of the congressman, including President Obama, will work out after the financial crisis an act to restrain some points made by these 1990's regulations (Keller, E. and Kelly, N.J., 2015).

During the 1980s and 1990s, an important element in the finance regulation became more and more criticized and questioned. By 1927, two years before the Wall Street Crash, the McFadden Act was signed, regulating that the inter-state branching of banks (being owned or just operated) was not allowed anymore (Richardson, G. et al., 2012). Decades later, several appeals were made, but not successfully, as a result of the alliance of small banks and insurance companies. They argued that, by abolishing this bill, they would face the big large financial institutions and they would be in competitive disadvantage position because of their scarce resources. In addition, insurance companies claimed that once in the market, the big banks will erode them as they will also offer insurance products to their consumers (Medley, B., 2019).

However, in the nature of the law itself was a loophole discovered in the early 1980, as one part stipulated that the states were the authority to govern the bank branches operating in their state (Kenton, W., 2018). Therefore, different states made modifications to their own laws and allowed out-of-state banks to enter to their state if they complied specific conditions. In this fashion, by 1990, 46 out of 50 states had alter their legislations regarding out-of-state banks, to the point that some financial holdings could acquire in-state institutions in certain cases (Federal Deposit Insurance Corporation, 1997).

Up to this point, Treasury Secretary Lloyd Bentsen stated that US had effectively interstate banking systems, but still limited by outdated regulations (Federal Deposit Insurance Corporation, 1997). This declaration was made in 1933 just one year before the Riegle-Neal Interstate Banking and Branching

Efficiency Act (IBBEA) of 1994, that cleared the inter-state branching in the financial industry framework (Federal Deposit Insurance Corporation,1997).

The IBBEA permitted banks to acquire other financial institutions from another state if they meet certain capitalization requirements as early as October 1st of 1995, one year after passed the bill. Nevertheless, it wasn't until June 1st, 1997 when the act stipulated that banks will be allowed to merge into nationwide branch networks. The requirements were: First, the bank holding company can only control more than 10% of the total assets on deposit in the United States and simultaneously it cannot control more than 30% of a state's total deposited assets. Hence, the Riegle-Neal Interstate Banking and Branching Efficiency Act of 1994 repealed the McFadden Act of 1927 (Mulloy, P.,1995).

In order to pass the bill, the American Bankers Association tried to negotiate with more than one hundred bankers in order to conceive a legislation concerning interstate branching in the banking industry. Furthermore, small financial institutions thrust to limit interstate entry to acquisition as they feared to be acquired, therefore, they pushed to set a minimum of 5 years (McLaughlin, S.,1995). In fact, when reviewing important media of that time, some small banks still defied the act and did not conform with the agreement. The main concern was recalled by the spokesman of the Independent Bankers Association of America, he highlighted that a direct consequence will be an increasing financial industry concentration (Medley, B., 2019).

To recap, the impact of the Riegle-Neal Interstate Banking and Branching Efficiency Act of 1994 has been studied and analysed in numerous investigations such as "Bank Expansion after the Riegle-Neal Act: The Role of Diversification of Geographic Risk". This particular paper concluded, that consolidation, the growth in number of branches and the risk diversification were some of the consequences of the legislation. First, the banking industry as small banks were announcing, became more concentrated even oligopolistic, because of mergers and not bank failures. Then, as a direct consequence of the bill, while the number of banks as entities were declining, the number of branches by bank were growing continuously. And as the following effect, the risk diversification for large banks was positively upgraded (Aguirregabiria, V., Clark, R. and Wang, H., 2011)

The succeeding decree that deregulated the financial market was passed in 1999 and was called Gramm – Leach – Bliley financial service modernization act. The economic context was seen as appropriate to make this change in the financial industry framework as it was struggling when happening an economic downtown. The Act allowed companies in the financial industry to integrate their operations and permitted to invest in each other's business in order to consolidate. Financial institutions that became players in the new scheme were such as insurance companies, brokerage firms and investment and commercial banks. In such a manner, the abolishment of this piece of the Glass – Stegall Act, granted that banks would be able to create divisions and subsidiaries with their different businesses, for instance now banks could create a branch to sell insurance policies to their customers (Macey, J.R., 2001).

The defenders claimed that by this significant change, banks could collaborate and settle down divisions, so their risk will be more diversified, and as a consequence, when their main operations went through a decline, the other divisions would be able to keep the financial institution profitable, avoiding huge losses and failures (Kenton, W., 2018)[2]. What the supporters were justifying was the main highlight of the new legislation: commercial and investment banking operations could be under the same financial institution. The regulation repealed directly significant parts of the Glass – Steagall Act of 1933, that as explained before, it was a measure of containment after the Crash of 1929 (Maues, J., 2010).

However, the new freedom given by the Financial Service Modernization Act (FSMA) included some limitations. The assets of the subsidiaries should remain less of the 45% of the consolidated assets of the parent financial institution, or in some cases it must be less than $50 billion (Simpson Thacher & Bartlett, 1999).

Furthermore, it has been presented that the FSMA allowed the cross-selling of different financial products not related with commercial banking activities (for example the sale of insurance policies, that is part of the business of insurance companies). However, taking into account that it was already permissible to banks to merge due to Riegle-Neal Interstate Banking and Branching Efficiency Act of 1994, it has been demonstrated that after the approval of FSMA, were specially mergers between insurances firms and banks the ones that increased (Mamun, A. and Hassan, K.M., 2005).

Moreover, the legislation passed three provisions that allowed for bank holding companies to involve in physical commodity activities, such as agricultural products or gold, energy tolling and merchant banking activities like trade finance or foreign corporate investing (Gisbon Dunn, 2017). In addition, it conversely bans businesses out of the financial sector to enter in both the retail and/or commercial banking. This measure was made to still maintain some separation between the investment and commercial banking operations of a company (Baker Mackenzie, 2017).

Furthermore, the FSMA also decreed changes for the consumer privacy in the financial industry. The Financial Privacy Rule, inside the act, states that financial institutions must provide each consumer with a privacy notice at the time the consumer relationship is established. This privacy notice needs to explain information that has been collected about the consumer, where that data is share, how it is used and how it is protected (Federal Trade Commission, 2020). In relation to the Financial Privacy Rule, it was also legislated in FSMA the Safeguards Rule, that compelled financial institutions to establish a written information security plan that would describe how the bank is able for and intends to continue to protect their clients non-public personal information (Federal Trade Commission, 2020)[2]. Another part of the ruling decreed that no merger could be arranged if it failed the CRA exam. The CRA exam tries to study whether the depository institutions will meet the credit needs of the communities in which they operate (White, L.J., 2001). Therefore, the Act tried to reduce possible failures by requiring this condition, however, it was criticized for being poorly crafted and having loose requirements (Plunkett, T., 2004).

Lastly, with the Gramm – Leach – Bliley financial service modernization act it is necessary to present what supporters and detractors argued about it. The rationale used by its defenders was considering that when economy is performing good, individuals assignee more money to investment and, on the contrary, when the economy shifts, they put their money on saving accounts. When passing the legislation and having the savings and investments in the same financial institution, the business will be capable to function properly in both stages of the economy (Minton, Z., 2008).

Moreover, it has been proved by studies done after the approval that the shareholders of the financial institutions have increased their wealth as a consequence of the cross-industry mergers (Mamun, A. and Hassan, K.M., 2005). Nevertheless, many have cited the Act as a cause of the 2007-2008 financial crisis. (Leonhardt, D., 2008). Scholars such as Joseph Stiglitz, a noble prize-winning economist, concluded that the decree triggered the crisis (Stiglitz, J.E., 2008). Additionally, the topic of "too big to fail" was arisen due to the bill, as different scholars agree that the FSMA was responsible for the creation of huge and powerful financial entities (Sumner, M., 2008).

4. Citicorp and Travelers Merger

The Citicorp and Travelers Merger was really decisive and set the beginning of the new era of huge important banks, and it is a clear example of the consequences of Financial Modernization bill in 1999. Therefore, is significant in order to understand what and how became the financial industry at the time of the 2008 Financial Crisis.

The City Bank of New York or nicknamed as "Citibank" or "CityCorp" was established in 1812, and originally it entered in the market of leasing and credit cards (CitiGroup,n.d.). Furthermore, the bank became a leader in the innovation of financial services, it was one of the first U.S banks to offer products such as compound interest savings in 1921 or negotiable certificate of deposits in 1961, among others (Citigroup, 2012). On the other hand, Travelers Group, initially was in the sector of Commercial Credit, however through different acquisitions expanded its financial services. First, Travelers Group bought out a life insurance company by 1988, and in 1993 it acquired a brokerage and asset management firm (Martin, M., 1998).

It was April 6th, 1998 when the two business became one. Citicorp and Travelers Group released that they were merging, and as a consequence creating a $140billion firm with assets of almost $700 billion (Martin, M., 1998). Hence, the agreement enabled Travelers to market their mutual funds and insurance to Citicorp's retail customers, and at the same time the banking divisions of Citicorp could be enlarged by the client base of Traveller that were investors and insurance buyers (Mandis, S., 2014).

By that time, Citigroup became the largest US group in the world, and also the first that truly offed global financial services to traditional banking, investment broking and insurance policies (Vander Stichele, M., 2005). In addition, just one year after the merger, Joe J. Plumeri by that time the CEO of the company, announced that the new business booted their unit earnings by a 300%, from $108 million to $415 million (PBJ, 2003).

However, the trickiest part of the deal was the it was made in April 1998, and the provision of the Glass-Steagall Act that stated that commercial and investment banking operations could not be under the same financial institution, was still compelling. As explained before, The Financial Service Modernization Act that repealed this section was approved by 1999.

