

Banking Risks: Lessons from the First Financial Crisis of the 21st Century

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ABSTRACT:- The last global financial and economic crisis began a decade ago, taking place in the middle of the banking sector of the United States of America (USA), which rapidly expanded to the entire world financial system. This crisis has come to bare gaps in regulation and supervision and flaws in internal controls, as well as an excessive takeover of risks by banks. As a result of inadequate risk management policy, several banks have either failed or been ransomed by their governments and financial markets have come to suffer strong tensions of confidence from their economic agents. Thus, from this financial crisis we have important lessons to be learned and so the central objective of this article is to understand its origins and reflect on its consequences.

Keywords: crisis; banks; risks; failures; financial markets

I. INTRODUCTION

A decade after the last major global financial crisis, which began in August 2007 in the USA banking sector, it is important to understand and reflect how the recent financial crisis began and developed and what were its main consequences.

Thus, the article aims to recall and draw lessons from an unprecedented crisis that broke out in the USA financial market and rapidly spread throughout the global financial system.

After this brief introduction, the document details many developments of the financial crisis, and thus, in addition to presenting its origins and revealing the main risks accumulated over several years in the American financial market, the main consequences of this crisis are also identified, in particular, the occurrence of bankruptcies and redemptions of several banks. In September 2008, Lehman Brothers bankruptcy was a bank "too big to fail".

A chronology of the main events of the financial crisis is made up of three different phases of the crisis and different regions of the world in order to materialize the effects of contagion of the United States (US) financial system with the rest of the world, as well as the effects of the systemic risk in the real economy.

In order to complement this article, and because the financial crisis has largely resulted in an inadequate risk management policy for banks, this issue is addressed, identifying in detail the financial risks of banks (credit, market and liquidity risk), as well as non-financial risks (operational, reputational, business, etc.) and other risks that characterize banking activity.

Finally, we present some emblematic cases of bank failures that result from failures in the management of financial risks such as credit, market and liquidity risk.

1. The Financial Crisis: Origins and Consequences

The crisis that is intended to be contextualized refers to the first financial crisis of the 21st century, which began at the heart of the US financial system as a result of macroeconomic imbalances, failures in coordination and financial regulation, and inadequate risk management policies. At this point, a brief analysis is made of the origin and consequences of the global financial crisis of 2007-2008, as well as widespread financial crisis.

Abreu et al. (2007) perceive as a financial crisis a strong disturbance in one or several financial markets, characterized by a sharp fall in the value of assets and often leading to the bankruptcy of numerous financial and non-financial companies.

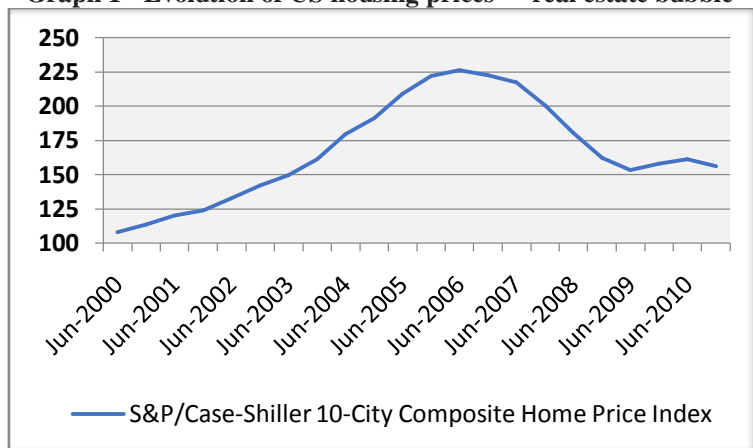
1.1 Origins

In mid-2007, the financial world witnessed the bursting of the speculative bubble in the residential mortgage credit segment of the United States of America - the subprime¹.

In fact, the exuberant American growth was largely based on real estate and related activities. Between 2003 and 2007, more than half of US GDP – Gross Domestic Product growth was based on real estate (home sales, construction jobs, consumer stimulus, and rising indebtedness), resulting in the so-called "new real estate economy".

However, by the end of 2006, a decline in house prices in the US triggered a housing bubble - a real estate crash (Graph 1) and many Americans saw their principal real estate devalue.

Graph 1 - Evolution of US housing prices - "real estate bubble"



Source: Own elaboration based on the Standard & Poor's Dow Jones Indices data for the evolution of the S & P / Case-Shiller price index (composed of 10 cities) in the period from June 2000 to December 2010.

