

CENTRAL BANK OF CHILE AS LENDER OF LAST RESORT

Proposal for the Conditions of the Emergency Loan

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ABSTRACT

By contrasting the four pillars of Bagehot's classical theory of the Lender of Last Resort with the Basic Constitutional Act of the Central Bank of Chile (CB), the conditions of the loan are proposed. The emergency loan should have penalty rate that avoids the moral hazard of taking the risk of becoming illiquid and having the CB as a Lender of Last Resort. It is also proposed that this penalty rate could be determined by the application of the law 18.010, or by the application of a penalty tax with a fixed rate of 25.5% or 27% or with a progressive penalty rate. In both cases, the paid tax cannot be deducted as a credit against other taxes. A third alternative is presented: apply the same interest rate of the IMF. Finally, private banks cannot transfer the charged interest to the creditors. Regarding the good collateral, the proposal is to require a long-term security classified by a credit rating agency with AAA, AA o A. This is because they represent the higher capacity to pay the guaranteed capital and interested and are less affected, deteriorated or delayed for possible changes in the issuer, the industry to it belongs or the economy. Finally, an amendment to article 36.1 of the Basic Constitutional Act of the Central Bank of Chile is presented.

Keywords: *Financial stability – lender of last resort – Central Bank*

RESUMEN

Al contrastar los 4 pilares de la teoría clásica de Bagehot sobre el préstamo de última instancia con la Ley Orgánica Constitucional del Banco Central de Chile (CB), se proponen las condiciones del préstamo. El préstamo de emergencia debe tener tasa-sanción para que se evite el riesgo moral de tomar el riesgo de perder liquidez y tener el CB como un prestamista de última instancia. También se propone que este tipo de sanción podría ser determinado por la aplicación de la ley 18.010, o por la aplicación de un impuesto de multa con una tasa fija del 22,5% o con una tasa de penalidad progresiva. En ambos casos, el impuesto pagado no puede ser deducido como crédito contra otros impuestos. Se presenta una tercera alternativa: aplicar el mismo tipo de interés del FMI. Finalmente, los bancos privados no pueden transferir el interés que se cobra a los acreedores. En cuanto a la garantía, la propuesta es exigir títulos a largo plazo clasificados por una agencia de calificación crediticia como AAA, AA o A, ya que representan la más alta capacidad de pago del capital e interés y son menos afectados, deteriorados o menos afectados por posibles cambios en el emisor o la industria a que pertenece o en la economía en general. Finalmente, se presenta la propuesta de modificación del artículo 36 inciso primero de la Ley Orgánica Constitucional de Banco Central.

Palabras claves: *Estabilidad financiera – prestamista de última instancia – Banco Central*

1. INTRODUCTION

This research paper proposes the conditions that the Central Bank of Chile (CB) should require to private banks when granting an emergency loan in the exercise of the attribute of Lender of Last Resort (LoLR). Article 36 of the Basic Constitutional Act of the Central Bank of Chile will be analysed in detail. The article expresses that to safeguard the stability of the financial system, the Bank is entitled to grant loans to banks and finance companies in case of emergency for a period not exceeding 90 days when they present problems stemming from a temporary lack of liquidity.

This regulation mentioned above establishes the institution of the Lender of Last Resort in the Chilean jurisdiction. However, given the fact that the statute is broadly open, complex and with no specification in detail, it can undermine the performance of the CB in case of financial instability like bank runs or other major events.

That is why, in absence of specific regulations that determine the unique conditions of the loan, a detailed proposal will be presented of how to avoid possible loopholes in case a new financial crisis arises.

The structure of this paper is divided into three chapters. The first chapter analyses financial stability and liquidity in financial markets to understand the relationship between them and financial crisis; that is, how the former may cause the latter. Then, the Global Financial Crisis (GFC) of 2008 and the role of CB in financial stability will be briefly addressed. The essay will address that one of the CB role is to oversee the stability of financial markets by exercising the attribution of the Lender of Last Resort. This attribution will be explained in detail (from Bagehot's classic theory and its four pillars), in order to demonstrate how the Federal Reserve and the Bank of England were forced to deviate from the traditional approach to avoid further consequences of the 2008 GFC.

The first chapter is designed to have a comprehensive understanding of the impact of financial crisis in developed financial markets like the US and the UK, and to explain how the absence of pre-established rules for the LoLR forced regulators to depart from Bagehot's principles.

The second chapter of this paper addresses, on the basis of international experience, how different financial crises, like the ones in 1982, 1998 and 2008, have affected and had an impact on the regulations of the LoLR in Chile. It will be then explained the regulation of financial stability in Chile through different pieces of legislation.

By contrasting the four pillars of the classic theory with the Basic Constitutional Act of the Central Bank of Chile, the conditions of the loan are proposed: there is no doubt that the emergency loan is applicable only to an illiquid, but solvent, bank. Furthermore, the emergency

loan should have a penalty rate that avoids the moral hazard of taking the risk of becoming illiquid and having the CB as a LoLR. It is also proposed that this penalty rate could be determined by the application of the law 18.010, or by the application of a penalty tax with a fixed rate or with a progressive penalty rate that will be determined by the amount of the loan. In both cases, the paid tax cannot be deducted as a credit against other taxes. A third alternative is presented: apply the same interest rate of the IMF. Finally, it is proposed that private banks cannot transfer charged interest to the creditors.

Concerning the sound collateral that private banks should present as guarantee, the proposal is to require a long-term security classified by a credit rating agency with AAA, AA or A. This because they represent the higher capacity to pay the guaranteed capital and interests and are less affected, deteriorated or delayed for possible changes in the issuer.

Finally, the third chapter provides a new statute for the LoLR by an amendment to article 36.1 of the Basic Constitutional Law of the Central Bank of Chile.

2. CHAPTER I

2.1. Financial Stability

Before explaining the lender of last resort as an attribute of CB in times of economic instability, it is necessary to develop the concept of financial stability and its importance. At the same time, the idea of liquidity should be explained as well.

According to professor Douglas Arner, financial stability is the primary target for preventing financial crises and reducing the severe risks of financial problems that do occur from time to time.¹

Furthermore, Shinasi points out that financial stability means more than the absence of crises.² He explains that a financial system can be considered stable if it complies with the following characteristics: (1) facilitates the efficient allocation of economic resources, (2) assesses prices, allocates and manages financial risks; and (3) maintains its ability to perform these essential functions even when faced with external shocks or a build-up of imbalances. In consequence, the lack of those conditions might lead to a financial crisis.³

Benjamin Geva has explained that there is financial stability where there is monetary stability and employment levels are close to the economy's natural rate. Also when there is confidence in the operation of the central financial institutions and markets in the economy, and where there

¹ ARNER, 2007, p. 72.

² SHINASI, 2003, p. 4.

³ SHINASI, 2005, p. 2.

are no relative price movements of either real or financial asset.⁴

Finally, Dr. Rosa M. Lastra has described financial stability as a broad and discretionary concept that refers to the safety and soundness of the financial system and the stability of the payment and settlement systems.⁵

From what has been explained, the idea of financial stability can be understood as a developing concept that in one hand reflects lack of instability. On the other, recognises different elements, such as adequate capital and liquidity, competent and honest management, internal controls, early warning systems, transparency, and accountability.⁶ This reflects the idea of a robust and stable system.

In consequence, financial stability is therefore both the absence of financial crisis and the regular operation of financial intermediaries and markets.⁷

Historical experience has demonstrated that banking regulation through government has not been natural. On the contrary, it has been a reaction to crisis through the years.⁸ For example, in United Kingdom (UK), the 1987 Banking Act came as a response to the Johnson Matthey Bankers failure. In United States of America (USA), the creation of the Federal Deposit Insurance Corporation in 1933 was a reaction to the great depression financial crisis. Likewise, the extension of the Federal Reserve (FED) faculties as a LoLR was also a consequence of the great depression. The Glass-Steagall Act of 1933 and the Dodd-Frank Act (and the Volcker Rule) of 2010 were also a response to financial crisis. The Basel Accords of 1988, 2006 and 2010 and the creation of the G-20, the Financial Stability Forum (FSF) and later Financial Stability Board (FSB) were also organised responses to a financial crisis.

Financial instability triggers discussions that aim to reform domestic, regional and international financial architectures.⁹ Financial stability has always been recognised as one of the objectives of financial regulation. Andenas has identified the maintenance of systemic stability as a public good that financial regulation can provide.¹⁰ Public goods can be defined as those that are enjoyed by the whole society, but the provision of which is often subject to a collective action problem, and so the state is ultimately looked to supply it.¹¹

Lastra has said that the protection of this confidence is often seen as a role of the government

⁴ GEVA, 2013, p. 404.

