

Banking regulation: an analysis of its dynamics in the light of the 10th anniversary of the Global Financial Crises¹

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Abstract: *This paper aims to analyze the dynamics of financial regulation – mainly banking regulation – on an international level. It takes the 10th year anniversary of the Global Financial Crises as an opportunity for this reflection. In order to do that, the first step is a conceptual analysis of banks, banking system, risks and regulation, pointing out that the swings on regulation have to be understood in a broader context, which takes in consideration the different stages of capitalism. Following that, the paper tries to assess the impacts of the GFC on banking regulation. That said, one can notice that regulation moves like a pendulum, swinging from a more pro-market framework to another in which the regulation imposes more barriers to the functioning of banks. Besides, the paper points out that, no matter from where you depart in terms of a more or less pro market regulation, competition among banks, and the need they have to innovate in order to survive in the market, will change regulation endogenously, taking to a more fragile environment.*

Keywords: *banks, banking system, banking risks, banking regulation, global financial crisis.*

JEL code: E42; E44; E58.

Introduction

The year 2008 was the pinnacle of a process of financial fragility. This movement showed clear signs of worsening, at the very least from the previous year and eventually transformed into a crisis with the collapse of Lehman Brothers on September 15th. A broad and deep contagion movement and exacerbation of uncertainty took place, leading to market shutdowns, sharp decreases of liquidity, a credit crunch and a collapse of asset prices. Despite originating in the developed economies, the so-called global financial crisis (GFC) impacted many economies around the world.

¹ The opinions, hypotheses and conclusions or recommendations expressed in this paper are the responsibility of the author (s) and do not necessarily reflect the vision of FAPESP

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Both the causes of the crisis and its consequences can be analyzed from various points of view - economic, political, cultural - since, albeit an economic phenomenon, it is related to other aspects of society. Far from being an exhausted area of study, the origins of the crisis, from an economic stance, have been widely analyzed. In addition, the GFC enlarged the role of authors at the margins of mainstream economics when analyzing the topic. The ideas of Hyman Minsky, an advocate of Keynesian economics, were of particular interest at that time. For some, September 15, 2008, was the “Minsky moment”. However, as pointed out by Wray (2009), Minsky’s theoretical innovation was not to highlight that financial crises take place, nor reveal what happens after they do. The actual cause of the crisis, debt deflation, had already been clarified in Irving Fisher’s classical contribution, at the beginning of the 1930s, when focusing his analysis on the crash of 1929. Minsky made an important contribution when stating that financial fragility, which enables a crisis to occur, is constructed endogenously, during the ascending phase of the cycle. Thus, despite the notoriety of the expression “A Minsky Moment”, the author’s approach could perhaps be better explained, according to Wray (2009), in the expression “Minsky’s half century”.

On the other hand, the effects of the global financial crisis are still evident, constituting new problems that must be analyzed. It cannot be denied that the impacts of the crisis were, and still are, felt in various aspects of society, as well as in different countries and regions. According to the 2018 World Economic Outlook (WEO), banking crises took place in 24 countries in 2007 and 2008, 18 of which were considered developed economies. In 2009, as a result of events in the previous year, 91 economies, which at that time represented two thirds of global GDP, suffered a fall in productivity (IMF, 2018a, p. 73). In approximately 85% of the 24 economies in which banking crises occurred, the economic growth, from its beginning until 2018, was negative, compared to pre-crisis (IMF, 2018, p. 74).

Important financial crises, due to their impacts on the economy and society, give rise to changes in financial regulation. In the Global Financial Stability Report (GFSR), published in October 2018, the International Monetary Fund (IMF) states that the GFC lead to a review of financial regulation on a global level. New rules, tools and methods were developed and implemented. But the issue is, according to the GFSR: is the world safer a decade after the global financial crisis? According to the report, the banking

system was stronger due to increased regulation, but other vulnerabilities emerged, and global financial stability has yet to be tested (IMFb, 2018).

The objective of this paper is to explore this debate and analyze the dynamics of such regulation. To do so, the following section (Section 2), based on a group of authors that departs from Keynes, presents a conceptual discussion on banks, the particularities of these institutions and the risks associated to how they function, as well as the need for and role of banking regulation. Specifically, the contribution of professor Fernando Cardim de Carvalho (2005, 2007, 2014, 2015) provides the foundation of the analysis. It should be highlighted that, contrary to what took place in previous crises, in the GFC, the payment systems, operated via the banking system, continued to function normally. On the other hand, the central role of the banks in the supply of credit was evident. The credit crunch was a notable aspect of the crisis, with damaging repercussions on GDP and asset prices. Since banks must sustain their assets with constant access to liquidity markets, given the fear of default, the liquid markets also crashed, forcing bank deleveraging, which in turn spread to the economy as a whole. Ultimately, the liquidity crisis was seen to intertwine with credit contraction, redirecting the debate towards which would be the most important risks resulting from a banking system crisis. Minsky's Hypothesis of Financial Instability (HFI) is also discussed in this section, as well as his reflection on longer-term institutional transformations. From the 1970s, Minsky (1990; 1993) identified a relatively more stable stage of capitalism than the previous one. Within this ample historical and institutional scene, another phenomenon develops: the rise of endogenous financial fragility, which could result in instability, or crisis.

