The economic and political causes of the U.S. 2008 financial crisis

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The Economic and Political Causes of the 2008 U.S. Financial Crisis

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Abstract

In 2008, the financial system of the United States teetered on the brink of collapse. Major banks failed or would have failed had it not been for financial support from the U.S. government. A vast literature composed of official reports, books, and academic papers cites multiple reasons why it occurred: inappropriate deregulation, weak supervision, excessive risk and leverage, growing inequality, etc. Reviewing the report by the Financial Crisis Inquiry Commission and other research, my purpose is to list and to synthesize the most commonly cited major causes. In a first part, this paper gives a short overview of the economic causes of the U.S. financial crisis. The second part deals with the political causes of the financial crisis. Indeed, since the 1980s, there was a remarkable bipartisan consensus in Washington in favor of deregulation, which, in turn, led to the financial crisis. I provide a few hypotheses and qualitative data to explain this consensus. Ideology, campaign contributions by private firms, lobbying, and the system of revolving doors between Wall Street and Washington might explain the past and current political decisions in favor of deregulation. This paper shows that the financial crisis was partly due to inappropriate deregulation, which might have been the result of flaws in the political system of the United States.

Keywords: Financial Crisis, Causes, Campaign Contributions, Lobbying
JEL codes: G01, P16

Introduction

In 2008, the United States experienced the most severe financial and economic crisis since the Great Depression, which began in 1929. Many financial institutions failed or would have failed but for government bailouts. For instance, the Bear Stearns investment bank, founded in 1923, failed in 2008 and was subsequently sold to the investment bank JPMorgan Chase. Lehman Brothers, founded in 1850 and the fourth-largest investment bank in the United States, went bankrupt on September 15, 2008 following huge losses and the exodus of its clients. On September 16, 2008, the Federal Reserve provided an $85 billion two-year loan to the American International Group (AIG), an insurance company, to prevent its bankruptcy. Then, the U.S. government concluded AIG was too big to fail and committed more than $180 billion to its rescue. Panic and uncertainty in the financial system plunged the United States into a recession.

In testifying to the Financial Crisis Inquiry Commission (FCIC 2011, p. 389), Bank of America CEO Brian Moynihan described the impact of the financial crisis on the economy ‘Over the course of the crisis, we, as an industry, caused a lot of damage. Never has it been clearer how poor business judgments we have made have affected Main Street.’ Unemployment hit 10.1% at its peak in October 2009, while it had stood at 4.5% in 2007. People lost their jobs, could no longer pay their mortgages, and lost their homes. Their houses went into foreclosure and some neighborhoods disintegrated. According to the Commission, foreclosures in the United States in 2011 may have totaled between 8 million and 13 million, since the housing bubble burst. The financial crisis caused unemployment, poverty, and psychological suffering in families.

Why did this crisis happen? Gorton and Metrick (2012) and Lo (2012) published a review on the build-up of the crisis. On this subject, Gorton and Metrick (2012) review four documents (e.g. Reinhart and Rogoff 2008; and Pozsar 2011) and conclude that the 2008 financial crisis was preceded by an acceleration of leverage and short-term debt in the financial system, a credit boom, and rapid increases in housing prices. They identify accelerations in debt as the key antecedent to the financial meltdown. Gorton and Metrick (2012), however, do not mention the role played by the Federal Reserve and the rating agencies in this crisis. Lo (2012) provides brief reviews of eleven books written by academics (e.g. Johnson and Kwak 2010; Rajan 2010; Roubini and Mihm 2010; and Stiglitz 2010) and concludes that no single narrative about the build-up of the crisis emerges from this review. According to Lo (2012), there is disagreement as to what the underlying causes of the crisis were, because each book tends to focus on different causes and authors disagree on the root cause of the financial crisis. Yet these eleven books taken together mention most of the causes that will be presented in this paper: excessive risk and leverage, too-big-to-fail institutions, the pay structure in banks, the opacity of the securitization process, and capital inflows from abroad.

This paper continues and completes Lo's works by reviewing the report published by the Financial Crisis Inquiry Commission and the papers published by the International Monetary Fund. The goal is to establish facts on the causes of the financial crisis. This paper can be served as a starting point for economists, journalists and the civil society who want to know quickly the causes of the financial crisis. Contrary to Gorton and Metrick (2012) and Lo (2012), I find a consensus about the build-up of the crisis. In this paper, I review the report by the Financial Crisis Inquiry Commission (FCIC 2011), the book written by Nobel Prize winner Joseph Stiglitz (Stiglitz 2010), and the papers published by the International Monetary Fund (IMF), in order to synthesize their analyses of the causes of the 2008 U.S. financial crisis. I find that a single narrative emerges from this diverse collection: financial deregulation and weak supervision in the United States led to the financial meltdown. The first contribution of this paper is to give a short overview of the economic causes of the U.S. financial crisis (section 1).

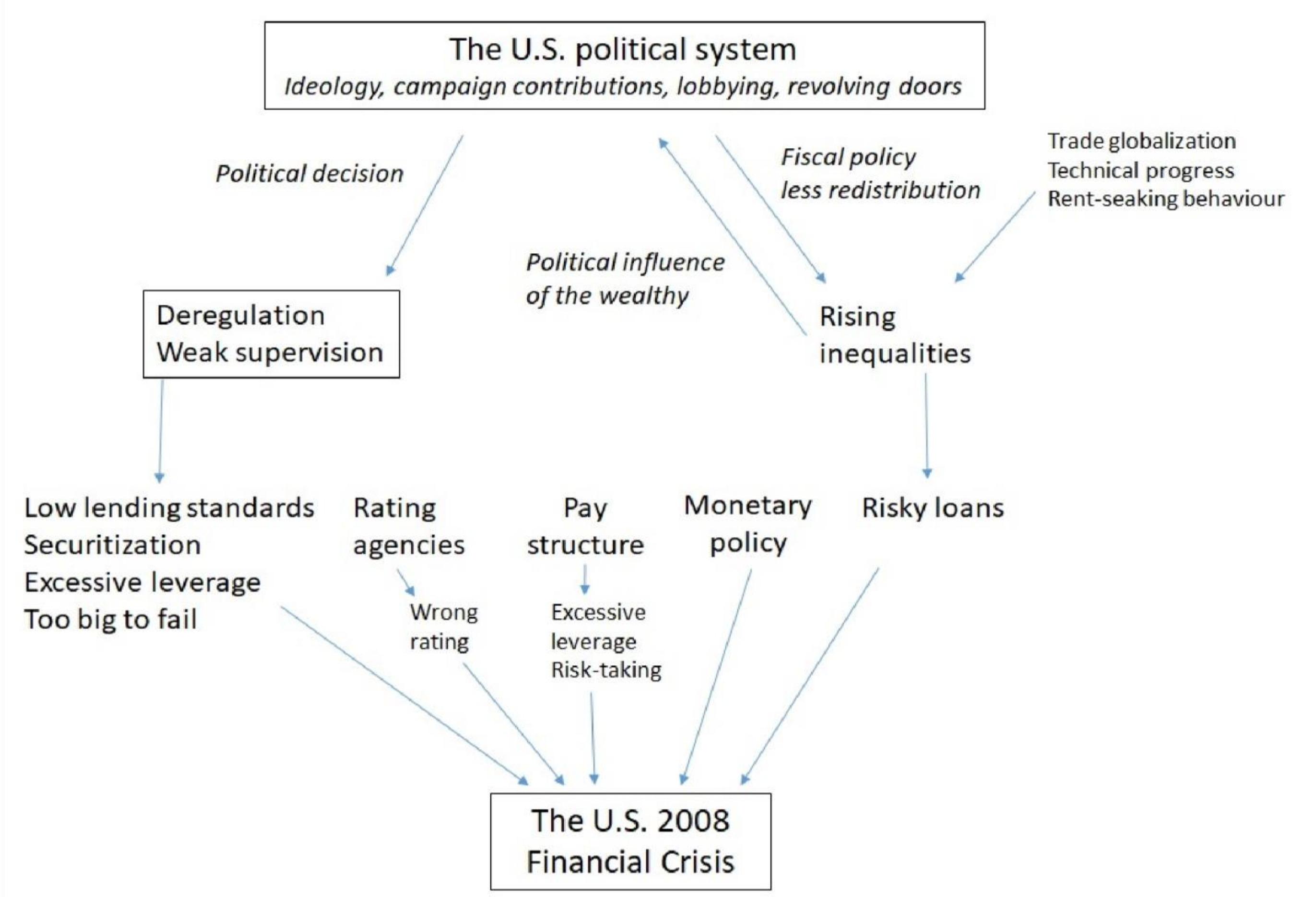
Financial deregulation, which is considered as the main cause of the crisis, has been the result of political decisions since the 1980s. I then suggest a few reasons to explain the successive laws in favor of deregulation. Ideology in favor of self-regulation, the campaign contributions by financial firms, lobbying, and the system of revolving doors and social connections between Wall Street and Washington might explain the past and current political decisions in favor of deregulation. The second contribution of this paper is to show that the financial crisis might be linked to flaws in the U.S. political system (section 2). The thesis defended in this paper is that political factors mattered in the build-up of the financial crisis. The mechanisms underlying the links between the U.S. political system and the financial crisis are summarized in Figure 1. The arrows indicate the direction of causality.

Knowing the causes of the crisis is essential. First, it is important for citizens and the civil society to know why this crisis occurred and who those responsible are, since the financial crisis hurt many people, including ordinary people and American taxpayers. Secondly, to identify the cause of a problem is the first step towards solving that problem or avoiding it in the future. But, more than that, the causal story leads to different policy considerations. When the financial crisis is explained by a story emphasizing purely economic mechanisms beyond human control or when it is considered as an inevitability or a chance event inherent in the capitalist system, interventionist policies are not justified. On the contrary, when the financial crisis is explained by human actions and past political decisions, interventionist policies are justified.

Stone (1989) insists on the importance of establishing the facts and a causal story that will have both an empirical and a moral dimension. On the empirical level, causal stories aim to demonstrate the true cause and the mechanisms by which an event occurs. On the normative level, the causal story enables us to pinpoint the cause, and to attribute blame and responsibility for an event, when a set of people have caused the suffering of other people. The normative level, as regards the financial crisis, is beyond the scope of this paper, but should be investigated in future research.

Section 1 lists the causes of the financial crisis emphasized by the IMF, the FCIC (2011), and Stiglitz (2010). This work reveals that their analyses are similar and that there is consensus among them about the major causes of the crisis. Section 2 emphasizes the political origins of the crisis. I provide qualitative data and many hypotheses as to why successive U.S. governments and Congresses have deregulated the financial system since 1980, which led to the financial crisis. Section 3 concludes.

Figure 1. The major causes of the financial crisis



1. Economic causes of the financial crisis

To list the major causes of the financial crisis, I primarily report in this paper the analyses of the Financial Crisis Inquiry Commission (FCIC 2011), the International Monetary Fund (IMF), and Joseph Stiglitz. Why this selection? First, it is necessary to make a selection because this crisis sparked a vast literature composed of official reports, books, and academic papers. Consequently, my review of the literature is based on the selection of recognized experts and institutions. The IMF is a well-known organization of 189 countries working to secure financial stability. Its staff is composed of many financial sector specialists. The IMF's analysis may ultimately have great impact on politicians and public policies. Joseph Stiglitz was awarded the Nobel Prize in Economics in 2001 for his analyses of markets with asymmetric information. The Swedish Academy of Sciences noted in 2001 that Stiglitz transformed the way economists think about the functioning of markets. Stiglitz has substantiated that economic models may be quite misleading if they disregard informational asymmetries. Older economic models assumed perfect information, but even small degrees of information imperfections can have large economic consequences. Stiglitz has published more than 300 papers in his 45-year career. His expertise on how markets function has contributed to the analysis of the 2008 financial crisis. The Financial Crisis Inquiry Commission (FCIC) is a ten-member commission, six Democrats and four Republicans, appointed by the United States government in 2009 to investigate the causes of the financial and economic crisis. That report is the result of a tremendous work of investigation led by a team of many researchers.[1] Consequently, it is a unique work on the crisis that supplements academic papers. Indeed, this report is anchored in the human reality of the crisis. For instance, it reports many testimonies by employees from mortgage originators, banks, rating agencies, and regulatory institutions. Secondly, this selection intentionally offers a variety of political sensitivities. The idea is that, if the FCIC (2011), the IMF, which is not a left-wing organization and cannot be suspected of populist interpretations, and Joseph Stiglitz all agree on a cause of the financial crisis, then this cause is a real cause of the crisis that is neither the subject of partisan controversies nor the result of ideology or personal interest. Experts of different and well known political sensitivities have been selected deliberately to provide an unbiased view of the financial crisis.