The events that triggered the financial crisis began well before 2007.

In 2001, with the economy in recession (aggravated by the September 11th terrorist attacks), the Federal Reserve System (FED²), seeking to stimulate consumption and economic production through credit, began to reduce interest rates, thereby creating favorable conditions to real estate investment. For Zaki (2009), while the Fed's primary mission is to maintain price stability and the financial system, Alan Greenspan's policy has made the latter chronically unstable, favoring predatory practices in the credit industry and high-risk investment strategies, based on the use of financial leverage³.

In the same view, Amaral (2009) points out that Greenspan's laxist monetary policies at the FED helped the speculative bubbles that contributed to the crisis.

In fact, what happened was that, with low interest rates, demand for real estate grew, attracting buyers and inducing the demand for loans by many high-risk clients, with low-income, jobless or un-patronized customers, and sometimes with history of non-compliance with the financial system (the subprime customers).

With the expansion of real estate, banks began to develop frantically new financial techniques (financial innovation), namely securitization of mortgage loans or securitization of assets that served as a form of financing. As Bessis (2010) points out, securitization was the main source of financing for banks, and not just a way of saving capital. In practice, the model consisted of the creation of credits that were later securitized (model originate and distribute).

¹ Mortgage or subprime mortgage. Brasseul (2014), in a comparison of the financial crisis of world economic history, states that the recent financial crises have a new character, are more contagious (due to globalization) and more brutal. For example, the Asian crisis that broke out in Thailand in 1997 and extended to Russia led to a 20 percent fall in the GDP of the countries targeted and the subprime crisis that began in the United States in 2007, a global recession.

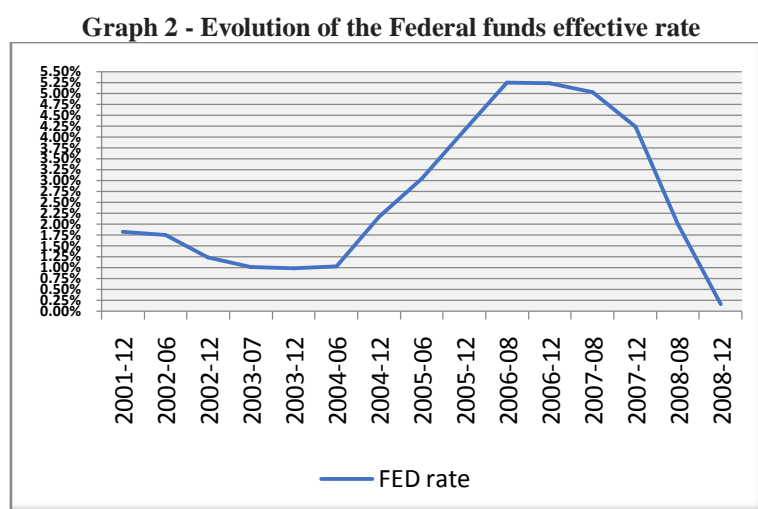
² US Federal Reserve (Central Bank) chaired by economist Alan Greenspan in the period from 1987 to 2006.

³ For Neves et al. (2010), the financial leverage can generally be defined as the change in the return on equity caused by indebtedness.

According to Amaral (2009), when they discovered securitization, they began to sell these assets to others and thus to distribute the risks to others. No longer did the originator keep the risks in his wallet, but rather distributed them ("originate-to-distribute business model").

For Toporowski in (Amaral et al., 2010) the transformation of these loans into by-products made banks' balance sheets opaque: so no one knows the true scale of any bank's financial responsibilities.

Reflecting the strong expansion of real estate credit, there was an increase in money supply, with more money available for investment, which led to an exacerbated growth of the US economy, but also more money available to buy goods and speculate, thereby increasing inflation concerns. With the clear objective of controlling inflation, the FED began to exercise greater monetary discipline and the main problem arose when it decided to increase the interest rate, which rose rapidly from 1.0% in July 2003 to 5.25% in August 2006 (Graph 2).



Source: Own elaboration based on data collected from the Board of Governors of the Federal Reserve System in Economic Research & Data / Historical Data / Federal funds effective rate in the period between December 2001 and December 2008.

With the sharp rise in interest rates in a short period of time, debtor households, whose incomes did not keep up with home loans, were unable to repay loans. This has led to a series of defaults, leading to a sharp increase in bad credit for financial institutions. The increase in risk associated with customers has led some investors, especially foreign investors, to leave the market, causing a credit crunch.