The following section (Section 3) will discuss the Basel Accords. The objective is not to explain each of the measures, given that this is already widely discussed in the literature. Findings from previous studies are used to understand its evolution - primarily the progression from Basel I to Basel II, but also from Basel II to Basel III. We will highlight studies carried out by Carvalho (2005; 2014; 2015) that shed light on the phenomenon and present original arguments. In short, it can be confirmed that as a result of the Basel Accords, banks were compelled to maintain a sum of capital proportionate not only to the volume of assets but also to the amount of risk associated to them. While Basel I was relatively simple and of a prescriptive nature – since it was made up of a small number of categories of assets/risks – Basel II consisted of a complex structure that was similar to the regulation of agent behavior. Above all, Basel I aimed to level out the competitive

playing field of banking in a global context, and Basel II focused on the issue of financial stability. The implementation of the second Accord, however, was “interrupted” by the 2008 financial crises, which led to the implementation of Basel III in response. The third Accord was based on Basel II, but with more and better capital to deal with risk-weighted assets. New capital requirements were introduced parallelly and implemented liquidity requirements and leverage restrictions.

The final section presents a summary of the points discussed and aims to understand the trajectory of the regulation in the following decade: 2008-2018. The GFC suggested possible routes that could be taken by the regulation: making adjustments to the current model or redefining the model. The response after the 2008 crisis was, on one hand, the implementation of greater restrictions to free banking practices, relative to Basel II. However, the finance model was not redefined, contrary to the case after the Great Depression of the 1930s. Moreover, the regulation implemented after the crisis experienced changes over time and as a result of agents conducting a *business as usual* attitude.

The present study adopts the Minsky hypothesis (1994), also in Carvalho (2014), that the regulation movement is cyclical, or pendular. During crises in which the system is vulnerable, regulation is intensified, as in the case of the 1930 crisis, after the crash of 1929, and also more recently, after the global financial crisis. As the crisis becomes part of the past, this more restrictive regulatory framework, with high costs and prohibitions, is questioned. In this movement, financial institutions - including banks, - immersed in the dynamic of inter-capitalist competition, innovate products, markets and practices in general. Because of this, and of changes “within” the system, the regulation is increasingly restricted and transformed. Therefore, we must also closely analyze changes in regulation to understand the dynamic of the financial structures - or, from a Minskyian approach, of the capitalist structures - more broadly.

1- Banks, risks, fragility and regulation

Banks are subject to more complex regulatory apparatus than other institutions in different segments of economies⁴. This can be justified by particularities in the nature of the operations performed, which are related to the historical role of operations, and in general, to the important position such operations hold in different financial systems. Among these particularities, we can highlight those that explain banks' susceptibility to crisis, as well as the possibility of the contagion effect that could generate systemic risk, and can be considered at two levels: the financial system and, more broadly, the economic system. In general, this discussion is based on the importance of banks in the organization of payment systems - given their role as receptors and creators of demand deposits, purely liquid instruments - and thus, because of its role as mediator in a myriad of transactions, both in goods and services markets and asset markets. Furthermore, the GFC clearly showed the fundamental role of banks in financing asset positions, both in terms of the traditional credit market and possessing diverse instruments in their asset portfolios. In order to carry out their distinct roles, banks operate with high financial leverage, and in general maturity transformation. In addition, their operations are based on trust, since financial contracts, whether for asset portfolios or banks' liabilities, are transactions that involve obligations and rights that will be carried out at a later date - "money today" with a promise of "future money"⁵.

Thus, certain considerations can be made. First, credibility is fundamental, since these institutions play a central role in the financial systems of positions and payments, as well as on the interbank market, given the high operating leverage and asset-liability mismatches. Therefore, a lack of trust in a particular institution could lead to adverse relations between agents, putting pressure on their balance sheets. The contagion effect can arise, causing systemic problems that can potentially overflow and cause a systemic crisis.

Second, one must consider the logic that guides the decisions behind the asset and liability portfolios of these institutions. As with capitalist agents, banks incessantly and increasingly aim to add value to capital, in conditions of uncertainty and fierce competition. This dynamic could cause, and in general does cause, exaggerated risk-

⁴In general, instruments like these do not consider the consequences of increasing interpenetration among banking and nonbanking functions.

⁵ In general, asset positions are longer than liabilities.

bearing on the part of the institutions. The results of this can generate adverse systemic effects.

The particularities mentioned above justify the need for a relatively stricter regulation and supervision of the banking system, in the search of more sound and resilient systems. Regulatory frameworks can in fact be understood based on two distinct categories. The first would represent instruments and mechanisms that can be implemented since the problems are already evident, in order to lessen the effects and avoid financial contagion, i.e. acting as a safety net. These include the lender of last resort and the presence of deposit insurance. The second would involve norms and rules of prudential regulation instruments, which would reinforce the system's ability to avoid crises. In this case there must also be a policy of monitoring and supervision.