An interesting fact is that Sandford Weill an important chairman of Citigroup at the time of the merger, when asked that the deal triggered the legislation he claimed "that over that time the legislation will change...we have had enough discussions to believe this will not be a problem", predicting the birth of the Financial Service Modernization Act one year before that was approved (Martin, M., 1998). But still, the merger was materialized in 1998 as the U.S Federal Reserve gave Citigroup a temporary waiver, the following mergers with these characteristics were under the new act (Kagan, J., 2019)[2].

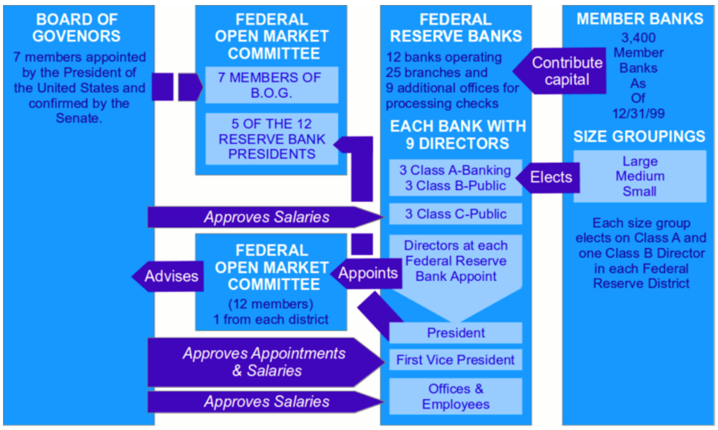
5. The Fed role

The Fed or the Federal Reserve system is the central bank of the United States and its main goal since its creation in 1913 is to provide the country with a secure, flexible and stable monetary and financial system (Chen, J., 2020). It manages inflation by controlling interest rates, it supervises the banking system oversighting their ratios, leverages and so, in addition as it tries to maintain the stability of the financial system, it works closely with the Treasury Department in order to prevent failures and it brings support (financial or other) to banks, in addition nowadays it even does public researches into the economy and published numerous reports (Amadeo, K., 2020). As a consequence, even though the Fed is not the government as such, it has legislative power, and, in addition, its policies before the financial crisis have been deeply criticized and some point out that was one of the major causes of the housing bubble (Pethokoukis, J., 2012).

First, the Fed is considered to be independent of the government, even though the chairman is purposed by the president, his decisions will not have to be approved by the president or any other government institution. Nevertheless, it is conditioned to Congressional oversight and it must work along with the government's economic and fiscal policies targets and goals (Chen, J., 2020).

The Federal Reserve defines itself as "independent within the government" rather than "independent of government" (Board of Governors of the FRB, 2017). In addition, it has a unique structure, both public and private (Pianalto, S., 2005), the Federal Open Market Committee (FOMC) is the one who sets the monetary policy and its formed by the chairman, seven governors from the Federal Reserve Board that have been appointed by Congress and four regional Fed presidents (Segal, T., 2020)[2]. Furthermore, the committee is responsible of the open market operations, in fact, the fed's main income source is on the U.S government securities they acquire (Chen, J., 2020)

The Federal System Reserve works in a complex way as it shows the following diagram, however as mentioned, it is the FOMC who legislates.



Source: Board of Governors of the Federal Reserve System

(Wikipedia, 2013)

Hence, which are the policies that have been so controversial? After the September 11, 2001 and in order to stimulate the economy after the fear, the Fed, or in other words the Federal Open Market Committee, voted to cut the federal funds rate from 3,5% to 3%, this measure was targeted to financial institutions as it is the interest rate at these corporations lend reserve balances to other institutions (Greenspan, A., 2002). Then, in 2002 the Fed decreased the federal funds from then current 1,25% to 1%, the consequence was that banks wanted to borrow as much as they could possibly could, and then, earning profits (Navarro, B., 2019).

Furthermore, the deeply disapproved low-interest-rate policy taken in 2002-2004, as mentioned before, encouraged taking more leverage, and boosted speculation, for example a consequence could be the creation of housing bubble. Again, the background and economic context of the United State at that time was to try to recover from the recession in 2001 and presented shortage of jobs, in addition, facts are that the growth of the real GDP in the third quarter of 2001 was only 1.9%, and it seemed that the economy needed some push (Blinder, A.S., 2014).

Moreover, the Fed was aware of the connection between lower interest rate and the increasing value of homes. Indeed, in a February 2004 speech, the by then Chairman of the Fed Alan Greenspan, recommended that homeowners should consider taking an adjustable-rate mortgages (ARMs), in this way, the interest rate will adjust itself to the current interest in the market (Greenspan, A., 2004). Months later, Greenspan initiate a raising interest rate policies, that two year later increased up to 5.25% (Martenson, C., 2007). In fact, this is considered a triggering factor of the 2008 crisis, as many homeowner of subprime mortgages had adjustable-rate mortgages and when the interest rate increased a lot higher than what was paid by the borrower during the firsts years, sometimes they became unable to pay (Federal Reserve Bank of San Francisco, 2007).

In March 2008, before the Lehman Brothers' fall, Greenspan that was not working the Fed anymore, wrote an article for the Financial Times. He claimed that it is unreasonable to think that the crisis could be anticipated (Greenspan, A., 2008) however economists such as J. Bradford DeLong, Alice Rivlin, Michael Hudson, Willem Buiter and Paul Krugman critically responded the article. They high pointed the causation between the Fed's policies under Greenspan and the recession that followed, in fact Greenspan replied the critics in other article that advocated his ideology of free competitive markets and how it was applied in its conceptual and policy framework (Greenspan, A., 2008)[2].

However, during the crisis, the Fed's work has been complimented. First it decreased interest rates from 5,25% in September 2007 to 2% in April 2008. The Fed bought $30 billion of asset from Bearn Sterns to prevent more panic (O'Brian, M., 2014), in addition they started buying other long-term securities in the open market, trying to reduce the cost of long-term borrowing for both household and financial institutions (Rudebusch, G.D., 2009).

III. MORAL HAZARD

The next chapter of the study is Moral Hazard, an issue that has been in the spotlight quite a while in the financial industry. According to Holmstrom, "moral hazard may arise when individuals engage in risk sharing under condition that their privately taken action affect the probability of the distribution of the outcome" (Holmstrom, B., 1979). In other words, it can be said that a moral hazard situation happens when one agent in a transaction has the opportunity to assume bigger exposure or risk that can adversely affect the other party. This decision is not determined by what is considered to be right, but it is based on what outcome provides the highest level of benefit, thus, it is a question of morality (Kenton, W., 2019).

The simplest example refers to the insurance sector, a driver with an auto insurance may exercise less carefulness while driving than someone who does not have an insurance. However, in the 2008 crisis the moral hazards were more tangled, and sometimes even overseen.

First, this part of the study will introduce a specific financial product called synthetic CDS. It was itself an enginery to avoid risk while gaining profits, that caused a massive moral hazard damaging really bad "the other party". Because if I have to bear the risk of my own actions, I will act more responsibly, however if I am not, there is a higher change that I take the risk anyway (Chakraborty, I., et al., 2014). In addition, it must be discussed the role of the mortgage loan originators and asset managers, a very intrinsic problem in the financial industry. The pressure of an outstanding performance for both senior managers and employees, led to a short-termism, as they were more focused on the bonuses than the long-term effects of the activities and decisions they were taking (Okamoto, K.S., 2009). And finally, there was the dilemma "Too big to fail", the systemic risk, or simply put, if a financial institution should get a bailout or should (the government) let it fail. First, regarding the insurance companies, and the fact the ones that were in the eye of the storm were Government Sponsored Enterprises. And then, obviously, the indebted banks such as Lehrman Brothers, that even though its common knowledge that there was a bailout, its relevant to consider the different economic theories and opinions about the "too big to fail" theory (Strahan, P.E., 2013).

Therefore, the final dominos piece, where relies the burden, it's in the government of the United States. For this reason, it is questioned the role and the measures the government undertakes, especially for avoiding the situations of potential moral hazard. Mostly because if the situation after the 2008 crisis is taken by example, overseeing or ignoring the situation could cost $1,500 billion (Harbert, T., 2019).

1. The tangled of 2008

"Derivatives are financial weapons of mass destruction, carrying dangers, that, while now latent, are potentially lethal." Stated Warren Buffet's Berkshire Hathaway annual letter in 2002 (Sebastian, M., 2018). And actually, the main product of the 2008 financial crisis was the CDO (collateralized debt obligation), that is a derivative. Hence, to understand the perplexity of the product is necessary to understand some financial vocabulary, and then it will be clearer to see how the moral hazard worked. Therefore, it will be what a subprime mortgage is, securities and the process of securitization, derivatives, MBSs, CDOs and Synthetics CDOs and ultimately CDSs.

The 2008 financial crisis is also called the subprime mortgage crisis; then, it must be defined what a subprime mortgage is. A subprime means a below-average credit classification of borrowers, that as a consequence, comes with high risk rates (Hayes, A., 2020). Hence, a subprime mortgage is a housing loan sometimes with borrowers with impaired credit history, with low income and even that have committed delinquencies with their payment (Amadeo, K.,2018). The interest rate of the subprime mortgage is related with four factors: credit score, the amount given for the down payments, the number of late payment delinquencies and the type of felonies found on the report (Krainer, J. and Laderman, E., 2011).

The percentage of lower quality mortgages became very popular, indeed from 2004 to 2006 the market grew 20%, and in some parts of the U.S the ratio was much higher (JCHS, 2008). However, how they became so attractive to investors? First, they became highly securitized, in fact the share of securitized subprime mortgages increased from 54% in 2001 to 75% in 2006 (Demyanyk, Y.S., 2009). The key is that they were pooled in CDOs, that were rated 70% of them with a triple A, the highest rating that is considered to carry virtually no risk (Mclean, B. and Nocera, J., 2010).

