

A retrospective on the 2008 financial crisis: in-depth analysis

Rétrospective de la crise financière de 2008 : analyse approfondie

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Abstract

The financial crisis has always been one of the most worrying and talked-about topics in finance. Triggered by a series of interconnected factors, the main causes included the housing market bubble and subprime mortgages. The wide-ranging and long-lasting consequences included a global economic recession, rising unemployment, massive losses for investors, and deteriorating public finances in many countries. In the liberal capitalist economy, financial crises are frequent and repetitive phenomena, hence the importance of analyzing the 2008 financial crisis to prevent future ones. Regulations and laws such as the Dodd-Frank Act and the Basel III reform have been put in place to meet the challenges of this crisis. It is against this backdrop that the present document focuses on an in-depth analysis of the causes and consequences of the financial crisis, as well as an overview of the regulations, laws, and reforms put in place to meet these challenges.

The various factors that led to the crisis, such as the formation of a real estate bubble, inappropriate monetary policies, sub-prime mortgages, and credit default swaps, have been meticulously analyzed to provide a comprehensive view of the deep roots of the crisis. The repercussions of the crisis, including bank failures, mass bankruptcies of major financial institutions (LEHMEN BROTHERS), unemployment rates, and stock market fluctuations, were also examined to highlight the considerable impact of the crisis on various sectors of the economy.

Keywords: Housing market bubble; Subprime mortgages; Crisis prevention; Dodd-Frank Act; Basel III

JEL Classification: G01

Type of paper: Theoretical research

Résumé

La crise financière a toujours été l'un des sujets les plus préoccupants et les plus discutés dans le domaine de la finance. Déclenchée par une série de facteurs interconnectés, parmi les principales causes figuraient la bulle du marché immobilier et les prêts hypothécaires à risque. Les conséquences vastes et durables comprenaient une récession économique mondiale, une augmentation du chômage, des pertes massives pour les investisseurs et une détérioration des finances publiques dans de nombreux pays. Dans l'économie capitaliste libérale, les crises financières sont des phénomènes fréquents et répétitifs, d'où l'importance de l'analyse de la crise financière de 2008 pour prévenir les crises futures. Des réglementations, des lois telles que la loi Dodd-Frank, ainsi que la réforme Bâle III, ont été mises en place pour faire face aux défis de cette crise. C'est dans ce cadre que le présent document se focalise sur l'analyse approfondie des causes et conséquences de la crise financière ainsi qu'un aperçu de la réglementation, des lois et des réformes mises en place pour faire face à ces défis.

Les divers facteurs ayant conduit à la crise, tels que la formation d'une bulle immobilière, les politiques monétaires inappropriées, les prêts hypothécaires à risque et les swaps sur défaut de crédit, ont fait l'objet d'une analyse minutieuse visant à offrir une vision globale des racines profondes de la crise. Les répercussions de la crise, notamment les défaillances bancaires, faillite en masse des grandes institutions financières (LEHMEN BROTHERS), le taux de chômage et les fluctuations des marchés boursiers, ont également été examinées pour mettre en lumière l'impact considérable de la crise sur divers secteurs de l'économie.

Mots clés : Bulle du marché immobilier ; Prêts hypothécaires à risque ; Prévention des crises ; Loi Dodd-Frank ; Bâle III.

JEL Classification : G01

Type du papier : Recherche Théorique

1. Introduction

The 2008 crisis, which began in the United States in 2007 and was triggered by the bankruptcy of one of the five major Wall Street investment banks, Lehman Brothers, on September 15, 2008 (Herlin, 2010), Credit Default Swaps, and the absence of a rigid policy were the causes of this crisis and the global economic depression. The 2008 crisis was the worst financial crisis since 1929 (Lu, 2023). It affected the world's major financial centers more than any other post-war financial crisis (Reinhart and Rogoff 2009).

The financial crisis of 2008 had a devastating impact on the world's credit and capital markets, resulting in a slowdown, if not a setback, to economic development worldwide. As markets froze, with investors refusing to buy toxic securities, and financial institutions ceasing to lend to each other, confidence in the interbank market was shaken, triggering an economic crisis characterized by a reduction in the financing available on the market and negative repercussions on consumption and employment. This led to a sovereign debt crisis, resulting from the deteriorating economic situation and the efforts of governments to support their financial sectors.

The financial crisis generates an economic crisis which, in turn, triggers the sovereign debt crisis, contributing significantly to the fall in GDP in the United States and most other countries.