In Minsky's (1975, 1986) conceptual framework, economic agents are understood as balance sheets, made up of assets and liabilities. Decisions surrounding the composition of asset and liability portfolios are fundamental, given their relationship with expected revenue from a set of assets with the liabilities necessary to finance such asset positions over time. Thus, the robustness of the positions depends on two key factors: leverage ratio and asset-liability mismatches. Increasing leverage or the asset-liability mismatches, makes it possible to increase gains, but suggests a greater exposure to risk of illiquidity and bankruptcy. Financial fragility of individual agents results therefore from the risks of illiquidity and bankruptcy derived from their positions. The degree of economic instability as a whole, in turn, is a result of the individual agent's portfolio positions and the connections between them. It is worth noting that the agents' decisions regarding their balance sheets are uncertain, highlighting how such agents create expectations. According to Minsky (1975, 1986), expectations are based on recent experience. In times of prolonged stability, agents tend to assume this will continue well into the future, which leads them to assume higher risk positions. They tend, therefore, to put themselves at greater risk of illiquidity and bankruptcy, thus stability becomes a destabilizing factor. This is the core of the so-called Financial Instability Hypothesis (FIH). The root of fragility is the normal behavior of agents, that tend to assume greater risk as the financial-economic cycle unfolds, when the "safety blankets" disappear (Minsky, 1986; Kregel, 1997).⁶

⁶In a reference to the proposal of the rational expectations hypothesis, Carvalho (2014) highlights that, under uncertainty, decisions of exposure to risk are not completely rational, which does not mean that agents

Minsky's construction (1975, 1896), based on the positions of economic agents in general, helps us to understand the behavior of financial institutions, particularly banks, in terms of their specific risks.

Their operations are fundamentally highly leveraged with asset-liability mismatches, and thus, exposure to risk of illiquidity and bankruptcy plays a central role. Under stability, these agents tend to assume increasingly risky positions. This is because they use the premise that the future will mirror the recent past, when in fact the system is permanently changing, oscillating between expansion, contraction and eventual crises.

In addition, the idea that stability is in fact destabilizing can be used as a reference, not only to agents' behavior in relation to risk, but also to the regulatory instruments. The longer the period of stability - in other words, the further the agent is from problems that stimulated a determined set of rules - the more it is questioned by agents, that innovate and/or pressure for changes. According to Carvalho (2014),

Perhaps the strongest element in the overall pro-liberalization environment was, however, memory. As Minsky stressed many times, when memories of adverse shocks fade, and they all do sooner or later, no matter how important the shock and its consequences, institutions created to defend against those shocks inevitably have their necessity questioned. That was the meaning of his perhaps most famous aphorism, stability is destabilizing . According to this thesis, the very success of the institutions created to prevent a financial crisis that could lead to a new depression, in the long term, will lead people to ask themselves if the costs and/or constraints imposed by these institutions are still worth it (as we saw, some will even question if they ever were). (Carvalho, 2014, p.351)

Going beyond the FIH, as Tymoigne and Wray (2014) highlight, Minsky (1990, 1993), developed an approach that includes different stages of capitalist evolution centered on the evolution of finances⁷. The author, inspired by classical economic theories - including Schumpeter - regarded capitalism as a system in constant evolution, or transformation. According to Minsky, the 1970s, primarily in the United States, were marked by transformations that resulted in a new stage: Money Manager Capitalism. At this stage, the financial sector performed - and still performs - a crucial role, highly distinct from that previously performed. Innovations such as securitization and the increasing use of derivatives, as well as the existence of large and integrated banks - "financial supermarkets", that offer a wide range of products and services - among others, that

are irrational and ignore available information, but that they are aware this information may not be enough to predict the future.

⁷ This approach serves as a reference to analyze long-term transformations, while Minsky's most well-known Financial Instability Hypothesis (1986) helps understand the cyclical dynamic in the short-term.

characterize the MMC, result in a short-term dynamic, already marked by endogenous financial instability, relatively more dangerous and prone to crisis. In this type of institutionality, periods of instability would occur more frequently, and would be more severe (Minsky 1990, 1993; Tymoigne and Wray 2014).

The MMC was created on the back of a previous - relatively less unstable - stage of capitalism. According to Tymoigne and Wray:

The emergence of Money Manager Capitalism was not an accident; it was the outgrowth of the changes that occurred during the postwar stability of Managerial Capitalism. This stability created dynamics that led economic units to make more risks on the asset and liability side of their balance sheet, and also made them more inclined to trust the guidance of market mechanism in economic affairs. (Tymoigne e Wray, 2014, p.51)

Stability is therefore destabilizing. The regulation through which the stage of “tamed capitalism” arose in the 1930s, has been worn down by policy makers and innovations carried out by agents.

Another important step in this conceptual discussion, considering the Keynes-Minsky tradition, was given by Carvalho (2014), who restored Kregel’s pioneering study (1998) on banks. According to Kregel, the combination of banks’ assets and liabilities, their financial gains from deposits, as well as granting loans, would lead them to bear risks of illiquidity, but also enables what the author calls “banking alchemy: the ability to create wealth from nothing. This alchemy results, on one hand, in the already broadly discussed capacity for banks to create demand deposits, purely liquid currency, independent of savings, or previous financial earnings. According to Kregel (1998), the creation of capital in modern banks compliments this alchemical process, as seen throughout the process of the historical evolution of western banks. According to the author, banks’ capital was formed *ex-post*, i.e. after the composition of assets and the possibility to determine the present value of these assets through the capitalization of expected future revenue.