1.1 Failures in financial regulation and supervision

Following the Great Depression of the 1930s, a series of financial regulations were introduced in the United States to ensure the stability of the financial sector. Then, deregulation of the financial sector occurred in the 1980s. The IMF, the FCIC (2011), and Stiglitz all agree that deregulation and failed supervision were major causes of the financial crisis. For the IMF (2009), the main culprit must be seen as deficient regulation. In a speech made in 2010, Dominique Strauss-Kahn, Director of IMF, stated:

> The onset of the crisis was clearly linked to insufficient financial regulation and supervision. Buoyed by a boundless optimism about rising asset prices and economic fortunes, financial institutions took unprecedented risks. They engaged in complicated financial engineering that both magnified and disguised risk. Regulators and supervisors were often less attentive than they should have been. In many cases, they had bought into a culture of deregulation and a belief that financial markets could police themselves effectively. (Strauss-Kahn 2010).

The IMF (2008) underlines that prudential and regulatory norms, and both market and supervisory oversight lagged behind, making the system vulnerable to excessive risk taking. The Financial Crisis Inquiry Commission (2011, p.xviii) also concludes there were failures in financial regulation and states that:

> More than 30 years of deregulation and reliance on self-regulation by financial institutions, championed by former Federal Reserve chairman Alan Greenspan and others, supported by successive administrations and Congresses, and actively pushed by the powerful financial industry at every turn, had stripped away key safeguards, which could have helped avoid catastrophe.

Stiglitz (2010) explains that deregulation and poor supervision led to predatory lending and excessive risk-taking by bankers.

1.1.1 Lending standards

The IMF[2] (2008a) indicates that regulation lagged behind the rapid innovation in mortgage originators, leaving scope for excessive risk-taking and weak underwriting. The FCIC (2011) and Stiglitz (2010) examine the Federal Reserve's failure to stem the flow of toxic mortgages and the unsustainable rise in house prices.

Between 2001 and 2007, there was a decline in lending standards and a rise in risky lending. The risk to the lender that the borrowers would fail to repay their loans grew ever greater, because, across the mortgage industry, little attention was paid to households' ability to service their debt. Mortgage lenders (called mortgage originators) included Ameriquest, Countrywide, Fremont, New Century, and Long Beach.

There were loans with low- or no-documentation requirements. For instance, at New Century, 40% of the mortgages were loans with little or no documentation. Ninja loans were loans granted to households with no income, no jobs, and no assets. In liar loans, borrowers were encouraged by brokers to lie about and exaggerate their income. The FCIC (2011) indicates that some brokers falsified the documentation and indicated false income of the borrowers while some subprime lenders preyed on the minorities, people who spoke limited English, seniors, and on borrowers with low income and little education. Besides, risky loans such as the adjustable-rate loans were proposed to low-income households. An adjustable-rate loan is a mortgage whose interest rate changes periodically over time. There are low monthly costs at first for the borrower, but payments can suddenly double or triple, when interest rates rise. During the crisis, serious delinquencies (that is, mortgages 90 days or more past due and those in foreclosure) were substantially higher among subprime adjustable-rate loans. The FCIC (2011) reports that, in 2010, 42% of these loans were in default. In the same year, 20% of the subprime fixed-rate loans, 19% of the prime adjustable-rate loans, and only 5% of the prime fixed-rate loans were in default. Brokers and lenders did not help borrowers manage risk, breaking the principle of sound banking practices. Bucks and Pence (2008) estimate that 38% of borrowers with adjustable-rate mortgages did not understand by how much their interest rates could vary at any time. The IMF (2009a) regrets that the brokers and originators had little incentive to screen risk that they sold on and that minimum underwriting and consumer protection standards were not applied to financial institutions that originated loans.

As a result, overall mortgage indebtedness climbed from $5.3 trillion in 2001 to $10.5 trillion in 2007. The amount of mortgage debt per household rose from $91,500 in 2001 to $149,500 in 2007. Nationally, average home prices jumped 152% between 1997 and 2006, hitting a national high of $227,000 in 2006 (FCIC 2011). In California, a house bought for $200,000 in 1995 was worth $455,000 nine years later. American households were paying inflated prices for their homes.

The decline in lending standards was not secret but warnings and information from employees and internal audit departments were not taken into account. The FCIC (2011) provides many detailed stories[3] telling how some employees in mortgage industries, in investments banks, and in ratings agencies tried to warn their managers long before 2006 that something was going wrong with the housing bubble and mortgage loans but, each time, these employees were ignored or marginalized by top managers because they disturbed the ongoing lucrative business. There was a big push to build volumes. Actually, many people knew before 2007 that mortgage loans were very risky assets. The FCIC (2011) reports that the Federal Reserve (Fed) also heard warnings as early as 2002 with widespread reports of predatory lending practices. The Federal Reserve knew that there was a decline in lending standards. For instance, Edward Gramlich, a governor at the Federal Reserve, highlighted in 2002 the problems with subprime mortgages. But his efforts to regulate them collapsed because, he said, Greenspan was not interested in increased regulation and the Wall Street firms that securitized the mortgage loans resisted.

In an interview with the FCIC in 2010, Richard Breeden, the former chairman of the Securities and Exchange Commission between 1989 and 1993, said:

Everybody in the whole world knew that the mortgage bubble was there. You cannot look at any of this and say that the regulators did their job. This was not some hidden problem. It wasn't out on Mars or Pluto or somewhere. It was right here. You can't make trillions of dollars' worth of mortgages and not have people notice (FCIC 2011, p. 4).

The mission of the Federal Reserve is to provide the United States with a safe financial system, and to provide some protection to mortgage borrowers. Rules (to have to document borrowers' income to confirm they can repay the loan, to check their income is sufficient to pay the loans when the interest rate increases) could have done a lot to reduce the number of bad loans. The FCIC (2011) believes that the crisis could have been avoided by appropriate regulation or supervision in lending standards because the Fed knew what was going on. The IMF (2009b) advises that regulators should be given the discretion to act to identify vulnerabilities and to implement new regulation or control if necessary. Without appropriate regulation, the number of toxic loans increased between 2001 and 2007 and polluted the financial system through the securitization process.

1.1.2 Securitization

For the IMF (2008a), the securitization process failed and contributed to the financial crisis for two reasons: (i) complexity of the packages created and (ii) asymmetries of information and wrong incentives due to fees throughout the securitization process. Stiglitz (2010) emphasizes that the process of securitization severed the relationship between the lender and the borrower, and worsened problems arising from imperfect information. The FCIC (2011) underlines that securitization favored the reduction of standards in the lending procedure.

Securitization is the process of pooling assets such as mortgages and car loans into a new financial security for sale to investors. In this paper, it refers to the process whereby lenders (mortgage originators) lent funds to borrowers with low income and a risk of defaulting; then lenders sold these mortgage loans for securitization to securities firms which packaged them into different types of securities such as mortgage-backed securities (MBSs) or collateralized-debt obligations (CDOs). An MBS was a pool of mortgages and a CDO[4] was composed of the riskier portions of mortgage-backed securities. In a CDO, they pooled BBB-rated mortgage-backed securities. The CDO composed of B portions was then stamped with A ratings because, the securities firms argued, they created additional diversification benefits. These securities, MBSs and CDOs, were sold in tranches, or slices. Tranches of MBSs and CDOs were sold in financial markets to investors worldwide, giving them the right to the principal and interest from the mortgages. For instance, senior tranches, stamped with triple-A ratings by the rating agencies, had the highest priority of returns and therefore the lowest risk and interest rate; mezzanine tranches, stamped with B ratings, had mid-levels of risk and return. A part of the senior tranches of MBSs and CDOs were held back by securities firms. At the end of this process, securities firms and investors worldwide held toxic mortgage loans in their portfolios.

About 75% of subprime mortgage loans were securitized and of these, about 80% were funded by AAA-rated senior tranches (IMF 2008a). Securities firms were mostly Wall Street banks (Bear Stearns, Citibank, Deutsche Bank, Goldman Sachs, Lehman Brothers, and Merrill Lynch, among others). Merrill Lynch, Goldman Sachs, and Citigroup accounted for 30% of CDOs structured from 2004 to 2007. The investors came from the United States and from all over the globe: for example, the Kentucky Retirement Systems, the California State Teachers' Retirement System, university endowments, investment funds in China, or banks in France, Germany, and Italy. The originate-and-distribute model (see Figure 2) and mortgage securitization transported toxic mortgages from neighborhoods across America to investors around the globe. From 2006, American households stopped repaying their loans because the interest rates of the mortgages increased and the price of homes declined. Consequently, Wall Street Banks and American and foreign investors who held toxic loans through MBSs and CDOs lost their investment and a lot of money. This was the beginning of the financial crisis.

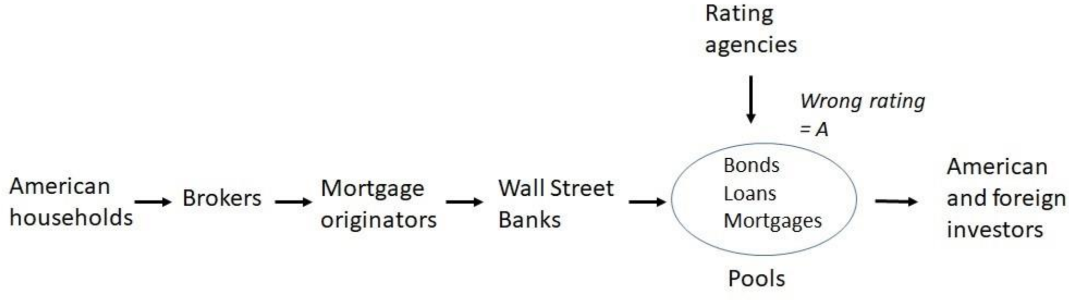


Figure 2. The originate-and-distribute model, and the securitization of the mortgage loans

Securitization was designed to benefit lenders, bankers, rating agencies, and investors. The profits flowed down to employees generating and managing mortgage volume. Lenders earned fees for originating and selling loans to securities firms. Banks earned fees for issuing and reselling MBSs and CDOs in financial markets. Purchasers (investors) of tranches of MBSs and CDOs received a high rate of return depending on the risk of the tranches they chose. Some foreign investors sought other high-grade debt that was almost as safe as treasury bonds but with higher returns. The financial industry found profit in fees. Fees depended on the volume of loans. The FCIC (2011) reports that fees of the brokers could be about 1.8% of the loan amount, paid by the borrowers. Fees of the banks varied between 0.2% and 1.5% of the dollar volume of the securities sold, and fees of the rating agencies increased with the volume of transactions as well. For instance, for a $1 billion deal, a 1% fee would earn a bank $10 million. The more mortgage loans that were made across the United States, whatever their quality, the more money the actors of the securitization process made.

In theory, securitization and structured finance can be beneficial. The securities firm pools various assets in an attempt to get diversification benefits. It allows risks to be spread across a larger group of investors, each of which can choose an element of the structured finance product that best fits its risk-return objectives. The IMF notes that 'securitization, per se, was not the problem' (IMF 2008a, p. xiii). For the IMF (2008a), the problem was a combination of declining lending standards in the American mortgage market and the concomitant extension of securitization into difficult-to-understand structures like CDOs. The securitization contributed to the crisis for two reasons: (i) complexity of the MBSs and CDOs and (ii) asymmetries of information and wrong incentives due to fees throughout the securitization process.

The IMF (2009a) states that professionals in equity and bonds failed to probe deeply enough into the nature of the loans they bought from mortgage originators. The IMF (2008) notes that the complexity and opacity of MBSs and CDOs undermined market discipline. CDOs and MBSs were too opaque. Their complexity diminished the capacity to understand them, since it was difficult to estimate the quality and risk of their underlying credits. Yet, the CDO industry knew that the mortgages were risky. In May 2005, Scott Simon, a managing director at PIMCO (an investment fund), told the audience at a CDO industry conference that 'there is an awful lot of moral hazard in the sector', 'it's too profitable for the managers', and 'people will do whatever they can do to make more money'. In 2005, PIMCO announced that it would not manage any new CDO deals. And Simon said 'we're not going to hurt accounts or damage our reputation for fees' (FCIC 2011, p. 190). Many testimonies reported in the FCIC, like Simon's, show that many people on Wall Street were aware from early on of the poor quality of the mortgages.

Stiglitz (2010) emphasizes that the process of securitization severed the relationship between the lender and the borrower, and worsened problems arising from imperfect information. Brokers and mortgage originators had information about each borrower and knew the loans were risky, although betting that the price of homes would never decline. But securities firms and CDO managers, rating agencies, and investors did not know the borrowers and never really evaluated the risk of these individual loans. The banks failed to assess the risks associated with the new mortgage loans, nor were they able to predict the risk of a decline in real-estate prices. The investors who bought tranches of MBSs and CDOs were unable to assess on their own the risk of the loans they purchased. They did not know to whom they lent funds, they could not know that lending standards in the United States were declining, nor could they imagine that financial institutions and rating agencies failed to understand and disclose this risk. Investors relied on the other actors of the securitization assembly, unaware that these actors failed to do their jobs. They bought toxic loans, believing these assets were safe because they were told so.