Meanwhile, real estate fell sharply and house prices fell, causing a decline in the value of securitized loans in the middle of 2007 and the lack of guarantees from its creditors. The securitized lending industry had broken down.

As Carvalho (2009) points out, with the fall in the price of houses, with stagnant incomes and rising interest rates, the crisis broke out.

The subprime crisis could not be considered a real surprise, because the weaknesses of the business model, which depended largely on real estate prices, had been known for several years.

On September 15, 2008, the bankruptcy of Lehman Brothers Holdings Inc., which at the time occupied the fourth position in US investment banking. This episode is considered the mark of the crisis, and the biggest since 1929 (big bankruptcy).

The crisis began in the United States, but since unstable mortgage-backed products had been sold around the world, we were already in a global financial crisis. For Epstein, in (Amaral et al., 2010).

1.2 Consequences

It is noted that the global financial crisis broke out within the US financial system through the subprime mortgage phenomenon, which turned into a crisis of confidence on a global scale.

This crisis, which began in 2006 as a result of the sharp increase in the interest rate and the general fall in the price of real estate, led in mid-2007 to the rescue⁴ of the first entities dedicated to the granting of high-risk mortgage credit. However, the crisis worsened, culminating in september 2008 with a US government decision not to rescue Lehman Brothers investment bank.

The "Too Big To Fail" concept collapsed, and mistrust and fear turned to panic. Financial agents came to realize that bankruptcy was a real possibility and the question became - who will be the next victim? As the main consequences of this financial crisis at global level, the following factors can be advocated:

- the collapse of several entities in the financial system:

The list of bankruptcies and nationalizations hit several international financial institutions, which seemed initially confined to American soil, such as Fannie Mae, Freddie Mac, Lehman Brothers, Bear Sterns,

Washington Mutual, CitiGroup, American International Group (AIG), among others. However, they also started to reach Europe, banks such as Bradford & Bingley, Northern Rock both from the UK, Belgian-Dutch Fortis, and Hypo from Germany needing state intervention to escape bankruptcy.

- the huge turbulence in the financial markets:

The very serious crisis of the so-called subprime crisis has provoked a serious problem of confidence in the financial system (Amaral, 2009). This mistrust has led to bottlenecks in the interbank money markets, as the credit market has been "frozen," given the banks' lack of confidence in lending money to each other. And if on the one hand, the stock markets had persistent declines, explainable by the link between the different financial markets, evidenced the effect of contagion. On the other hand, the strong devaluation of the banks in the capital markets exposed there liquidity imbalances, which they were not prepared.

- the recession of the world economy:

The main economies began to decelerate in their economic growth, which led to a great recession in 2009, marked by significant decreases in growth rates in the Euro Zone and the US, followed by a period of stagnation.

- the greatest tightening in the regulation of the financial system:

The impact of the crisis has triggered the need to promote regulation in order to strengthen and improve the transparency of financial instruments and to implement measures to address liquidity risk and systemic risk.

1.3 Chronology of Major Events

In summary, the chronology of the main events of the global financial crisis, divided into three distinct phases by the regions of the world (Table 1), is presented:

- (i) the first phase - 'before the crisis', for the periods 2001 to 2005;
- (ii) second phase - "during the crisis", for the periods 2006-2008;
- (iii) third phase - "after crisis", for the periods 2009 to 2012.

⁴ Or rescue, from the translation of "bailout" in Anglo-Saxon terminology. For Epstein in (Amaral et al., 2010) it is a one-off financial support action to save a company from bankruptcy, insolvency or total liquidation and ruin.

In the case of the US bankruptcies of some financial entities were circumvented through the financial rescue fund created by the FED.