Considering that the value of assets derives from its expected income, in present values, the capital was constituted, for its turn, by the sale of participations in these assets⁸.

⁸Kregel (1998) notes the process of capitalization of banks in different regions and historical events. He highlights the unfolding of the alchemy of capital in the creation of North American banking systems as the most important case, considering the examples that he analyzed. Such banks would have gained capital without actually owning assets that generated any type of income. They would have achieved this by issuing assets - that would not necessarily have to be paid for immediately. Loans would therefore be granted to the buyers of assets, using their assets as collateral (Kregel, 1998, p. 6).

According to Carvalho (2014), a clear result of this is that: *“banks capital is conceptually a much less important variable than is usually assumed. A modern bank does not need capital.”* (2014, p.359)

Therefore, how powerful would a regulatory framework supported by capital requirements be? And, one that weighs capital requirements according to the sum of risks taken? According to Carvalho (2014), if the imposition of capital requirements could, in some way, affect agents' decisions, it would not be clear how efficient this would be to limit banks' speculative behavior. Based on the idea already given by Minsky - that stability itself would induce agents, including banks, to assume increasingly risky positions - to what extent would these positions be inhibited if eventual resultant losses are imposed on their shareholders, who are not necessarily the decision-makers? Another question is how a regulatory framework that is based on capital requirements deals with the illiquidity risk, which is inherent in banking operations, leveraged and marked by maturity mismatches. According to Carvalho (2014), given that theoretically and historically banking capital is irrelevant, it would actually be liquidity – and the risk associated to it, involved in the short-term gains (deposits) and maturity transformations– the key variable to determining the banking security. This should therefore be of major concern to regulators.

2. \\\Basel I, II and III: what changed?

After the Great Depression and over a considerable period of time, the implementation of prudential regulation took place. This regulation was sustained by rules that restricted, to a certain extent, activities of institutions. Among the issues faced by the regulation, an important role was held by the relative illiquidity of banks' asset positions, vis-à-vis debts. The objective of many of the regulatory instruments was to prevent banks from facing liquidity problems and, given the role of deposits as a way for banks to make money, inhibit a “bank run”. Among the regulatory instruments, the following were highlighted: debt and leverage limits; liquidity indices; limited bank exposure to single borrowers; and limitations in terms of the composition of assets and to the class of activities. However, due to the increasing detachment from the issues that lead to the creation of this regulation framework, it began to be questioned. In the 1970s, the idea that deposit insurance, a

fundamental part of the instrument, generated moral hazard, since banks actually went after higher risk positions - assuming that they could count on the complacency of the public – and would no longer suffer losses due to insurance (Carvalho, 2015). In this movement, and within an ample and intense process of financial innovation, rules on restriction and control become inoperant. The development of the way banks manage assets and liabilities, together with the rise in inter-banking markets, increased access to liquidity, leading to the belief that problems such as these would no longer occur. Thus, a breakdown, as a result of financial innovation and deregulation, in the regulatory structure in place until then was observed (Mendonça, 2012).

In this context, and responding to obvious interests, another regulatory format, present at the time to a lesser or greater degree in other countries, was largely discussed. Aligned with the idea of the importance of the risks of banks' asset positions and supported by the demand for a minimal relation between own capital and the asset portfolio, minimum requirements of capital went on to occupy an important role in the debate surrounding regulation. This, to some extent, represented a change in the basic logic of regulation: concern surrounding liquidity, that in the eyes of regulators and markets was no longer a key issue, turned into concern regarding the solvency of institutions. The justification of this instrument was presented on two levels: i) if banks' put their own capital at risk, decisions regarding the composition of their asset portfolios would be taken more carefully; and ii) they would be better prepared to respond in adverse situations. This was the logic developed by the Basel Committee on banking supervision which in 1988 resulted in Basel 1 (BI).

3.1 Basel I

Basel I, which targeted internationally active banks in the G10 countries, announced two objectives: to reinforce the solidity and stability of the international banking system and implement a fairer and more consistent structure of rules. The idea of this was to minimize the competitive inequalities between global banks (Mendonça, 2002 and 2012). At that time, there were major disparities in terms of the capital requirements required by regulators in different countries of the G10, thus, there were disparities in competitiveness. Regulatory costs were therefore made the same for institutions on the

international market, so that competition between the banks was based on individual efficiency, and not regulatory advantages⁹.