Consequently, investors were buying CDOs and synthetic CDOs, that were rated as extremely low risk, but they would get high interest as the underlying asset, the subprime mortgage, was giving big interest. Even though it seems inconsistent that a high-risk security such as a subprime mortgage pooled with other asset became rated as low risk, this apparent conflict will be better explained later. It is important to highlight that subprime mortgages are the smallest doll of the "Matryoshka". It has been exposed because, when explaining bigger "dolls" such as Securitization, MBS and CDOs, its positive to bear in mind that even though the products and processes are considered financial engineering, they all are primary working with subprime mortgages.

Therefore, it shall begin with understanding more financial products and how they are created. A security is an interchangeable and negotiable financial instrument. It represents an ownership, whether from a publicly traded corporation or a government body or from a corporation (Will, K., 2020). It can be an equity security such as a stock, a debt security for example a government bond, and a derivate, like a future (Securities Exchange Act of 1933).

However, some securities are actually created, and the process is called securitization. Securitization is the financial practice of taking an illiquid asset, pooling it, and through financial engineering transforming those assets into a security (Jobst, A., 2008). The usual process of these financial products is colloquially called "Securitization food chain", the procedure goes by first creating the new security with illiquid assets, usually debts, and then being sold to investors (Inside Job., 2010). One of the reasons securitizations became more popular is because financial institutions and business started using it as a way of funding. They owned illiquid assets or assets that could not be sold individually, however, now when pooling them, the institution could sell the new security. In addition, these assets could be detached from the financial institution balance sheet, and therefore from its credit rating (Jobst, A., 2008).

Furthermore, this process was developed to what is called "synthetic securitization", a more complex practice. The European Banking Authority defines it as "the transfer of risk is achieved by the use of credit derivatives or guarantees, and the exposures being securitized remain exposures of the originator institution" (European Banking Authority, 2013). To put it clearer, a synthetic securitization carries out the risk transfer by a credit protection agreement between the so-called originator (the bank) and the investor, but the bank still got the underlying exposure of the pooled assets in its balance sheet, as a consequence, the originator could reduce their capital requirements (Moura, R., 2016).

Even though in the 2008 and years before there were commercialized different types of products, the principal stocks regarding the crisis were CDOs and MBSs. These two only were value about 2.3 trillion in 2007 (Blundell-Wignall, A., 2008). The two products were created by securitization, and a great part of CDOs were built through synthetic securitization, indeed from 2005 to 2007, $108 billion were issued, however the volume would be higher as it was an unregulated market and it wasn't necessary to be reported to any financial market (Morgenson, G. and Story, L., 2009).

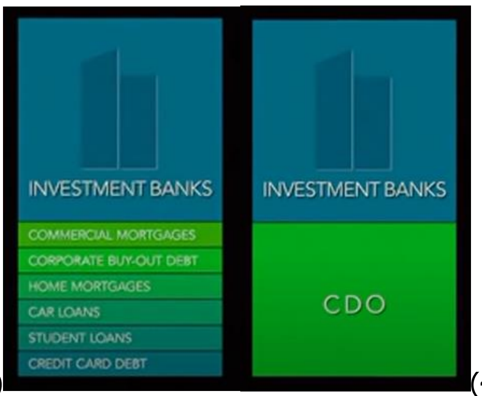
Therefore, what is an MBS? A Mortgage-Backed Security (MBS) is an asset-backed security created through securitization, made up of a "package" of home loans issued by a bank and then typically sold to investors who will receive periodic payments from the mortgage (Kagan, J., 2020). Hence, when a family went to the bank to ask for a mortgage and they came to an agreement, the financial institution could sell the loan and never notice the borrower, according to 12 US Code 1454.

Following, a CDO or collateralized debt obligation is again an asset-backed security, however it was backed by a pool of different items such as student loans, or credit card debts. As a remainder, a CDO is a derivative therefore its value depends on how are performing the assets of this pool or package (Tardi, C., 2020). As MBSs, CDOs became very popular in 2006 and actually grew by hundreds of billions of dollars, indeed, it was common that in this pool were mortgages (FCIC, 2011).

A strip showed in the documentary Inside Job (2008)[2], illustrates the whole life of a CDO. (1) First, it has to be remembered how the course of a mortgage loan was before the CDOs. The bank lent the borrower the money needed to buy a house, and in exchange and specified in the contract of the mortgage, the home buyer must make mortgage repayments to the financial institution. (2) However, with the creation and popularization of the CDO and MBS the process was complexified. The first step was the same, the bank lent the money to the home buyers, yet now, this commercial bank sold the mortgages to an investment bank. (3) The investment bank created, by pooling different assets, the CDO that has been described before. (4) The next step was when investment banks sold this new financial product to investors. (5) Therefore, the mortgage payments were not for the commercial or investment bank but to the investors.

(1)

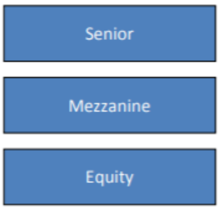

(2)


(3)


(4)


(5) 

Nevertheless, as mentioned before not only was a big market in CDOs but also of a more sophisticated product, the synthetic CDO. In addition to the characteristics explained previously, unlike a "vanilla" CDO, this new type was divided in tranches, or in other words, credit risk levels. As in the picture, the first tranch is usually called Senior, and carries the lowest risk, therefore the lowest return. On the other hand, the last tranch is Equity that bears the highest potential benefits, meaning the highest loses as it will be the first slice to face failure. Furthermore, in order to make it clearer, you could imagine synthetic CDOs and their tranches as a waterfall, payments were prioritized to the first slices, in this case Senior. If there were payments remaining, then the lower trances will be fill up later (Kyle, G. and Russell, A., 2013).



(Kyle, G. and Russell, A., 2013)

A relevant question to wonder is how synthetic CDOs became more popular, even more than plain CDOs. The scheme used to offer higher yields to investors as in the package were normally are pooled regular debt products like loans or bonds, in the synthetic there were pooled noncash derivatives such as options or even plain CDOs (Chen, J., 2020)[2]. In addition, they became easier to create, as mortgages were running out. Ultimately the issuance of synthetic CDOs grew from $15 billion in 2005 to $61 billion in 2006 (FCIC, 2011).

In fact, and to sum up the tangled, as derivatives both CDOs, a synthetic CDO is a bet that the bet of the CDO pooled in the package was right. In other words, when buying a synthetic CDO, that has pooled a MBS or a plain CDO, you expected that the mortgage or sometimes the subprime mortgage borrower will pay the repayments as that would meant that the underlying asset of the plain CDO is performing well, therefore the CDO is doing adequately. And as a final consequence, the synthetic CDO will function fine, giving the expected returns to the investors that bought it.

However, this is simplified, there wasn't only a unique mortgage to bet about, the bet of the plain CDO was for hundreds of mortgages, student loans and credit card debts being paid. And the synthetic CDO performance was relying on derivatives such as other CDO, futures, and CDS. Sometimes even there were created what-so-called CDO-Squared, that is a CDO pooled primarily of other issued CDOs, or a second synthetic CDO meaning that this new synthetic CDO which is pooled mainly of synthetic CDOs (Whetten, M. and Adelson, M., 2005). As a consequence, a 10 million market of plain CDO was transformed to a 1 billion market of synthetic CDOs (Lucas, D.J., et al, 2006).

And a new and final product has to be introduced, the Credit Default Swap (CDS). The CDS is a derivative, and the contract stipulates that the buyer must make payments to the CDS's seller until a maturity date set in the agreement, the main point is that in case the underlying asset defaults, the seller has to reimburse the buyer the underlying's securities value (Kupper, J.,2020). It has been compared to an insurance; However it is important to remember that the buyer of the CDS does not own the underlying asset or derivative he is betting about (Garbowski, M., 2008).

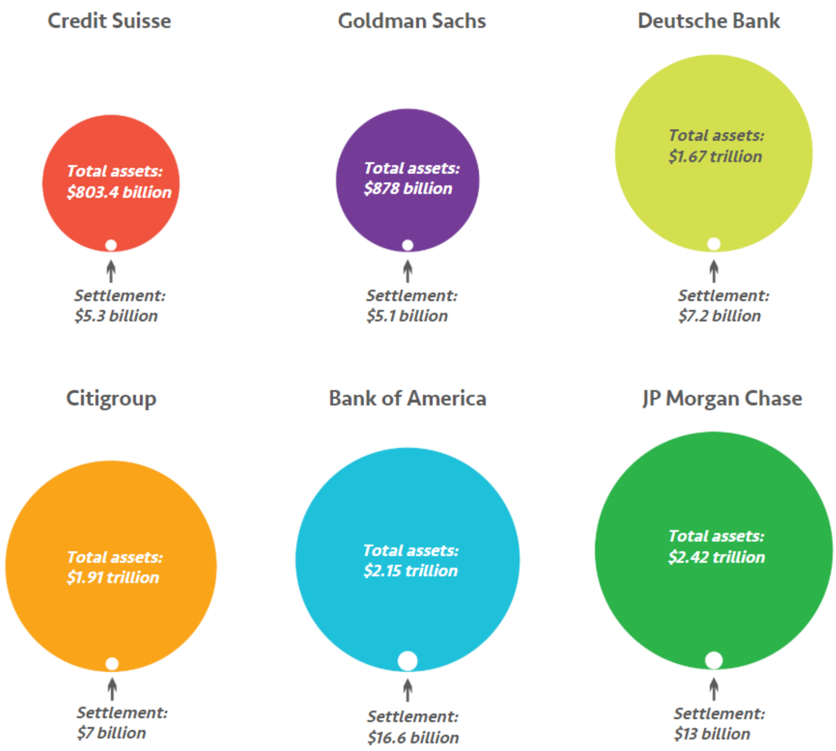
Nevertheless, the risk is not eliminated, but reduced. Now the risk has been shifted to the CDS seller, that in the 2008 crisis was for example AIG, the CDS buyers were institutions such as Lehman Brothers, that believed in the credit trustworthiness of the issuer. Withal, in 2008, the CDS sellers such as AIG defaulted and almost declared bankruptcy, and as a consequence, harmed CDS buyers like Lehman Brothers (Wallis, P.J., 2009).