The FCIC (2011) and the IMF (2008) underline that securitization favored the reduction of standards in the lending procedure. As fees for lenders, banks, and rating agencies depended on the volume of mortgage loans, volume mattered more than quality, undermining market discipline. The securitization process, selling loans to investors worldwide, increased the demand for mortgage loans and in return pushed the lenders and brokers to find new borrowers across the United States, with little regard for their ability to repay the loans. In that sense, the securitization of mortgage loans, linked to an undisclosed risk on the assets, was an incentive to increase the volume of toxic mortgage loans and then the losses in future. According to the IMF (2008a), collateralized debt obligations grew from about $150 billion in 2000 to about $1.2 trillion in 2007.

In theory, every participant along the securitization pipeline should have had an interest in the quality of every underlying mortgage to continue business in the long term. But in the short term it was easy money, and the business was too lucrative for anyone to stop and pay attention to loan quality. Besides, through securitization, most of the toxic loans were transferred to American and foreign investors, reducing the incentive for mortgage originators and securities firms to assess the risks: lenders and banks were making risky loans and quickly passing them on before they had to bear the consequences. The IMF explains that regulation could have been considered for MBSs and CDOs and 'should have been considered for financial products that might be particularly complex and prone to informational asymmetries' (IMF 2009b, p. 11).

After the crisis, the actors of this securitization process (brokers, lenders, CEOs and some employees of securities firms and rating agencies dealing in mortgage loans) kept the money they earned thanks to the securitization process of toxic loans, which resulted in losses for investors and American taxpayers. The winners of the financial crisis were a few employees and executives in the U.S. financial sector.

1.1.3 Excessive leverage

Leverage is a measure of how much debt is used to buy an asset. A leverage ratio of 5:1 means that $5 of an asset were purchased with $1 of capital and so $4 of debt. Stiglitz (2010) and the FCIC (2011) explain that lack of regulation encouraged excessive leverage that amplified the crisis. For the IMF (2009), leverage is central in explaining the financial crisis, and not enough capital was allocated to cover the risks. The risk of a financial crisis is higher when a boom in asset prices is linked to excessive leverage. The IMF (2009b) advises that higher capital requirements to limit leverage should be introduced.

Mortgage-backed securities and CDOs were financed with debt. Mortgage loans are long-term assets (20 years on average) often funded by short-term borrowing. In mortgage securitization, profits and fees for banks that securitized depended on the volume of mortgage loans sold to investors and so indirectly on leverage. Most Wall Street banks thrived on leverage, that is, on investing borrowed money: they borrowed short-term money from the shadow banking system (e.g. insurance companies and investment funds) in order to buy mortgage loans from mortgage originators and then to securitize them. The more short-term money banks borrowed, the more mortgage loans they bought to be securitized, and the more money they earned. As of 2007, the five major investment banks (Bear Stearns, Goldman Sachs, Lehman Brothers, Merrill Lynch, and Morgan Stanley) were operating with extraordinarily thin capital. According to the FCIC (2011), by one measure, the investment banks had leverage ratios of up to 40 to 1. This meant that, for every $40 in assets, there was only $1 in capital to cover losses of the bank in the event that the mortgage loan was not repaid by the borrower. The FCIC (2011) reports that, from 2000 to 2007, banks and thrifts generally had leverage ratios between 16:1 and 22:1. Bank of America's leverage rose from 18:1 in 2000 to 27:1 in 2007. Citigroup's leverage increased from 18:1 in 2000 to 32:1 in 2007.

The Securities and Exchange Commission (SEC) was the regulator of the investment banks. The SEC did not restrict their risky investments, nor did they require them to hold more capital for these risky activities, contributing to their collapse in 2008 and the need for bailouts. The IMF (2008a) underlines that there was a collective failure to appreciate the extent of leverage taken on by banks. Actually, it is as if the regulators, believing in self-regulation, did not know or did not want to know precisely what was going on in these banks. The IMF (2009b) emphasizes that higher capital requirements should be introduced during a boom to create capital buffers, which can be very useful in the downturns.

Leverage amplified the financial crisis because leverage increases profits in good times and losses in bad times. Thus excessive leverage, in a context of excessive risk-taking, is dangerous. Through leverage, the entire financial system was hit, even financial firms and hedge funds that did not hold risky loans in their portfolios. Indeed, Wall Street banks held some mortgage loans and, when borrowers went into default, these institutions lost their investments and were no longer able to repay their own short-term borrowing from the financial system. This was the contagion effect.

Besides, high leverage led to spreading panic and a liquidity crisis, because it was impossible to know which institution would fail next. Financial system players could not know the positions and the exposure to risky mortgages of any counterpart, nor could they know if a potential counterpart, holding no risky loans in its portfolio, was itself a counterpart of another financial institution holding risky loans. Trust in the system evaporated. Fears naturally reduced interbank lending, and interest rates at which banks borrow funds from one another rose dramatically. Panic meant that, in 2008, financial firms and investors did not want to be in any asset-backed commercial paper (that is short-term debt secured by assets). They did not want to lend short-term money to anyone. Even those that ran good and safe businesses could no longer borrow the money they needed from short-term funding markets. The financial firms needing short-term funding markets for funding their activities failed or had to be rescued. Both the direct losses from toxic mortgages as well as the market-wide contagion and panic that happened next led to the failure of many large financial firms across the system.

1.1.4 Too-big-to-fail institutions

A financial institution is too big to fail when it is so interconnected with other banks and the shadow banking system (through debt or insurance for instance) that its failure would be disastrous for its creditors and counterparts, and finally for the financial system as a whole, and would cause widespread disruptions in financial markets. Therefore this institution must be saved, by government and taxpayers' money, when it faces potential failure.

For instance, the American International Group (AIG) was too big to fail in 2008. During the housing bubble, AIG (an insurer) sold the Credit Default Swaps (CDSs), that is, credit derivatives, allowing purchasers of the swaps to transfer loan default risk to AIG, the seller of the swaps. AIG had to pay the purchasers of the CDSs if a default in mortgage loans occurred. The CDSs made the mortgage loans, MBSs, and CDOs more attractive because these assets appeared to be risk-free. Besides, the purchasers of the CDSs did not need to own the mortgage loans covered by the swaps.

Some investment funds speculated on CDSs, buying them without owning mortgage loans, and betting that these loans were toxic. In such cases, finance is pure gambling. They were right to bet. They made a lot of money when the bubble burst. When borrowers defaulted in 2007, 2008, and 2009, AIG had to pay its purchasers of the CDSs, which included investments banks like Goldman Sachs and investment funds. In June 2009, Goldman received $806 million from AIG. But CDS insurance exposure rendered AIG insolvent. If AIG went bankrupt and was unable to pay its counterparts, it could have caused their failure. Consequently the U.S. government ultimately committed $180 billion in order to save AIG, and indirectly AIG's counterparts and the whole financial system (FCIC 2011). From 1998 to 2007, according to the FCIC (2011), the combined assets of the five largest U.S. banks (Bank of America, Citigroup, JP Morgan, Wachovia, and Wells Fargo) tripled from $2.2 trillion to $6.8 trillion. The assets of the largest investment banks (Goldman Sachs, Morgan Stanley, Merrill Lynch, Lehman Brothers, and Bear Stearns) quadrupled from $1 trillion in 1998 to $4.3 trillion in 2007. The financial institutions, as well as the size of their interconnections with other institutions, grew ever larger.

The problem with too-big-to-fail firms is that they may create a moral hazard in financial systems, leading to excessive risk-taking and thus possibly a financial crisis. The IMF (2009a) explains that policymakers and regulators neglected the moral hazard implicit in too-big-to-fail financial institutions. Market discipline was eroded by the too-big-to-fail nature of the largest firms. This means it may systemically encourage managers and top executives of large banks to take on more risk than is reasonable and optimal, since they believe they will derive bonuses and benefits from the risk taking, while the government and taxpayers will bear the cost of a potential failure. That is what happened in 2008: CEOs and top managers kept money earned from their risky activities in mortgage loans, while the banks were saved by public money to cover the losses resulting from their risky activities.

Stiglitz (2010) suggests two more potential problems posed by too-big-to-fail banks. First, after a merger,[5] the investment bank culture may influence traditional banking and encourage dangerous risk-taking, which increases the level of risk-taking throughout the financial system. Second, a financial system composed of too-big-to-fail banks might have greater political power than a financial system composed of small banks. A big bank can propose well-paid jobs to senior officials (through the revolving doors), which may lead to conflicts of interests and cognitive capture. Cognitive capture occurs when players in the financial system, politicians, and some regulators, sharing the same personal interest, tend to share the same economic ideas such as 'deregulation is good for innovation, investment, and economic growth and will create more jobs', not because it is objectively true but because it is in their personal interest to think like that. The too-big-to-fail bank is also vital to the financial system, which might be a means of frightening the politicians behind the scenes in case they would like to regulate or to change the system. The strategy of fear may involve the following, a banker speaking to a politician: 'If you regulate the lending practices, we will stop the loans for low-income households. If you require more capital and low leverage, we will be obliged to reduce the loans granted to enterprises. If you break up large banks into smaller institutions, the system will collapse and you will face an economic recession.' The increasing power of banks over time, linked to their size, may be another factor in the push towards the current status quo, that is, the policymakers do not dare to regulate.

The IMF (2009b) considers that now the main objective must be to ensure that all financial institutions that are considered as too big to fail and systemically important are appropriately supervised and should even be subject to higher levels of prudential oversight. Mervyn King, who served as the Governor of the Bank of England from 2003 to 2013, admitted in 2012 in an interview that ‘with the benefit of hindsight, we should have shouted from the rooftops that a system had been built in which banks were too important to fail, that banks had grown too quickly and borrowed too much, and that so-called “light-touch” regulation had not prevented any of this’ (Elliott, 2012).

1.2 Rating agencies

The IMF (2009a), the FCIC (2011), and Stiglitz (2010) all argue that the role of the credit rating agencies in the financial crisis was pivotal because these agencies made mistakes that led to the crisis.

Three leading credit rating agencies (Moody’s, Standard & Poor’s, and Fitch) were key players in the process of securitization, positioned between the Wall Street banks that securitized the mortgage loans and the investors. Their mission was to evaluate the quality of the MBSs and CDOs. Investors trusted the rating agencies, since they themselves do not always have the capacity or the data to assess the securities they want to purchase. Between 2002 and 2007, the rating agencies rated most MBSs and CDOs as triple-A, convincing investors worldwide that toxic subprime tranches were the ratings equivalent of the U.S. Government bonds. Besides, some investors can buy only securities with a triple-A rating. Without the allotment of triple-A ratings, there would have been little investor interest and few deals in MBSs. This wrong rating favored the demand for mortgage loans, fueling the housing bubble. When house prices declined in 2007 and borrowers defaulted in large numbers, investors lost their investments. By the end of 2008, Moody’s downgraded 90% of all tranches of CDOs. Some 80% of Aaa CDO, rated in 2006, were downgraded to junk (FCIC 2011). Investors in the triple-A tranches, such as pension fund investments or university endowments, did not expect payments from the mortgages to stop. They were misled about the poor quality of the mortgages.

The mistake of rating agencies was to rate toxic loans as safe ones. According to the FCIC (2011), rating agencies did not really review the quality of individual mortgages in a mortgage-backed security. Besides, agencies assumed that the securities firms created safe products by diversifying among many mortgage-backed securities, when in fact there was correlation between mortgages. If one variable-rate mortgage went bad, because, for instance, the interest rates of all variable-rate mortgages rose in 2006, the other variable-rate mortgages had a high risk of going bad at the same time. Rating agencies underestimated the high correlation between the defaults of the mortgage loans. Besides, the FCIC (2011) reports that Moody's rated mortgage-backed securities using models attributing little weight to the possibility home prices would fall sharply nationwide. Moody's position was that there was not a national housing bubble and that housing prices would continue to increase everywhere and forever. When house prices plummeted in 2007, many borrowers left their home, whose value was lower than the funds borrowed. This 'no housing bubble' hypothesis on which CDOs and MBSs were based proved wrong.