Carvalho (2005, 2015) defends that BI dealt much more with the costs of complying with regulation than with risks and stability, specifying different arguments to support this hypothesis. Generally speaking, the explanatory elements would include: the scope of incidence of the Accord – global banks from the G10 –, references to international stability and the absence of references to domestic stability. The format of the Accord, characterized by large asset categories, loosely aligned with the risks taken by banks, but amply representative of the segments in which the competition between the banks arises, would also indicate that its major concern would be to even out competition. Looking in greater depth, Carvalho highlights the relationship between a regulation characterized by capital requirements associated to asset risks and to the attempt to even out the costs of regulation in a global context. A simple and direct explanation of why regulators reverted to capital and risks, in line with the objective of stability, would be that competition between the institutions could destabilize the international banking market, therefore dealing with each one's exposure to risk would be a good strategy¹⁰. However, the author proposes an alternative understanding of the choice of capital requirements based on risk. Based on the premise that when banks take higher risks both profitability and the possibility of losses rises, hence the question: how can prudential regulation deal with this situation? There are two answers: i) the demand for capital requirements in relation to risks of positions taken would impose elevated costs on riskier positions, thus reducing profitability; ii) in countries with more robust security and protection networks, the system's profitability would tend to be relatively higher, since the banks with successful strategies could benefit from higher profits, and those with losses as a result of unsuccessful strategies would be covered by society. As Carvalho confirms:

If what is wanted is just to equalize regulatory costs, making them proportional to the relevant risks could be an efficient way of promoting more equitable competitive conditions while contributing to keep some modicum of financial stability. (2005, p.5)

Thus, according to the author, the main motivation of BI was not the dissatisfaction with the prudential regulation apparatus, but the issue of competition: the need to level the

⁹ Kregel (2006) presents a line of argument similar to Carvalho's on BI's major motivation. The author also highlights the reasons - related more to monetary policy than prudential regulation - why capital liabilities imposed by regulators on banks in the US are higher.

¹⁰One indication of this would be to choose risk-weighted assets, which would represent the segments in which the global banks were most active in, and thus, be at more risk.

playing field. This would be the main reason, even given the dissolution of an important part of the regulation up until then, caused by the intense and long process of financial innovation and deregulation.

The adhesion to Basel I was of a much greater proportion than expected in terms of the number of countries that adopted it – more than 120 –, as well as the scope, since it was implemented in all banking systems in the majority of countries, not only in global banks. Thus, it took on a broader and more important role than initially predicted, and led to the standardization of regulatory frameworks in place in the majority of banking systems around the world.

Many criticized the standardization of the rules implemented in Basel I, i.e. the strict format of asset and risk categories established, which stimulated leverage operations. These operations reflected, in particular, the separation between the capital required by the regulation and the then referred to economic capital, a result of internal risk models being developed¹¹. In other words, the divergence between regulatory capital and economic capital, that resulted in arbitrage, would be the result of separating rules from market practices (between regulation and institutions' behavior). Thus, there was increasing pressure to make Basel I more flexible and satisfy the so-called market practices, by incorporating the measurement and management of risks. In addition, Basel I did not properly incorporate asset risk, which occupied a relevant role in banks' balance sheets: securitization and derivatives¹².

In his analysis of the virtues and limitations of Basel I, Carvalho (2005), points out its principal weakness. According to the author, BI was based on a traditional commercial bank model, molded by a segmented system - that, at that time in the United States, no longer existed - and ignored the universal bank model, which was most common in other nations. This would have weakened its results, favoring banks that already operated in securities markets, as in Europe, stimulating securitized operations. In the author's words, Basel I “stimulated banks to shift their activities towards securities markets to reduce the burden of compliance with regulation” (Carvalho, 2005, p.7)

The major adhesion to Basel I – that became central to prudential regulation in many countries –, the limited consideration of risks, and accumulated pressures led to two

¹¹ Provoking a deterioration in the quality of banks' portfolios, with the fall in participation of more secure investors and shortening of term dates.

¹² Thus, the 1996 amendment was created to incorporate the market risk using internal models.

movements: the 1996 amendment, with the incorporation of market risks and internal bank models, and a review of the 1998 Accord. Carvalho (2005) highlights that the role of Basel I in prudential regulation in various countries, if not a central objective of the committee, was well accepted by them, which also highlights its limitations and resulted in a review:

As most of the world embraced Basel I as the basis of the new thinking in prudential regulation, its shortcomings became more and more visible forcing the Committee to proceed to a deep revision of the original work. (Carvalho, 2005, p. 9)

3.2 Basel II

As a result of this process, and as part of broader transformations of regulatory frameworks, Basel II was published in 2004. Minimum capital requirements remained a central instrument, weighted according to risk. However, its increased complexity, in clear contrast to the simplicity of Basel I, reflected important changes. As a central premise, despite few changes to the objectives, Basel II highlighted a focus on solid and resilient banking systems, the core of prudential regulation. To deal with banking systems as a whole, and in response to pressures, particularly as a result of the impacts of the financial institutions themselves, the standardized nature of Basel I was abandoned, an obvious move towards flexibilization. This resulted, effectively, not only in the different possibilities of **grouping** assets, but also in incorporating methods of measuring and managing risks developed by private institutions. It included not only credit and market risks, but operational risks. The result, when compared to Basel I, was a more sensitive risk structure - private evaluation of risk -, since market practices were now included in the regulatory framework, through internal models of risk evaluation or evaluations of rating agencies. Another fundamental element of Basel II is its continued focus on banks, individually. This was despite capital requirements from securitized and derivative instruments, in balance sheet and off-balance sheet operations, and consolidated. Thus, the regulation ignored the interpenetration of banks and non-banks functions, as well as their effects on the system (Mendonça, 2012). The focus continued to be microeconomic - i.e. imposing requirements on banks, individually - and not macroeconomic (Deos, 2012).