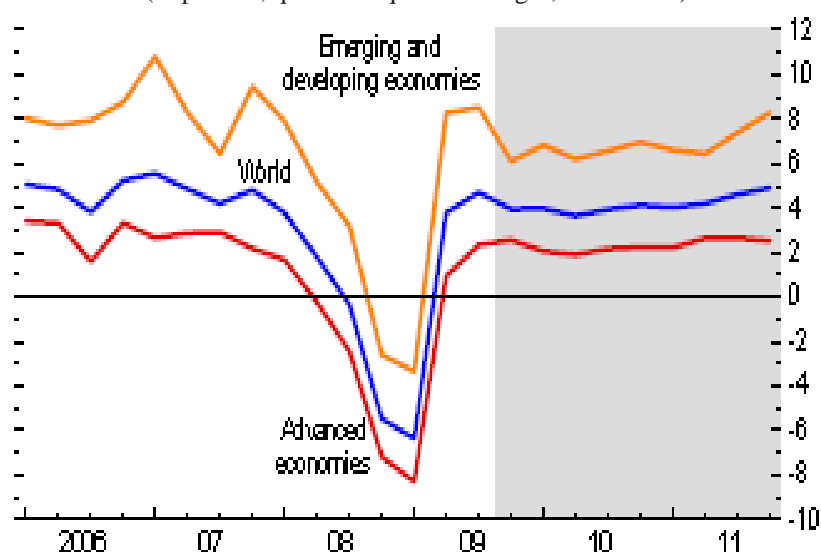
Table 1 - Chronology of major events

	Region	Year	Event
Before Crisis	USA	2001	Economy in recession compounded by the september 11 th .
		2002	Stimulating the economy through the reduction of interest rates by the FED.
		2003	Beginning of the real estate "boom" through the construction and purchase of houses.
		2004	Investors, cheap and easy credit, securitization of credit and mortgages.
		2005	Higher demand than real estate offers a sharp increase in prices.
During the Crisis	USA	2006	Rising interest rates by the FED creates a "bubble" real estate.
	USA / Europe	2007	In august, the subprime crisis erupted - default increased, liquidity declined and financial markets became suspicious of the global financial crisis; banks are redeemed.
	World	2008	The bankruptcy of Lehman Brothers comes to a close in september, followed by other entities that provoke the contagion effect - globalization of the economy.
After Crisis	World	2009	Country governments bail out several banks and insurers.
		2010	The financial crisis passes to the real economy - the sovereign crisis arises.
		2011	Some countries need the external assistance provided by the IMF.
		2012	Following the sovereign (economic) crisis comes a social crisis (people).

Source: Own elaboration.

For Loser (2009, apud Probohudono et al., 2013), the financial crisis of 2007 to 2009 represents the most serious slowdown that the world economy has experienced since the Great Depression. For the IMF (IMF, 2009), mid-2006 did trigger the beginning of the crisis, however, 2007 is considered the real year of the global financial crisis and 2008 is undoubtedly the worst year of the crisis. The year of 2009 is marked as the beginning year of recovery from the crisis (Graph 3).

Graph 3 - Growth of the Gross Domestic Product
(in percent, quarter to quarter changes, annualized).



Source: IMF - International Monetary Fund, staff estimates, january 26, 2010.

II. BANKING RISKS

Risk is an element that exists in all activities of our life.

Solomon et al. (2000), encompass all risk types (financial and non-financial) faced by firms and consider that risk can be understood as uncertainty as to the amount of results associated with both earning potential and exposure to loss.

The banking activity, by its specific nature, implies the exposure of the institution to several types of risks. For Peleias et al. (2007) taking risks is at the heart of the activities of a financial institution.

In the banking context, risk is considered to be the probability of loss (Alcarva, 2011), that is, risk may be anything that impacts on the institution's capital value, which may arise from expected events or not.

Thus, there are several types of risks that confront the banking business, as shown in Table 2.

Table 2 - Types of risks in banking

	Types of Risks	Subcategory	Description
Financial Risk	Credit	Default	Risk of an asset or loan becoming all or part irrecoverable in the event of default.
		Concentration	
		Collateral	
	Market	Interest rate	Risk associated with financial instruments transacted in own markets and/or for transactions in markets with low liquidity.
		Exchange rate	
		Commodities	
		Trading	
		Real estate	
	Liquidity	Mismatches	Lack of liquidity to meet commitments.
		Concentration	
Non Financial Risk	Operational	Fraud/Errors/Processes	Risk associated with inadequate processes, people and information systems failures.
		Information technologies	
		Safety/Environment	
	Strategy	Decisions/Business	Changes in the market.
	Reputation	Public image	Negative image perception.
	Compliance	Rules/Legal	Breach of regulations.
Other Risks	Country	Political upheavals	Risk of default of a state.
	Pension Fund	Devaluation of the fund	Contributions not foreseen.
	Solvency	Capital	Inability to cover business losses.
	Contagion	Asset	Contamination of financial sector agents.
	Systemic	Financial shock	Propagate the entire financial sector.

Source: Own elaboration.