The lingering after-effects of the 2008 financial crisis continue to affect the global economy and the financial sector to this day, with repercussions spreading to international financial markets, causing a liquidity crisis. The subprime mortgage crisis of 2008 has also left a lasting financial impact, as evidenced by the economic crisis of 2019-2022, marked by high unemployment resulting from the Covid19 pandemic and geopolitical tensions relating to the crisis between Russia and Ukraine in 2022. The occurrence of these events has led to a rise in current expenditure and an increased risk of default by borrowers, generating a high claims ratio, particularly in the transport sector.

By studying the financial crisis in depth, analyzing the data, and drawing the necessary lessons, we can help the global financial and economic situation move towards greater stability and prosperity. To do this, we need to look deeper into the crisis itself, analyzing its causes, its evolution, and more scientific solutions. (Ma, y, 2023)

In general, the study of a financial crisis is based on causes, consequences, and the adjustment of triggers through policy responses. All this is done to prevent a collapse of the financial system and ensure its optimal functioning, which consists of allocating savings to productive investment.

It is within this framework that our work focuses on analyzing the causes and consequences of the subprime crisis, as well as the regulations and measures put in place to remedy and resolve this crisis and prevent other similar crises in the future, by answering the following questions: *What were the causes and consequences of the 2008 financial crisis? What regulations have been put in place after the crisis? How can it be prevented?*

First, we present a synthetic analysis of economic trends and performance, focusing on the causes and consequences of the financial crisis. Through this analysis, we will describe the research methodology put in place to highlight the importance of understanding the occurrence of the financial crisis and its outcomes.

In the second part, we will examine the legislation and regulations in force, the reforms carried out in the banking sector and the strategies put in place to meet the challenges posed by the financial crisis.

2. Literature review

Historically, the explanatory theories of classical and neoclassical economics on economic crises and economic crises. According to these theories, crises are transient phenomena affecting a well-defined sector. In the nineteenth century, various economic spheres tried to define the end of the crisis. Malthus and De Sismondi interpreted it as the result of a shock caused by an exogenous element, leading to major imbalances in the functioning of the various markets that make up the economic system. Smith and Mill faced a crisis caused by insufficient consumption of a sudden supply. For them, the crisis is also an event caused by rapid technological progress technological progress and excessive savings.

In the twentieth century, Keynes interpreted Marx's vision of crisis as a driving force behind the economy crisis as a driving force of the economy. He emphasized that crisis results from insufficient investment rather than savings, which leads to a deficit resulting from obsolescence, of which debt is a component (Fisher, 1933). However, Schumpeter shared Marx's conclusion in his 1942 book *Capitalism, Socialism and Democracy*. For Schumpeter, crisis is the promise of progress and growth in the future, and crises are an essential part of business cycles. In another sense, a crisis is caused by a poorly made production decision and is not the result of reduced consumption, but rather of insufficient savings. Contrary to Keynes' theory, which explains that excess savings was the cause of the crisis (Dostaler, 1999). Hayek believes that the analysis of economic fluctuations is closely linked to his monetary theory, as real economic cycles are caused by monetary causes, while the crisis is the consequence of a bad production decision.

From a theoretical point of view, the concept of financial crisis only made sense after the depression of 1929, the end of Keynesianism, and the analyses of Fisher in 1988; and that from the Asian crisis of 1997, and the financial crisis of 2008, the most severe financial crisis twenty-first century, the term "financial crises" has taken on particular interest in the following the development of numerous theoretical and empirical models to explain the phenomenon.

2.1. Approach to the financial crisis

Finance is essential to the economy, as it facilitates the optimal allocation of savings and finances productive investment. When the need to take risks to successfully finance the economy financing of the economy becomes excessive, this directly affects the financial system and instability of the financial system and, consequently, the emergence of financial which hurts growth and employment.

Financial instability is triggered by cyclical fluctuations that alternate between phases of economic growth and recession phases of economic growth and recession (Schumpeter, 1997). There are two possible approaches to the analysis of cyclical fluctuations, the exogenous approach based neoclassical model, developed after the shock of the 1929 crisis, Keynesian economists Keynesian economists would build models centered on the damping of these fluctuations and would stabilization theories, the shocks considered to be the cause of financial system destabilization financial system are not explained by the model, they are considered to be exogenous".

While the endogenous approach is based primarily on Marxist analysis analysis and Minsky's model (Plihon, 2016). Frédéric Lordon, a relationalist, is one of today's most radical critics of financial markets and the beliefs that sustain their endogenous instability. overindebtedness.