⁵ LASTRA, 2006, p. 92.

⁶ LASTRA, 2006, p. 93.

⁷ ARNER, 2010, p. 17.

⁸ LASTRA, 1996, 92.

⁹ ARNER, 2009, p. 91.

¹⁰ ANDENAS, 2013, p. 342.

¹¹ ANDENAS, 2013, p. 342.

through the specific purposes of the banking regulation.¹² Financial stability is one of the main attributions of the CB around the world, as it will be further developed. Nevertheless, it's worth to explain that in the USA the stability function is delegated into the FED and especially to the Office of Financial Stability Policies and Research. In the UK to the Bank of England (BoE) and particular the Financial Policy Committee, in the European Union (EU) to the European Central Bank (ECB) and in Chile to the Central Bank (CBoCH) and recently to the Financial Stability Council (FSC).

As it will be further explained, financial stability is extremely connected to liquidity, that is, the availability of currency of the different agents in the financial system. The connection is that illiquidity of financial institutions can create financial instability and that CB should design and address measures to enhance financial stability.

2.2. Liquidity

Professor Paul Tucker has explained that CB provides liquidity insurance to the banking system, which at the same time provides liquidity coverage to the rest of the economy.¹³ In consequence, CB are financial re-insurers. Likewise, their money comprises notes held by the public and demand deposit balances held by banks as reserves. CB creates these funds in exercise of their monopoly power of note-issuing. In other words, CB provides the availability of currency for the financial system. In that sense, the potential for a damaging bank run is inherent to the fractional reserve banking system because banks only hold cash accounting for a portion of all creditors deposits; therefore, if everyone demands their money at once only a fraction can be paid to the bank's creditors.

Liquidity problems in recent financial crisis demonstrated to be a fundamental instrument for the stability of markets. Perry Mehrling has recognised that liquidity is a global public good. His research confirmed that illiquidity issues couldn't be considered isolated from between different countries.¹⁴

According to Corbo, in time of crisis the first measure of CB is to ensure financial stability by offering extensive liquidity support against good collateral at a penalty rate.¹⁵ As it will be explained this is the traditional theory of CB as LoLR.

¹² LASTRA, 1996 92.

¹³ TUCKER, 2014, p 12.

¹⁴ MEHRLING, 2012, p. 108.

¹⁵ CORBO, 2008, p. 28.

2. 3. The relationship between financial stability and liquidity. The Global Financial Crisis of 2008.

A lot has been written about the GFC of 2008. However, to better understand the relationship between financial stability and liquidity the effects of the crisis will be briefly explained.

Arner concluded that because of the crisis effects, the US, EU and other governments were forced to intervene dramatically to prevent the systemic financial crisis from becoming a systemic financial collapse.¹⁶ One of those interventions was through massive liquidity infusions, capital injections, guarantees and asset purchases.

As an example, in the US, Bear Stearns, one of the largest investments banks, faced severe liquidity problems in 2008, forcing the Federal Reserve Bank of New York to provide emergency funding through J.P. Morgan. The same year, American International Group (AIG), the world's largest insurance company, announced that it required a loan from the Federal Reserve to survive. Both financial institutions had liquidity problems and needed the assistance of the FED to avoid their collapse.¹⁷

It is important to have in mind that from late 2007 until early 2009, CB extended USD 4 trillion in the main currencies in liquidity support to banks and non-banks around the world to individual institutions and markets, and in domestic and foreign currency.¹⁸

Basically, during the GFC the FED and other major CB acted to increase liquidity dramatically in order to slow the collapsing of the financial system, in addition to the bolstering of traditional short-term liquidity mechanisms.

As conclusion, it can be said that illiquidity of banks or financial institutions can create instability in any financial market. The proof was the last financial crisis. Nevertheless, not only illiquidity can cause financial instability. Insolvency, bank runs, loss of confidence, lack of banking supervision and risk management issues can also affect the stability of domestic and global markets.

However, the central issue of this paper is to analyse the LoLR attribute of the Chilean CB in case of financial instability created by illiquidity.

So far, it has been explained how liquidity and financial stability are interconnected. Illiquidity can cause financial instability, and that weakness was demonstrated by the reaction of two major CB. In the next title, the importance of CB as stability insurers will be developed.

¹⁶ ARNER, 2009, p. 91.

¹⁷ ARNER, 2009, p. 91.

¹⁸ DOMANSKI/MOESSNER/NELSON, 2014, p. 1.

2. 4. Central Banks

Professor Lastra has explained that CB usually has the power and monopoly of note-issue and also has as a primary function the Monetary Policy of the country. Furthermore, historically CB has played the role of the banker's bank and has exercised banking supervision and regulation. Finally, it has the power to control interest rates and exchange controls.¹⁹ In other words, it has the power to promote and maintain financial stability.

Furthermore, CB doesn't seek profits, and they do not suffer financial constraints like private banks. In practical terms, and following Caruana, this means that most CB could lose enough money to drive their equity negative and continue to function completely successfully.²⁰ They still promote and maintain financial stability.

Steven Schwarcz re-enforces this idea when he expresses that market liquidity provider should be a governmental entity. He explains that this market-liquidity-provider function may need to be performed domestically in the U.S. and other countries, as well as on an international level.²¹

Jaime Caruana explains that CB customers are captive.²² Most counterparties of the CB do not voluntarily engage with it on negotiated terms; they are imposed by the CB. This because the CB liabilities are the means of payment within the CB's jurisdiction, legally and by social convention.²³

In case of the US, according to the Federal Reserve Act, the FED's duties are directed towards conducting the monetary policy, supervising and regulating banking institutions to ensure the safety and soundness of the nation's banking and financial system, to maintain the stability of the financial system and to contain systemic risk.²⁴ In other words, the FED oversees the stability of the financial system.

In the UK, the Financial Services Act of 2012 made the BoE responsible for financial stability and also created a macro-prudential authority, the Financial Policy Committee (FPC), within the Bank of England.²⁵

Like in the US legislation, the UK BoE also has to guide the financial stability of the markets by regulating the provision of currency. The BoE also oversees the liquidity of the financial

¹⁹ LASTRA, 1996, p. 92.

²⁰ CARUANA, 2013, p. 1.

²¹ SCHWARCZ, 2009, p. 351.

²² CARUANA, 2013, p. 1.

²³ CARUANA, 2013, p. 1.

²⁴ *Federal Reserve Act, 1913.*

²⁵ *Financial Services Act, 2012.*

institution via loans, credits and interest rates.

In the Chilean case, the CB is responsible for issuing banknotes and coins, regulating the amount of money in circulation and credit, and regulating the financial system and the capital market.

²⁶Like in the US and UK, the Chilean CB is also in charge of the stability of the financial system and regulates liquidity of banks as well.

Even though CB has different powers regarding the oversight of financial systems, financial stability is one of the most important issues related to the CB's powers in financial systems as different as the US, UK and Chile. This attribute of the CB on guiding the stability of the financial system becomes more important in times of crisis.

2. 5. The attributions of Central Banks in the stability of finances.

As it was explained, one of the primary responsibilities of CB is to guide the financial stability. In times of financial crisis, the figure of CB as an economic stabiliser plays a fundamental role in the crisis resolution.

In the US, the FED has the power to maintain the stability of the financial system and to contain systemic risk that may arise in financial markets.²⁷ As an example, in March 2008, the FED bailed out the investment bank Bear Stearns under the authority of the Federal Reserve Act. This action was taken to avoid Bear Stearns's failure, which could have created systemic risk and thereby imposed external costs on the larger financial markets.²⁸

In the UK, the conduction of the stability of the financial system is allocated in the BoE. ²⁹During the 2008 GFC two UK banks, Northern Rock and Bradford & Bingley, were nationalised and a significant recapitalisation programme was introduced, which led to the government having substantial ownership stakes in Royal Bank Of Scotland, Lloyds TSB and Halifax Bank of Scotland (HBOS).³⁰

The CB of Chile is regulated in the Basic Constitutional Law of the Central Bank (BCLoCB), according to which the CB has the legal mandate to look after the stability of the currency and the proper functioning of internal and external payment systems.³¹

²⁶ *Basic Constitutional Act of the Central Bank of Chile, 1989.*

²⁷ *Federal Reserve Act, 1913.*

²⁸ HASMALL, 2010, p. 831.