The various types of financial, non-financial and other risks inherent in banking activity are the main obstacles in the management of financial institutions, and their identification, control and mitigation are essential tasks for the continuity and growth of the banking business. Thus, financial institutions must carry out an efficient and balanced management of the risks associated with their activity.

The type of bank risks can be distinguished according to their nature as follows:

Financial risk: when the risk is directly related to the monetary assets and liabilities of the institution;

Non-financial risk: when the risk arises from external circumstances (social, political or economic phenomena) or internal (human resources, technologies, procedures and others) to the institution;

Other risks: specific risk whose negative impact results in a strong imbalance for the entire financial system, whether at a country or worldwide.

As noted above, banks are subject to many risks that go beyond financial risk. However, the focus of this paper is on the approach to financial risks of banks, which was largely stimulated by industry regulators who defined the basic principles and rules to be applied to financial institutions. In this article particular importance is given to the financial, credit, market and liquidity risks.

a. Credit Risk

Pinho et al. (2011) point out that loans are one of the oldest financial activities, with the credit risk associated with the loss due to non-payment (or breach of contract) by the counterparty. The definition used by the author is consistent with the definition provided by Alcarva (2011), which corresponds to the risk that the counterparty in the financing will default on its obligation at a specific date.

Still in the same line of thought, but taking into account the credit risk assessment, Caiado (1998) states that borrowers may not pay credit and interest rates, and it is therefore imperative to evaluate, with much prior to the granting of the loan, the conditions which must be laid down, including the provision of real or personal guarantees, and the sending of information on their situation and activity.

For Bessis (2010) credit risk is the most important risk in the banking sector, and it meets the definitions of the previous authors, defining as the counterparty's risk of defaulting on the payment of its obligation. It also states that credit risk is divided into several risk components, of which the following are the most significant:

Default risk⁵: is the risk of the borrower not complying with the debt service of a loan resulting from a default event, over a certain period of time. The author cites as examples, the delay in payment; the restructuring of an operation and the bankruptcy or liquidation of the debtor, which may result in a total or partial loss of the amount lent to the counterparty;

Concentration risk: possibility of losses due to the concentration of large loans to a small number of borrowers and / or risk groups, or in few sectors of activity;

Collateral impairment risk: it does not result in an immediate loss, but rather in the probability of a default event occurring due to the decrease in the quality of the collateral offered, caused by a devaluation of the collateral in the market, or by the disappearance of the assets by the borrower.

The concepts used by these authors confirm the definitions disseminated by the international entities of banking regulation and accounting standardization. In this context, the Basel Committee on Banking Supervision - CSBB views credit risk as the possibility that the bank or counterparty borrower may not meet its obligations in accordance with the agreed terms (CSBB, 2000). The International Financial Reporting Standard - IFRS 7 - Financial Instruments: Disclosure of Information (IFRS 7, 2005) defines the risk that a participant of a financial instrument will not fulfill an obligation, thereby loss to the other participant.

Credit risk is considered the main risk underlying banking activity, and its management consists in the execution of strategies to maximize results against the exposure of the risks assumed in the credit operations granted, always respecting the regulatory requirements of supervisors.

b. Market Risk

There is a diversity of market risk concepts by various authors. For Caiado et al. (2008) in the development of their activity, institutions are subject to market risks, both in the balance sheet and in off-balance sheet positions. For this author, market risk consists of the possibility of losses arising from adverse market conditions, such as changes in interest rates, exchange rates, stock market prices and commodities.

Ameer (2009) and Othman and Ameer (2009) (apud Alves et al., 2013) identify market risk as the risk of loss resulting from adverse changes in market rates and prices, such as interest rates, exchange rates, commodity prices, or stock quotes. In this way, it can be said that market risk derives from potential losses on trading book or investments, due to changes in the economic and financial conditions of the market. In the approach to investment portfolios, Neves and Quelhas (2013) state that in the composition of a portfolio, this risk can not be completely eliminated through diversification, since market risk affects behavior of all the securities and, as well, of all the portfolios.

⁵ Each financial institution adopts its own concept of default event, and is usually related to the delay in payment of the obligation for periods of up to 90 days.