In addition, as mentioned before CDS were also occasionally part of synthetic CDOs, and the scheme becomes even more tangled. First, its market by the end of 2007 was about 62.2 trillion, and after the crisis in 2010, it fell to 26.3 trillion (ISDA, 2010). One of the possible reasons was a certain point when investment banks did not trust anymore that CDOs will performed that well. Therefore, they will bury CDS inside CDO to bet against the subprime mortgages, while hiding this new change of mind to the investors who were still buying (Mclean, B. and Nocera, J., 2010)[2].

Then, this is one situation of moral hazard of the financial product at the time of the 2008 crisis. Investment banks were still selling CDOs to investors while protecting themselves buying CDSs. And we must remember that investment banks work for the investors, but what actually happened is that as they were being paid by commercial banks to make this CDOs and in addition they were selling them and earning money. Thinking about only their benefit instead of the benefit of the client is criminal, a corrupt practice called wrongdoing (Cohan, W.D., 2015). Or even sometimes as The Financial Service Modernization Act in 1999 allowed, it was the same institution who approved the mortgages through its commercial banking activities and then created the new financial products through its investment banking businesses.

Therefore, there were CEOs in Wall Street that went to jail because of wrongdoing or fraud? Not exactly, just one banker was sentenced to jail because of his role in the financial crisis in the US, Kareem Serageldin an executive at Credit Suisse, because of falsifying book and records (Noonan, L., et al., 2018). In fact, the big financial corporation were only fined, and the fine was payed by the shareholders not the wrongdoers (Cohan, W.D., 2015).

In the following picture can be appreciated how the fines, even though might seem a huge amount of money, in comparison with the total assets of the institutions, it is almost meaningless.



Company's assets are from the year it was fined

Sources: Reuters, Justice Department, company earnings reports (Marketplace, 2019)

In fact, Phil Angelides, chairman of the Financial Crisis Inquiry Commission, stated that it was very disappointing to him that the Department of Justice didn't mobilized the enough resources to thoroughly inspect the wrongdoing (Marketplace, 2019). Because in fact, what the Justice Department essentially did was threaten the financial corporation to disclosure behaviour that seemed criminal and next, in exchange of keep this information sealed, demand the previously mentioned economic settlements (Cohan, W.D., 2015).

However, this moral hazard regarding the wrongdoing of the financial institutions, is not the only debatable behaviour concerning the main financial products. Most economist have also discussed how dangerous are CDO and synthetic CDO. For instance, Paul Krugman, was for banning the creation of synthetic CDOs, as it allowed investors to take bets on assets that they didn't owned (Krugman, P., 2010). John Authers on a Financial Times article argued that synthetic CDOs increased systemic risk (Authers, J., 2010). Indeed, Roger Lowenstein compared CDO with bets in a casino, therefore they should be banned and advised that institutions which worked with derivates should put more capital aside because of the risk (Lowenstein, R., 2010). Robert Samuelson also compared CDOs with casino wagers that hardly anyone analysed the worth of the underlying debts (Samuelson, R.J., 2010).

As mentioned before CDOs were not a small thing, a 10 million market of plain CDO was transformed to a 1 billion market of synthetic CDOs, therefore, the market and the potential harm in case of default was increased by 100 times (Lucas, D.J., et al, 2006).

2. The players

So far, it has been exposed which were the financial instruments that have unarguably caused a potential housing bubble and a massive financial crisis affecting the economy as a whole. Furthermore, in this part will be studied the different moral hazards regarding the situation of the crisis but focusing on the players.

The first aim is the employees and managers of the financial sector. Their behaviour has been object of the study in different researches (Szyszka, A., 2010), (Perihan Hazel, K. and Gülsüm Gamze, Y., 2018), (Carroll, C., 2010). Furthermore, a relevant issue that has been very questioned is the short-termism in the financial sector. Short-termism concerns to an excessive focus on short term results, usually at cost of long-term interests. In the financial sector, a common example is when investors concentrate their attention to their quarterly earnings, overlooking strategy, morals and a potential long-term value creation. Indeed, the federal securities regulations have been criticised for encouraging Wall Street's short termism as they marked the quarterly earnings control (CFA, 2019).

Actually, it has been tested and analysed in laboratory experiments and case studies how susceptible we are in overestimating our ability to do what is right. In fact, the researches advocate that when living with a short-termism mentality, it is highly probable that we overestimate and as a consequence, we act unethically, even if we don't mean to (Bazerman, M.H., 2011). Indeed, there also have been studies who tried to show how compensation for financial employees influences and bias accounting choices, and caused, for example, strategies to increase stock prices artificially (Healy, P.M.,1985), (Bergstresser, D. and Philippon, T., 2006), (Goldman, E. and Slezak, S.L., 2006), (Peng, L. and Röell, A.A., 2012).

Therefore, it has been proven citing M.S Salter (2012) that "the shorter the time period for measuring individual and organizational performance, the larger the rewards and penalties directly tied to these short-term measures, and the weaker the accountability for long-term adverse consequences, the greater the incentive for institutions and their executives to secure short-term rewards by gaming society's rules, tolerating institutional conflicts of interest, violating common decency or other standards of fair conduct, and resorting to cronyism as a way of maximizing self-interest." The facts are, that the average holding period of an equity share traded on the New York Stock Exchange was 7 years in 1940, and in 2007 was just about 7 months. In addition, the average tenure of departing CEOs has declined by 30 percent between 1995 and 2009 (Favaro, K., Karlsson, P.O. and Neilson, G.L., 2010).

One forceful element behind the boost of short-termism lifestyle, is technology. Technology allows us to have more freedom to express and ultimately undertake our short-term preferences. Before this progress, we had more reflexive time, and now by turning on the computer you can change you position in a stock, for example. Nowadays, with a 24-hours flow of information almost urges to take action. This increasing pressure that are facing executives and investment managers only magnifies their obsession with short-term performance, costing and overlooking long-term objectives (Bair, S., 2011).

Another incentive to take short-termism focused decisions is the fact the asset managers are actually managing other people's money. Their bonuses and benefits are linked to the fund's profits, therefore taking a riskier position and hence, a higher payoff, somehow can concealed the potential losses to other people (Okamoto, K.S., 2009). In other words, asset managers find themselves in a moral hazard situation when its beneficial for them to take more risk than appropriate as they don't bear the cost of failure (Okamoto, K.S., 2009). Furthermore, short-termism also affects the overall U.S economy as it discourages long-term stakes. As a consequence, investments in research, developments, marketing or advertising are endangered. Bearing in mind that little changes in the wealth management can, for instance, raise a company's stock price or avoid a decline, allocating the money on long-term projects might seem pointless for investment managers (Salter, M.S., 2012).

The "issuance" of subprime mortgages is also a moral hazard. Lenders didn't bear the risk in case of default as they were selling the mortgages to investment banks in order to create financial products. Therefore, the more approved mortgages, the higher profits to the commercial banks (Pritchard, J., 2019). However, the other part, the borrowers, bear part of the blame too. Millions of homeowners that bought their house before the crisis saw, after the collapse, how the value of the house fell, therefore they owed more than their home's market value. This tempted the buyers to walk away in place of paying the mortgages. Therefore, the lender, or because of the securitization food chain, the investor that bought the financial product that contained this mortgage, is damaged (Jones, R., et al., 2010).

Another important players are the Credit Rating Agencies (CRA). As it has been mentioned and disputes, how such risky securities pooled could make an AAA rating? As a remainder, 70% of CDOs were rated with a triple A (Mclean, B. and Nocera, J., 2010). Well, the rating is labelled by CRA, therefore they should examine the financial products, and give an accurate rating to the investors. As Paul Krugman stated in this opinion article named "Berating the Raters", because of the high ratings, the financial system took more risk that it could actually handle (Krugman, P., 2010)[2]. Even the Financial Crisis Inquiry report clearly points the role of the CRA in the financial meltdown (FCIC, 2011).

The role of CRA is to try to reduce the information asymmetry between borrowers and lenders (investment banks and investors). They actually help investors in the decision of what financial products buy based on their quality, or in other words, based on the riskiness and the possibility that the issuer could default or could not make the payments on time (ISOCO, 2008). To understand how CRA work, it can be either "issuer pays" or "subscriber payers". The big three credit rating agencies, Standard & Poor's (S&P), Moody's, and Fitch Group, followed the "Issuer pays" rule, therefore, the issuer (investment banks) has to pay the rating agencies for the rating of their security. Hence, the moral hazard is rooted in the mindset of the employees of CRA. They knew that if they didn't rate good enough the financial product, the investment bank will go to another CRA that gives them a higher rating and they will lose a client and its potential benefits (Zaidi, D., 2016). Another error from the CRA was using the standard deviation in order to pool the scores of the mortgages inside a CDO, this left out a lot of useful and crucial information as commonly in the financial products was a large dispersion (Lewis, M., 2010).