²⁹ *Financial Services Act, 2012.*

³⁰ CAMPBELL/LASTRA, 2009, p. 455.

³¹ *Basic Constitutional Act of the Central Bank of Chile, 1989.*

During the GFC of 2008, the FED and the BoE worked as a LoLR to restore the stability in the financial markets. In both cases, CB was forced to provide liquidity to private banks with the central purpose of avoiding the failure of them and the collapse of the whole system.

2. 6. Lender of last resort.

According to Dr. Rosa M. Lastra, there are two types of crisis where the emergency provision of liquidity assistance could be critical. One is the general liquidity dry up that will lead to a widespread and generalised questioning of the liquidity of different sorts of financial institutions. The second refers to collateralised loans to an illiquid but solvent banking sector.³² This one is considered to be the classic case of LoLR assistance.

There have been four schools of thought that have explained the LoLR. First, the free banking school purposes to abolish the CB as a state LoLR. Second, the Richmond Fed view, according to which lending is only possible through open market operations to the market as a whole. Third, lend to anybody, solvent or insolvent. Finally, the classic theory of Bagehot: lend freely to solvent but illiquid firms against good collateral at a high rate of interest.³³ This final theory will be further developed because is the one who has significant recognition among the scholars. However, as a way of highlighting the importance and virtue of the classical theory, the Free Banking and the Richmond Fed ideas will be briefly explained.

Lastra summarises Bagehot's classic theory of four pillars.³⁴ First, the CB should prevent illiquid but solvent banks to fail. Second, the CB should lend freely, but with a penalty rate. Third, the CB should accommodate anyone with good collateral, valued at pre-crisis prices. And fourth, the CB should make its readiness to lend freely clear in advance.

Also, she recognises two principles: first, the CB LoLR is discretionary and not mandatory. Second, the CB should assess not just the illiquidity or possible insolvency, but also has to oversight if the failure of an institution can trigger the contagion of failure to other financial institutions in the financial system. This is the best reflect on how CB oversight financial stability of markets. According to the four pillars, Lastra has further developed the significance of them.

³⁵

Theorists related to the Free Banking and Richmond Fed positions had departed from Bagehot's explanations. On the one hand, they have explained that by abolishing central banks and with money being issued by competing for private firms, it would leave free banks better to manage

³² CAMPBELL/LASTRA, 2009, p. 455.

³³ TUCKER, 2014, p 12.

³⁴ LASTRA, 1996, p. 92.

³⁵ CAMPBELL/LASTRA, 2009, p. 455.

themselves prudently.³⁶ However, even when this alternative sounds both prudent and rational, the truth is that the provision of liquidity insurance for the banking sector contains social costs of bank distress. In that sense, a private sector mechanism cannot be relied upon to do that. In this, LOLR insurance differs from most other types of insurance, where the costs are private. In other words, this approach pretends a self-regulation by the same private banks that are currently facing problems of liquidity. Therefore, even when theoretically it may seem logical, the reality is that it appears to be extremely complicated to provide a conventional structure of liquidity provision to different banks and financial institutions, mainly because of their diverse interests.

On the other hand, the Richmond Fed theory understands that liquidity insurance should be provided only via open market operations (OMOs), accommodating “velocity” shocks to the demand for central bank money.³⁷ Considering these proposals, it is not difficult to find its main flaw; bilateral assistance is regarded as questionable because it compresses support for *particular* firms and also takes the monetary authority into distributional issues, which is the proper preserve of the fiscal authority and not of private parties.

Finally, the common ground of the previous theories implies the rejection of the most important attribution of CB, that is, to act as a market and finance stabilizer. A consequence of neglecting this attribution questions the one characteristic by which CB’s are recognized worldwide: their independence.

2.6.1 Illiquid but solvent banks

Financial assistance should be made available to banks that are illiquid but solvent to face a crisis that could lead to the failure the market. That means that CB efforts and resources should be directed towards banks that have a current problem of liquidity. The main aim of the LoLR is not to avoid a collapse of any institution, but to prevent such a failure from setting off a domino effect across the whole system.³⁸

Tarullo has explained that liquidity vulnerabilities are inherent to most forms of financial intermediation. Furthermore, illiquidity is produced when an unusual number of depositors want to withdraw their funds, but the bank may not have sufficient cash on hand to meet those demands. If depositors other than those initially seeking to withdraw funds hear that the bank may have difficulty meeting the request, they may be motivated to join the withdrawal line

³⁶ TUCKER, 2014, p 16

³⁷ TUCKER, 2014, p 18

³⁸ OGANESYAN, 2013, p. 3.

before the bank runs out of cash entirely or, even worse, becomes insolvent.³⁹

2.6.2 Loans with penalty rate

Second, the CB should lend freely, and as much as the bank needs, with the sole limitation of charging a penalty rate as a sanction. In Bagehot's classic theory, the financial institution in question would be solvent but illiquid; that is, its assets are more valuable than its liabilities, but it is unable to raise funds to meet short-term obligations.⁴⁰

Humphrey expresses that the rate should be high enough to discourage its unnecessary use and to deter an overcautious hoarding of scarce cash.⁴¹ Furthermore, he explains that for classic authors, especially Thornton, injections of base money to protect the broad money stock from contraction were the essence of LoLR operations.⁴² This point will be further discussed when the analysis of interest rate in the Chilean system is proposed.

2.6.3 Good Collateral

The third pillar is that the CB should accommodate anyone who can provide good collateral in an *ex-ante* exercise, that is, in a pre-panic scenario. By accepting good insurance from any source whatsoever, the LoLR avoids favouritism and the channelling of aid to privileged borrowers.⁴³ This pillar will also be detailed developed when the definition and characteristics of good collateral in the Chilean financial system are analysed.

2.6.4 Discretionary Assistance

Finally, the CB should publicly inform in advance that, even though it will be ready to lend, it will also exercise discretion to assist. This means that even when CB has the power to inject liquidity into the financial system, it is not obligated by law or by statute.

By lending freely, CB could avoid financial crisis and the associated fire sales of assets and disruptions to economic activity. But by lending at a penalty rate to solvent institutions against good collateral, CB's may avoid taking unnecessary risks and reduced moral hazard.⁴⁴ Reducing moral hazard implies that illiquid banks will not be encouraged by other banks to take excessive risks with the expectation that the LoLR will rescue them if their risks turn sour.⁴⁵

³⁹ TARULLO, 2014, p. 2.

⁴⁰ DOMANSKI/MOESSNER/NELSON, 2014, p. 1.

⁴¹ HUMPHREY, 2013, p. 8.

⁴² HUMPHREY, 2013, p. 8.

⁴³ HUMPHREY, 2013, p. 8.

⁴⁴ HUMPHREY, 2013, p. 8.

⁴⁵ HUMPHREY, 2013, p. 8.

In consequence, banks will assume the risk of becoming illiquid because CB would rescue them. However, the purpose of the high penalty rates in LoLR is not to encourage banks to take on those risk; the goal of the institution is to achieve financial stability.

Another way to limit moral hazard is via constructive ambiguity. That is, by maintaining uncertainty about whether emergency loans will be provided by CB. Constructive ambiguity leaves a large degree of discretion in the hands of decision-makers, giving rise to time-consistency problems.⁴⁶

2.7. Lender of last resort pre-2008 Global Financial Crisis. The theory

As it was explained, the theory of the LoLR is based on the assumption that financial crisis arises. As a result, banks cannot secure funding during crisis. Furthermore, the theory suggests that CB can address this market failure by providing funding to banks, thereby alleviating the credit crunch and preventing inefficient liquidations.⁴⁷

Previous to the 2008 GFC, and summarising Bagehot standard theory, CB should be guided by four main principles: a) lend freely and to the public, b) at a penalty rate, c) to any actors with good collateral and d) who are illiquid but solvent.⁴⁸ However as it will be explained in the 2008 GFC, the FED adhered to some classical principles, while it departed from others.⁴⁹ Likewise, the BoE took decisions beyond the application of the classical theory.⁵⁰

2.8. Lender of last resort in the 2008 Global Financial Crisis. The Practice.

This section will address the different treatment that the FED in US and the BoE in UK gave to loans regarding lenders of last resorts as CB and how they departed from the classical theory.