Minsky develops the financial instability hypothesis using the writings of Schumpeter, Fisher and Keynes proposed a genuine theory of financial crises. He demonstrates that crises result from the inherent financial instability of the system, which has led to this instability. He shows that confidence is also a means of ensuring the proper functioning of the financial system. system, as it encourages lenders to reduce risk premiums and investors to adopt risky financing behavior. risky financing behavior. This leads to a significant increase in information inequalities in the financial system, leading to a significant reduction in the supply of available loans. In a book entitled "Stabilizing an Unstable Economy Stabilizing an Unstable Economy" in 2016, Minsky describes a five-stage financial crisis process. The first stage, at the origin of crises, is often linked to a speculative boom. to fuel the boom and acquire products whose prices are skyrocketing, the agent's credit accelerates the speculative phenomenon and leads to excessive and excess exchange. The third stage begins when more and more agents find themselves find themselves in financial distress, unable to meet their credit obligations. The fourth stage of the crisis is the sudden turnaround: price collapses, crashes, bankruptcies,

and so on. This is the peak of the crisis. The final stage is the return to normal, through debt consolidation through debt consolidation or liquidation.

Mishkin demonstrated in 2010 that financial crises significantly reduce the wealth of agents, particularly those holding shares or financial securities. According to Mishkin (1996), a financial system is stable when it can guarantee that available funds are allocated to investment opportunities in a sustainable manner and without significant difficulties. Financial crises occur when a financial market malfunctions and asset prices and asset prices fall sharply, leading to the bankruptcy of many financial, industrial industrial, and commercial enterprises (Mishkin, 2013).

These analyses show that the financial system is no longer functioning satisfactorily. the financial crisis is the result of a dysfunctional financial system, it is the visible reflection of the instability of a financial system (Prasad & al. 2004), and a well-regulated financial system reduces the onset and spread of financial crises (Déés & Zimic, 2019). Due to a lack of capital supply, financial crises financial crises sharply increase the cost of financing (Labye, 2011). The causes of the financial crisis include the disastrous consequences of certain financial vulnerabilities of the financial system, such as International Financial Reporting Standards (IFRS), securitization, and the consequences of the interaction between accounting and prudential standards, the potential consequences of which have been overlooked. Globalization is manifested in the rapid expansion of private capital movements, investments, and loans. As these tools play an important role in global economic growth economic growth, they can also lead to occasional crises of confidence. The crisis was transmitted mainly through the interpretation of information, investor mimicry, and the valuation of financial instruments valuation of financial instruments (Levy & Bensimhon 2009).

The definition of a financial crisis differs according to the markets involved. Financial crises are very diverse, depending on the markets in which they occur, and there are different types of financial crises.

In 1963, Friedman and Schwartz theorized that banking crises are panic crises that have depositor panics characterized by irrational withdrawals that put unsustainable pressure on liquidity in situations where the bank is intrinsically insolvent. Banking crises are often characterized by boom-bust cycles in credit and asset prices. their causes lie in unsustainable macroeconomic policies, market failures, regulatory distortions, and government interference in capital allocation. resolved by large-scale government intervention. The study of banking is essential to understanding the concept of financial crises, as banks are often at the heart of them. at the heart of these crises, and they often coincide with other financial financial crises, such as asset collapses in the case of currency crises (Kaminsky & Reinhart, 1999).

Banking panics, as interpreted by (Diamond & Dybvig, 1983) Nobel Prize 2022, are self-fulfilling prophecies in an environment where consumption needs are growing self-fulfilling prophecies in an environment where consumption needs are unknown, and long-term investments are financially costly (intense need for liquidity).

The quantitative study of stock market crises began after the outbreak of the crisis in 2008 (Artus, 2003) and (Plihon, 2002). For stock market crises, two solutions are also usually adopted. The first, which is similar to the first method of identifying currency crisis, is to consider that a stock market is in crisis when, over a given "window" period, the variation in the price index has exceeded a certain threshold. The chosen value is 20%, in general, concerning the crashes of 1929 and 1987.

Currency crises are sudden drops in the value of currencies as a result of speculative attacks. speculative attacks, the foreign exchange market is an over-the-counter market, decentralized, unregulated, and unorganized. organization. It is a market that knows no geographical boundaries and is in constant activity activity, 24 hours a day (Lamrani & Bennis, 2023). The interpretation of financial crisis models, based on sovereign debt crisis models sovereign debt

crises², by analyzing capital fluctuations in the international financial market of emerging country debt, which implies a concern for the solvency of the financial system financial systems of so-called developed countries, resulting in financial crises. (Bastidon, 2002). Historically, the three main forms of financial crisis occurred in the twentieth and early twentieth and early twenty-first centuries: stock market crashes, currency crises, and banking and banking crises. The best-known stock market crashes were those of 1929, 1987, 2001 (e-krach), and 2008 (collapse of Lehman Brothers bank). (collapse of Lehman Brothers), which broke out in New York and spread to other financial centers. The last decade of the 20th century was marked by banking crises banking and currency crises, whether in Europe with the crisis of the European Monetary System in 1992-1993 or emerging countries.