Carvalho (2005, 2015) roundly disagree with the idea of continuity between BI and BII, and that BII evolved from BI, with just some changes and technical improvements¹³. The author states that clear changes were evident in Basel II, in relation to the scope and nature of the framework of rules. In terms of the scope, BI was much more about guaranteeing the leveling out of competitive conditions between global banks than guaranteeing systematic stability, above all domestic. At the core of Basel II was the issue of stability, a much greater challenge and one that imposed important changes on the set of rules.

[...] in contrast to Basel I, Basel II does not reach for what is common in banks but for what is specific to each institution. Each bank, and in particular the complex universal banks we find everywhere in the 2000s, is a particular combination of investment opportunities and risks. Basel II aims at defining instruments to deal with this diversity and idiosyncrasy. (Carvalho, 2015, 49)

A clear change of route was taken to deal with this challenge. Basel II encouraged banks to measure and manage their risk, considering the assumption that methods more aligned with market practices would be more efficient than a restrictive regulation. It is up to the regulators to induce the expected behavior and not impose strict rules (Carvalho, 2005; 2015). Therefore, in progressing from Basel I to II, the main concern became the prudential regulation with a set of rules, both more complex and less prescriptive, which were more in line with market practices.

The most recent critique of Basel II refers to its high complexity that, among other limitations, imposes fundamental difficulties on implementation, including attributing many roles to supervisors that are not always able to carry them out. In addition, and despite the inclusion of the market in its structure, as a third pillar, it was suggested that the role the market played in Basel II would be relatively irrelevant. Critics also stated that Basel II would stimulate the pro-cyclical nature of the market, with the inclusion of an evaluation of agents' risks; that would induce the removal positions of balance sheet, making fraud more likely, since a fall in capital requirements increases potential gains for banks.

However, Carvalho (2014) points out that few critics highlighted the greatest fragility of Basel II, its microeconomic focus. In other words, in individual banking institutions, on the premise that systemic security would result in security for individual banks, obtained by inducing better risk management. According to Carvalho, the GFC explained the

¹³ The size itself of the documents is indicative: BI, with attachments, had 28 pages and the "revised" version had 239 pages (Carvalho, 2005).

downfall of this premise, since, in effect, systemic risk affects individual risk. Many of the parameters that guided the risk models, and thus, supported the banks' decisions, are endogenous to the workings of the banking system as a whole, in other words, reflect the economic and financial environment. In addition, risk calculations assume that the past will be repeated in the future, which, under fundamental Keynesian uncertainty, is not the case. Facing systemic risk, the need for risk management models no longer exists: Both financial institutions and regulators were reminded of this basic truth yet again when all risk calculations prescribed by BII turned out to be wrong (Carvalho, 2015, p. 49).

Many of the problems and limitations of Basel II were exposed through the global financial crisis, which "hindered" its implementation process. The crisis showed how Basel II aggravated the pro-cyclical character of banks' behavior. More importantly, it made explicit that the regulation in line with risk-weighted capital requirements had encouraged banks to remove exposure to their balance sheets, which was made possible by securitization. This in turn made it more difficult for regulators, investors and business partners to evaluate risk¹⁴. Banks, in charge of maturities transformations, focused at that time on short-term funding, particularly on the repo markets - that disappear when there is a loss of confidence (Stiefmueller, 2018). As a result, they went on to face illiquidity problems, that, in many cases transformed into bankruptcy problems.¹⁵ Illiquidity risk was not dealt with in either Basel I or Basel II. Finally, as highlighted by Carvalho (2015), faced with a systemic crisis, the limits of regulation that focused on the individual risk of banks became clear. Effectively, the environment in which the crisis appeared, considering the extent and intensity, was marked by a regulatory structure that barely constrained nor imposed agents' operations.

3.3 Basel III

Immediately after the collapse of Lehman Brothers, amidst global instability, intense political pressure was imposed to extend and reinforce the international coordination system, given the necessity to handle the situation with specific measures, as well as to

¹⁴After the crisis, politicians and supervisors were regular targets of criticism, which affirmed the possibility that they were unable to know what the banks were doing because they used a complex network of offshore accounts and off-balance sheets when conducting business" (Persaud, 2012, p. 294).

¹⁵ It is worth remembering that in a crisis many banks that go bankrupt and/or receive intervention, have capital indices that are compatible with regulatory requirements.

avoid other crises. This entailed, according to the general perception at that time, introducing relevant reforms in the structure, regulation and supervision of the system. It was at this juncture, i.e. with the global financial crisis still fresh in everyone's minds and many countries facing severe withdrawal at the product level as a result of the creation of the Financial Stability Board (FSB), in the second G20 summit in April 2009. The objective of the FSB was to coordinate, on an international level, national regulatory authorities, as well as multilateral organisms (Deos, 2012).