2.8.1 The FED

It should be said that The FED took an extraordinary and radical approach to the GFC, and when traditional monetary policy responses were insufficient, the FED turned to unconventional monetary policy tools.⁵¹ However, this attitude towards rapid solution mechanism to avoid the collapse of the financial system has to be considered as a departure from the classic theory. The FED took a radical approach to the global financial crisis, and when

⁴⁶ DOMANSKI/MOESSNER/NELSON, 2014, p. 1.

⁴⁷ DRECHSLER/DRECHSLER/MARQUEZ-IBANEZ, 2013, p. 1.

⁴⁸ OGANESYAN, 2013, p. 3.

⁴⁹ HUMPHREY, 2013, p. 8.

⁵⁰ OGANESYAN, 2013, p. 3.

⁵¹ OGANESYAN, 2013, p. 3.

traditional monetary policy responses were ineffective and insufficient, the FED turned to unconventional monetary policy tools in exercising and extending its function of LoLR.⁵²

The FED administration, during the 2008 GFC, took a wider application of Bagehot standard theory. Instead of providing cash to banks, the FED introduced at unblocking seised-up credit markets, lowering credit risk spreads, and getting banks to lend to each other on the interbank market again.⁵³

In the second term, the FED departed from the classical model came when it violated Bagehot's advice to advance only on sound security and, instead, accepted questionable, hard-to-value collateral. Instead, borrower banks were asked to provide what was categorised as toxic collateral. As examples, the FED bought nonperforming-mortgage-backed securities.⁵⁴

Third, the FED deviated from Bagehot's instruction to charge penalty interest rates. Instead, for example, it accommodated AIG and other borrowers at below-market or subsidy rates.⁵⁵ Finally, the FED failed to specify and announce a consistent LoLR in advance of all future crises.⁵⁶

2.8.2 Bank of England

The case of the BoE was, in the beginning, different from the US. However, it was ineffective in alleviating the crisis, since it only performed maturity transformation of long-maturity liquid assets into overnight liquidity.⁵⁷ In response to the ineffectiveness and the bailout of Northern Rock Bank, the BoE initiated the one-off Special Liquidity Scheme in April 2008. Unlike the traditional LoLR liquidity support, it operated as a collateral swap facility and did not involve loans of CB reserves.⁵⁸ The BoE response could be characterized as conservative, as well as highly influenced by the aim to discourage excessive risk-taking and prevent reiteration of a similar crisis in the future.⁵⁹

2.8.3. What did they have in common?

Both CB deviates from the traditional doctrine. Despite the technicalities of the schemes used by the CB, it can be concluded that they initially used the conventional monetary policy tools that were generally in line with Bagehot's criteria; but, the complexity and possibility of rapid

⁵² OGANESYAN, 2013, p. 7.

⁵³ HUMPHREY, 2013, p. 8.

⁵⁴ HUMPHREY, 2010, p. 355.

⁵⁵ HUMPHREY, 2013, p. 8.

⁵⁶ HUMPHREY, 2013, p. 8.

⁵⁷ OGANESYAN, 2013, p. 3.

⁵⁸ OGANESYAN, 2013, p. 3.

⁵⁹ OGANESYAN, 2013, p. 17.

contagion to other financial agents in the market, lead them to use increasingly more innovative tools as the crisis proceeded. The classic theory was used as base to develop the institution further and adapt it to the danger of the crisis.

The application of the article 13.3 of the Federal Reserve Act by the FED in 2008 is a major demonstration on how CB`s had to adapt to the financial crisis complexities. In summary, by that application, the FED was able to provide a wider range of facilities to market participants.⁶⁰

In the case of the UK, the BoE began to provide large-scale liquidity to the market as a whole against broad collateral through some innovative but *ad hoc* operations, including extended long-term repos against sufficient collateral and the Special Liquidity Scheme.⁶¹

The classic theory of the LoLR in its pure application has demonstrated to be ineffective and insufficient. The urgency of the task arises from the experience of the 2008 GFC, during which CB`s intervened in dramatically new ways and to a considerably greater degree than ever before. CB had invented new tools on the fly because the familiar old tools were not working.⁶²

The following chart represents the similarities and differences between the responses from the FED and the BoE.⁶³

Responses	Fed	BOE
Penalty rates	No	Yes
Collateral policy	Relaxed	Strict
Lending freely to the whole market	Yes	Yes
Lending to illiquid but solvent firms	Yes	Yes
Lowering interest rates	Vigorous	Moderate
Accepting a wider range of collateral	Yes	Yes

Finally, it is important to analyse what happened to those banks that were not rescued by The FED or the BoE. For example, in the US the FED decided not to step in to save Lehmann Brothers to demonstrate to the public that not every bank and finance institutions could be saved.⁶⁴ The US decision not to intervene Lehmann was a strong demonstration that the belief that the government would save those financial institutions which were too big to fail was not entirely the truth. Nevertheless, there is no doubt it was a questionable decision that remains controversial.

⁶⁰ LASTRA, 2011, p. 4.

⁶¹ HAUSER, 2014, p. 82.

⁶² MEHRLING, 2012, p. 108.

⁶³ OGANESYAN, 2013, p. 26

⁶⁴ UNIVERSITY OF LIVERPOOL, 2009, p. 3.

Regarding the BoE, the approach was different from the US FED. After the bailout of Northern Rock, the BoE attitude changed regarding liquidity support for particular institutions. The Bank's attention was directed towards preventing failure of systemically important institutions. It aimed to do so without creating incentives for imprudent liquidity management and moral hazard.⁶⁵ In other words, the Bank was creating a scheme to protect itself from other finance institutions failure.

2.9. A New Approach

The review of CB's attributions during the 2008 GFC highlighted certain principles that appear likely to characterise the design of the mechanisms through which emergency loan assistance would be provided in the future if needed.⁶⁶

Finally, some conclusions regarding the application of the LoLR in the GFC will lead the application of this extraordinary institution in wider terms. As Domansky has explained, the LoLR was in many instances riskier than normal lending. However, this should not be a surprise because the LoLR is an extraordinary institution. Also by taking on risk and by widening the range of institutions that received LoLR beyond CB's traditional counterparties, the lending risked increasing moral hazard.⁶⁷

3. CHAPTER II

3.1. Previous explanation

As it was previously explained in Chapter I, the LoLR is an institution that has as a primary purpose: to contribute to the financial stability of markets. It was also detailed that it is one of the most important attributes of CB around the world. Likewise, the main characteristics of the LoLR were also explained.

We also developed the idea that in the 2008 GFC CB were unable to apply the classic theory in a purist way. In that sense, market and crisis finance conditions forced them to take further measures to achieve financial stability by instruments and operations that were not conceived as part of the institution in a traditional sense. Furthermore, examples of both the FED and the BoE were appointed as a way to demonstrate the adaptability of the facility to control market crisis.

There are three fundamental reasons why a proposal of regulation of the conditions of the Chilean CB loans as a LoLR will be developed according to Bagehot standard theory. First, according to the history of the Law 18.840, the Legislative Commission recognised the LoLR as

⁶⁵ OGANESYAN, 2013, p. 18.

⁶⁶ DOMANSKI/MOESSNER/NELSON, 2014, p. 1.

⁶⁷ DOMANSKI/MOESSNER/NELSON, 2014, p. 1.

an attribution of CB's across comprehensive legislation. In that sense, it is important to understand the discussion in the Legislative Commission on this fundamental issue. According to Mr. Alcalde, the attribution is related to the general idea that a Central Bank can grant loans of last resort. By this conception, most of the central banks have the power to issue these outstanding loans.⁶⁸ Furthermore, Mr. De la Cuadra expressed that these emergency loans are institutionalised at a time when there were problems with some financial institutions that were not able to obtain interbank loans, so they only had to resort to funds from the Central Bank.⁶⁹ Following the previous explanation, Mr. Fontaine said that regarding the different comments made by the Commission, it is evident to consider that the attribution is of the essence of a central bank.⁷⁰ Finally, Mr. De la Cuadra argued that, in effect, Central Banks could be called as lender of last resort.⁷¹

From the previous explanation, it is clear that the Legislative Commission for the discussion of the Basic Constitutional Law of the Central Bank (Law 18.840) understood the importance of recognising the attribution of LoLR to the CB. The history of the law reflects, without any doubt, that the Commission intended to establish the bank's prerogative expressly.

The second reason is related to the policies of the CB of Chile during 2007 as they protected the country from major financial crisis. The third reason is a consequence of the second; Chile didn't suffer the financial crisis like the US and the UK, so the institution in its ideal state can be designed and perfected to avoid a new financial crisis. In that sense, the four pillars can be preventively improved and designed.