How so? Was it a pure error of judgment or can the wrong rating be explained by flawed incentives? Actually it is difficult to distinguish poor judgment from fraudulent behavior or to prove fraudulent behavior. However, the FCIC (2011) conducted investigations and interviews that would tend to prove fraudulent behavior or at least willful negligence by rating agencies. Agencies may have been aware that their models were inappropriate. According to the FCIC (2011), the IMF (2008), and Stiglitz (2010), agency negligence might be the result of conflicts of interest and flawed incentives. The business model under which firms issuing mortgage securities paid for the ratings is an incentive to undermine the quality of the ratings. It creates the desire for the rating agencies to please their customers. If a rating agency did not give the investment bank the grade it wanted, the bank might get a better rating from another rating agency.[6] The agencies were compensated only for rated deals. Investment banks began negotiating ratings. The threat of losing business may have led to biased models and ratings. According to the FCIC (2011), fees for an agency were typically between $250,000 and $500,000 for CDOs. The reported revenues of Moody's Investors Service from structured products, among them MBSs and CDOs, grew from $199 million in 2000 (33% of Moody's revenues) to $887 million in 2006 (44% of its revenues). Competition among agencies caused a race to the bottom to provide ratings that were favorable to those being rated.

In a report in 2008, the SEC criticized the three rating agencies for, among other things, a lack of policies and procedures to manage the rating process, a lack of disclosure to investors, insufficient attention to conflicts of interest, and insufficient staff to rate the CDOs (SEC 2008). The IMF (2009a) also indicates that both investors and regulators missed the conflicts of interest in credit rating agencies, and that generous fees derived from structured financial products distorted risk assessments. The IMF (2008) emphasizes the limitations of credit ratings in the risk assessment of structured credit products as well as the unwise use of credit ratings by investors.

1.3 Pay structure in the financial system

The FCIC (2011), the IMF (2008), and Stiglitz (2010) explain that failures of corporate governance and risk management at many important financial institutions were a major cause of the financial crisis. The IMF (2009a) and Stiglitz (2010) blame pay structure for these failures, underlining that a financial sector compensation system based on short-term profits encourages short-sighted behavior, risky activities, and high leverage. For the IMF (2009a), top management and top executives were insulated from the effects of bankruptcy, revealing the limited responsibility of the individuals. Between 2001 and 2007, managers and executive directors of banks and financial institutions found high yields in leverage and risky activities, but they did not have to face the losses in 2008. This is the scenario of socialized risk and privatized gain.

Indeed, the compensation practice paid executives and key employees enormous bonuses for short-term gains, even if the decisions, that created these short-term gains, resulted in high long-term losses for their own bank, investors, and taxpayers. Profit from the creation of MBSs and CDOs was reflected in employee bonuses. Standard compensation practice was based on the volume of loans securitized rather than the performance and quality of the loans made, rewarding the short-term gain without taking into account the long-term effects and the losses for the investors. Leverage equaled volume that equaled fees that equaled bonuses. The FCIC (2011) reports that, during the 2000s, key employees' and executives' pay averaged $3.4 million annually, the highest of any industry. For instance, according to the FCIC (2011), in 2006, Dow Kim, the head of Merrill's Global Markets and Investment Banking segment, received a base salary of $350,000 plus a $35 million bonus. In the same year, Thomas Maheras, the co-CEO of the investment bank Citigroup, earned $34 million in salary and bonus compensation, and the co-heads of the global CDO business each made $6 million in total compensation. In 2007 Lloyd Blankfein, CEO at Goldman Sachs, received $68 million and Richard Fuld, CEO at Lehman Brothers, $34 million a few months before Lehman went under. In 2007, after purchasing high-risk mortgages, Fannie Mae reported a $2.1 billion net loss caused by credit losses. In 2007, Dan Mudd, former Fannie CEO, made $11.6 million in compensation.

This compensation practice is problematic. First, it gives the wrong incentives. It was an incentive for the employees of the securitization business not to try and understand what was really behind mortgage loans. To paraphrase Upton Sinclair,[7] it is difficult to get a man to understand something when his salary depends on his not understanding it. It could explain why these key employees did not want to listen to their colleagues who tried to warn them long before 2006 that something was going wrong with mortgage loans. Another problem is that key employees and executives did not give back the bonuses[8] linked to MBS and CDO activities while these activities were actually not lucrative at all in the long term for their firm. The same pay structure existed in the mortgage industry, which encouraged the decline in lending standards. In the mortgage market, brokers and loan officers in mortgage firms were earning large commissions as they brought new borrowers to the mortgage originators. Brokers did not have to give back the fees later on when the borrower failed to repay the loan. They were less interested in originating good mortgages than in originating many mortgages. It was the drive for short-run profits combined with the lack of regulation that resulted in bad lending practices.

Secondly, this compensation structure is not logical since it allows long-term losses of a bank to be translated into immediate enormous sums to its employees. Many people walked away from the mess that they had created with huge rewards. After high losses of the banks in 2008, regulators and politicians could have decided that the money (earned by the executives and employees of Wall Street banks derived from the activities that led the bank to the brink of failure) might be confiscated in order to bail out the bank, before using the money of tax payers who had nothing to do with that financial meltdown.

Finally, this compensation practice shows that some employees of banks may earn a lot of money just before their bank goes under. It also shows that a bank, which is a financial institution, is distinct from its executives and employees. Their fates were not the same during the financial crisis: some employees and executives became rich thanks to the activities that drove their bank to bankruptcy. By contrast, some employees of banks and financial institutions, who had nothing to do with mortgage loans, lost their jobs, when their bank failed, because of other employees' misconduct. Consequently we cannot say that the banks made money with subprime loans and bankers enjoyed great bonuses. Actually, there were different kinds of employees in the financial system with different activities. It seems that a set of people inside banks used the bank in their own interest at the expenses of their own financial institution and other employees.

Regulation should prevent such predatory behavior. According to the IMF (2009a), supervisors should introduce compensation regulation in their overall review of risk-management and governance: a priority should be to de-link bonuses from annual profits and short-term indicators by providing deferred payments and allowing for some claw back if risks are realized. Remuneration structures should be in line with sound risk management practices, and performance criteria should be associated with long-term profitability. For the IMF (2008), although risk management is the responsibility of executives of financial firms, regulators have an important role to play in requiring a better standard of risk management.[9]

1.4 Monetary policy and capital inflows

In 2001, the Federal Reserve lowered interest rates in response to the economic downturn that ensued from the crash of the stock market bubble in 2000 and the economic slowdown after 9/11. There were also massive inflows of capital into the United States from abroad including China. Global imbalances (i.e. the large current account deficit of the United States, and the large current account surpluses in Asia, in particular China, and in oil exporting countries) played a role since they contributed over this period 2001-2008 to low interest rates and to large capital inflows into U.S. financial institutions. Lax monetary policy, low interest rates, and flows into United States are cited as causes of the financial crisis.

However, the FCIC (2011) states that, although the monetary policy of the Federal Reserve, along with capital flows from abroad, created conditions in which a housing bubble could develop, they were not sufficient for a crisis to occur. The ocean of money could have been oriented to productive investments if the incentives of the financial system had been better.

Sharing this view, Stiglitz (2010) explains that, had the financial markets channeled investments into more productive uses, the low interest rates could have given a boost to the economy. It was the financial institutions that turned things into a bust. The financial markets had the choice to use the funds in productive ways, but they chose not to. The low cost of capital should have been an advantage, as is the case in all of the standard growth models. Low interest rates did play a role in the United States in feeding the bubble, but the bubble was not the inevitable consequence of low interest rates.

For the IMF (2009), the combination of low interest rates, inflows from abroad along with deregulation and wrong incentives in the financial sector, was the cause of the financial crisis. Low interest rates alone were not the cause of the crisis. For the IMF (2009) 'the main culprit must be seen as deficient regulation'. Indeed low interest rates combined with declining lending standards pushed up asset prices from stocks to houses. Then large capital inflows with preferences for U.S. Treasury Bills and American sovereign bonds kept returns on these assets low. Private investors were searching for yield and security. The financial system developed MBSs and CDOs in response to this demand. But these new assets were more risky than they appeared.

Although low interest rates and inflows from abroad played a role in this crisis, they cannot be held responsible for the deficient regulation, the wrong incentives in the financial system, and the mistakes of the rating agencies.

1.5 Financial fraud

Fraud is a part of the financial crisis story. The FCIC underlines the rising incidence of mortgage fraud across the mortgage industry, which thrived in an environment of falling lending standards and lax supervision, which can be labeled a ‘crime-facilitative environment’ (FCIC 2011, p. 160). Fraud includes instances of borrowers lying or deliberately omitting information on a loan document.

Illinois Attorney General Lisa Madigan defines fraud more broadly to include the selling by the lenders of unaffordable mortgages to households who want to borrow. She testified to the Commission:

> Our multistate investigation of Ameriquest revealed that the company engaged in the kinds of fraudulent practices that other predatory lenders subsequently emulated on a wide scale: inflating home appraisals; increasing the interest rates on borrowers’ loans or switching their loans from fixed to adjustable interest rates at closing; and promising borrowers that they could refinance their costly loans into loans with better terms in just a few months or a year, even when borrowers had no equity to absorb another refinance. (FCIC 2011, p. 12).

The firm Ameriquest was the largest subprime lender in 2002, 2003, and 2004. Ed Parker, the head of mortgage fraud investigation at Ameriquest, told the FCIC that fraudulent loans were very common at the company. He said to the Commission ‘no one was watching’ (FCIC 2011, p. 161). He detected fraud at the company in January 2003, but management did nothing with the reports he sent. In November 2005, he was downgraded from manager to supervisor, and was laid off in May 2006.

Ann Fulmer, vice president of business relations at Interthinx, a fraud detection service, told the FCIC (2011) that her firm analyzed a large sample of all loans from 2005 to 2007 and found 13% contained lies or omissions significant enough to rescind the loan. The firm's analysis indicated that about $1 trillion of the loans made during the housing bubble were fraudulent. But fraud could have been underestimated, as it was seldom investigated unless properties went into foreclosure and as long as borrowers made payments on time.

According to the FCIC (2011), during the housing bubble, more than 200,000 new mortgage brokers began their jobs. At least 10,500 people with criminal records became brokers in Florida, including 4,065 who had previously been convicted of such crimes as fraud, bank robbery, racketeering, and extortion. Thomas Cardwell, the commissioner of the Florida Office of Financial Regulation, told the Commission that low lending standards and a lack of liability created an environment in which fraud flourished in Florida.

The FCIC (2011) reports that the FBI, which has the jurisdiction of any federal law enforcement agency, knew in 2003 the extent of mortgage fraud. In a statement to the House Financial Services Subcommittee, FBI Assistant Director Chris Swecker said in October 2004: 'If fraudulent practices become systemic within the mortgage industry and mortgage fraud is allowed to become unrestrained, it will ultimately place financial institutions at risk' (Swecker 2004, p. 4). But, at the same time, top FBI officials, focusing on terrorist threats, reduced the agents assigned to white-collar crime from 2,342 in 2004 to 2,000 in 2007. That year, the FBI mortgage fraud program had only 120 agents. Mortgage fraud was not considered back then by the FBI or politicians as a real threat to the people of the United States.

In the wake of the financial crisis, court actions related to a broad range of misconduct involved most major mortgage lenders and Wall Street banks that sold MBSs and CDOs. For instance, in

2014, Bank of America paid $16.65 billion and acknowledged that it sold billions of dollars of MBSs without disclosing to investors information about the real quality of the securitized mortgages. In 2014, Citigroup agreed to pay $7 billion to settle an investigation into the toxic mortgages Citigroup sold to investors. 'The bank's misconduct was egregious', Attorney General Eric Holder said in a statement (Holder 2014). Despite knowledge that many mortgages were failing, Citigroup packaged up the mortgages and sold them to investors. In 2016, Morgan Stanley paid $3.2 billion to settle charges that the bank misled investors about the real quality of the mortgages it has securitized. The Justice Department provided details about some of the internal communications between Morgan's employees in which the poor quality of the mortgages were openly discussed. In 2016, Goldman Sachs paid $5.1 billion. The bank had misled investors about the mortgage-backed securities while knowing that the packaged loans were riskier than they had told investors. All this misconduct caused millions of dollars in losses for investors. In all these cases, the banks acknowledged wrongdoing, paid a fine, and promised to improve their risk management and corporate culture.

The banks have been sued, misconduct acknowledged, but yet no employees or no executives have been prosecuted for misleading the investors. Hardly any banker or financial system actor has gone to jail for anything that led to the financial collapse. The employees responsible do not pay the fines, nor do they go to jail. The message of the Justice Department is that executives have been granted immunity. But, if one limits individual liability, one cannot rely on the deterrent effect of the justice system to reduce misconduct by individuals, since the potential benefits from fraud (big bonuses) outweigh its potential costs (no fine, no jail). Besides, one could consider that the bank, as an institution, is itself a victim of some of its employees and executives, who use it to make massive bonuses, to such a point that the bank fails, as in 2008. Maybe, the employees and executives, but not the banks, should have been sued.

Only one Wall Street executive, Kareem Serageldin, went to jail in the wake of the financial crisis. In 2013, he was sentenced to thirty months in prison. Serageldin, a former top executive at the Credit Suisse Group, had approved in 2007 the concealment of hundreds of millions in losses in mortgage-backed securities portfolio. Judge Hellerstein of the United States District Court in Manhattan said ‘he was in a place where there was a climate for him to do what he did’ and ‘it was a small piece of an overall evil climate inside that bank and many other banks’ (Abrams and Lattman 2013).