A new proposal for the banking system - Basel III - was presented at the G20 summit in Seoul, in November 2010. The objective of this new Accord was to reinforce the individual regulation of banks, thus enabling greater resistance to crises. Another objective was to incorporate the macroprudential dimension to deal with the pro-cyclical character and the systemic risk. To live up to these tasks, Basel III increased the volume of capital retained by banks, as well as the quality of capital - a movement established in the expression "more and better capital". In addition, banks were now required to maintain an additional volume of capital, as a countercyclical capital buffer. Another important change in Basel III was the introduction of a "sharp" leverage ratio - as sharp we mean not sensitive to the risk exposure - , in other words, a portion of capital that is not subject to a risk evaluation. Illiquidity requirements were also introduced in Basel III (Deos, 2012).

Basel III was based on Basel II but required more and better capital to deal with risk-weighted assets (RWA). As mentioned, new capital requirements were incorporated parallelly. Thus, if the logic that this new banking regulation continued to assume that largely speaking markets must evaluate their own risks, any asset maintained in the institution's portfolio rose in value, in terms of capital required. Finally, an important difference was the recognition, on the part of regulators, of the inability to anchor the security system purely on micro-evaluations carried out by the market. This highlights the system's pro-cyclical nature, as well as the limitations of the model to auto-evaluate risk, hence why pro-cyclical capital and pure capital were required. Policy makers also recognized that liquidity disappears in crises, and that banks must maintain a minimum level of liquid assets to face situations of stress in which the market tends to shut down (Deos, 2012).

The introduction of financial leverage and liquidity indices is in line with Minsky-Kregel school of thought on the robustness of banking systems. This is because, as a result of

banks' activities, marked by a high level of leverage and asset-liability mismatches, problems related to liquidity and bankruptcy emerge. Thus, a certain level of leverage control, without measuring the risks embedded in the capital indices, as well as the imposition of liquidity indices can result in more robust banking positions.

According to Carvalho (2014), BIII is a hybrid proposal, almost a combination of the amendments to BII, based on two different evaluations. Firstly, that BII was conceptually correct, but poorly regulated. Its concept of capital was broad and included instruments that ended up damaging it. The issue was solved by introducing, as already pointed out, more and better capital in Basel III.

A second diagnosis, an innovation in the trajectory of the Basel Accords, is in line with the literature on the Minsky-Kregel school of thought, incorporated by Cardim and used in this study: the idea that, to a certain extent, the fragility of the financial system is a result of the combination of high leverage and asset-liability mismatches. There would be three signs that the Accord incorporated this second diagnosis. First, the perception that systemic risk results from interconnections, that in some way result in the conception of micro regulation (focusing on the institution) becoming problematic¹⁶. A second sign would be the introduction of a leverage ratio, that highlights ambiguity in BIII: the coexistence of two types of instruments, from very distinct conceptions, to treat leverage (Carvalho, 2014; 2015)¹⁷. Finally, the third piece of evidence would be the introduction of liquidity indices, albeit on a small scale. Despite this measure, the regulatory framework is still flawed, since it minimizes the centrality of liquidity generated by the banking system to guarantee a well-functioning economy. This takes us beyond the issue of the system's robustness. Carvalho (2014) gives that it would be necessary to:

[...] a better treatment of the need to guarantee the system's liquidity: to make banks rebuild their basic function of acceptance, that is, the creation of liquidity against the purchase of illiquid liabilities issued by income creators. (Carvalho, 2014, p.361-62)

4. Conclusion

The objective of this study was to discuss banking regulation, particularly its recent structure which has been broadly adopted by a large number of countries – Basel Accords

¹⁶According to Carvalho, the Committee's doubts on how to face this issue as obvious.

¹⁷ They refer to the capital indices, constructed within the logic of improving techniques to manage risk, and the leverage indices, elaborated using direct calculation, without weighting risk, which implies returning to more prescriptive regulation.

I, II and III. Departing from the work of key authors, we investigated the changes that took place in the transition from I to II and II to III, to understand the interests and motivations behind such changes, as well as the meaning of the changes made and/or redefinitions. A conceptual model based on Keynes-Minsky was employed, as well as contributions from Jan Kregel and Fernando Cardim de Carvalho.

Through the conceptual discussion and given the particularities, systemic importance and the behavior of financial institutions and banks, it is clear that banks must be regulated. Therefore, the format that this regulation should take must be analyzed. The Basel accords rely on capital requirements. Only in Basel III, after the GFC, were requirements regarding liquidity added, despite such requirements playing a minimal role in the framework. Reasoning to defend the adoption of capital requirements was presented at two levels: banks would be more careful when composing their asset portfolio, given that they would put their own capital at risk, and they would be more prepared to respond to adverse situations. Kregel and Carvalho highlight important limits to capital regulation when analyzing if it contributed to weakening the behavior of financial institutions, which tend, endogenously, to be more fragile when the economic cycle is in expansion. It can be confirmed that the global financial crisis occurred within a Basel “type” regulatory environment, which was unable to prevent the crisis - some authors point out that, on the contrary, it may have contributed to it. Furthermore, one variable, effectively central to determining the security of banks’ assets, was not considered by Basel I and II: the liquidity and risks associated to such assets. After the GFC, it was no longer possible to ignore the issue of liquidity, which was included in Basel III, albeit vaguely, with the central theme maintained around determining capital requirements on risk-weighted assets.