As a consequence, legal actions were taken by a great number of investors (Hallman, B., 2013). For example, some plaintiffs included CDOs in California State employees that cost $1 billion (Wayne, L., 2009). In 2013, two lawsuits were solved, they initially demanded in 2008 more than $700 million of damages, however, the actual settlement terms were never disclosed and the lawsuits were impeached "with prejudice", meaning that the case cannot be brought to justice again (Reuters, T., 2013). Other lawsuits filled against the CRA were dismissed as the defense used the same strategy, appealing to the First Amendment. Therefore, the ratings given by the CRA are an opinion and so, are protected by as free speech, in addition, to prove malice in the CRA management was really hard (Nagy, T., 2009).

The following focus is the Government Sponsored Enterprises (GSE), most specifically, Fannie Mae and Freddie Mac. A Government Sponsored Enterprise is an almost-governmental entity usually established to stimulate the flow of credit to specific sectors in the American economy. These agencies are set up by Congress acts, and they are privily managed but provide public financial services (Segal, T., 2019).

The Federal Home Loan Mortgage Corporation also known as Freddie Mac is a GSE that was created to enhance homeownership specially for middle class and working-class families. Really similar to the Federal National Mortgage Association or Fannie Mae that was created to booster the flow of credit in the housing market, and at the same time reducing the cost of the credit (Immergluck, D., 2011). The main difference between the two corporation is from where they buy the mortgages. Fannie Mae was established with Roosevelt's New Deal in 1938, and it tried to secure mortgages in MBS, therefore it purchases mortgages from big commercial banks and makes their own MBS to sell to investors. On the other hand, Freddie Mac was created in 1970 in order to continue the development of secondary market lenders, hence Freddie Mac buys these loans from small banks and lenders. However, both are really important to the housing sector and homeowners as when theses organization recess, homeownership becomes more costly and hence, less accessible (Richards, L., 2017).

These two organizations were key in the recovery of the economy after the Crisis of 2008, in fact, by 2009 Freddie Mac, Fannie Mae and the Federal Home Loan Bank System (FHLB) supplied the financing for the 90% of new mortgages (CBO, 2010). However, it must be highlighted that both organizations were one of the first corporations that received a bailout, specifically on September of 2008 (Amadeo, K., 2019).

So, how important was the role of both institutions in the financial crisis, and how they found themselves in a moral hazard situation? Freddie Mac and Fannie Mae, as explained before, are private companies and as so, they still have to be competitive in their stock price or in their credit cost, however they are backed by the federal government and that motivated them to hold less capital in their balance sheet in case of default of the mortgages (GAO, 2009). In 2005, the Senate sponsored a bill that forbade both corporations from holding mortgage-backed securities in their portfolios in order to reduce the risk. However, the law did not pass, and hence, the organizations increased their financing with risky loans. Again, Fannie and Freddie were competing against investment banks that were doing the same (Amadeo, K., 2020)[2].

Actually in 2002, the Department of Housing and Urban Development demanded what they called "affordable housing quotes" to Fannie Mae and Freddie Mac. As a consequence, both increased the holding of subprime mortgages in their portfolios (Abromowitz, D.M., 2009). Indeed, both corporations became the largest purchasers of subprime mortgages during 2000-2007, the had an exposure of $1 trillion, so inevitably contributed to the housing bubble and then, the collapse (Hanke, S.H., 2008).

Furthermore, there has been an unhealthy relationship, sometimes corrupt because of the close relation between the politicians. For instance, Fannie and Freddie were pressured to buy subprime mortgages specially by oversights committees, later when trying to approve the bill to limit the size of the corporation, it was locked down by Berney Frank and Chris Dodd, Barack Obama among others, and the first two were members of the control committee (Rahn, R.W., 2008). These policies had the desired effect of increasing home ownership, but they also pushed up house prices and further fuelled the growing housing bubble (Dowd, K., 2008).

3. Too big to fail

Finally, the last moral hazard exposed is what is called "Too big to fail" or "Too big to let fail". This theory argues that certain businesses, especially financial corporations are so large and interconnected, that in case of failure this would be catastrophic to the economic system. Hence, it will be necessary for the government to support the breakdown (Lin, T.C.W., 2012). Ben Bernanke a Federal Reserve Chairman explained in 2012, that is not out of favouritism that the state backed these companies but as they acknowledged that the potential consequences would be bigger to the economy than avoiding the failure in some way. He argued different preventions such as facilitating a merger, proving credit or a bailout, in this way Bernanke justified the injection of government capital after the 2008 Crash. In addition, he pointed out that the situation of Too big to let fail should be fixed (Bernanke, B.S., 2010).

Indeed, during 2008, the five largest U.S investment banks followed the path described by Bernanke previously. Bearn Stearns and Merrill Lynch were bought as bargains by JP Morgan and Bank of American correspondingly, and Goldman Sachs and Morgan Stanley requested the Federal Reserve to additional financial support (Guynn, R.D. and Polk, D., 2010). The last biggest investment bank was Lehman Brothers, and as it is known, it filled bankruptcy, and many point out how it pushed and magnified the 2008 financial crisis (Chu, B., 2018).

However, coming back to Ben Bernanke, it is a curious fact that before becoming a Fed chairman in 2006, he denied the existence of a housing bubble and justified the boost of the house prices as a consequence of the growth of the economy, therefore jobs and incomes. By that time, there were economics such as Robert Shiller that were identifying the imminent crash (Aziz, J., 2014). Under the direction of Greenspan, that was the chairman of the Fed before 2006, Bernanke developed policies that were contractionary. The action undertook were raising short-term interest, increasing the cost of borrowing and encouraging saving. These measures are usually done when there is high inflation and in order to slow down the economy, therefore he perceived the current economic situation (Amadeo, K., 2019)[2].

Inquiring more into the colloquialism "too big to fail" (TBTF), it was spread by Mckinney, a U.S Congressman when talking about the failure of the commercial bank Continental Illinois in 1984. In this way, McKinney exposed the concerns about the issue long before the crisis (Dash, E., 2009). Indeed, when Lehman Brothers, the fourth biggest investment bank at that time, failed bankruptcy, it wasn't considered TBTF. Mainly because the government overlooked the complexity of the interconnections with other institutions, and it was thought that the failure wouldn't disrupt the economy as a whole (Gelzinis, G., 2019). Later, the impact of the collapse was after used as a reason to not let fail big banks. (Williams, M., 2010.)

Furthermore, as the crisis popularized the term Too Big To Fail, many researchers redacted a definite list of potential important banks that are considered TBTF (Moenninghoff, S.C., et al., 2014). For instance, the international organization called Financial Stability Board published a research in 2018 pointing out what they called "systemically important financial institutions", they mentioned banks such as Credit Suisse, Deutsche Bank, Goldman Sachs, Bank of China, Banco Santander, Barclays, JPMorgan Chase among others (FSB, 2018).

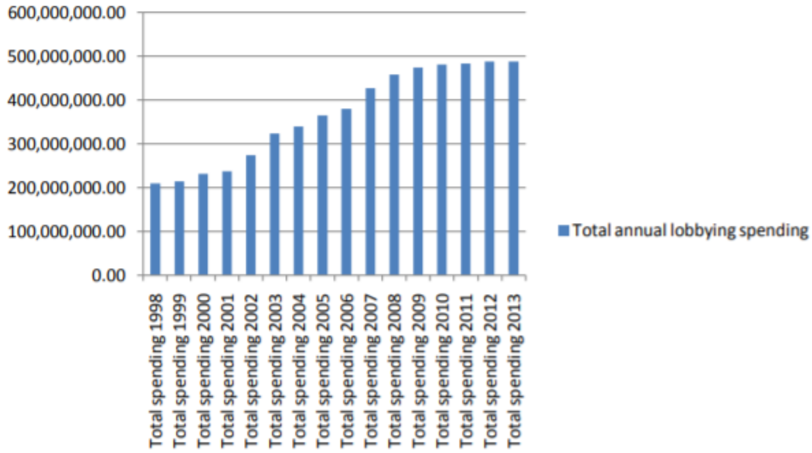
Moreover, it should be clarified that systemic and systematic risk are not the same. The systematic risk includes the overall, the ongoing risk that is happening in the market that is caused from different factors, on the other hand, systemic risk is the threat that an event at a company level could prompt extreme instability or even collapse its industry or the economy as a whole. Therefore, a business that is highly interconnected is a clear source of systemic risk. Hence, the government usually uses the argument of preventing and controlling the systemic risk when it intervenes in the economy (Chen, J., 2019). However, as mentioned before, the failure of Lehman Brothers triggered the crash in the 2008 crisis and the government underestimated its impact and decided to not bailout.

Nevertheless, when the insurance company AIG was at the verge of bankrupt, the government decided to inject public money to save the business. AIG's interconnectedness was seen as really dangerous, the company had an important participation in the subprime mortgages market and when the price fell, their clients started demanding the collaterals linked to them such as CDS. The no-payment of it would have putted important financial institutions and individuals in delicate position (Harrington, S.E., 2009).

Furthermore, it should be remained one important responsibility of the FDIC (Federal Deposit Insurance Corporation) since its creation in 1993 along with the mentioned 1933 Banking Act. As its name says, it was established both to oversee and insure customers' deposits, in this way, the goal was to give again confidence in banks to the Americans (FDIC, 2017). Hence, a per-depositor insurance money limit was set, at the start was $2,500 and by the time of the crisis the limit was set in 1980 and was $100,000, after the collapse it increased to $250,000 (Hogan, T.L. and Luther, W.J., 2014).