In 2013, the Attorney General of the United States, Eric Holder, said in testimony before the Senate Judiciary Committee:

> I am concerned that the size of some of these institutions becomes so large that it does become difficult for us to prosecute them when we are hit with indications that if you do prosecute, if you do bring a criminal charge, it will have a negative impact on the national economy, perhaps even the world economy. And I think that is a function of the fact that some of these institutions have become too large. (Eric Holder in Gerstein 2014).

The existence of too-big-to-fail banks is a challenge for the legal system. These banks may also be too big to jail, fueling the view that large financial institutions are too significant to face criminal prosecution. Holder’s public admission bolstered criticisms and created embarrassment so much so that, one year later, in 2014, he went back on his words in an address and stated that no bank was too big to jail (Gerstein 2014).

1.6 Inequality in the United States

Income inequality in the United States is among the highest of all rich countries. There is broad acceptance that the gap between rich and poor has widened over the past 35 years. The Gini coefficient, which is a measure of income inequality, ranges from 0 (perfect equality, everybody has the same income) to 1 (perfect inequality, the richest person has all the income). According to the OECD (2011), the Gini coefficient for the United States increased from 0.32 (which is already a high level of inequality) in 1985 to 0.37 in 2008. The World Inequality Report (2018) provides a mass of information on income inequality in the United States. For instance, the bottom 50% that corresponded to approximately 85 million adults in 1982 earned in 1982 $16,000 on average per annum, $17,000 in 2000 (in inflation-adjusted U.S. dollars), and $16,500 in 2014 (representing 117 million adults in 2014). Meanwhile, the top 1% earned $440,000 on average per annum in 1982, $1.1 million in 2000, and $1.3 million in 2014. Figure 3 shows how the groups evolved over the past decades: the income of the top 1% increased from 11% of national income in 1980 to 20% in 2014, while the income of the bottom 50% decreased from 20% of national income to 13% in 2014.

Figure 3. Increasing inequality in the United States: Pre-tax income shares of the Top 1% and Bottom 50%, 1962-2014. Source: World Inequality Report (2018).

Several economists reckon that rising income inequality in the United States did play a role in the 2008 financial crisis. A first view, promoted for instance by Fitoussi and Stiglitz (2009), argues that rising inequality fostered a massive increase in household debt and created a credit bubble, which contributed to financial fragility. The authors explain that 'in the U.S. the compression of low incomes was compensated by the reduction of household savings and by mounting indebtedness that allowed spending patterns to be kept virtually unchanged' (Fitoussi and Stiglitz 2009, p. 4). Rising income inequality may have forced low- and middle-income American households to borrow more to get mortgages to buy homes or loans to buy cars, in an attempt to maintain or improve their standard of living. In other words, debt became a substitute for wages and people found the missing money in credit.

Krugman (2012) suggests that the crucial role of inequality in the financial crisis might be political. Increasing income inequality means that rich people become richer and richer. In that context, some of the super rich have the financial capacity to dedicate greater sums of money to campaign contributions in order to influence the policy debate in favor of tax cuts, cuts in public education and health care programs, and financial deregulation. Besides, in a virtuous circle for themselves, some rich people have these laws enacted which then contribute to making them even richer: the richer they are, the greater their political influence, the richer they become, and so on. As a consequence, according to Krugman (2012), increasing inequality may have created a political environment in favor of financial deregulation, which, in turn, leads to the crisis.

Van Treeck (2014) surveys the empirical literature that explores the first aforementioned view, that is to say the links between rising inequality in the U.S., an increase in credit demand and household debt, and the financial and economic crisis of 2008-2009. Van Treeck finds that 'there seems to be increasing agreement that rising inequality, whatever its precise origins, did play a role in the specific case of the U.S. financial crisis after 2007, although it is doubted whether the argument can be applied to other countries and crises' (Van Treeck 2014, p. 422). Van Treeck's calculations show that, in conjunction with rising inequalities in the United States, there was a sharp drop in personal saving and a surge in personal debt. The saving rate as a percentage of disposable income (the income left after paying all the taxes) was 10% in 1980 and decreased to 2% in 2005. Meanwhile, personal debt as a percentage of disposable income increased from 65% in 1980 to 130% in 2005. The FCIC (2011) reports that the amount of mortgage debt per household rose from $91,500 in 2001 to $149,500 in 2007, despite stagnant wages.

Van Treeck (2014) also details Rajan's hypothesis. Rajan (2010) argues that household debt was encouraged by the politicians as an easier way to solve the inequality problem (easier than investing in public education and healthcare through a new fiscal policy and redistribution). Besides, Rajan (2010) explains that this high level of indebtedness has temporarily kept private demand high, which averted an economic downturn. This last hypothesis is important because, if true, it would imply that the Great Recession of 2009 might be, partly at least, the result of rising inequality in the U.S. and not the result of the financial crisis. When the bubble burst in 2008, the economic recession that should have happened before 2008 due to rising inequality and a lack of effective demand happened finally, because the financial system was no longer able to grant loans to keep private demand high. In conclusion to Van Treeck's survey, it seems indeed that the surge in households' debt helped to temporarily solve the demand problem resulting from increasing income inequality, while also contributing to the creation of a credit bubble and to financial fragility.

In a recent report, the IMF (2017) admits that using households' debt to fuel economic growth creates the risk of another major financial meltdown. In a blogpost accompanying this IMF report, the team leader, Valckx (2017), warned: ‘As the global financial crisis showed, rapid growth in household debt - especially mortgages - can be dangerous.’ According to Valckx, policymakers can reduce risks in several ways, including by taking measures in favor of better financial-sector regulations and lower income inequality.

Increasing income inequality alone was not the cause of the 2008 financial crisis. Nevertheless, a situation, in which high inequalities exist alongside easy credit, declining lending standards, and a failing securitization process, was likely to contribute to the emergence of a great number of toxic loans.

1.7 To sum up on the economic causes

The IMF, Stiglitz, and the Financial Crisis Inquiry Commission share the same diagnosis regarding the causes of the 2008 crisis. There is consensus among them that shortfalls in regulation (leading, for instance, to lax lending standards and excessive leverage), rating agencies, pay structure and low interest rates are the main reasons for the crisis. This partial review shows that the crisis is not the result of a single cause but of a combination of factors operating at the same time, most of them resulting from deregulation. One conclusion is that the American financial system suffered from many flawed incentives that deregulation and lax supervision allowed to emerge.

Indeed there was a succession of wrong incentives at each level of the lending system and a failure of responsibility, from the brokers to the market participants. Partly because of the fees directly linked to the volume of mortgage loans, brokers, mortgage originators, Wall Street banks, CDO managers, rating agencies, all had the incentives to keep the dangerous business going. Brokers and lenders lent money to low income households, knowing that many of them could not repay the loans. Securities firms and rating agencies failed, or did not even try, to assess the risks of mortgage loans sold to investors. The banker Lewis Ranieri, a mortgage finance veteran, told the Commission in 2010 that, ‘from the real estate agent all the way through to the banker who is issuing the security, nobody in this entire chain is responsible to anybody’. Regulators were not really aware of what was going on, believing that financial markets could police themselves effectively.

Regulators relied on the banks and actors to regulate themselves. In a speech, Roger Ferguson (2003), vice-Chairman of the Board of Governors of the Federal Reserve, praised ‘the truly impressive improvement in methods of risk measurement and management and the growing adoption of these technologies by mostly large banks.’ Politicians and regulators believed in free (that is unregulated) markets and economic freedom, but this uncontrolled freedom became brokers’ freedom to con poor households, investments banks’ freedom to sell toxic assets to investors as safe ones, and bankers’ freedom to take huge bonuses whatever their activities and their social impact. However, there cannot be freedom without responsibility. But not everybody wants or is able to handle the responsibility that comes with freedom. Market participants are not concerned by the long-term consequences and the adverse side effects of their activities if these effects do not affect them directly and if laws do not force them to take them into account in their decision-making process.

Policymakers and regulators who promoted the deregulation process never wanted a financial crisis to occur, it was not their purpose. According to Stone’s (1989) different kinds of causal stories, the causal story of the financial crisis may be the ‘inadvertent cause’ or ‘the unintended consequences of willed human action’ (Stone 1989, p. 285). That is the crisis may be the result of unforeseen side effects, ignorance, neglect, nonchalance and carelessness, when people do not realize or do not want to understand the harmful consequences of their actions and decisions.

2. The role of the U.S. political system in the crisis

As mentioned in section 1.7 above, one reasonable conclusion is that financial deregulation and weak supervision led to the financial meltdown. If the main cause of the 2008 financial crisis was deregulation in the United States, then responsibility for the crisis should lie squarely with politicians and regulators who decided to deregulate the financial system and not to supervise it closely. It was their decision and their responsibility. The financial crisis was the result of political decisions in favor of deregulation and lax supervision. In the years before the crisis, there was a remarkable bipartisan consensus in Washington in favor of financial deregulation. Now the core questions to be asked are:

- Why did successive U.S. governments decide to deregulate and to relax supervision of the financial system?
- Why, in 2018 and 2019, did the Trump administration aim to deregulate the financial system while there is widespread agreement that deregulation has gone too far in the United States?

In this part, I explore four possible reasons why the U.S. political system has during the last few decades deregulated the financial system: ideology, campaign contributions, lobbying, and revolving doors.

2.1 When politicians deregulated the financial system (1980-2008)

Under the Reagan Administration, regulations were eased on financial institutions. For instance, in 1982, Congress passed the Garn-St Germain Depository Institutions Act, which broadened the types of loans that thrifts could make. During the 1970s thrift institutions and banks were restricted from increasing their deposit interest rates. The Act contributed to the removal of interest-rate ceilings. It allowed lenders to take out adjustable-rate and interest-only mortgages, some of which became problematic during the financial crisis. Thrift institutions were allowed to supply non-residential and variable-rate mortgages. On October 15, 1982, during his remarks on signing the Act, President Reagan said: ‘now, this bill also represents the first step in our administration’s comprehensive program of financial deregulation’ and ‘it’s pro-consumer, granting small savers greater access to loans, a higher return on their savings. And when combined with recent sharp declines in interest rates, it means help for housing, more jobs, and new growth for the economy. All in all, I think we hit the jackpot’ (Reagan 1982).

In 1999, President Clinton signed an act of deregulation, the Gramm-Leach-Bliley Act. The Act repealed most of the restrictions that remained from the Glass-Steagall Act of 1933 that had separated commercial banking from other financial services. Deregulation turned the banks into universal giant banks that engage in all sorts of financial activities in addition to investment banking, commercial banking, and insurance activities. In concomitance with economic globalization, this deregulation was a boon for national commercial banks, allowing for the formation of too-big-to-fail banks. The reluctance to introduce regulation on new financial products can be illustrated by the Commodity Futures Modernization Act of 2000 that left some derivatives like credit default swaps (CDSs) unregulated: the purchaser of the CDSs did not have to own the mortgage loan to buy a CDS, which led investment banks and funds to speculate on CDSs. In 1998, Greenspan (1998) said: ‘The Board continues to believe that, aside from safety and soundness regulation of derivatives dealers under the banking or securities laws, regulation of derivatives transactions that are privately negotiated by professionals is unnecessary.’

On November 12, 1999, during his statement on signing the Gramm-Leach-Bliley Act, President Clinton said:

> My Administration has worked vigorously to produce financial services legislation that would not only spur greater competition, but also protect the rights of consumers and guarantee that expanded financial services firms would meet the needs of America's underserved communities. This historic legislation will modernize our financial services laws, stimulating greater innovation and competition in the financial services industry. America's consumers, our communities, and the economy will reap the benefits of this Act. (Clinton 1999).

Nine years later, millions of American people lost their homes and their jobs, American and foreign investors lost their investments, and the financial system of the United States collapsed. In 2000, President Clinton signed the Commodity Futures Modernization Act, which deregulated the over-the-counter derivatives market and weakened supervision by the SEC. In 2010, in an ABC interview, Mr. Clinton admitted he had been wrong not to regulate derivatives: 'I think they were wrong and I think I was wrong to take their advice' (Blodget 2010). The advice given by both Lawrence Summers and Robert Rubin was not to regulate them.

A decade after the financial crisis, President Trump planed to eliminate some of the Dodd-Frank regulations. On February 3, 2017, during a meeting with business leaders at the White House, President Trump stated:

> We have a great plan, but I want to have your input on the plan in particular and to do what we have to do in terms of regulation. We have some of the bankers here. There's nobody better to tell me about Dodd-Frank than Jamie, so you're going to tell me about it. But we expect to be cutting a lot out of Dodd-Frank, because, frankly, I have so many people, friends of mine that have nice businesses that can't borrow money, they just can't get any money because the banks just won't let them borrow because of the

> rules and regulations in Dodd-Frank. So we'll be talking about that, Jamie, in terms of the banking industry. (Trump 2017).