In response to the Great Crisis of the 1930s, an important and longevous regulatory apparatus was built, within a restrictive/prescriptive logic, defining the structure and affecting the financial dynamic. This apparatus was weakened by financial innovations and deconstructed in an important process of deregulation in the 1980s and 1990s. It is possible to affirm that Basel I represented a movement of re-regulation, based on a new logic, and that this movement was developed in Basel II and, despite differences, in Basel III. However, what took place was a slackening of the regulation, in order to adapt to and accept financial innovations incentivized by competition, as opposed to the imposition of

limits or restrictions on this market dynamic¹⁸. From the more standardized, and to a certain extent more restrictive, Basel I, arose Basel II, more flexible and less restrictive. When using the Great Depression as a starting point to analyze regulation, there is a clear pendulum movement from Basel I to Basel II: from more restrictive regulation to one with fewer limits. The changes between BI and BII were not undertaken in response to major crises, but to adapting, almost “naturally”, to market dynamics. More enigmatic is the fact that not even did the emergence of the greatest financial crisis since the 1930s change this trajectory. The regulatory response to the GFC, Basel III, albeit with more restrictive rules in terms of liquidity and leverage, did not result in drastic changes: the regulation conformed to the present dynamic, rather than forging a new one.

Minsky’s hypothesis (1994), as also given by Carvalho (2014), that the regulatory movement is cyclical, or pendular, was employed. In crises, when the system is unstable, regulation is intensified. This took place in the 1930s, after the 1929 crash, and to some extent, after the GFC. As the crisis becomes part of the past, the regulatory framework, which is costly and imposes many limitations, is put into question. Thus, financial agents - including banks -, immersed in inter-capitalist competition, innovate and push for changes, and that these changes consider the limitations imposed by the regulation.

As a result, the regulation is put under increasing pressure and goes through transformations. These movements must therefore be reflected on in more detail, analyzing the changes in financial structures and, thus, via Minsky, capitalist structures. The Great Depression in the 1930s and the changes in the regulatory apparatus that followed established a financial structure that implicated a new financial and capitalist dynamic, initiating what Minsky called “Managerial Capitalism”. There is a clear connection here between prudential regulation and the establishment of a financial structure. In turn, Basel I, albeit with a lesser focus on prudential regulation, and more as an instrument to even out competition between international banks, was established within and after the dismantling of the previous financial structure and dynamic, together with the emergence of a new dynamic, which Minsky called “Money Manager Capitalism (MMC).

¹⁸ We do not ignore - in fact, to some extent, we advocate - Carvalho’s analysis that Basel I did not deal with prudential regulation, but regulation to level competitive conditions between international banks, including North American and Japanese. This is due to the belief that such an idea does not discredit the argument developed in this study, that Basel I founded a new regulatory logic, which was further developed in Basel II: the adaptation to and not the establishment of a financial dynamic.

The term implies, in a broader sense than analyzed in the present study, separation from the less restrictive and more prescriptive prudential regulation, and the establishment of a financial structure, or a financial regime. In fact, Basel I was based on the structure formed by financial innovations taking place at that time, explaining a long and important pendulum effect. Basel II continued along these lines, bringing the regulatory framework more in line with the financial dynamics at that time, enabling and even contributing to its intensification. Hence the logic that prudential regulation is founded on the structure and the dynamic, rather than determining them; it was in this scenario that the worst financial crisis since the 1930s was forged. Basel III was a response to the GFC, introducing a hybrid scheme characterized by the combination of prescriptive regulatory logic and certain restrictions. Albeit more restrictive, the financial structure stayed the same, adapting to that already in place. There was a pendulum movement, but not in the structural sense, which perhaps explains the speed at which it was questioned.

That said, the GFC, despite its severity and resultant impacts, as well as the regulatory reaction, did not transform the financial system. Stiefmueller (2018) highlights some indicators to explain this: the derivatives market was not substantially reduced in the decade following the crisis: in 2017 it was only 8% less than in 2007. The symbiosis between investment banks and commercial banks continued, and the institutions known as “too big to fail”, the complex and opaque gigantic banks, remained strong. Thus,

It is fair to say that Basel III has not conclusively solved these problems. It still relies on the same approach that doomed Basel II, i.e. risk models of stunning, and selfdefeating, complexity in the hands of the very same banks that are meant to be regulated by them. For regulators, investors and the general public, these risk models still are, effectively, ‘black boxes’. Consequently, it is illusory to expect investors to rein in wayward banks by exercising ‘market discipline’. (Stiefmueller , 2018, p.23)

This may explain why, 10 years after crisis, with its effects still being felt - economically, politically, socially and even culturally – there is already pressure to lessen the resultant regulatory changes put in place. In the last years, a tendency to lessen “re-regulation” can be seen, both in Europe and the United States, where Congress, in 2018, approved certain measures of “retreating” from the legal framework - the Dodd Frank Act. Millions of small and medium-sized banks were “freed” from more restrictive regulatory and supervisory measures. In May 2018, the Federal Reserve, the central bank of the United States, began limiting the Volcker Rule’s impact, imposing greater freedom for treasury operations. So, where are we 10 years after the crisis? With little headway and many important steps back.

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