1. Introduction

The purpose of this paper is to evaluate the current financial regulation of Brazil, with emphasis on the changes that have occurred after the 2008 global crisis. Before that, this introduction presents the analytical perspective that will be used to think over the financial regulation of an emerging country, such as Brazil.

The starting point of this perspective is two Keynes’ ideas, complemented by one essential Minsky’s idea. The first Keynes’ idea is that the State is a regulator of the field in which private agents make their decisions on the allocation of wealth. For Keynes, in capitalist economies, the role of the State goes beyond the economic policy. The nature of the monetary economy and the desire of private agents to keep their wealth in liquid assets pose limits to the operation and effectiveness of this policy. Then, the State must regulate the process of private accumulation of capital, directing it to create new wealth, employment and social equity.

However, as pointed out by Minsky (1986: 191-192), “ownership of (or positions in) capital assets must be financed (…) A decision to invest – to acquire capital assets – is always a decision about a liability structure”. Then, the State should regulate both the asset and the liability side of agent’s portfolio decisions.

The second Keynes’ idea is that the international monetary system (IMS) has a hierarchical and asymmetrical nature. Besides the superior position of the key currency – which performs the three functions of money (means of liquidation of transactions and contracts, a unit of account and reserve of value) in the international level and, for that reason, has the highest liquidity premium – this system is marked by asymmetries across national currencies. This implies different degrees of autonomy for the domestic economic policy and condition the dynamics of the key-prices (exchange rate and interest rate).

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2 Professor at the Institute of Economics of the State University of Campinas and researcher at the National Council for Scientific and Technological Development (CNPq).
3 See chapter 24 of the General Theory (Keynes, 1936).
4 In the Treatise on Money (1930), Keynes has already pointed to the existence of a currency hierarchy, in the analysis of different degrees of monetary policy autonomy of the indebted (England) and creditor (France and United States) economies between the wars.
In the current IMS, just below the Key currency (the fiduciary dollar), there are the currencies issued by the other core countries. The latter occupy an intermediary position in the hierarchy since they perform, in a secondary way, the three functions at an international scale (then, they have a high liquidity premium, but not as high as the dollar). At the opposite end, there are the currencies issued by the peripheral countries which adhered to the process of financial globalisation, becoming “emerging” economies. They are non-liquid currencies for they are generally incapable of performing those functions.

Their position at the lower levels of the currency hierarchy has two important consequences for emerging economies (such as Brazil). First, they are especially vulnerable to the volatile and pro-cyclical nature of capital flows (non-resident portfolios decisions) and to currency mismatch as their liability structures are tilted towards these flows (Ocampo, 2012). Secondly, their economic policy autonomy is retrenched which implies a limited space to undertake countercyclical macroeconomic policies and, then, greater difficulty to manage the Key-prices (which condition private investors portfolio decisions), even with a huge amount of international reserves\(^5\). In fact, these countries face what Flasbeck (2001) called an “impossible duality”: the environment of financial globalization implies loss of economic policy autonomy, independently from the exchange regime adopted, because it reinforces the interrelation between interest rate and exchange rate, and the influence of the global investors portfolio decisions over these key-prices.

It is important to mention that there are also differences among emerging economies currencies. After the global financial crisis, the multi-speed recovery and the euro crisis contributed to a perception among global investors of declining risk of some emerging countries. Declining risk along with the context of abundant liquidity and lower interest rates in core economies resulted in a new boom of capital flows to some emerging economies and to a greater space of some emerging economies assets in global investor portfolios. Until now, this has added challenges to the domestic macroeconomic management of these countries, which still issue non-liquidity currencies\(^6\).

Brazil is a country facing these challenges due to macroeconomic (as it still has high interest rate differential, despite the recent cuts) as well as institutional features, such as the open capital account and the sophistication of domestic financial markets. In the case of emerging countries with these institutional features, cross-border flows and domestic financial markets are deeply intertwined. In this context, the traditional analytical division (adopted in general in the

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\(^5\) After the financial crisis of the 1990s, emerging countries adopted a defensive strategy of pre-emptive accumulation of foreign reserves. See: Carvalho (2010).

\(^6\) The currency hierarchy is dynamic and change along with structural changes in the countries positions in the international economy, but in a very slow path.
literature) between domestic and external financial regulation is no longer useful or even possible.