Jamie Dimon is the chief executive of JPMorgan Chase, one of the largest banks in the world. Treasury Secretary Steven Mnuchin stated a few months later: 'Properly structuring regulation of the U.S. financial system is critical to achieve the administration's goal of sustained economic growth and to create opportunities for all Americans to benefit from a stronger economy' (Mnuchin 2017).

2.2 Why politicians have deregulated since 1980

When a President of United States, with the support of Congress, decides to deregulate the financial system, he officially states that it is to promote economic growth (Reagan and Trump for instance), that the American people will reap the benefits of deregulation (Reagan and Clinton), and that deregulation will create more jobs and will make the financial system more efficient. Reagan, Clinton and Trump, all used the same official argument and the same rhetoric: deregulation of the financial system is good for the American people. It is impossible for us to know if they truly believed that deregulation would have these positive effects. It is difficult to establish intent, especially when the real purpose can be concealed by the politician who is free to provide another reason why he does what he does. Nevertheless, there may be other reasons to explain this bipartisan consensus and these successive political decisions in favor of deregulation and lax supervision: Is it ideology? Is deregulation the result of lobbying by the financial sector and revolving doors between Wall Street and Washington? Some hypotheses and stylized facts are suggested in the following sections.

2.2.1 Ideology in favor of deregulation

Ideology is a set of normative beliefs that an individual, a group, or a political party has about how society and the economy should work. In his book on ideologies in American political parties, Noel (2013) underlines that ideology is a pattern and a shared set of policy preferences that organizes politics. A political ideology is a system that ties together political ideas, such as abortion, taxes, or gun control, and that is shared by many in the same political system (Noel 2013, p. 40). These beliefs rely upon a few basic assumptions about reality that may or may not have any factual basis. Ideologies are neither necessarily right nor wrong ideas.

Noel (2013) underlines that political parties (an organized effort to gain political power) and ideologies (a shared set of policy preferences) became connected in the United States from the 1950s when a group of academics and thinkers assembled ideas in a coherent way to answer the question of how society should be organized. Since then, the liberal-versus-conservative division has succeeded in reshaping parties.

The conservative ideology has become the core of the Republican Party. For decades, the Grand Old Party (GOP) has been indistinguishable from belief in small government. The GOP praises free individuals in a free society and favors limited government regulation of the economy, which includes less regulation of the financial system. The Republican Party Platform of 1980 that set out the Party's principles urged 'with God's help, let us now, together, make America great again', and claimed that 'a defense of the individual against government was never more needed' and that 'the emergence of policies and programs which will revitalize the free enterprise system and reverse the trend toward regulation is essential.' In 2016, the Republican Party platform said that 'regulation is The Quiet Tyranny' and 'the Dodd-Frank law, the Democrats' legislative Godzilla, is crushing small and community banks and other lenders.'

The deregulation implemented by the Republicans was justified over the years by their belief that the state must give up its ability to control the markets and that market forces cause financial institutions to regulate themselves. Since the 1980s, the successive decisions of the GOP in favor of financial deregulation have been consistent with their ideology and principles. As regards the financial system, there was a tendency to implement *laissez-faire* policies, which led to anarchy in credit system over the period 2000-2007. The Republican Party shares the view that a self-regulating market should prevail and that interventionist policies from public agencies are undesirable, because intervention can reduce economic efficiency. The financial crisis did not make them change their mind. The Republican Party, however, is not liberal in all economic fields, especially as Trump went down the protectionist path in trade policies. His criticisms of China, offshoring, and trade deals were well-known.

Since the 1990s the Democratic Party has reduced market regulations. The Democratic Party has undergone a conversion toward acceptance of free-market ideology which, among other things, offers financial deregulation. During the 1992 presidential election, Bill Clinton ran as a New Democrat for more limited government. The Democratic Party Platform of 1992 stated that 'we believe in free enterprise and the power of market forces.' Wall Street deregulation was pushed by Clinton and his advisers Robert Rubin and Lawrence Summers. The party has been split on this issue since the 2008 financial crisis. The 2016 Democratic Platform stated that 'we will also vigorously implement, enforce, and build on President Obama's landmark Dodd-Frank financial reform law', 'we must tackle dangerous risks in big banks and elsewhere in the financial system', 'Democrats will not hesitate to use and expand existing authorities as well as empower regulators to downsize or break apart financial institutions when necessary to protect the public and safeguard financial stability.' However, in March 2018, in a rare demonstration of bipartisanship, 17 Senate

Democrats voted with Republicans to gut Dodd-Franck banking regulations, underlining the divide in the party. In May 2018, 33 House Democrats voted for that bill and 158 Democrats voted against it.

In his book, the political essayist Thomas Frank (2016) explains why the Democratic Party has undergone an ideological conversion and has reduced market regulations, especially in the financial system. For Frank (2016), the Democratic elite decided in the 1980s to abandon the white working class. Since, the Democratic Party has become the party of a professional-managerial class consisting of well-educated, cosmopolitan and interconnected people and experts such as investment bankers, lawyers, doctors, professors and scientists. This conversion would explain Clinton's deregulation policies in favor of Wall Street and Obama's failure to reshape Wall Street.

Between 1980 and 2008, there was a push to roll back financial regulations. The shift toward deregulation was encouraged not only by politicians, but also by regulators, who argued that financial institutions and financial system actors had strong incentives to protect their shareholders and to prevent the bankruptcy of the bank, and would therefore regulate themselves through effective discipline and risk management. Scott Alvarez, Fed General Councel and 36 years of service to the Federal Reserve Board, said to the Commission in 2010: 'The mind-set was that there should be no regulation; we were in the reactive mode because that's what the mind-set of the 90s and the early 2000s' (FCIC 2011, p. 96). Eugene Ludwig, who, from 1993 to 1998, headed the U.S. Office of the Comptroller of the Currency, told the FCIC that across regulators there was a 'historic vision, historic approach, that a lighter hand at regulation was the appropriate way to regulate' (FCIC 2011, p. 171). The Federal Reserve Bank of New York (2009, p. 2) points to the mistaken belief that 'markets will always self-correct, and that a deference to the self-correcting property of markets inhibited supervisors from imposing prescriptive views on banks.'

The IMF and some economists also shared this view in favor of deregulation and self-regulation of the financial system, while other economists thought that appropriate regulation had its proper place, due to market failures that may come from asymmetric information, moral hazard, and systemic risk. The Independent Evaluation Office (IEO) was established in 2001 by the IMF's Executive Board to conduct independent and objective evaluations of Fund activities. In a report delivered in 2011, the IEO (2011) explains why IMF failed to give clear warning in the 2000s about the financial crisis, in other words why the IMF staff did not see the crisis coming. The IEO (2011) underlines that, during the period 2004-2007, the main message of the IMF was characterized by great confidence in the soundness of large financial institutions and endorsement of financial practices in the main financial centers. It emphasizes that 'the risks associated with housing booms and financial innovations were downplayed, as was the need for stronger regulation to address these risks' (IEO 2011, p. vii). The IEO (2011) finds that the IMF's ability to identify the risks was mainly hindered by cognitive bias and a culture of groupthink. Economists were afraid to express a view that was contrary to the mainstream. The prevailing mindset among IMF staff was that 'market discipline and self-regulation are sufficient to stave off serious problems in financial institutions', 'crises are unlikely to happen in advanced economies', where 'sophisticated financial markets can thrive safely with minimal regulation' (IEO 2011, p. 17). According to the IEO (2011), IMF staff considered financial problems only within this paradigm and were not able to challenge it. A majority of IMF staff members, interviewed by the IEO, admitted that their research and its conclusions had to be aligned with IMF views. Several senior staff members felt that expressing opposite opinions could ruin a career. Staff saw that conforming views were not penalized, even if proven faulty. To share the same views as the team was an efficient strategy for being promoted.

The existence of a prevailing economic ideology and the conformity of its staff had serious effects since it prevented the IMF from achieving its goals of providing global financial stability.

Since the financial crisis, the IMF has changed its mind on regulation. In a blogpost, the Managing Director of the Fund, Christine Lagarde, warned in July 2017: ‘The current period of growth can be used to address corporate and bank vulnerabilities by building up capital and strengthening balance sheets. Sustained growth also means that now is the time to improve - not roll back - oversight and regulatory systems implemented in the aftermath of the crisis’ (Lagarde 2017).

An ideology can become a problem when a political party is not able to reconsider its position on a subject despite new evidence suggesting that the party was wrong on this subject. It is maybe what happens to the Republicans. In the first part, this paper shows that the IMF, the FCIC, and Stiglitz all share the same view on the causes of the crisis: deregulation went too far in the United States, and the financial system suffered from many flawed incentives that regulation should have corrected. Yet, despite this consensus and warnings from the IMF, the Trump administration eliminated some of the Dodd-Frank regulations.

The Republicans deregulated the financial system in 2018 and 2019. It raises the question why the GOP still wants to deregulate. There are two hypotheses: (i) Republicans truly believe in unregulated markets and self-regulation in spite of past experience and the 2008 financial crisis, or (ii) Ideology in unregulated markets is only an excuse to pursue reforms, and some Republicans intimately know that deregulation can cause a financial crisis but will not admit this because they implement financial deregulation for other reasons (than ideology) to which we now turn. In that case, economic ideology is the string of arguments that politicians lay before voters and ordinary Americans to justify their policies which would otherwise appear as naked self-interest.

2.2.2 Campaign contributions

One hypothesis is that the remarkable bipartisan consensus in Washington in favor of deregulation might be the result of connections between politicians and financial entities, which results in campaign contributions, lobbying, and revolving doors. Financial industries, commercial and investments banks, and hedge funds want even more deregulation in order to have access to activities (like derivatives for instance) and high leverage that generate more profits for them. Philippon and Reshef (2012) find that financial deregulation is associated with skill intensity and high wages for finance employees, and that actors in the finance system earned the same education-adjusted wages as other workers until 1990, but by 2006 the premium was 50% on average. The premium reached 250% for the top executives in the financial sector. Deregulation meant more money for them.

In the United States, most campaign spending is privately financed. Donors must be disclosed and contribution limits apply when the groups that raise money for political purposes coordinate their spending with political candidates. These groups include, for example, candidate committees and traditional Political Action Committees (PACs). Other groups are allowed to accept unlimited sums of money from individuals and companies, provided they do not coordinate their spending with political candidates. In the wake of the Supreme Court's 2010 ruling in *Citizens United v. Federal Election Commission*, individuals, corporations and unions are allowed to give unlimited funds to super Political Actions Committees (called super PACs) which raise and spend unlimited sums to advocate for or against political candidates. The identity of the donors must be revealed to the Federal Election Commission (FEC). The organizations called the 501(c)(4) organizations also raise and spend unlimited sums to promote social welfare. As, officially, the 501(c)(4) organization's primary purpose is the promotion of social welfare and not political advocacy, it is not required to disclose its donors. For instance, the National Rifle Association is a 501(c)(4) organization.

According to the Center for Responsive Politics that collects and produces data on federal campaign contributions, the financial sector (commercial and investment banks, hedge funds, insurance, real estate, etc.) has been the largest source of campaign contributions to federal candidates, at least since 1992. I report some of their data in Table 1. Table 1 shows that the amount of campaign contributions has greatly increased since 1992, from $126 million in 1992 to $1.1 billion in 2016. Most of time, the Republicans receive more money than the Democrats. In 2012, there was a massive shift of finance sector money to the GOP that received 67.6% of the contributions to the financial sector. Indeed the increasing anti-bank and pro-regulation sentiment within the Democratic Party led some of the finance sector to reduce their contributions to the Democrats. The disparity between both parties in finance fund-raising was greater than at any time in the past few decades. In 2016, the trend in favor of the GOP was lower. In 2016, Barack Obama left the White House and Hilary Clinton was the candidate of the party, and, if elected, she might have adopted a pro-deregulation position. Indeed, in 2016, according to the Center for Responsive Politics, Hilary Clinton received $117 million from the financial sector (total to campaign + outside groups), Donald Trump received $37 million and Jeb Bush $62 million. Ultimately, did these campaign contributions reported in Table 1 influence legislators' votes in favor of financial deregulation?

Table 1: Campaign contributions from the financial sector to all candidates and party committees during the federal elections from 1992 to 2016.