In turn, IFRS 7 (IASB, IFRS 7, 2005) defines market risk as the risk that the fair value or future cash flow of a financial instrument will fluctuate due to changes in three types of risk, namely:

Exchange risk: the risk that the fair value or future cash flow of a financial instrument will fluctuate due to changes in exchange rates;

Interest rate risk: the risk that the fair value or future cash flow of a financial instrument will fluctuate due to changes in interest rates in the market;

Other price risks: the risk that the fair value or future cash flow of a financial instrument will fluctuate due to changes in market prices (other than interest rate risk or currency risks) whether caused by factors specific to the individual instrument or its issuer, or by factors affecting all similar instruments traded in the market (we may associate with commodity risk, bond prices, and real estate risk⁶).

This definition is consistent with that used by the CSBB (CSBB, 1998), which refers to the risk of loss of positions on and off the balance sheet resulting from movements in market prices, which may include interest rate risks, exchange rates, commodities and trading book.

c. Liquidity Risk

Managing an adequate level of liquidity is one of the central concerns of financial institutions. One of the critical aspects of the banking business is precisely the process of turning short-term funds into medium- and long-term funds. An adequate liquidity management represents the capacity of the institutions to continue to finance their credit activity and to meet the maturity of their responsibilities. Or, in a broader sense, it can be said that liquidity risk is the result of the mismatch between banks' assets and liabilities maturity patterns (Alcarva, 2011).

In the same agreement, Bessis (2010) reports that liquidity risk results from the decompensation of size and maturity between assets and liabilities.

Pinho et al. (2011), emphasize that the concept of liquidity can be used in different contexts. It can be used to describe financial instruments and their markets. A liquid market is composed of liquid assets, where normal transactions can be easily executed. And it can also be used in the sense of solvency of a company.

One of the important lessons to be learned from the events of the recent financial crisis that emerged in mid-2007 in the US with the subprime crisis was evidence of the fragility of the global financial system in its exposure to liquidity risk.

In this context, Martins et al. (2012) report that at a time when large financial institutions are facing insolvency, one can see the effort expended by several banks to maintain adequate levels of liquidity, which were demanded by the central banks of their countries, to support the operations of these banks and, above all, the financial system as a whole.

Thus, the global financial crisis has warned of the importance of liquidity risk in financial institutions and at the same time the need to regulate it. Accordingly, the Basle Committee, in order to complement the document issued in 2008 (CSBB, 2008)⁷, presented the document designated by Basel III in 2010 - Principles for Sound Liquidity Risk Management and Supervision: The International Framework for Liquidity Risk Measurement, Standards and Monitoring (CSBB, 2010), which sets out the new international regulatory framework for liquidity, introducing quantitative standards for liquidity financing through the definition of two new indicators that allow responding in the short and long term to liquidity breaks.

In turn, IFRS 7 (IASB, IFRS 7, 2005) defines liquidity risk as the risk that an entity will encounter difficulties in meeting commitments associated with financial instruments.

d. Non-Financial Risks and Other Risks

The following is a brief description of what is meant by each of the other types of risks (non-financial risks and other risks) that financial institutions are subject to, but it should be noted that in the banking sector all these risks are related to the probability of negative impacts:

Operational Risk: resulting from failures in the analysis, processing operations, internal and external fraud and the existence of insufficient or inadequate human resources (BdP - Bank of Portugal: Notice n° 5/2008, Art. 11°).

⁶ Risk associated with processes for the recovery of real estate projects through the sale.

⁷ In which it defines liquidity risk in two ways, namely:

- Liquidity risk of funds: it is the entity's risk that it will not be able to efficiently cope with anticipated and unforeseen cash flows, present and future, as well as affect the guarantees resulting from its payment obligations, without affecting its management daily or financial situation;
- Market liquidity risk: the risk that an entity can not easily offset or eliminate a position at market prices because of insufficient market distortion.

Strategy Risk: arising from inadequate strategic decisions, deficient implementation of decisions or inability to respond to changes in the environment or changes in the institution's business environment (BdP: Notice n° 5/2008, Art. 11).

Risk of Reputation: arising from a negative perception of the public image of the institution, whether or not substantiated by customers, suppliers, financial analysts, employees, investors, press agencies or public opinion in general (BdP: Notice n° 5/2008, Article 11).

Risk of Compliance: arising from breaches or non-compliance with laws, regulations, contracts, codes of conduct, established practices or ethical principles (BdP: Notice n° 5/2008, Art. 11).

Country or Sovereign Risk: it is associated with specific changes or disturbances of a political, economic or financial nature in the places where counterparties operate that prevent full compliance with the contract. It is also used to classify the counterparty risk involved in loans to state entities, given the similarity between the methods of analysis of country risk and counterparty risk of a state (sovereign risk), (BPI - Portuguese Investment Bank, 2012).