Despite the differences in terms of typologies and policy recommendations\(^7\), the recent literature on external financial regulation recognized that capital flows regulation need to encompass a variety of measures, such as capital controls and prudential regulation of the domestic banking system. But, the same rationale applies to the domestic financial regulation: capital flows also affect domestic financial markets’ performance. Cyclical capital flows could cause credit and asset prices booms and bursts. Sudden stops and unwinding of positions might result in systemic crisis. Then, capital controls are also important to the regulation of domestic financial markets, as the recent literature on domestic financial regulation. In fact, in some recent papers on capital flows regulations (such as Gallagher, Griffith-Jones and Ocampo, 2012) and macroprudential financial regulations (such as Galati & Moessner, 2011) this is implicitly recognized.

In this paper, financial regulation is considered in a broader sense without separating the internal and external dimensions. Prudential financial regulation, capital controls and other regulatory measures should be seen as an essential part of the financial regulatory toolkit which should regulate residents and non-residents as well as financial and non-financial agents, regarding their portfolio decisions in foreign and domestic currency at the on-shore and off-shore as well as spot and derivatives (forward settlement) markets.

Besides defining the scope of financial regulation in emerging countries with open and sophisticated financial markets, it is necessary to specify their goals, which are: (i) managing the instability (Minsky, 1986; Kregel, 2011), that is, minimize the systemic risk in internal and external dimensions; (ii) contribute to the management of key-prices as a supporting tool of monetary and exchange rate policies: besides their stability, their level should stimulate the process of capital accumulation, which means competitive exchange rate and low interest rate; (iii) support capital accumulation by fostering the development of finance and funding mechanisms (induce banks to provide finance and private agents to keep their wealth in non-liquid assets)

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\(^7\) Epstein, Grabel & Jomo (2004) called Capital management techniques the traditional capital controls and a set of prudential financial regulations which affect capital flows. On the recent papers of the IMF on this subject (for instance, IMF, 2011 and Ostry at al., 2011), the menu of measures designed to influence capital inflows is called Capital Flows Management Measures (IMF). In turn, Ocampo (2012) and Gallagher, Griffith-Jones and Ocampo (2012) adopted the term Capital account regulations, which are a kind of macroprudential regulation with a dual role: reduce risks associated with liability structures towards capital flow reversals; increase policy space during booms and busts.
The arguments are organized in the following manner. In the second section, the main features of the financial regulation in Brazil are presented. In the third section, the current financial regulation in Brazil is evaluated by answering two questions: (i) Are all dimensions of financial regulation covered by the regulatory toolkit? (ii) Are the three goals of financial regulation achieved in Brazil?

2. The current financial regulation in Brazil

The aim of this section is to analyze the financial regulation in Brazil based on the broader perspective outlined in the Introduction. Summing up, this regulation should cover the following dimensions:

1. Asset and Liability structures
2. Agents
   i. Financial and non-financial
   ii. Residents X non-residents
3. Foreign and domestic currency
4. Markets
   i. On-shore and off-shore
   ii. Spot and derivatives markets

The regulatory framework in Brazil encompasses four main types of regulations, which, in turn, are based in a variety of approaches (institution, market, product, residency and currency based)\(^8\). The first one is the prudential regulation of the banking system, which is institutional-based, as it covered only one kind of institution, the multiple banks, as detailed in the next section. The second one is the capital market regulation, which is both market-based and institution-based, as some rules apply to the market as a whole and other ones focused on specific institutions. The third one is the derivatives markets regulation, which is both market-based and product-based (what is called functional regulation). The forth one is capital controls, which are residency and currency-based.

These regulations are established and supervised by the Brazilian Normative System that encompasses the normative and the supervisory system under the rules of the National Monetary Council (CMN in the Portuguese acronym), Brazil’s main financial regulator. As the focus of this paper is the regulatory framework, this system is presented in the Annex.\(^9\)

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\(^8\) The domestic financial regulation framework is usually based on the institutional-based or the functional-based regulation (Kregel, 2009). In turn, the residency-based and currency-based classifications are used in the capital controls literature (see, for example, IMF, 2011).

\(^9\) The Brazilian Financial System’s functional structure is formed of two subsystems: (i) the normative one; (ii) the operative one, formed by financial institutions, consortium administrators, other institutions authorized to operate by the
2.1. Prudential regulation in the banking system

The central role of banks issuing money (cash deposits) – who frees the investors of any prior need for savings – was highlighted by both Schumpeter (1911) and Keynes (1930) and their followers, such as Minsky (1986). Banks are the only financial institutions that provide finance by being able to create money, and also act as financial intermediaries by participating in the creation of funding, therefore differentiating themselves from other financial institutions which are called, consequently, non-banks. Non-banking institutions only exercise the function of intermediation of funds between surplus and deficit agents. Just by playing these two distinct yet linked functions, banks occupy a key position in payment and credit systems of modern capitalist economies, and for this reason, are under the control and regulation of the State (Freitas, 1997). This regulation, in turn, limits the space and forms of banking competition because, although they create money, which is a public good, as pointed out by Polanyi (1944), these institutions are private agents subject to the logic of profit-seeking.