However, the purpose of this research paper is not to explain or further develop the characteristics of the Chilean financial system before and after the GFC. Nevertheless, it will briefly address the strength of the Chilean financial market as consequence of previous policies from the CB in the wake of the GFC. This strength is the starting point from which the proposal for amendment will be addressed.

3.2. Chile's Financial Stability in the 2008 Global Financial Crisis

Central Bank policies during the previous years to the crisis helped Chile to build a robust financial system. While the financial system remained resilient to the significant shocks experienced in September 2008, the Chilean authorities took several measures to minimise domestic disruptions and preserve stable conditions in the national financial system.⁷²

⁶⁸ NATIONAL CONGRESS OF CHILE, HISTORY OF LAW 18.840, 1989, p. 323.

⁶⁹ NATIONAL CONGRESS OF CHILE, HISTORY OF LAW 18.840, 1989, p. 323.

⁷⁰ NATIONAL CONGRESS OF CHILE, HISTORY OF LAW 18.840, 1989, p. 324.

⁷¹ NATIONAL CONGRESS OF CHILE, HISTORY OF LAW 18.840, 1989, p. 326.

⁷² CHAN-LAU, 2010, p. 3.

Furthermore, the development of the banking system over the past few decades and even during the 2008 GFC has played a significant role in Chile's macroeconomic performance. Likewise, the macro-financial stability that has characterised the economy during this period has reinforced the presence of banks as a source of financing. On the other hand, exposure to credit, liquidity and market risks has remained limited, and more recently banking regulation has moved gradually towards a modern approach to risk assessment, in line with Basel II.⁷³ Finally, regarding Basel III compliance, most of the industry already satisfies the requirements that are supposed to be in place by 2019.⁷⁴

De Gregorio explained the development of Chilean fiscal policy before the crisis. He highlighted that the effects of the GFC were very substantial, but the resilience of the Chilean economy and the effectiveness of its macroeconomic policies were even stronger.⁷⁵ In that sense, the resilience of the national financial systems during the GFC owes much to the fact that financial stability was already an important piece of the Chilean monetary and financial policy framework.⁷⁶

Finally, even though the financial system has remained resilient to the significant shocks experienced since September 2008, the Chilean authorities took several measures to minimise domestic disruptions and preserve stable conditions in the national financial system.⁷⁷

3.3. The impact of Global Financial Crisis in Chile

As it was explained financial crisis are not an exception in Chile. In the last three decades, at least three financial crises have affected Chilean economy and markets. The third and final financial crisis was already detailed. To illustrate the performance of the CB as LoLR, they will be summarised.

3.3.1 The crisis of the 1980s

Chile was characterised by having a deep but poorly regulated financial system, but was not until the banking crisis of 1982-83 that some major financial reforms were introduced, building a sound financial regulatory framework that has remained at the core of the Chilean banking system up until now.⁷⁸

For a long time, the debate about the CB functions and organisation had been limited to its

⁷³ BETANCOURT/DE GREGORIO/JARA, 2005, p. 163.

⁷⁴ DE GREGORIO, 2012, p. 3.

⁷⁵ DE GREGORIO, 2012, p. 3.

⁷⁶ DE GREGORIO, 2012, p. 3.

⁷⁷ CHAN-LAU, 2010, p. 3.

⁷⁸ BETANCOURT/DE GREGORIO/JARA, 2005, p. 163.

relationship with the government. The 1980 Constitution explicitly provided for its independence. However, these provisions did not take effect until the passing of the Central Bank Law of 1989. Also, before this crisis, the CB role as a LoLR was somehow limited due to the fix exchange rate system instead of lending freely with penalty rates to illiquid but solvent banks.⁷⁹

As an example and according to Barandarián, in December 1982 the government opted for pressing banks to cap their interest rates on 30-days deposits to a level slightly higher than that of the CB's liquidity facility. In practice, this compliance became a condition to have access to the CB's liquidity facility.⁸⁰ In other words, to have access to an emergency loan.

Nevertheless, in this crisis, the CB of Chile attempted to inject liquidity to illiquid banks as a lender of last resort even though it did not have that attribute according to the CB governing law. It was only with the amendment to the CB's Law in 1989 that the institution of the LoLR was officially incorporated in the Chilean financial system.

3.3.2 The Asian Crisis in the 1990s

At the end of the 1990s, Chile faced a one-year downturn. Its domestic economy underwent a minor recession, and its growth faltered briefly.

In early 1999, Chile's private sector experienced a crisis of expectations triggered by the adverse impact of the Asian crisis in its terms of trade and export volumes, sharp fluctuations in domestic interest rates, exchange rate pressures.⁸¹

Furthermore, Aninat explains that Chile pursued a countercyclical fiscal policy. In 1998, when aggregate demand was growing excessively, the government carried out three successive fiscal budget decreases, which together amounted 1% of GDP. Then in 1999, after a sharp drop in private expenditure, the government implemented prudent pro-employment policies. As he wrote, Chile carefully designed measures and a credible fiscal track record since 1990 that made possible for the authorities to draw from accumulated savings and stimulate the economy with a temporarily expansionary fiscal policy.⁸²

In the Asian Financial Crisis, the CB adopted a series of monetary policies destined to deal with financial instability. From that pack of measures there are five instrument to highlight: the adoption of a free-floating exchange rate regime; the deepening of the foreign exchange derivatives (forward) market; the implementation of a full-fledged inflation-targeting system;

⁷⁹ BARANDARIÁN/HERNÁNDEZ, 1999, p. 33.

⁸⁰ BARANDARIÁN/HERNÁNDEZ, 1999, p. 33.

⁸¹ ANINAT, 2007, p. 2.

⁸² ANINAT, 2007, p. 2.

the introduction of an explicit fiscal policy rule for the central government; and the full opening of the capital account.⁸³

The difference between the Asian Financial Crisis and the 1980s crisis is that in the second one the CB applied diverse types of monetary policies, but did not have to lend money to banks in the market. However, it should be explained that even when the CB acted as LoLR in the 80s crisis, the CB did not have legal attribution to do so, that it is why the next part will be addressed to explain the regulation of the LoLR in Chilean legislation. Finally, it will be presented a proposal for the conditions that the CB has to require when act as a LoLR.

3.4. Regulation in Chile

In Chile, there are four pieces of legislation that regulates financial stability, liquidity provisions and LoLR as an emergency loan. They are the General Banking Act, the Basic Constitutional Law of the Central Bank of Chile and finally law 20.789 that creates the Financial Stability Council. Also, law 18.010 will be explained.

3.4.1. The General Banking Act

The General Banking Act (GBA) establishes two important mechanisms regarding liquidity stability. First, it recognises a minimum percentage of adequate net worth for banks and second, it creates a State Guarantee for Deposits (SGD).

According to the article 66 of the GBA, the effective net worth of a bank shall not be less than 8 % of its assets weighted by risk, net from mandatory provisions. The necessary capital may not be less than 3 % of the total assets of the bank. This is the application of Basel III capital regulations form 2010.

Furthermore, the GBA expresses that a guarantee of the State is at this moment granted to the obligations arising from the time deposits and bonds, through savings accounts or registered or to the order documents, of their issue, of banks and financial companies. The said guarantee shall only benefit individuals and shall cover 90 % of the obligation's amount. Finally, no person shall be the beneficiary of this guarantee in one institution or all of the financial system for liabilities in excess to 120 *Unidades de Fomento* (Foment Unit) in each calendar year.

This is a measure that seeks to protect individuals who have deposited their money in financial institutions, ensuring that their money will be refunded if the bank has payment problems. However, this regulation has two significant limitations: it is applicable only to individuals and

⁸³ CÉSPEDES/ET AL, 2006, p. 149.

not to legal persons and has the 120 Foment Unit limit. This limitation is significant because it means that the CB would not assure banks.

The deposit insurance eliminates any individual depositor's incentive to run, thus eliminating the sunspot bank run equilibrium. If all goes well, the deposit insurer never has to pay for the balance.⁸⁴

If Chilean financial market is affected by a bank run, many banks will face liquidity problems, and they will probably not be able to pay their creditors. In that case, most banks might be forced to address the CB for an emergency loan. If the CB is required to loan money, under those circumstances, it will lend as a LoLR.