2.2. The subprime crisis in history

The 2008 crisis was the worst financial crisis since 1929 (Lu, 2023). It has affected the world's major financial centers more than any other post-war financial crisis (Reinhart and Rogoff 2009), it affected the global credit and capital markets, with the result that economic development around the world stagnated or even declined. The impact of the financial crisis has also spread worldwide through various spillover effects into the real economy, such as the collapse of exports, commodity prices, and remittances. New policies have been adopted and laws put in place to protect against the inevitable crises that will occur in the future.

In November 2008 at the London School of Economics, Queen Elizabeth II asked the question "If these things were so great, how come everyone missed them?" The Queen's question challenged economic researchers to find a relevant answer to the Queen's question. The American school of international economic policy is based on intermediary theory and reductionist methods, which prevent it from emphasizing structural instability and systemic change.

Bakkouchi (2014) pointed out that the financial crash of the autumn 2008 led central banks, and above all the Federal Reserve, to go even further in taking to take direct responsibility for financing the economy. Faced with the massive spread of the crisis to the real sector of the economy (illustrated in the United States by the bankruptcy threats of General Motors, Chrysler, and Ford) and the risk of deflation, central banks accelerated their interest rate cuts from October 2008. In the United States, the Fed¹ broke through the historic low of 1% and in December raised its key rate between 0% and 0.25%. In the UK, the Bank of England cut its interest rate from 5% to 0.5%. The European Central Bank, in turn, lowered its key rate in stages from 4% to 1%. While these cuts were exceptional in scale, they did not represent were not outside the realm of conventional intervention. (Haloui, 2021).

3. The causes of the financial crisis

3.1. Flexible Monnetay Policy

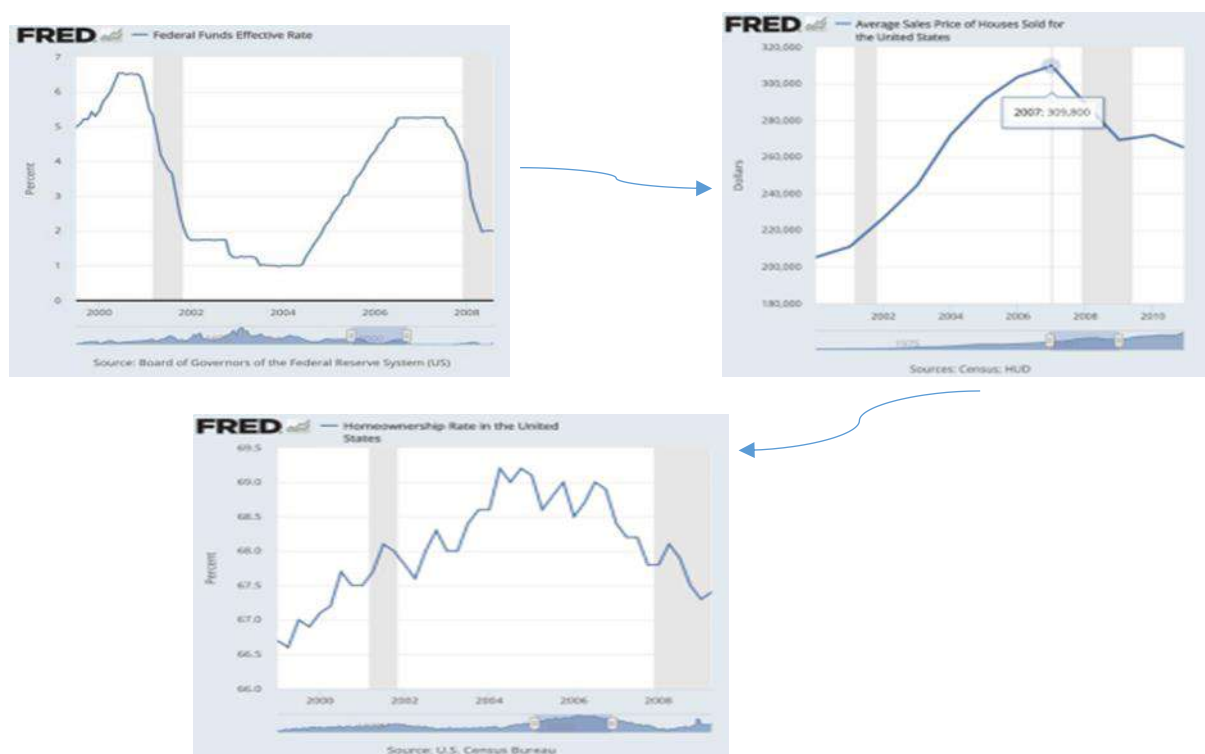
In the three decades leading up to the 2008 subprime crisis, the United States accelerated neoliberal economic policies. Since the 1980s, the Fed's lax monetary policy has contributed to the economic recession that began in early 2000. Since March 2001, the Fed has significantly lowered interest rates to mitigate the consequences of recessions and tragedies such as the terrorist attacks of September 11, 2001. Lax monetary policy and economic stimulus measures contributed to economic growth. On the other hand, the flexibility of monetary policy at the time, which granted low interest rates, was subsequently a major factor in the housing market's expansion in 2004 and 2005(Lin, 2012).