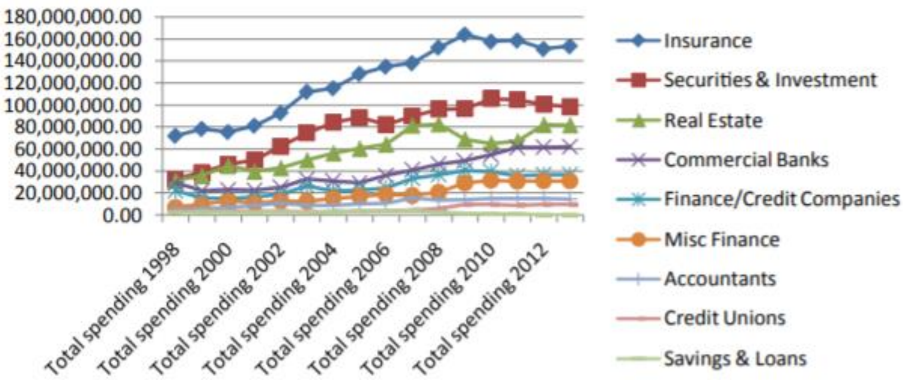
Nonetheless, not enough updates regarding the monitorization and regulation of the bank have been made in the FDIC. The financial crisis exposed how the new challenges mainly presented thanks to the Gramm – Leach – Bliley financial service modernization act in 1999 were disregarded (Young, J., 2020). In addition, it has been emphasized by employees in the financial sector the Efficient Market Hypothesis, the theory suggests that a complex and sophisticated financial product must be priced accordingly because of the market mechanism of arbitrage. The claim of this economic theory ended with politicians, regulators and investors trusting the new securities (Moosa, I., 2010).

However, it was enough this hypothesis to convince politicians to stay out of the economy? It is difficult to confirm, even though, it needs to be exposed the term Lobbying, a non-illegal practice yet complicated to determine if it might be a corrupted action. The definition of lobbying is to influence the decisions of the government generally by persuade legislators votes (Britannica, 2018). These campaigns, again, are legal and even they are typically private, they can also be done publicly (Segal, T., 2020)[3]. The financial industry is one of the economic sectors that spend the most in lobbying, just during the beginning of the crisis in 2007, they surpassed the 400 billion dollars, and it has been increasing over the years as it can be seen in the figure (Maxim, T., 2014).



(Maxim, T., 2014)

In the next graph, it is showed how much it is spend by sectors inside the financial industry, the first is the insurance industry followed by securities and investment, and then real estate. It is curiously relevant as these three sectors had a decisive role in the financial crisis.

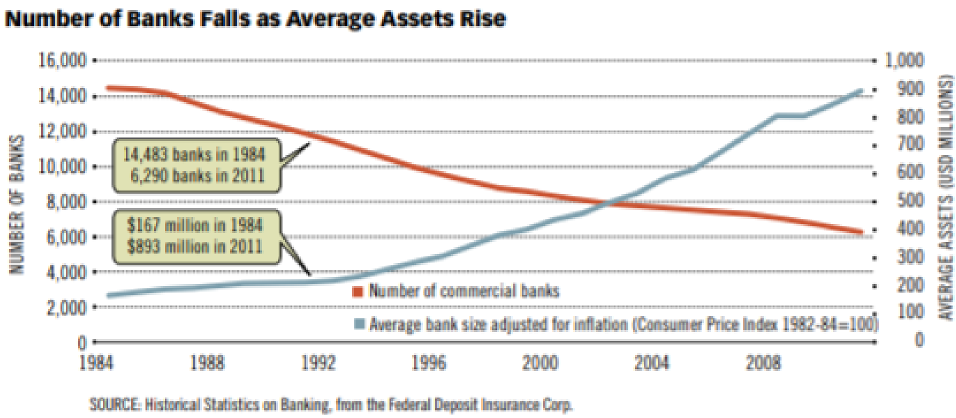


(Maxim, T., 2014)

Still, there are reasons because the financial industry tends naturally to be more concentrated, and without the intervention of the state it will eventually become an oligopoly. Yet, this is not exclusive for the financial institutions, they have the same arguments that any other business have, first is to try to avoid transaction costs that arise when "using" the market, when centralizing the activities in one institution these fees or broker's commissions are minimized (Coase, R.H., 1937). The following reason is regarding market power in order to dominate and lead the market. In the case of the financial sector that might be considered oligopolist, has side effects such as avoiding price wars, therefore competitiveness and at the end, all businesses act as collective monopolist (Moosa, I., 2010).

Having the market shared by a small number of banks has also benefits for the consumers. As Paul Krugman has pointed out in different opinion articles, sometimes the economies of scale that are achieved through this market structure are worth preserving, therefore it should be allowed the "too big to fail" threat (Krugman, P., 2010)[3] (Krugman, P., 2009). A more divided market power could rise the cost of money, less particulars will be able to be approved to have a loan as interest would be higher (Wheelock, D.C., 2012). Services such as cash movement, swaps, derivatives, foreign exchange and so will be affected, international operations will be reduced and therefore international banks such as Deutsche Bank, Barclays or Bank of China will be harmed (Thosar, S. and Schwandt, B., 2019). In addition, the advantages as a result of the economies of scale aren't just based on theory, but multiple studies have proved that they are real. (Mester, L.J. and Hughes, J.P., 2016) (Wheelock, D.C. and Wilson, P.W., 2017) (Kovner, A., et al., 2014).

However, after seeing the benefits of a more concentrated market, this situation punishes others that are not in the leader's position. In fact, having this favoured position makes them able to reduce prices to a point that small banks cannot compete. The next figure explains graphically the evolution of the financial industry and its concentration through merger, specially it can be seen the increase after the approval of the previously explained the Riegle-Neal Interstate Banking and Branching Efficiency Act (IBBEA) in 1994 that permitted banks to acquire other financial institutions from another state and The Financial Service Modernization Act in 1999 that permitted mergers between commercial and investment banks (Wheelock, D.C., 2012).



(Wheelock, D.C., 2012)

In fact, Simon Johnson claims that a cause of the financial crisis was because of the lack of competition because of the almost oligopolistic market. He mentions that giving so much power to the financial institutions is dangerous, not only because of the interconnection but also because they have been capable of force politicians to more deregulations, he even defines it as a quite *coup* (*d'etat*) (Johnson, S., (2009). Johnson has advocated both to increase regulation in the financial industry and to break up the larger banks (Johnson, S. and Parson, J.E., 2013) (Johnson, S., 2013).

Conceivably, the treatment of large banks as TBTF could also generate scale economies by lowering the risk premiums demanded by creditors of large banks, thereby giving them a funding advantage over smaller banks. The case for mandating limits on bank size might be stronger if TBTF policies, rather than the fundamental technology of banking, are the source of scale economies for every large bank (Wheelock, D.C., 2012).

In addition, not only economics have been critical about the structure but also politicians. Federal Reserve Bank of Dallas President Richard W. Fisher and conservatives such as including Thomas Hoenig, Ed Prescott, Glenn Hubbard, and David have supported publicly the fact that large banks should be broken into smaller banks (Fisher, R.W. and Rosenblum, H., 2013) (Dayden, D., 2013). One argument opponents claim is the moral hazard that it implies, taking into account that the business benefits from taking risk and being aware of these protective policies, they will be more careless in their management. (Ennis, H.M. and Malek, H.S. (2005).

Furthermore, not only because of the reckless behaviour banks might performed, but also investors knowing that the institution won't fail and will receive assistance in case of need, are more inclined to trust big banks (Crawford, J., 2015). Again, another disparity between big and small firms, the risk of failure is still existing in minor financial institutions and in addition to fight for the clients, they will not be able to achieve the high risk that TBTF banks will take (Shapiro, G., 2010). This also implies that small banks will have more struggle to raise capital and therefore secure funding (Hoffmann, E., 2009). In this sense, the chairman of the FED between 1987 to 2006 Alan Greenspan, agreed that failure must be part of the market system, and letting fail financial institutions that took more risk inaccurately or irresponsibly should face the consequences, and so it will be a lesson to motivate a more prudent management (Kettl, D.F., 2013).

In fact, the theory Too Big to Let Fail, has serious concerns in the long-term stability. If the goal is that financial institutions should be given incentives in order to became financially strong, and therefore being vigilant about the risk they should be taking, the TBTF doctrine stimulates just the contrary. Furthermore, the bailout will be financed by taxpayer's money, frustrating many citizens (Moosa, I). And quoting a comment heard from a wall street passer speaking about the bailout "It's like not being invited to a party and then being given the bill." (Dowd, K., 2008).

Moreover, another issue arises from the power given to the banks that are considered TBTF, as 2013 United States Attorney General Eric Holder deposed during the Senate Judiciary Committee, the huge size of the financial institutions has been troublesome in order to bring criminal charges. In case the suspected crimes were true, it will threat different institutions that are interconnected, potentially endangering the national and global economy (Mattingly, P., 2013).

Furthermore, there have been set up some alternatives or solutions to the situation Too Big To Fail ever happen. The first one, mentioned before, is breaking up the largest banks, indeed more than 50 economists, financial experts and finance employees have endorsed the measure of breaking up big banks into smaller institutions (Ritholtz, 2013). The project was both to support the restriction of the risk exposure and their political influence (Mogulescu, M., 2011). However, breaking up banks can be extremely difficult because of its interconnections and the process can damage parts of other business both inside the financial industry and outside (Thosar, S. and Schwandt, B., 2019).