Year	Amount	to Democrats	to Republicans
1992	$126 million	49.5%	50%
1996	$183 million	39.2%	60.2%
2000	$321 million	40.6%	58.7%
2004	$355 million	41.1%	58.7%
2008	$518 million	51.2%	48.6%
2012	$715 million	32.2%	67.6%
2016	$1.1 billion	46%	53.8%

Note: Table compiled by the author using data from the Center for Responsive Politics. See: https://www.opensecrets.org/overview/sectors.php (Home / Politicians & Elections / Election Overview / Totals by Sector). The amount is based on contributions from PACs and individuals to candidates and party committees, and from donors (including corporate, individuals) giving to super PACs and other outside groups. Percentages may not add up to 100% as money can be given to third party candidates.

The question of whether campaign contributions in the United States have substantial effects on legislative decisions and policy outcomes has been studied extensively in recent decades. Stratmann (2005) reviews some of the recent literature that examines the effects of money in politics. The literature proposes many potential channels between campaign contribution and politics. Interest groups may give money (1) to candidates who are already sympathetic to their views in order to favor their election, (2) to candidates who do not share the same values (or are undecided) but could change their mind about an issue, or (3) to those candidates who have a high probability of being elected in order to gain access to the legislators and their staffers. Contributors have three motives: the motive of helping elect their candidates, the motive of altering how politicians act once elected, and the motive of buying access.

More precisely, Stratmann (2005) underlines that, when a candidate's ideological stance is 'assumed to be fixed' and in favor of the interest group, the interest group gives money to favor that candidate's election and expects policy favors if elected. For instance, the ideological position of the GOP on financial deregulation could be assumed to be more fixed than flexible. In that case, one hypothesis would be that the financial sector gives money to the Republicans to favor their election. However, when a candidate's stance is flexible (for instance because the voters did not demand a clear position of the politicians during the election campaigns), interest groups may give campaign contributions in order to influence the position of the politician once elected. The position of the Democratic Party on financial deregulation could be assumed to be more flexible than fixed, given that they changed their positions on regulation over time. In that case, the hypothesis would be that the financial sector gives money to the Democrats to alter their position on financial regulation. Consequently, as regards the links between campaign contribution and politics, there are two potential causality effects: (i) the political position of a legislator on an issue attracts campaign contributions and the reverse causality may also be true (ii) contributions influence the political position of a legislator.

There could even be a more subtle relationship between campaign contributions and ideology (and thereby legislators' votes): a politician and a party could adopt a specific ideology, while they do not receive any campaign contributions, in order to build the belief that they will provide help in exchange for contributions. For instance, since 2008, the Democratic Party has obtained less in the way of campaign contributions from the financial sector than the Republicans. The Party could adopt a pro-deregulation position again in order to encourage future campaign contributions. It is therefore a difficult task for the empirical literature to assess the causal impact of campaign contributions on legislators' votes and political positions, because of the myriad of other factors that explain the votes as well as the endogenous relationship between contributions and legislators' positions.

Indeed, according to Ansolabehere, de Figueiredo and Snyder (2003) who survey 40 articles on the relationship between contributions and legislators' voting behavior, no consensus has been reached in the empirical literature about the impact of campaign contributions on politics. The question of whether campaign contributions buy either elections or policy favors remains unresolved, and academics are skeptical that contributors get much for their contributions. Campaign contributions apparently have little effect on public policy, and contributions seem simply to be a form of political participation and discourse with no real requests or expectations attached to them. A positive correlation between campaign contributions and voting behavior cannot lead to the conclusion that contributions influence politicians' votes in the Senate and in the House of Representatives. The empirical literature also fails to show that campaign spending has an effect on the election outcome, that is on the identity of the winning candidate.

Some studies find no significant effects of campaign contributions on legislative voting behavior. For instance, Bronars and Lott (1997) examine whether politicians' votes change when they are about to retire and no longer face the threat of losing campaign contributions. They are free to vote according to their own views. The authors do not find that, in that case, changes in the contributions influence politicians' votes. The politicians vote the same way even when they no longer need campaign contributions. An explanation for such a result would be that the political parties and politicians are ideological and most of their positions are fixed or depend on electors' opinions, and it is not possible for them to alter their positions. The political decision-makers are also responsive to their electorate and to the concerns of the broader public.

Powell (2010) explains that the lack of findings in the literature might be due to the fact that some actions of the politicians are undetectable by the public, journalists and researchers. Votes on bills are public actions. A politician who would like to remain discreet could offer services in exchange for donations, for instance by changing, behind the scenes, a simple clause to a bill, by influencing whether or not a bill will be written, or will get to the final stage. The empirical literature is not able to examine the influence of policymakers because their actions are not observable at this early stage of the legislative process.

However, there are a few empirical studies (Broockman and Kalla 2016; Stratmann 2002; and Mian, Sufi and Trebbi 2010) that claim to find evidence for an impact of campaign contributions on politicians' behavior.

Broockman and Kalla (2016) show that legislators grant special attention to individuals who have already donated to campaigns and politicians in general, because they are viewed as active campaign donors. They estimate that a politician[10] attends the meetings between three and five times as often when he is informed the attendees are campaign donors. Access gives donors the opportunity to express their concerns and arguments to policymakers.

Stratmann (2002) finds that more donations from a sector are associated with voting behavior in favor of this sector and his econometric results support the hypothesis that 'interest groups buy legislators' votes with PAC contributions' (Stratmann 2002, p. 368) and that 'legislators from both parties change their voting behavior in response to changes in contributions' (Stratmann, 2002, p. 360). Stratmann (2002) examines legislators' decisions on financial regulation and more specifically on two congressional votes in 1991 and 1998 affecting the financial industry, which were to lead to the repeal of the 1933 Glass-Steagall Act. He finds that the changes in contributions between 1991 and 1998 had an impact on a representative’s voting behavior. In the 1990s, commercial banks had an interest in the repeal of the Glass-Steagall Act, and Stratmann (2002) finds that an extra $10,000 in banking contributions increased the likelihood of a legislator at the House of Representatives voting in favor of banking interest. A possible explanation for such a result is that the American voters did not demand a clear position of the politicians on the subject of financial deregulation during the election campaign. Consequently, it was possible for the legislators to alter their positions, according to the campaign contributions they received, because the issue was of little immediate interest to the electorate.

Mian, Sufi, and Trebbi (2010) find a causal effect of campaign contributions by the financial industry on voting patterns, focusing on the Emergency Economic Stabilization Act (EESA). The EESA passed the House of Representatives in October 2008 and enabled the Treasury Department to recapitalize (and save) banks up to $700 billion. On October 3, a majority of the Democratic representatives (75%) voted for the bill, whereas 55% of Republicans voted against. The authors establish that members of Congress were more likely to vote in favor of the EESA if they had received high contributions from the financial services industry. However, the EESA, which consisted in saving private firms, conflicted with the conservative ideology of minimal government intervention. Mian, Sufi and Trebbi (2010) find that many Republican representatives objected to voting in favor of this bill due to their ideology. In that case, these politicians were less responsive to campaign contributions and lobby’s interests because the EESA was too much in contradiction with their principles. The effect of campaign contributions on the EESA vote was smaller for ideologically conservative representatives. To conclude, it has not been proven that campaign contributions in general buy policy favors. However, some studies show that, in some particular cases, campaign contributions by the financial industry to legislators influenced politician voting patterns in favor of the financial sector.

2.2.3 Lobbying

Lobbying is a legal activity that attempts to protect the status quo or to obtain favorable regulatory stipulations (tax treatment, regulations, bailout guarantees, etc.) more in line with the interest group's preferences. Lobbying activities are designed to influence the stances and votes of legislators. Lobbyists representing a cause include citizen groups, organizations, business associations like the American Bankers Association, and foundations and think tanks. Campaign contributions are not the only sort of political resource a lobby may have at its disposal. Lobbyists meet the policymakers to have their voices heard. They hire lawyers and experts, who receive fees in exchange for their expertise and reports, and create information on a subject to be diffused in media campaigns.

Hall and Deardorff (2006) and De Figueiredo and Richter (2014) explore the links between lobbyists and policymakers. In the theoretical literature, lobbying is considered as a mechanism of persuasion through arguing. It can be defined as the transfer of information from the lobbyist to the legislator and his staff, in private meetings, to convince the politician of the value of the proposed policy. The message provided to the politician may take many forms: empirical facts and expert knowledge, technical arguments and statistics. The lobbyist provides information about the potential positive consequences of a policy and must convince the policy-maker that the policy change is in his own interest. He can promise that the policy change will create jobs in the constituency of the politician, or will give him the reputation of an active legislator, which would facilitate a re-election or a promotion to higher office. A politician wants to be re-elected, to be promoted or to pursue his ideological beliefs. The policymaker will consider the policy change proposed by the lobbyist from this point of view.

Sometimes, the policy change proposed by the lobbyist is already in line with the politician's ideology. On this view, the purpose of lobbying is to assist natural allies, that is friendly political decision-makers, in achieving their same objectives. Hall and Deardorff (2006) and De Figueiredo and Richter (2014) confirm the clear tendency of interest groups to lobby their allies. Lobbyists want these political allies to lobby other influential policymakers for votes. Enemies are not targeted by lobbyists.

By this reasoning, one might make the plausible assumption that the banking industry has natural government allies in a Republican administration, given that the government and some officials are already pro-deregulation. It corresponds to their idea of a good economic system. On the contrary, within the Democratic Party, there are pro and anti-deregulation advocates. Some Democrats may be undecided. In that case, lobbying would consist in assisting the pro-deregulation Democrats and convincing the undecided representatives to support actions in favor of financial deregulation.

In Table 2, I present data on financial firms' disclosed lobbying spending. The data are drawn from the Center for Responsive Politics. The data reported show that the financial sector spent annually more than $200 million on lobbying at the end of the 1990s, and $521 million in 2017. This money was to hire legions of lobbyists and to cover their expenses (meetings, reports and media campaigns for instance). The number of lobbyists officially registered is also reported in Table 2. In 2017, the financial sector employed 2,373 lobbyists.

Table 2: Total annual spending by the financial sector (Finance, Insurance and Real Estate).

Year	Lobbying Expenditures (campaign contributions excluded)	Total number of lobbyists reported for financial sector
1998	$208 million	1764
1999	$214 million	2171
2000	$213 million	2307
2001	$232 million	2089
2002	$273 million	2378
2003	$323 million	2422
2004	$338 million	2504
2005	$364 million	2759
2006	$380 million	2851
2007	$426 million	2974
2008	$456 million	2853
2009	$477 million	2807
2010	$483 million	2598
2011	$485 million	2470
2012	$492 million	2393
2013	$494 million	2413
2014	$504 million	2375
2015	$495 million	2363
2016	$501 million	2254
2017	$521 million	2373

Source: Table compiled by the author using data from the Center for Responsive Politics.
See: https://www.opensecrets.org (Home / Influence & Lobbying / Lobbying / Ranked Sectors).

Some papers (Igan, Mishra, and Tressel 2011; and Keller 2015) show that the lobbying of the financial industry is able to influence, in some cases, financial regulation and legislation.

Igan, Mishra, and Tressel (2011) find that lobbying of legislators by the financial sector played a role in making the lending practices lax and was associated with more risk-taking in the mortgage industry between 2000 and 2006. They find a positive correlation between lobbying activities and excessive risk-taking in the mortgage industry: the mortgage lenders that lobbied more intensively at the federal level to prevent a tightening of lending were also those that were engaged in riskier loans and suffered from a high rate of default during the crisis. Igan, Mishra and Tressel (2011) report that, during the period 1999-2006, 93% of all the bills promoting tighter regulation and consumer protection were never signed into law, and two bills to promote a relaxation of the rules in mortgage markets (American Homeownership and Economic Opportunity Act of 2000, and American Dream Downpayment Act of 2003) were signed into law. The authors also find that lobbying lenders, relatively to those that did not lobby, benefited more from the bailout program in 2008.

In a European case study, Keller (2015) finds that the lobbying activities are able to influence regulations. Keller (2015) shows how the lobbying activities of German business federations, with allies from other European countries, succeeded in 2012 in getting lower capital requirements than those stipulated by Basel III for banks lending to small firms in Europe. First, German banking lobbyists targeted the regulators with a technocratic approach by putting forward empirical evidence and expert knowledge. The lobbyists tried to convince them that higher capital requirements would result in a reduction in the volume of credit attributed to small firms. They argued that this regulation could also lead to an economic slowdown and 7.5 million job losses. The German and European regulators, the Bundesbank, and the European Commission in Brussels were not convinced by the technical arguments put forward; instead they all developed their own expertise and objected to lowering capital requirements. This lobbying strategy failed. The second strategy of German lobbyists consisted in mobilizing the media attention and the politicians by emphasizing that these high capital requirements would punish small firms and the real economy when it came to bank lending. A study, which was written by German economists, circulated among several business organizations such as the association of medium-sized enterprises. The problem is that finance and economics can be technically complex and politicians do not always have the background to have a highly developed critical sense of economic studies. Then, the business sector made this message distributed to the public through press releases, appeals in the specialized press, and brochures. Through media coverage, this issue became important for the electorate. German lobbyists also approached legislators in the German Bundestag, Angela Merkel's staff, and other politicians and convinced the Ministry of Economic Affairs of the wrong calibration of the capital requirements. People from this Ministry went to Brussels to persuade the European Parliament. Finally, it was the European Parliament that was decisive in lowering capital requirements by emphasizing publicly that these capital regulations might threaten the real economy. The lobbyists finally succeeded in lowering capital requirements.