The change in federal policy led to an increase in the number of loans and mortgages, which in turn led to a boom in the housing markets and a real estate bubble (leverage), financial excesses, and large current account deficits. American and European banks withdrew their international

loans, triggering serious financial problems and debt crises in countries that had borrowed heavily from abroad. Trade credits were cut off, paralyzing exports and imports. The spread of the crisis to countries whose financial systems were already vulnerable (OECD, 2014). There has also been a series of policies encouraging banks' high-risk activities, which has fuelled the growth of the subprime mortgage market. Deregulation has been at the heart of US government policy since the 1970s, policies such as the Garn-St Germain Act of 1982, which led to the absence of interest rate caps, and the Gramm-Bliley-Leach Act, which replaced the Glass-Steagall Act in 1999, enabled the big banks to operate as both commercial and investment banks. (Lin, 2012) All these policies give banks a greater tolerance for risk, making them more inclined to invest in the subprime mortgage market. (Zhang,2023)

Securitization was also one of the factors that triggered the subprime crisis. The securitization process was like a chain that passed through lenders, investment banks, state-owned companies, credit rating agencies, investors, and so on. The impact of a break in the chain would mean cascading damage for everyone involved. The beginning of the break in the chain was the discovery that the economy was overheating and the attempt to control it. The government began to raise interest rates, which directly burst the housing bubble. According to the Board of Governors of the Federal Reserve, the interest rate rose, followed by a fall in the trend in homeownership rates. (He, 2023)

Figure 1 : Process of securitization



Source: Economic Research. Federal Reserve Bank of St

3.2. Subprime mortgage

Low-interest loans and lax lending standards in the U.S. at the time contributed to the creation of CDSs based on subprime loans, and to the lack of regulation of CDSs. As a result, the international financial crisis of 2008 erupted without warning. A real estate bubble resulted from the federal government's stimulus policies, which drove up real estate prices (FRB, 2024). According to the National Bureau of Statistics, over 68% of US citizens need a mortgage to buy a home. As housing is a basic necessity, these conditions suggest that real estate prices are on the rise, which can translate into extremely high profits for real estate developers. As a result,

excess profit drives developers to continue building homes for sale. But with housing prices on the rise, many Americans don't have the savings to buy real estate.

Insufficient effective demand and relative overproduction led to the global financial crisis of 2008, but they were disguised as excessive virtual demand and relative overproduction.

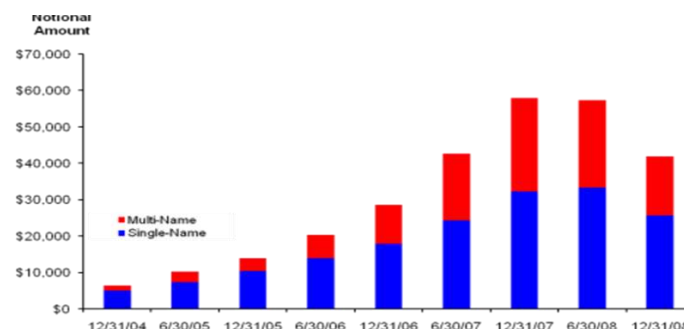
Individuals' false need for housing has grown considerably. Financial institutions are granting sub-prime mortgages to borrowers with bad credit and insufficient repayment capacity. The inconsistencies of the present can only be carried into the future by this type of behavior, and will eventually explode.