The following measure is the regulation of the risk taking. In fact, the Dodd-Frank, the bill passed after the crisis, oblige financial institutions to have a smaller leverage, therefore a "bigger pillow if fallen" (Getter, D.E., 2014). These high capital levels will back the banks during times of recession or in economic shocks, however this could lead to higher costs of borrowing (Honea, B., 2016). Yet, in 2013 the IMF claimed that the TBTF risk still wasn't been dealt with (Harding, R. and Atkins, R., 2014). The next proposal comes from the economist Willem Buiter, he suggests creating a TBTF tax. He argues that when a business creates negative externalities, the government taxes it, therefore financial firms that can endanger the economy because of its size should offset the risk through taxation (Ritholtz, B., 2010).

The next purposed solution is monitoring even more the banks that have this great exposure, as proved the supervision of the FED wasn't enough, therefore some argue that it is necessary to have stronger controls (Perry, J., 2019). Furthermore, academics such Molyneux, P. (2017) and White, A.M. (2016) purpose that big financial instructions should be considered public utilities and therefore they should be regulated along similar lines. In addition, some even advocate, for example the Thomas Hoenig, the President of the Federal Reserve Bank of Kansas City, to come back before The Financial Service Modernization Act in 1999 and ban commercial and investment banking activities in the same financial institution (Indiviglio, D., 2011).

Nevertheless, as it can be perceived, most of the intended solutions involve the government to play an important role, and therefore is important to wonder whether it might be corrupted in order to implement the right measures. To mention few examples, Robert Rubin co-chairman of Goldman Sachs became the Treasury Decertation during the Clinton mandate, and after leaving, Rubin went to Citigroup to be part of their executive committee. Henry Paulson the CEO of Goldman Sachs became Treasury Secretary too, this time under George Bush, he advocated greatly for the AIG's bailout. The predecessor of Paulson, John Snow, left his position in the government to work as chairman of Cerberus Capital Management, a large private equity firm. And the last to mention is Alan Greenspan, who after leaving the FED became a consultant at Pimco, considered the biggest player in international bond markets (Moosa, I., 2010).

In fact, the financial crisis of 2008 has only concentrated more the financial industry in the United States. As previously said, Goldman Sachs and Morgan Stanley were bought and now have become part of a holding, and not only these two big investment banks were acquired but small ones in order to avoid bankrupt were sold as a bargain purchase. The consequences are that the share of commercial bank in the financial system has rose from 37% in June 2008 to 46% in October 2008, this agglomeration has set up six banks that account for two-thirds of the assets in the US banking system (Moosa, I., 2010). Therefore, is not surprising that in 2013, the by-then managing director of the International Monetary Fund, Christine Lagarde recognized that the banks considered TBTF had become more dangerous than ever, admitting that even after the crisis, the problem was not still dealt (Lagarde, C., 2013).

IV. THE BAILOUT

After the crash of Lehman Brothers on September 15th it became clearer the need of the intervention of the state, or at least Secretary of the Treasury Henry Paulson though so, as he called, warned, and purposed the idea of a bailout to the U.S government (Zaring, D. and Davidoff, S.M., 2014). This first proposal was then modified and called the Emergency Economic Stabilization Act (EESA). Even though it has always been called colloquially The 2008 Bailout, it can be misleading, because it was not a grant, all the money provided by the state was actually repaid. In fact, as this chapter will explain, it wasn't a simple handout of money between the government and the financial and no-financial institutions. Besides, the popular EESA (or TARP) wasn't the only measure taken.

This final chapter will try to give a small-scale oversight of the post-2008 crisis era, the immediate measures, the not-so immediate and the new prevention bill, and a question that has a quite complex answer: How much was the cost of it?

1. TARP and ARRA

Henry Paulson, who was a former CEO of Goldman Sachs, an institution that would be aid if his proposal was passed (Belke, A. and Polleit, T., 2009) presented the plan and his rationale for the bailout on September 23rd. He talked first about the need to stabilize the economy because letting financial institutions fail will obviously affect greatly to the American families, then he point out the loans made during the previous week because of the reaction of the Lehman Brother's failure, and how this reaction could be ongoing if the situation of uncertainty persists, therefore the injection of money will improve liquidity. He also argued the need of a proper performance of the financial institutions, and how by extending the current circumstances, only would worse the economy. To finish Paulson highlighted how a "bailout" is the most immediate and significant measure to restore market confidence and for fitting the impact of the crash better (Paulson, H., 2008).

Furthermore, he was not alone; Ben Bernanke the Fed Chairman also presented his ideas. He explained further how the method of bailout Paulson purposed was going to reactivate the economy quickly. The plan was to buy troubled assets from financial institutions in need. He emphasized in urgency to recover the investors' confidence, as it is tightly linked to economic growth, he explained that by buying the assets it will raise stock prices and improve liquidity, in addition, it will encourage investors and businesses to raise capital and expand their credit in order to support an economic growth. Furthermore, the economic situation was leading to a fall of assets value and as a consequence of the poor performance bank could only but restrict the flow of credit to households and businesses, this measure will have a substantial repercussion on its GDP and the potential economic growth in Bernanke's opinion (Bernanke, B., 2008).

Nevertheless, as mentioned before, there was an apparent conflict of interest that caused some distrust and pointed out that the argumentation could be biased. In fact, Paulson hired Goldman Sachs executives as his advisors and the former advisors started working for banks that would benefit from the bailout. Indeed, Paulson's proposition excepted him from judicial oversight, and did not limit his power of spend as the Secretary of the Treasury, but both clauses were revoked in the approved proposal (Stein, S., 2008).

Therefore, this first bill was submitted to the United States House of Representatives, with the aim of purchasing bad assets and, as a consequence, reducing uncertainty and recover confidence in the credit markets. The act was rejected by the House of Representatives on September 29, 2008, voting 205–228 (Isidore, C., 2008). The opponents also brought up the annoyance of the citizens for a bailout (Mcmanus, D., 2008). Yet, only two days after, on October 1, the Senate voted and approved the Emergency Stabilization Act a revised version of Paulson's motion, the voting was 74–25 (US Senate, 2008). Then, on October 3 it was voted and approved the law by the House of Representatives (Herszenhorn, D., 2008). Finally, within hours, the then President, George Bush, signed the law, enacting the $700 billion Trouble Asset Relief Program (TARP) that was inside the Emergency Economic Stabilization Act (Sarra, J. and Wade, C., 2020 p. 129).

However, by 2014, even though the initial estimation was $700, it was determined that 426.4 billion were intended for the purchase of bad assets, and the repayment of it was totalled by 441.7 billion, therefore earning 15,3 billion, however it has been guessed that when adjusted to inflation, it could be a loss (Tracy, R., et al., 2014).

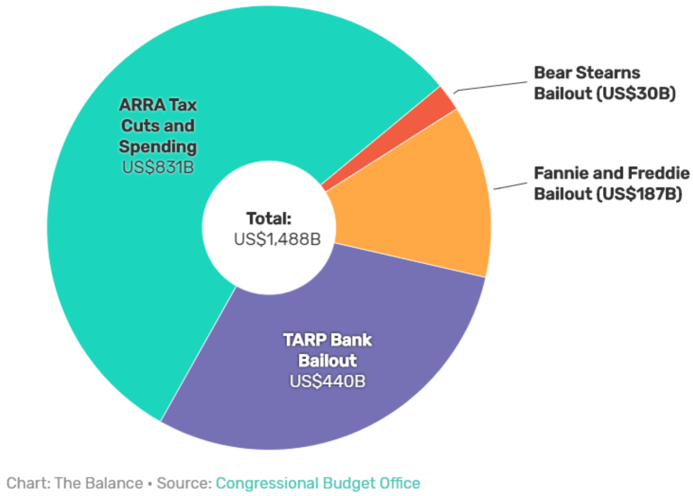
Furthermore, and coming back to the moment the law was passed, it must be highlighted that the $700 billion were initially going to be dedicated solely to illiquid mortgage-backed securities, relieving financial institutions (Andrews, E.L., 2008). As mentioned before, the plan can be seen as a risky investment rather than as an expense, because by the government owning them, the monthly mortgages payments made by the homeowners were ongoing, and actually the securities could be sold (Thompson, M., 2008).

Further, the $700 billion estimation, it was just that, an estimation, some argued that it could be as little as $100 billion and others approached to $1 trillion when thinking about the housing prices drop, the initial proposal by the congress was $200 billion, so by requesting $700 it was something on between the guesses. But how the government would know the price of the assets? In fact, they wouldn't. It was difficult to determine the value, even top financial employees had struggle with it and the government hired experts to purchase them at the right price. However, from one side, members of the Congress desired that the government paid fire-sale prices in order to avoid a big loss, on the other hand, Ben Bernanke claimed that a too low price could make the plan of stabilizing market ineffective (Thompson, M., 2008).

With the enactment of EESA and the TARP, several programs inside the act were determined. One of the most important was the Capital Purchase Program (CPP), approved on October 14, 2008, it distinguished that the funds of the TARP going for this program were not for purchasing bad assets but to buy preferred shares in banks (CRS, 2014). $250 billion of TARP capital were destined to this program that choose only eight big banks to aid, that even though is not public knowledge how much was for each one, the list of the financial institutions is published: Bank of America/Merrill Lynch, Bank of New York Mellon, Citigroup, Goldman Sachs, P. Morgan, Wells Fargo, Morgan Stanley and State Street. In fact, under the program certain institutions were allowed to sell their equity interest to the government, the amount that was equal between 1% and 3% of the bank's risk-weighted assets (History, 2018). Further, another program was the Community Development Capital Initiative (CDCI), its purpose was to lower the divided rate on preferred shares to banks which main clients were small businesses and risky households (SIGTARP, 2012). In addition is important to highlight that not only financial institutions and small businesses benefited from the TARP, as in November 18 on 2008, Ford, General Motors and Chrysler sought access to these federal loans (Reuters, 2011).