Igan, Mishra, and Tressel (2011) and Keller (2015) show that it is possible for the financial sectors to influence the American and European regulations in their favor. Nevertheless, we do not know for each bill that was voted in the past whether or not the lobbying activities of the financial industry were a decisive factor.

2.2.4 Revolving doors and social connections

The revolving door is a movement of personnel between roles as legislators and regulators and the industries affected by the legislation and regulation.

Table 3 gives an illustration of revolving doors. It reports the list of Secretaries of the Treasury and their functions before and after their public service. Ten of the twelve Secretaries of the Treasury worked in financial institutions. For instance, Robert Rubin served as Treasury Secretary during the Clinton Administration. He is credited with leading the charge in the Democratic Party to embrace the deregulation of Wall Street. Before his government service (1995-1999), he spent 26 years at Goldman Sachs. After his government service, he left Washington for a top job at Citigroup. Henry Paulson served as Treasury Secretary during the G.W. Bush Administration. Before his government service (2006-2008), he spent 32 years at Goldman Sachs.

Steven Mnuchin has been Treasury Secretary since 2017 in the Trump Administration. Before his service, he spent 17 years with Goldman Sachs. Many Secretaries of the Treasury (Brady, O'Neill, Snow, Geithner and Lew) joined private equity firms in Wall Street after their service as Secretary. The revolving door between Wall Street and Washington gives government officials a route to lucrative careers, given that executives in private equity firms receive higher pay than in government. Ben Bernanke, chairman of the Federal Reserve from 2006 to 2014, said at an FCIC hearing: 'It's just simply never going to be the case that the government can pay what Wall Street can pay' (FCIC 2011, p. 64).

In theory, the revolving door can lead to multiple possible scenarios favorable to the economic sector affected by this system. First, a favorable regulation can be obtained by the financial sector in return of a well-paid job on Wall Street. Secondly, the power of the sector might gain prominence which focuses on cognitive and cultural capture. Individuals become regulators of the private sector that previously employed them, or individuals with past experience in the private financial sector become legislators who will have to vote on regulation proposals. The potential problem is that these individuals, as regulators or legislators, could treat their former colleagues and employers favorably. Social interactions and acquaintances with the financial sector tend to create an overall pro-sector paradigm, which would induce them to make pro-industry decisions not because it serves their material interest, but because they think that what they are doing is the right thing to do. The other case is when a regulator or a politician is hired by a financial firm to lobby or work on regulatory matters. As the former colleagues, friends, and acquaintances are mostly regulators or politicians, these new actors in the financial system have good connections with regulatory agencies and Washington and will have easier access to their office to make their voices heard.

Some studies find that revolving doors, or social connections in general, may have an impact on politicians and regulators’ behavior.

Acemoglu, Johnson, Kermani, Kwak, and Mitton (2016) find that the announcement of Timothy Geithner as nominee for Treasury Secretary in November 2008 caused a strong outperformance in value on the stock market of Geithner-connected Wall Street firms relative to non-connected firms.

That is, the financial firms personally connected with Geithner outperformed the financial firms whose top executives had no personal connection with Geithner. For instance, in 2008, Geithner had nine personal connections to Citigroup, whereas he had only one personal connection to Bank of America. A potential explanation for such a result is that market participants thought that, during a period of crisis, the new Secretary would have unusual discretionary powers over the financial system and that Geithner, who had previously been president of the Federal Reserve Bank of New York, would rely on a team and a social network (friends and acquaintances) likely to be drawn from Wall Street financial institutions. Geithner hired people he knew, and people he knew were Wall Street people. The authors establish that Geithner's key staff at the Department of the Treasury came from Wall Street institutions with which Geithner had a connection during his tenure at the New York Fed. Lee Sachs, previously at Bear Stearns, designed financial sector policies. Matt Kabaker, previously at Blackstone, became a member of the team on financial issues. Mark Patterson, a Goldman Sachs lobbyist before 2008, was Geithner's chief of staff. The authors conclude that, during a period of financial instability, personal connections with the Treasury Department can matter a great deal.

Igan and Mishra (2012) find that the lobbying efforts by the financial sector and the network connections between members of Congress, lobbyists, and the financial industry altered the stance of many legislators in favor of deregulation between 1999 and 2006. Their study focuses on a set of financial regulation proposals between 1999 and 2006. The authors establish that the financial industry was one of the most politically active sectors during this period and that the lobbyists targeted a small set of regulatory proposals: the bills advocating deregulation (called lax bills by the authors) and those promoting tighter regulation of the activities of the lenders in the mortgage industry (called tight bills). The sector hired 575 lobbyists to lobby on these bills, which could explain the increase in the number of lobbyists reflected in Table 2 between 1999 and 2006. The majority of lax bills were signed into law before 2006 whereas none of the tight bills succeeded. The proposal on 'anti-predatory lending consumer protection' never passed. Igan and Mishra (2012) find that network connections between politicians and lobbyists sway legislators' stances from being against lax bills to being in support of lax bills. They show that hiring lobbyists who are already connected to legislators enhances the outcome of lobbying activities in favor of deregulation. If the lobbyist hired to contact the legislator on a specific bill worked with that legislator in the past, the lobbyist will be more effective in influencing that legislator's position than a lobbyist who is not connected. Additionally, Igan and Mishra (2012) establish that lobbying expenditures by financial firms also affected legislators' voting patterns between 1999 and 2006, in favor of deregulation. Their findings support the idea that the financial industry influenced the regulatory framework towards more deregulation, which contributed to the financial crisis.

Mishra and Reshef (2018) explore the problem of cognitive capture for all central bank governors around the world during the period 1970-2011. Their main finding is that a central banker with experience in the private financial sector deregulates more than a central banker without financial sector experience. There are two possible explanations. First, past work experience (in the financial sector) of governors shaped their preferences in favor of deregulation and a pro-industry paradigm, which would explain that these central bankers deregulate more than those without financial sector experience. Secondly, the governments that want to deregulate their financial system appoint governors with experience in the private financial sector because the governments probably assume that these individuals have a better knowledge of the sector and therefore a greater ability to implement reforms. The present authors' dataset indicates that 20% of central bankers worked in the financial industry before becoming a central banker, and 25% of all central bankers are hired by the financial sector after their tenure ends. For instance, Alan Greenspan had a long experience in the private sector (a consulting firm) before becoming chairman of the Federal Reserve. Mario Draghi worked at Goldman Sachs before taking office as governor of the European Central Bank.

Table 3: List of United States Secretaries of the Treasury 1981-2018.

Name	Before	Period as Secretary	After
D. Regan	Merrill Lynch (1971-1980)	1981-1985	Retirement
J. Baker	Lawyer, politician	1985-1988	Politician
N. Brady	Banker at Dillon, Read and co (investment bank, 1954-1988)	1988-1993	Founder and Chairman of Darby Overseas Investments (private equity firm)
L. Bentsen	Senator	1993-1994	Retirement
R. Rubin	Goldman Sachs (1966-1992)	1995-1999	Citigroup (1999-2009)
L. Summers	Economist, academic career	1999-2001	President of Harvard University (2001-2006), hedge fund D.E. Shaw & co (2006-2008), freelance speaker at financial institutions
P. O'Neill	Alcoa (1987-1999)	2001-2002	The Blackstone Group (private equity firm, from 2003), Director of many private firms
J. Snow	CSX Corporation (railway industry, 1985-2003)	2003-2006	Cerberus Capital Management (private equity firm, 2006-present)
H. Paulson	Goldman Sachs (1974-2006)	2006-2008	Paulson Institute (Think Tank)
T. Geithner	Federal Reserve Bank of New York (2003-2009), IMF (2001-2003)	2009-2013	Warburg Pincus (private equity firm, 2014-present)
J. Lew	Politician and academic career, Citigroup (2006-2008)	2013-2017	Lindsay Goldberg (private equity firm)
S. Mnuchin	Goldman Sachs (1985-2002), Dune Capital Management (hedge fund, 2004-2013)	2017 - present	

Source: Table compiled by the author.

Conclusion

In this paper, I have reviewed the report by the Financial Crisis Inquiry Commission (FCIC 2011), the book written by the Nobel Prize Joseph Stiglitz (Stiglitz 2010), and the papers published by the International Monetary Fund, in order to synthesize their analyses on the causes of the 2008 U.S. financial crisis. A single narrative emerges from this diverse collection. Indeed the FCIC (2011), Stiglitz, and the IMF share the same diagnosis regarding the causes of the 2008 crisis: inappropriate deregulation and lax supervision (leading to low lending standards, flawed securitization, excessive leverage, and too-big-to-fail institutions), rating agencies, and pay structure in the financial system were major reasons for the crisis. One reasonable conclusion is that financial deregulation and weak supervision in the United States led to the financial meltdown.

Since the 1980s, there has been a remarkable bipartisan consensus in Washington in favor of financial deregulation. Besides, a decade after the financial crisis, President Trump eliminated some of the Dodd-Frank regulations, in spite of the widespread agreement that deregulation went too far in United States. So the crucial question is: Why were American politicians so much in favor of deregulation of the financial system?

I suggest many hypotheses to explain the successive laws in favor of deregulation. Ideology in favor of free markets and self-regulation, the campaign contributions by private firms, lobbying, and the system of revolving doors between Wall Street and Washington might explain the past and current political decisions in favor of deregulation. Several studies show that all these factors influenced the policy debate and legislators' votes in favor of deregulation of the financial system, which led to the financial crisis in 2008.

By this reasoning, responsibility for the crisis should lie squarely with politicians and regulators who decided to deregulate the financial system and with the financial sector that lobbied for deregulation. On the normative level, this causal story of the financial crisis enables us to pinpoint the cause, and to attribute blame and responsibility for it. However, the victims of this financial crisis, American families, taxpayers and some investors, have never been compensated for the loss of their homes, savings, or investments by those responsible for the crisis.

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Notes

1. The Commission had a full team of investigators and researchers, about 90 people, working to examine the causes of the financial crisis. In the course of its research, the Commission reviewed millions of pages of documents and interviewed more than 700 witnesses on topics including complex financial derivatives, credit rating agencies, subprime lending practices, and securitization.

2. The IMF report states that the policy considerations are those of the contributing staff and should not be attributed to the IMF.

3. For instance, the FCIC (2011, p. 157) reports the following story from New Century, a subprime mortgage lender: ‘some executives at New Century deliberately ignored warnings that loan quality was deteriorating and stripped power from two risk-control departments that had noted the problem. In a June 2004 presentation, the Quality Assurance staff at New Century stated they had found severe underwriting errors, including evidence of predatory lending, legal and state violations, in 25% of the loans they audited in November and December 2003. In 2004, Chief Operating Officer and later CEO Brad Morrice recommended these results be removed from the statistical tools used

to track loan performance, and in 2005, the risk-control department was dissolved and its personnel terminated.'

4. For more information on CDOs, see for instance FCIC (2011, p. 128) or IMF (2008a, p. 73)

5. In 1999, Congress, with the support of the Clinton Administration, passed the Gramm-Leach-Bliley Act, removing the firewalls between commercial banks and investment banking and insurance. After 1999, major investment banks merged with commercial banks or converted into bank holding companies. Banks became too big to fail.

6. Former team managing director at Moody's, Gary Witt explained to the Commission (FCIC 2011, p. 210) that the banks, Moody's customers, threatened to withdraw their business if they did not get a good rating: 'Oh God, are you kidding? All the time. I mean, that's routine. I mean, they would threaten you all of the time. It's like, "Well, next time, we're just going to go with Fitch".'

7. American writer (1878-1968)

8. Citigroup did have clawback clauses: under narrowly specified circumstances, compensation would have to be returned to the firm. But despite Citigroup's large losses during the crisis, no compensation was ever clawed back under this policy.

9. In 2015, the SEC proposed rules that should require all companies listed on a national securities exchange to have a policy to recover erroneously awarded compensation. The proposal, referred to as the clawback rule, was mandated by the 2010 Dodd-Frank Act. See https://www.sec.gov/news/pressrelease/2015-136.html

10. In April 2018, at an American Bankers Association conference in Washington, Mick Mulvaney, the interim director of the Consumer Financial Protection Bureau, told financial industry executives that, as a congressman, he would meet with lobbyists only if they had donated to his campaign during his time in Congress: 'If you are a lobbyist who never gave us money, I did not talk to you. If you are a lobbyist who gave us money, I might talk to you.' (Thrush 2018)

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