After the 2001 recession, the US real estate market boomed, encouraged by extremely low interest rates, contributing significantly to the economic recovery and subsequent steady expansion, and the subprime mortgage sector expanded rapidly. Some lenders offered subprime mortgages to customers with poor credit and low salaries. The subprime crisis was the first sign that the real estate bubble had burst in the weakest sector of the financial system. The US housing bubble burst, leaving many low- and middle-income earners unable to repay their mortgages. As a result, many families sold their homes at deep discounts, leading to a dramatic reduction in demand for housing and a fall in house prices, which exacerbated the housing crisis and exacerbated the deflation of the housing bubble. Subprime mortgages are arguably the weakest link in the chain of mortgages, and the first to suffer the consequences of the bursting of the housing bubble (Investopedia, 2024). More importantly, the way the world's major central banks are dealing with the subprime crisis is still a joint intervention of injected funds, which only provides a few emergency loans to institutions whose capital chains are on the chopping block even if it gives them time to solve the problem, but is incapable of fundamentally solving the problems of the subprime lending market itself.

3.3. Credit Default Swaps

The subprime crisis can only be resolved through direct intervention by central banks. Over time, banks are ceasing to carry out these risky operations by the standard norm, due to the high risk involved in leveraged transactions. Then someone came up with a technique for treating leveraged investments as "insurance". The name of this insurance is CDS. Large-scale financial derivatives, including CDS based on subprime loans, have made the situation even worse. The subprime mortgage crisis, which began in the US housing market in the second half of 2007, quickly spread to the rest of the world. To tackle the crisis, the US federal government released billions of dollars in bailout funds, and foreign governments also made significant financial investments to reduce the financial system's lack of liquidity. The subprime bad debts themselves represent only a few hundred billion dollars, but the subprime crisis is worsening. The reason is most likely CDS. Investment banks often use 20 to 30 times leverage to make huge profits and avoid risk.

Figure 2. Credit default swaps notional amount outstanding, 2004-2008



Source: Stulz, 2010

In Figure 1, the surprising increase in notional outstandings from 12/31/2004 to 12/31/2007 shows just how widespread this instrument has become (Deng, 2023). They therefore buy

"insurance" for their investment, i.e. they sign a CDS contract. Bank of America uses asset securitization to pool and sell subprime mortgage ratings to investment banks and hedge funds. To solve the problem of selling these loans, underwriters have issued CDSs. CDSs are traded on financial markets as independent securities. At the same time, Bank of America made a second loan of the funds obtained, so that one mortgage was extended several times over. Subprime mortgage borrowers were unable to repay their loans on time following the collapse of the housing bubble and subsequent interest rate hikes by the Federal Reserve.

As a result, defaults exploded and CDS credit conditions were activated (Wang, 2008). Furthermore, as CDS transactions have OTC financial instruments, most participating financial institutions are not required to disclose the extent of their CDS holdings, and most banking institutions do not disclose the relevant data when executing the transactions concerned, as they involve proprietary information. This makes it even more difficult for financial markets to assess market risk conditions and will be particularly difficult in the case of CDS contracts, which are not disclosed.

4. The Consequences of the financial crisis

4.1. A global spread

The most serious crisis to hit the world's financial markets since the financial crisis of 1929 occurred in 2008. The scope of the spread rapidly extended from the local to the global, from wealthy Western countries to emerging economies, and from capital markets to the real economy. As established economies such as the USA, Europe, and Japan went into recession, the global economy was severely affected. In the period between the financial crisis and the recession, the prices of raw materials such as international energy and metal ores fluctuated wildly. International oil prices fluctuated sharply, with the price of New York light crude oil futures rising from \$90 a barrel in early 2008 to \$147 a barrel in mid-2008, before dropping sharply to \$44.6 a barrel at the end of the year. The prices of commodities such as gold, agricultural products, and minerals also suffered similarly violent shocks. The concentrated deleveraging of financial institutions led to a further fall in the value of various financial assets and a high degree of financial liquidity. The global capital market has undergone significant change, with the Morgan Stanley Capital Market index falling by over 45% since the start of the year. Global financial assets such as equities, bonds, and derivatives exceed \$50 trillion (Li, 2009).