Moreover, the criteria for choosing which institutions get the aid and therefore, determining the business who will be more likely to survive, was deeply criticized, and the moral hazard regarding the "too big to fail" theory was brought up again (Dash, E., 2008). Another activity which generated a lot of distrust was the value of the different purchases, even though The Treasury published their methods for pricing and purchasing of the toxic assets, other organizations such as the Congressional Oversight Panel (COP) were also assessing the products acquired. For example, when the Treasury bought $25 billion of toxic assets from Citigroup on October 14, the COP estimated that these assets valued only $15.5, $9.5 less that what was actually paid (COP, 2009).

Further, how much was actually the bailout and where were destinated the financial aids? Regarding TARP, that ended on October 3, 2010 and despite reporting in 2014 the expense of 426,4 million (Tracy, R., et al., 2014), the Treasury page now claims the number is 475 billion (U.S Department of Treasury, 2016). The Treasury has published information about the allocation within its five areas of action: $250 billion have been committed in order to stabilize banking institutions, $27 billion were intended to restart credit markets, $82 billion were destined to the U.S auto industry, a deal that was mentioned before, $70 billion were allocated to AIG in order to prevent its bankrupt, and the last $46 billion were offered to programs which main goals was to help deeply harmed households (U.S Department of Treasury, 2016).



(Amadeo, K., 2020)[3]

As it can be seen in the graphic the total amount for "stabilizing the economy" as it has been said, totally costed $1.488 billion. In the chart is showed how the TARP costed $440 billion, the Bear Stearns bailout was $30 billion, and the Fannie Mae and Freddie Mac aid was $187 billion back in September 6, 2008 (Davis, M., 2020).

Moreover, we can appreciate an important slice of the chart named ARRA Tax cuts and spending. The American Recovery and Reinvestment Act of 2009 was signed by President Barack Obama on February 17, 2009 and is defined as a fiscal stimulus which main goal was to help American household and small business and had a budget of $787 billion. However, once again, the Congressional Budget Office (CBO) determined that the total cost was $840 billion (Amadeo, K., 2020)[3].

The program was composed by 7 different areas to aid: First, $260 billion for immediate relief for families, a clear example is the $2,500 college tuition tax credit in 2009 and 2010 (IRS, 2013). Another purpose was to modernize federal infrastructure, where there were destined $83 billion and $48 billion were for transportation and mass transit projects (Mendez, V., 2016), in fact it has been proved that on average, one billion dollars spent on public works can create almost 20.00 jobs (Pollin, R. and Garrett-Peltier, H., 2007). To encourage the production of alternative energy there were allocated $22 billion, and to expand health care, also known as Obama Care, there were given 138 billion (Hankel, W. and Isaak, R., 2011, pp. 78-79.) The fifth area was to improve education with 117 billion, for example $53.6 billion were for school districts in order to pay more teacher salaries and education programs (U.S Department of Education, 2009), in fact, public expending in education has been prove to be the second-best way to create jobs, according to a University of Massachusetts study, one billion of federal spending can create almost 18.000 jobs in the sector (Pollin, R. and Garrett-Peltier, H., 2007). Then, 18 billion were allocated to science and technology (CEA, 2010) and lastly 54 billion were destined to help small businesses for example, the state will decrease capital gains taxes to the ones who invest in small businesses and hold their stock more than five years (IRS, 2009).

Therefore, the question is if the program really worked and reactive the economy and helped the more vulnerable. The numbers and positive as just 18 months after ARRA was approved, there was a boost in the creation of jobs, 2.4 million from the private sector and 1.7 million from government jobs (Amadeo, K., 2020)[3]. However, there were complains about it too, small businesses criticized that loan guarantees and tax deduction didn't help them that much, and others disagreed on the extended unemployment benefits as it removed the incentive to search for work (Amadeo, K., 2020)[3].

2. The Dodd-Frank Wall Street Reform

The Dodd–Frank Wall Street Reform and Consumer Protection Act, commonly just called Dodd-Frank is a federal law passed on July 21, 2010, and as the Banking Act of 1933, the statue was created as response of a financial crisis and in order to prevent a similar crash. The Dodd-Frank tried to reorganized the financial regulatory system, it eliminated the Office of Thrift Supervision and assigned the responsibilities to the Federal Deposit Insurance Corporation and created new agencies such as Consumer Financial Protection Bureau, the Financial Stability Oversight Council and the Office of Financial research with the purpose to identify potential risks that threat the financial stability of the economy. Moreover, it gave the Federal Reserve additional powers in order to regulate institutions targeted as too big to fail, therefore systemically dangerous (Webel, B., 2017). In addition, as credit rating agencies had a crucial role in the crisis, the Act established the SEC Office of Credit rating to ensure that CRA present an accurate and reliable credit ratings of the entities they asses (SEC, 2018).

Furthermore, there was controversy because of one provision named the Volcker Rule, which restrains bank's speculative investments. It served as a ban on proprietary trading for commercial banks, as they have been using deposits to trade on the bank's own accounts. It was inevitable that banks such as Goldman Sachs, Bank of America, and JPMorgan Chase & Co. commented their worries regarding the new rule (Mattingly, P., 2010). First, depending on the size of the financial institutions, the banks should meet some requirements and then disclose details of their trading activities to government, in large institutions with systemic risk were applied other rules testing even more their risk assessment and management (Levine, M., 2019).

However, the rule left some legal loopholes and a number of exceptions (Drum, K., 2010). One particular complaint was because indeed the rule able the banks to continue do market making, however added a lot of paperwork in order to prove you were doing a proper market making and not property trading, the compulsory process affected the market liquidity as a lot of bank cut their market making activities (Levine, M., 2019). Furthermore, the rule exempted from regulation security-based swaps, and CDS, one of the principal tools for the 2008 crisis was required to be cleared through exchanges or clearinghouses (Levine, M., 2019).

Moreover, despite the fact that it has been demonstrated that the Dodd-Frank Act actually improved financial stability and consumer protection (Baily, M. et al., 2017), in May 2018 President Donald Trump repeal parts of the legislation, the proposal had a bipartisan support and allowed to ease rule for big banks , for example it rose the limit to $250 billion from $50 billion under bank are considered to be too big to fail (Pramuk, J., 2018) .

To sum up this quick overview of the aftermath of the financial crisis, first, even though it has been suspected the measures taken were biased, or sometimes even predicted futile, the reality is that by numbers, the society and the economy recovered quite fast. In fact, the Obama’s decision of investing on public services even though it meant increasing debt, has turned out as a successful measure. However, the action taken to prevent a crisis like the 2008s to happen left much to be desired, despite the fact that the protection of the customer has upgraded, as it has been mentioned regulations about complex financial products are very loose, and the problem of the too big to fail situation is far from being solved.

V. CONCLUSION

As presented in the beginning, the aim of this thesis was to study the relationship between the government and the financial industry in the context of the 2008 financial crisis, as a research paper, it has reviewed the main bills that caused deregulation in the market. Furthermore, even though it could be thought that the only connection will be due to the legislative part of the government, the dissertation also introduce topics as the revolving doors between the two, the shady agreement with Citigroup in order to allow the merger before approving the Financial Service Modernization Act, the huge amount of billions destined to lobbying and the dubious relation between the management of GSE and the government specially when decreeing a new legislation.

Moreover, it has presented a clear causality between the regulation made in order to lax the sector, and the main problems that were faced during and after the collapse, in addition, its explored how the government can construct the behaviour and performance of the financial industry. For example, establishing mandatory quarterly reports encouraging the short-termism mindset, or the creation of huge banks by Riegle-Neal Interstate Banking and Branching Efficiency Act and the Financial Service Modernization Act. However, a question that many people wondered when studying the crisis is: How was all that possible? The answer often was regarding deregulation but sometimes the explanation was as a result of the lack of legislation.

The birth of complex tools such as CDOs, synthetic CDOs, synthetic squared CDOs and similar, has proven that financial engineering is modernizing in multiple and very sophisticated ways, that sometimes even the employees selling the product didn't know how they actually worked and what they had pooled. For some time after the crisis, financial institutions stopped making dangerous CDOs, however, they are still legal and nowadays with some differences, there's still a market of it.

Furthermore, one of the goals of the thesis was also to alert the reader, as history tends to repeat itself, it can appear during the following years a new financial product, again, puzzling and with high risk, and as seen in the last chapter, there are still loopholes in the new "preventive" regulation. To conclude with this part, it is important to acknowledge that the innovation and creativity are hard to track, and it is almost impossible to present an act fully consistent and with hermetic regulations that works for decades. However, the literature reviewed indicated that the government's efforts regarding the issue are not sufficient at all.

This leads to the next question answered, has the government really legislated and worked bearing in mind households and clients of financial institutions? The fact is that as the research shows, the deregulation and lack of legislation has popped in the face of the government having to pay with taxpayer's money the bailout. Yet, the actions taken after the collapse barely changed the framework of the financial industry. Not only this thesis, but many presented along the dissertation, have exposed the causes of the collapse and the government has done little to prevent from happening again. Taking as an example the Too big to fail dilemma, the situation has even aggravated after the crisis, and no hard regulation have been decreed to fully control it or mitigate it.

As it has been demonstrated, there is no correct or harmless answer of how to deal with the Too Big to Fail issue, withal, as time pass by, the industry has become more concentrated, practically acts as a monopoly, reduces competition and gains more and more power. Consequently, and fearing that the situation is gradually worse, many pointed out after the bailout that the industry is developing into the statement "privatising the profits but socializing the losses". The 2008 financial crisis must be taken as lesson, as a mistake of a negligent government, because millions of families lost their houses, their jobs and the worldwide economy suffered. Doing nothing about the aforementioned risks is not a reckless behaviour but an intention that the situation happens again.

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