Risk of the Pension Fund: it results from the potential devaluation of defined benefit Pension Fund assets or from the decrease of the respective expected returns, which imply the realization of unanticipated contributions (MBCP - Millennium Banco Comercial Português, 2012).

Risk of Solvency or Capital: the possibility of non-survival of the institution, due to the inability to cover, with available capital, the losses generated by other risks (CSBB, 2012).

Risk of Contagion: verifiable effect when a problem of a bank occurs to other banks, resulting from the nature of the financial system that promotes inter-correlation between banks (IMF - International Monetary Fund, 2007).

Systemic risk: results from disruption of the financial system that may have serious negative consequences on the internal market and the real economy (ESRB⁸, 2010: Article 2).

III. EMBLEMATIC CASES OF FINANCIAL RISKS IN THE BANKING SECTOR

During the history of banking activity, several events of financial risks that are not mentioned in the literature, occurred with financial institutions (Table 3). The reasons and reasons for its registration result from several factors, such as poor regulation and supervision; inadequate management of risks and failures in internal controls; and lack of ethics and failures of corporate governance models.

Table 3 - List of examples of financial risks in the banking sector

	Region	Year	Bank
Credit Risk	United States of America (USA)	2008	Lehman Brothers - Bankruptcy of the fourth largest investment bank, with an asset valued at 640 billion USD (United States Dollar). The end of this bank, with more than 150 years of history, would be dictated by the colossal losses resulting from the exposure to the subprime mortgage loan. For analysts, the bank was "Too-Big-To-Fail." It marked the biggest bankruptcy in US history.
Market Risk	United Kingdom (UK)	1995	Barings Bank - Bankruptcy of the UK's most traditional investment bank (Queen's Bank), with more than 200 years of history, which was caused by a single trader of the institution and which resulted from transactions in the Japanese derivatives market options and futures contracts). However, an earthquake in Japan's Kobe city led to a drop in the Asian market indexes and, for a period of one month, the bank lost USD1.2 billion in its trading positions. The bank would be bought by the Dutch bank (ING Bank) for the symbolic value of one pound.

⁸ European Systemic Risk Board - is part of the European System of Financial Supervision (ESFS), being the body responsible for macro-prudential supervision of the EU financial system - in the Member States and financial sectors.

Liquidity Risk	Cyprus (CY)	2013	Laiki Bank - Settlement of the country's second largest bank, with more than 100 years of history, as a result of the inability to reimburse state expenses in international markets. This generated a behavior of the customers through the run to the bank runs, aggravating its liquidity. The bank eventually had to be rescued by the Eurogroup, the International Monetary Fund (IMF), the European Central Bank (ECB) and the European Commission (EC).
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Source: Own elaboration.

IV. CONCLUSION

The recent global financial crisis has uncovered the huge regulatory and supervisory failures of the banking sector, inadequate risk management policies pursued by some financial institutions. As described throughout this article, the origin and development of the crisis resulted from multiple factors that must be understood, among which we highlight: i) the low interest rates that provided favorable credit situations (cheap and easy credit); ii) the excess liquidity in the market has had an effect on the real estate market, raising the prices of residential houses (real estate speculation); iii) the taking of risks by the banks in the classification of credits granted (the subprime clients); iv) the innovations of the financial markets that served as a form of bank financing (securitization of mortgage credits or securitization of assets); v) the sharp rise in interest rates in a short period of time led to credit default and the widespread fall in real estate prices; and vi) the stagnation of the US economy. As a consequence of the combination of these factors, the financial crisis broke out in mid-2007 within the US financial system, implying the rescue of the first entities dedicated to the granting of high-risk mortgage credit. In september 2008, the bankruptcy of Lehman Brothers (Too Big To Fail) followed and other entities causing global contagion (globalization of the economy). Regulators and supervisors are launching an extensive package of measures to improve and enhance market transparency and financial system risks, as well as financial aid from the world's economies to avoid further weakening of the financial system. However, there is an enormous turbulence in the financial markets caused by the loss of confidence in the mechanisms of the financial system, and the world economy enters the period of deep recession (sovereign crisis), which has materialized in the world's biggest financial crisis since the Great Depression (1929).

And these should be the main lessons we need to understand and learn ten years after the first financial crisis of the 21st century to avoid a catastrophic similar event.

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