4.2 The collapse of the banks

On September 10, 2008, Lehman Brothers filed for bankruptcy protection. Technically, its \$639 billion in assets in 2008 were more than sufficient to repay its \$613 billion debt (knowledge, 2024). As an investment bank founded in 1850, Lehman Brothers was a large, comprehensive, and diverse investment bank serving the financial needs of international corporations, organizations, and institutions, one of the world's most powerful underwriters and traders of stocks and bonds. Lehman Brothers' financial strength has underpinned its leadership in the industries in which it operates. In addition, the organization provides important financial advice to many governments and multinationals around the world and employs some of the industry's leading analysts, recognized worldwide. As a leading investment bank of excellence that has already attracted a great deal of attention, it was not spared by the storm that swept the world in 2008.

4.3 Unemployment rate

The unemployment rate was still above 10% in the early 1980s, but in the 1990s the country entered a "golden age" of economic expansion and job growth, and by 1998 the unemployment

rate had fallen to around 4.5%. However, under the impact of economic globalization and numerous uncertainties, the employment situation in the USA after entering the 21st century is not optimistic, reaching 6% in 2003, the highest level in nine years. Even more than during the two previous economic crises, employment and unemployment rates in the US reached an inflection point in 2007, and the labor market situation deteriorated (1990 and 2001). The US unemployment rate reached 10.2% in October 2009, the highest level in the country's 26-year history according to figures (Yang, 2010).

US GDP fell by 4.3% in the wake of the 2008 financial crisis, and the recession continued for 18 months. Unemployment rose from 5% to 10%. 8.8 million people lost their jobs. As a result, production fell dramatically and many people found it hard to find work. House values plummeted by 40% and household wealth fell by \$19.2 trillion (Federalreservehistory, 2013).

5. Regulatory responses

5.1. Dodd-Frank Act

The financial health of major financial institutions is monitored by the Financial Stability Oversight Council and the Orderly Liquidation Authority, which were among the clauses of the Dodd-Frank Wall Street Reform and Consumer Protection Act, requiring banks to increase their reserve requirements (Dodd-Frank, 2010).

The Dodd-Frank Act, which regulates the real estate sector, is one of many measures taken by the U.S. federal government, a financial sector regulatory reform act signed into law by then-U.S. President Barack Obama in July 2010. The Dodd-Frank Act's real estate-related provisions focus on improving credit rating oversight and reforming asset-based mortgage lending. Eight provisions make up Chapter 14 of the Mortgage Reform and Anti-Predatory Lending Act, which aims to ensure that debtors are matched to their mortgages and that lending terms and conditions are respected.

To ensure that the lender provides a suitable mortgage to the borrower, Chapter XIV, Section 1, "Criteria for the granting of a residential mortgage loan", applies to the borrower for the granting of a residential mortgage loan", stipulating that the originator of the mortgage loan must not receive commissions directly or indirectly and that any manipulation of the residential mortgage loan is prohibited. The most important thing for a good mortgage is to ensure that the lender has a good repayment capacity. The law also defines a "qualified mortgage", which strictly regulates the debt/income ratio, the amount of installment repayments, the mortgage term and repayment conditions, the amount of installment repayments, the loan term, etc., and allows the "qualified mortgage" to be exempt from the prepayment penalty.

Chapter 14, Section 6, "Appraisal Activities", also requires an accurate determination of the last actual value of the mortgaged home, monitoring of the loan-to-value ratio to ensure repayment capacity, and providing a basis for measuring the real-time risk level of residential mortgages (Peng, 2019). The Dodd-Frank Act opened up the market barrier of information asymmetry for US citizens and greatly improved the quality of real estate home mortgage implementation.

The Dodd-Frank Wall Street Reform and Consumer Protection Act was charged with preventing predatory mortgage lending and helping consumers to inform themselves about the mortgage they wish to purchase before doing so. The Volcker Rule was also implemented to reduce speculative trading and restrict how banks could invest. To ensure that agencies offer accurate and useful rating and credit assessment data (OCR, 2024).

Opponents of the Dodd-Frank Act have countered that the regulations would reduce the ability of US companies to compete with their international counterparts. In particular, they claim that community banks and small financial institutions are being unfairly burdened by the regulation's compliance requirements, even though these organizations had little to do with the development of the financial crisis (Dodd-Frank Act, 2012).

5.2. Banking sector reform

Following the global banking crisis of 2008, banking regulators reviewed their rules. The Federal Reserve under Ben Bernanke declared on October 23, 2009, that the Federal Reserve would strengthen its oversight of bank funding adequacy to ensure that the banking system could set aside sufficient funds in difficult times. On the same day, the Federal Reserve Insurance Corporation announced that it had taken over seven failed banks.