3.4.2. The Central Bank of Chile Legislation.

As it was previously explained, and according to its Basic Constitutional Act (BCA), the CB of Chile must safeguard the stability of the currency and the usual operation of internal and external payments. To carry out these tasks, the CB of Chile is vested with various legal powers. One of those powers is to extend emergency credit and determine regulations in matters affecting the financial system and international trade operations. In other words, the CB can provide liquidity to the financial market and act as a LoLR.

In one hand, according to article 4 of the BCA, the bank shall report the President of the Republic and the Senate about the policies and regulations of general applicability issued by the Bank in the performance of its duties.

This report is known as Monetary Policy Report (MPR) and in basic terms is a quarterly publication that focuses on the main factors influencing inflation trend, as well as a summary of the consequences of this analysis, on inflation prospects and risks over economic growth for the next eight quarters. Likewise, the MPR reports the interest rate of CB's loans into the financial market.

On the other, according to article 36 of the Basic Constitutional Act of the Central Bank of Chile, to safeguard the **stability of the financial system**, the Bank is entitled to **1. Grant loans to bank and finance companies in case of emergency for a period not exceeding 90 days, when they present problems stemming from a temporary lack of liquidity**. To renew these credits, an agreement of the Council by a majority of all its members, following a report by the Superintendency of Banks and Financial Institutions, will be required. The Bank may condition the granting of credits to compliance by the applicant with certain rules of financial management. In the situation described in this issue, the Bank may also acquire documents such

⁸⁴ GERTLER/KIYOTAKI, 2015, p. 2037.

entities in its portfolio of loans or investments.⁸⁵

This law is particular. Like it was previously explained, the governing legislation of the CB came into force in 1989 and even though it had various amendments, article 36 has never been modifying.

Nevertheless, section 36 establishes the rule of the CB as a LoLR in Chilean regulation. From its literal approach the characteristics of the LoLR are the following:

1. The Central Bank can grant loans
2. To banks and finance companies
3. In case of emergency when they present problems stemming from temporary lack of liquidity
4. For a period no longer than 90 days
5. The Bank may condition the granting of credits to compliance by the applicant with certain rules of financial management.

According to Bagehot's classic theory, the LoLR has four fundamental principles: a) the CB should prevent illiquid but solvent banks to fail, b) should lend freely, but at a penalty rate, c) should accommodate anyone with good collateral, valued at pre-crisis prices and d) should make it readiness to lend freely clear in advance.⁸⁶

Furthermore, it's necessary to remember that this attribution of the CB is fundamentally designed to provide assistance and avoid financial instability. Therefore, the conditions of the loan should not be established in open and comprehensive terms like the ones described in the law.

However, even though it's difficult to determine *ex-ante* the opportunity and the conditions of this of emergency loan, to establish clear rules to achieve financial stability a proposal will be presented.

3.4.3 Law 18.010 that Establishes Rules for Loans and Other Liabilities of Money that Indicates

The law states that, as for the determination of the current interest, the Bank Superintendency (BS) can establish the limits to the current interest by segments of credit considering the market's relevant aspects such as volume, current interest rates, usual interest rates of practical and substitute transactions and credit cards' revolving interest rates.

Furthermore, it incorporated a prohibition from setting an interest exceeding the product of the

⁸⁵ BASIC CONSTITUTIONAL ACT OF THE CENTRAL BANK OF CHILE, 1989.

⁸⁶ LASTRA, 1996, p. 27.

corresponding principal and the higher of: (a) 1.5 times the current interest rate in force at the date of the agreement, as determined by the BS for each kind of money loan transaction and (b) the current interest rate in effect at the time of the settlement increased in 2 annual percentage points, being either a fixed or variable rate. This interest limit will be the new Maximum Conventional Interest (MCI). Thus, this new regulation does not apply to CB loans. However, it will be considered when the conditions of the LoLR are proposed.

Also, article 5 of the law expresses that there is no limit on interest credit in transactions in which the CB of Chile makes with financial institutions. This implies that the CB has the faculty to charge interest rate that it determines. However, this attribution has to be exercised under the regulation of the CB and its Monetary Policies. This means that the CB cannot charge interests with no limits because; after all, one of the functions of the Bank is to oversight financial stability.⁸⁷

3.4.4. Latest Reforms

The Chilean Financial Stability Board (CFSB) began operating in October 2011 through an administrative regulation from the Ministry of Finance. The CFSB primary functions were to coordinate and propose measures for safeguarding the integrity and soundness of the financial system. Furthermore, in November 2014, Law 20.789, which creates the Financial Stability Council (CFSC), was passed. The CFSC will have significant new powers, including the authority to ask the participating supervisory authorities for specific information or studies for monitoring the stability of the financial system and making recommendations that contribute to financial stability. Finally, this new legislation also contains elements that should help to improve the monitoring and supervision of other financial conglomerates in Chile. However, this is insufficient.

3.5. Comparison between Article 36 and Bagehot's four Pillars.

A comparison between the traditional theory and the general clause contained in section 36 of the CB's law allows the analyses if Chilean legislation complies with the four pillars developed by Bagehot and further explained by Lastra.

3.5.1. Illiquid but solvent banks

Article 36 refers to loans in case of emergency when they present problems stemming from

⁸⁷ CENTRAL BANK OF CHILE, 2014, p. 38.

temporary lack of liquidity. The terms bank with lack of temporary liquidity and illiquid banks are synonyms; however, the law does not define what it should understand by temporary lack of liquidity; there is no specification regarding how much time, days, months, years a bank has to be illiquid to apply for a loan of last resort. Nevertheless, there it is widely recognised that CB can only lend money to illiquid and not insolvent banks.

3.5.2. Loans with penalty rate

The regulation expresses that CB may condition the granting of credits to compliance by the applicant with certain rules of financial management, but it does not specify what those conditions are. The rule also does not regulate the rate of interest that CB should charge to the borrower bank and neither detail if there is a penalty rate to charge. The issue is to analyse if the CB has to charge a higher interest rate than the rate applied to regular loans, and if so, to determine if it's a penalty rate. However, it's necessary to explain that some authors have recognised that the classical theory does not establish a penalty interest rate but only a high-interest rate.⁸⁸ Nevertheless, in this paper we will propose a penalty interest rate for the borrower bank.⁸⁹

3.5.2.1 Moral Hazard.

The primary purpose of a penalty rate is to avoid the moral hazard of taking the risk to become illiquid and having the CB as a LoLR. If the CB lends money with no penalty interest or even with no interest, it will encourage banks to assume risk of lending money without with no other safety than the CB.

If LoLR is provided to illiquid banks, it raises the possibility that the CB will support the losses of the bank. This situation may cause the reaction of other banks and financial institutions in the market that will assume that the CB will be available to support their losses by providing sufficient funds to avoid illiquidity. This situation is called **the moral hazard** and it means that banks will assume risks of being illiquid because they know that CB will rescue them providing liquidity. The LoLR needs to provide emergency assistance but at the same time discourage the use of it.

3.5.2.2. Interest rate

As it was previously explained, in Chile the CB and its Board of Governors define the Monetary

⁸⁸ GOODHART, 1999, p. 340.

⁸⁹ GOODHART, 1999, p. 352.

Policy (MP) in general and the Monetary Policy Rate (MPR). This means that the CB is the organism that determines the rate of interest on the loans that banks and financial institutions in the financial market borrow to it. According to the last MP meet the interest rate was fixed at 3,25%.⁹⁰

This element is fundamental to determine the conditions of the emergency loan, so it should be considered as the starting point. In that sense, the first condition of the LoLR loan is to think the MPR as the primary interest rate that CB should apply to the emergency loan.

3.5.2.3. Penalty rate

The second element of this first condition is to determine the penalty charged by the CB. As it was explained, law 18.010 allows the CB to apply any interest in credit operations with other financial institutions, but it establishes limits to determine current interest in credit operations. In this case, the proposal is to break the rule and apply the limit determination to the pre-determined interest rate fixed by the CB in its MPR.

This means applying to the interest rate of 3,25% (determined by the previous MPR) a penalty the higher of (a) 1.5 times the current interest rate in force at the date of the agreement, as determined by the BS for each kind of money loan transaction and (b) the current interest rate in effect at the time of the deal increased to 2 annual percentage points, being either a fixed or variable rate. The consequence is that the borrower bank not only will pay the ordinary interest rate, but will also be charged a penalty. The bank will be levied with the usual interest rate plus the MCI.

However, it is not arbitrary or discriminatory because it's the penalty that works as the limit that law 18.010 allows for credit operations. In other words, even though law 18.010 is not applied to the CB, the proposal is to implement the MCI only for determining the penalty associated with the emergency loan.