2009 was the year with the highest number of domestic bank failures in the United States. Bernanke, then Chairman of the Federal Reserve, stated that the Federal Reserve was considering a series of measures to ensure that financial institutions had sufficient funds to deal with the crisis. As part of risk and liquidity management, the Federal Reserve will ensure that compensation levels for financial institutions are incentivized for performance and risk-taking. The Federal Reserve's tightening of regulations on bank capital adequacy ratios was aimed at avoiding a repeat of the global financial crisis. Ben Bernanke added that Congress should ensure that all systemically important financial institutions are included in an effective risk control and unified supervision mechanism, even those that are unbanked but whose failure could have negative consequences for financial stability. In addition, the Federal Reserve introduced a new stress test on February 25, 2009. Although the crisis cannot be completely resolved this time, the effect is obvious. Firstly, the test increases the transparency of the banking system, which is conducive to the inflow of individual capital into the financial system and the improvement of the bank's ability to lend money. Secondly, stress tests show how strong and weak banks are. Concerns about bank viability have also affected the ability of strong banks to raise capital and resume lending. (Huang, 2009)

The US government hopes to make some distinction between strong and weak banks, to prevent well-funded strong banks from being dragged down by weak banks that are about to be liquidated and gain market confidence. More importantly, the official attitude of the US government is to ensure that the core capital of commercial banks is sufficient and that commercial banks in the USA do not fail on a large scale in the future, to minimize the risk of a financial crisis.

5.3. Ball III

Basel III is a global regulatory accord that requires banks to maintain specified leverage ratios and hold specific levels of reserve capital. It has led to several changes designed to reduce risk in the global banking sector. It began in 2009 and is still in force in 2022 (GRATTON, 2024). The capital adequacy ratio will be presented in this essay. It measures the ratio of capitalization to a bank's risk-weighted assets. The capital adequacy ratio is a measure of the amount of capital available relative to a bank's risk-weighted credit exposures (Hayes, 2024). It represents the ratio of a bank's equity to its risk-weighted assets and measures the bank's ability to meet its financial obligations. To effectively manage a large number of debt assets and achieve a high return on investment, banks must follow the "leverage principle". However, this technique has considerably increased systemic risk in the banking sector.

The Basel Committee on Banking Supervision adopted a capital adequacy ratio of 8% at its 1988 meeting in Basel, Switzerland. In the late 1990s, when China reformed its financial sector, it also implemented this risk management strategy. These measures were aimed at reducing civil unrest caused by upheavals in the financial sector and increasing the financial sector's resilience in the face of various risks. Basel III is the third iteration in a series of global banking reforms known as the Basel Accords. Basel III calls for an increase in bank capitalization.

6. Conclusion

The recent financial crisis, which began in 2008, has called into question several precepts of modern economics. A paradigm shift has taken place in macro-economic modeling in general, and more specifically in the so-called intertemporal and stochastic general equilibrium models: the product of the new neoclassical synthesis, these were the benchmark analysis and forecasting tools in academic circles and central banks before the crisis.

The subprime crisis was triggered by a combination of factors: low government interest rates to stimulate the economy, innovative financial products such as mortgage-backed securities, and the complex chain of mortgage products. The crisis led to the bursting of the housing bubble, high credit defaults, and a chain reaction of economic damage. The government intervened with regulations such as the Dodd-Frank and Basel III legislation to stabilize the financial system and prevent future crises. However, there is criticism of the impact of these regulations on lending costs and economic growth, underlining the ongoing debate on the extent of government intervention in the market.

Key findings include the significant impact of the subprime crisis on the US economy, resulting in falling house prices, a high rate of foreclosures, and numerous business failures. The crisis was triggered by factors such as low interest rates, innovative financial products, and the complex commercial chains behind mortgage products (Shalby, 2018). The government intervened with legislation such as Dodd-Frank and Basel III to regulate and restrict companies and banks, to control the damage caused by the collapse of the mortgage market. The crisis was also influenced by factors such as the real estate bubble, mortgage-backed securities, and the securitization process (FRBsl, 2024). These factors contributed to the chain reaction that led to the 2008 financial crisis. (Huddleston, 2020)

The article's main findings include an analysis of the 2008 financial crisis, attributing its cause to the lack of financial market regulation allowing the proliferation of unqualified financial derivatives such as sub-prime mortgages. The crisis led to widespread bank failures, rising unemployment rates, and global economic repercussions. Governments responded with measures such as lower interest rates, fiscal stimulus, and regulatory reforms such as Dodd-Frank and Basel III to prevent future crises. Understanding past financial crises is crucial to prevention and effective response to complex international situations such as the COVID-19 pandemic and geopolitical conflicts.

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