3.5.2.4. Penalty Tax. Chilean Tax System. Brief Description.

First, the Chilean Tax Income System recognises different taxes that affect a) business revenues or First Category Tax (FCT), b) salaries and remuneration or second Category Tax (SCT), c) other personal income Complementary Global Tax (CGT) and finally, d) earnings obtained from non-residents or the Additional Tax (AT).

From 2017 a new tax system will be applicable. According to law 20.780, from January 1, 2017,

⁹⁰ CENTRAL BANK OF CHILE, 2017, p. 1.

two-tax systems will co-exist.⁹¹

Secondly, the Chilean Tax System has established, since 2014, two different tax regimes. On the one hand, the Attributed Income system by which the FCT has a fixed tax rate of 25%, the CGT a variable tax rate between 0% to 35% and finally the AT with a flat rate of 35%. On the other hand, the Semi-integrated regime. Under this regime, the FCT has a fixed rate of 24% in 2016, a flat rate of 25,5% in 2017 and a fixed rate of 27% from 2018. Furthermore, the CGT a variable tax rate between 0% to 35% and finally the AT with a flat rate of 35%. The analysis of the differences between these two regimes exceeds the purpose of this paper. However, it is important to highlight that they are related to a) the structure of the taxpayers, whether they are corporations, limited liability partnership, individual entrepreneurs among others and b) as consequence of the previous, the tax creditable against CGT and AT.

The FCT is a tax applied in general to corporations and, as it was previously explained, depending on the regime, it has a fixed rate of 25% or a flat rate of 25.5% in 2017 or 27% in 2018. The AT, a tax applied to individuals or companies that don't have residence or domicile in Chile, also has a fixed rate of 35%. On the other hand, the SCT and the CGT are taxes applied to individuals like shareholders, have a progressive tax with rates ranging from 0% to 35%. It is important to bear in mind that according to the Chilean legislation it is mandatory for banks to be structured as corporations. In consequence, the Semi-integrated regime will be fully applicable to them. Finally, the tax statutes recognise a system of internal credits between the different taxes. The system of internal credits is different depending on the regimen. In the Attributed Income regimen, the 100% of the FCT is creditable against both CGT or AT, as the case may be. In the event of the Semi-Integrated regimen, only the 65% of the FCT is creditable against the CGT or the AT.

3.5.2.5. Tax rates

According to what was explained, another alternative to charging the penalty to the borrower bank is to apply a special tax to the operation. This penalty can be implemented in two different ways. First as a fixed tax rate that applies to the amount of the money borrowed. The second is to apply a tax with a progressive rate that depends on the borrowed amount.

3.5.2.5.1 Fixed Tax Rate

Under this alternative, the CB, through the *Servicio de Impuestos Internos* (Internal Tax Service,

⁹¹ TAX REFORM TO AMEND THE SYSTEM OF TAXATION OF INCOME AND INTRODUCES VARIOUS ADJUSTMENTS IN THE TAX SYSTEM, 2014.

ITS) will apply in 2017 the FCT with a fixed rate of 25% or 25.5% depending on the regime, to the borrowed money with independence of its amount. The fixed rate to be applied is the current tax rate applied to companies in Chile according to the *Ley de impuesto a la Renta* (Law on Income Tax, LoIT). However, in this case, the proposal is to apply this tax to the loan operation as a penalty.

For example, if the CB lends USD 100,000,000 to a private bank, the ITS will apply and collect FCT with a fixed rate of 25.5% of that amount, that is USD 25.500.000. These means that the bank will have to pay not only the loan but also the tax associated.

Furthermore, to establish stricter regulations to the borrower bank, it is also proposed that the FCT paid for the loan money cannot be applied as a credit against the CGT. This is a way to apply a sanction to the bank's shareholders.

3.5.2.5.2 Progressive Tax Rate

Another alternative is to apply a tax with a progressive rate. Likewise, the same limitations developed in the previous point will apply, that is, the paid tax cannot be deducted as credit for the CGT. The difference is that the tax rate will depend on the amount of money that the CB lends to the bank. This means that as larger the amount of money loaned by the CB higher will be the tax rate.

The proposed structure of progression is the structure of the CGT. The CGT structure means that there are different ranges of incomes (now loan) associated with various fields of tax rates, so for this alternative of penalty tax what is proposed is to replace the "income amount" for the "amount of borrowed money" to determine the applicable tax rate. This means that there will be different basis to which apply the tax rate. The difference with the CGT is that in this case, there is no segment extent of tax.

The specific tax rate should be discussed to avoid the moral hazard of borrowing money at a low penalty tax-rate interest. In this case, the bank will pay a tax that will depend on the amount of money borrowed and that tax cannot be used as a credit against the CGT.

In both cases, by the application of a penalty tax with fixed or progressive rate, the bank will have to pay not only the borrowed money to balance its liquidity, and therefore comply with its creditors but also will have to pay a tax as a penalty. The tax is applied to the operation of borrowing money. As it was explained, the paid tax cannot be deducted as a credit on the shareholder's taxes (CGT).

3.5.2.6. IMF Interest Rate

Finally, a third alternative for the CB is to charge the borrower bank with the same interest rate that the IMF applied to the CB when it borrowed money from them. This situation could be considered as an extreme one because it would mean that the CB had to borrow resources from the IMF and the stability of the Chilean financial system is compromised. Thus it should be analysed as an alternative to inject liquidity into an illiquid bank that is causing financial instability.

In this case, the CB doesn't have much leeway because it will have to replicate the interest policy applied by the IMF. In other words, the CB will transfer the interest charged by the IMF to the illiquid bank. This alternative has been named the greater danger because the IMF could impose substantial penalties and restrictions on the borrower country.⁹² However, in the absence of further regulation, it should be considered as an alternative to determining the interest penalty rate.

3.5.2.7. The private bank assumes the cost of the interest

As it was explained, the CB would apply interest rate to the operation. In this case, the proposal is that even if the interest rate is only determined by the MPR (no penalty or tax interest rate), the private bank would have a prohibition to transfer that interest to its creditors in further operations. The consequence is that private banks will assume the interest-cost of the operation. However, this should be considered the weakest alternative to the previously proposed.

3.5.3. Good collateral

In many countries, there is a legal requirement that CB emergency loans must be collateralised although what constitutes eligible collateral varies substantially. The rationale for collateralised loans is to avoid that CB becomes creditor of a failing bank.⁹³

Chile is not the exception even when the law establishes an extensive rule regarding the collateral that banks have to comply to guarantee their loans. The law expresses that *the Central Bank may condition the granting of credits to compliance by the applicant with certain rules of financial management*. Furthermore, the law does not define what is good collateral. The law neither develops when it should be accommodated; it just says that CB's would grant loans to anyone with a good one.

Freixas presents two observations related to the condition of good collateral. First, the possibility

⁹² GOODHART, 1999, p. 354.

⁹³ FREIXAS/PARIGI/ROCHET, 2004, p. 18.

of LoLR allows reaching the efficient allocation by increasing the illiquid bank's profit rate up to its efficiency level. Second, there is a trade-off between lending to illiquid banks at better terms, and discouraging insolvent banks from gambling for resurrection.⁹⁴ Furthermore, they have explained that the conditions on the size of collaterals play a significant role in establishing a LoLR.⁹⁵

What is important is to learn from the US and UK experience during the 2008 GFC and avoid that the CB requires toxic collaterals.⁹⁶ In that sense, a way to determine the quality of the collateral is to apply the credit risk classification established in the *Ley de Mercado de Valores 18.045* (Law on the Security Markets) and the *SVS Superintendencia de Valores y Seguros* (Securities and Insurance Commission, SIC) and consequently require good collateral in terms of that classification.

According to the article 88 of the LSM, the debt securities shall be classified considering: a) **solvency of the issuer** b) **the probability of default of principal debt and interests**, c) **the characteristics of the instrument** and d) **the information available for classification**.⁹⁷ Furthermore, the law expresses that the categories will be referred to the AAA, AA letters, A, BBB, BB, B, C, D, and E, in the case of securities long-term debt, and with the letters N-1, N-2, N-3, N-4 and N-5, in the case of bonds short term.⁹⁸ Regarding the law, Credit Rating Agencies (CRA) are the institutions in charge of making the risk credit classification.

The current illiquidity of the bank is caused because it's having problems to face short-term payments to its creditors. In consequence, the collateral cannot be associated with short-term securities. In that sense, the law establishes a classification for long-term debt instruments:

1. **AAA Category:** corresponds to those instruments that have the highest capacity to pay principal and interest on the agreed terms and deadlines, **which will not be affected significantly by possible changes in the issuer, in the industry which it belongs or the economy**.
2. **Category AA:** those who have a high ability to pay principal and interest on the agreed terms and deadlines, **which it would not be affected significantly** by possible changes in the issuer, in the industry to which it belongs or the economy.
3. **Category A:** have a good ability to pay off principal and interest under the terms and deadlines agreed, but **this is likely to deteriorate slightly** to possible changes in the issuer, in the industry to which it belongs or the economy.
4. **BBB Category:** can pay capital and interest on the agreed terms and deadlines, but **this it**

⁹⁴ FREIXAS/PARIGI/ROCHET, 2004, p. 19.

⁹⁵ FREIXAS/PARIGI/ROCHET, 2004, p. 18.

⁹⁶ HUMPHREY, 2013, p. 8.

⁹⁷ LEY DE MERCADO DE VALORES 18.045 (*Law on the Security Markets, LSM, 18.045*) 1981.

⁹⁸ LEY DE MERCADO DE VALORES 18.045 (*Law on the Security Markets, LSM, 18.045*) 1981.

- is liable to be weakened** by possible changes in the issuer, in the industry to which it belongs or economy.
5. **Category BB** can pay capital and interest on the agreed terms and deadlines, but this it is variable and **susceptible to potential impaired** changes in the issuer, in the industry to which it belongs or in the economy and **may delay** incurred payment of interest and principal.
 6. **Category B:** instruments which have the least ability to pay principal and interest on the agreed terms and deadlines, but this **is very variable and susceptible to damage** to possible changes in the issuer, in the industry to which it belongs or the economy, **may incur loss of interest and principal.**
 7. **Category C:** have a **capacity sufficient** for payment of principal and interest under the terms and deadlines agreed, and there is **high risk of capital loss and interests.**
 8. **Category D: do not have a capacity for paying** principal and interest under the terms and deadlines agreed, and having cash payment default payment of interest or principal, or request for bankruptcy in progress.
 9. **Category E:** is for those instruments whose issuer **does not have enough information or not representative information** for the minimum period required for rating, and it does not exist sufficient guarantees.

According to the categorization established LSM, the CB should need as good collaterals securities classified by CRA as AAA, AA or A because those subordinate instruments represents the higher capacity to pay the guaranteed capital and its interest and are less affected, deteriorated, weakened or delayed for a) possible changes in the issuer (the bank), b) the industry to it belongs (financial markets) or c) the economy (of the country, Chile).

According to the information available on the website of the SVS, the following Fixed Rate Securitized Bond (BS) rated by *Clasificadora de Riesgo Humphreys Limitada* may be considered as good collaterals:

ISSUER	RATING DATE	INSTRUMENT	RATING
SANTANDER S.A. SOCIEDAD SECURITIZADORA	29/07/2017	BS	AAA
SECURITIZADORA SECURITY S.A	14/06/2016	BS	AA
SECURITIZADORA SECURITY S.A	31/07/2017	BS	A

On the opposite, long-term debt categorised as B, C, D and E may be considered as toxic or

unsafety collaterals because they won't be able to comply with the main purpose of it, that is, to guarantee the emergency loan payment. These collateral are characterised by being a) very variable and susceptible to damage that can produce loss of capital and interest or b) having high risk of losing capital and interest or c) for have not the capacity of paying capital and interest or d) by not having enough information. Likewise, examples of toxic collateral according to *Fitch Chile Clasificadora de Riesgo Limitada* may be this Fixed Rate Securitized Bonds (BS):

ISSUER	RATING DATE	INSTRUMENT	RATING
SECURITIZADORA SECURITY S.A.	18/11/2016	B144	C
SECURITIZADORA SECURITY S.A.	18/11/2016	B144	C

3.5.4. Discretionary assistance

Finally, there is no doubt that CB can lend, but according to the law, it is not forced or compelled to do so. Thus it's understood that if a bank complies with all the requirements, the CB should grant the loan to balance financial instability. In consequence, this characteristic won't be further developed.

4. CHAPTER III: AMENDMENT PROPOSAL

This last part of the essay is of most importance because it will present a proposal for a new statute that details the conditions of the LoLR. In that sense, a particular amendment to article 36.1 of the Basic Constitutional Act of the Central Bank of Chile is presented:

“Article 36: 1. Grant loans to banks and finance companies in case of emergency for a period not exceeding 90 days, when they present problems stemming from a temporary lack of liquidity. To grant the loan, the Bank should ensure compliance with the following conditions:

1. Charge a penalty rate to avoid moral hazard
2. Require as good collaterals securities classified as: a) AAA by credit rating agencies because they have the highest capacity to pay principal and interest on the

agreed terms and deadlines, which it will not be affected significantly by possible changes in the issuer, in the industry to it belongs or the economy, b) AA, because they have a high ability to pay principal and interest on the agreed terms and deadlines, which it would not be affected significantly by possible changes in the issuer, in the industry to it belongs or the economy or c) A, because they have a good ability to pay off principal and interest under the terms and deadlines agreed, but this is likely to deteriorate slightly to possible changes in the issuer, in the industry it belongs or the economy

Before granting the emergency loan, the Bank should establish the penalty rate and good collaterals by agreement of the majority of all its Council's members, with a previous report by the Superintendency of Banks and Financial Institutions.

To renew these credits, approval of the Council by a majority of all its members, following a report by the Superintendency of Banks and Financial Institutions will also be required. The Bank may condition the granting of credits to compliance by the applicant with certain rules of financial management. In the situation described in this issue, the Bank may also acquire documents such entities in its portfolio of loans or investments

5. CONCLUSION

In the wake of a new financial crisis, the performance CB as a LoLR has to be regulated in detail. To understand the importance of the CB and the LoLR in financial stability a review of the 2008 GFC and the performance of two major CB was necessary. Through the acting of the FED and the BoE, it was demonstrated how the classic theory was pushed beyond the purist application. Likewise, otherwise, the consequences would have been catastrophic.

Unfortunately, Chilean legislation does not recognise that possibility, and, on the contrary, it has an extensive and open regulation with loopholes that can only undermine the acting of the CB in case of necessity. As it was explained, article 36 of the BCA of the CB establishes the institution of the LoLR. However, it is only a descriptive statute that doesn't specify the conditions of the emergency loan. In that recognition, the need for a detailed structure of the mentioned article is required. Furthermore, the CB cannot grant loans with no other conditions than those reflected in the law. In consequence, the proposal for a detailed and accurate regulation was developed in this research paper.

In concrete, the proposal is that the CB establishes certain *ex-ante* conditions for the grant of the emergency loan. Those conditions should at least be that the emergency loan must have an interest rate and that interest rate has to be considered as a penalty interest. The penalty interest

should be designed to avoid that banks assume the risk of becoming illiquid because the CB will rescue them in case of a financial crisis. This penalty rate has to seek for the avoidance of the moral hazard. The penalty rate is proposed in different alternatives. First by the application of the law 18.010 by breaking the general rule and apply the limit determination to the pre-determined interest rate fixed by the CB in the MPR. In the second term, a penalty tax is presented as a way to determine the penalty rate. In this case, there are four alternatives: a) a fixed tax rate of 25,5% in 2017 and a fixed rate of 27% from 2018, b) a progressive tax rate that will depend on the borrowed amount, c) to apply the same interest that the IMF and d) the private bank assume the cost of the loan's interest.

With the independence of which of the alternatives is applied, the CB will have the possibility to choose between penalty rate, a tax rate or the IMF rate. This alternative is a novelty in the Chilean jurisdiction because until now, there is no further regulation.

Regarding the requirement of a good collateral, the presented proposal is simple but secure. Because the private bank is having problems to face short-term payment to the creditors, the collateral should be a long-term security with good rating qualified by a CRA. Examples were presented in the way of AAA, AA, A, Fixed Rate Security Bonds. The reason is that they offer the higher capacity to pay the guaranteed capital and it's interesting and is less affected, deteriorated, weakened or delayed for possible changes in the bank, the financial markets or the country, Chile.

Finally, the purpose of this research paper was accomplished as a detailed proposal of the conditions of the emergency loan was presented. In that sense, if the global economy faces a new financial crisis and affects our national financial system, the structure of the emergency loan should be able to address bank illiquidity issues and economic instability properly.

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