The decision to leverage the purchasing power of entrepreneurs by creating money *ex nihilo* depends on their expectations in relation to an uncertain and irreversible future. This, therefore, gives a pro-cyclical nature to the evolution of credit and a potential destabilizing role to banking activity. Driven by competitive dynamics, these institutions define their management strategies by the funding sources and applications, aiming to reconcile expected return and liquidity preference in order to increase their profits. Over the periods of optimistic expectations, they grant credit without requiring safe collateral and underestimate the risks involved, since the adoption of a more prudent behavior may result in loss of market share. Additionally, they introduce financial innovations to circumvent the restrictions imposed by the prudential regulations in force, and / or create additional sources of income. In contrast, when expectations deteriorate, banks tend to reduce credit provision, reducing lines and deadlines, raising interest rates and collateral requirements (Minsky, 1986).

However, as Keynes (1930) and Minsky (1986) pointed out, the special position of banks is a consequence of the historical evolution of the banking system, which culminated in the emergence of an articulated institutional arrangement, being integrated and structured around a central bank. In each country this evolution culminated in a set of rules, fundamental in guaranteeing the credibility of the monetary system and defining which institutions have the prerogative to hold deposits and create money.

Central Bank of Brazil, subsidiary bodies and enterprises regulated and monitored by other supervisory authorities (www.bcb.gov.br).
In Brazil, since 1988, universal banks have this prerogative. This year, the creation of these kind of financial institution in the country was authorized, under the denomination *multiple* banks, which act in the money market by raising deposits, but could also engage in other activities, as investment banking. This new regulation abolished the organizational model adopted in the mid-1960s, based on the Glass/Steagal-type financial system, characterized by separation and segmentation of financial institutions (Carvalho and Souza, 2011).

Consequently, only multiple banks are subject to prudential regulation, an institution-based regulation which encompasses two key and complementary aspects: protection and prevention (Freitas, 2005). The protective regulation, also called “Safety Net”, involved two pillars, as in other countries: (i) the deposit insurance, which was established in Brazil in August 1995 with the creation of the Credit Guarantee Fund (CMN’s Resolution 2197); (ii) the role of the Central Banks as Lender of Last Resort.

Regarding prevention regulation, it is mainly based on Basle core principles since 1994, when the National Monetary Council adopted the central dispositions proposed in the 1988 Basle Accord, called Basle I. The latter became a new paradigm for preventive regulation, based on capital requirements (based on risk-weighted assets) as a regulatory norm, thus replacing the previous strategy focused on deposit liquidity (Carvalho, 2005). As pointed out by Carvalho and Souza (2011:17), “Traditionally, financial regulators in Brazil had required banks to maintain minimum absolute levels of capital, depending on the nature of the institution, its geographical location, etc. The novelty of the Basel agreement was to make capital coefficients variable according to the degree of risk to which banks were exposed in their asset portfolios”.

However, some Basle rules were adapted when implemented in Brazil. In 1997, the regulatory capital coefficient was raised from 8% (as proposed in the original text of Basle I) to 11%, following Basle Committee recommendations that developing countries should adopt higher minimum capital coefficients due to the greater financial risks they incur. Other adaptations, in turn, were implemented because Brazilian regulators took into account some specificities of the Brazilian financial system. Along these lines, in adhering to Basle II recommendations (launched in mid-2004), the Central Bank of Brazil (BCB) was very agile and responsive. A schedule was set in December 2004 which established the year of 2011 as the deadline, but, at the same time, issuing some modifications required by local conditions. For instance, the standardized approach to the calculation of credit risks is not based on ratings set by specialized agencies, and universal banks

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10 “The Fund currently guarantees these liabilities up to the value of R$ 60,000 per person (identified by his/her internal revenues personal number). Its resources come from a contribution made by financial institutions to the value of 0.0125% of the balances covered by insurance” (Carvalho & Souza, 2011:11).
was allowed to use their own internal systems to calculate their capital requirements only in March 2012.  

Almost simultaneously (in February 2012), the BCB launched the schedule for the implementation of Basle III (issued in November 2010) in Brazil, which will follow the international schedule, beginning on 1º January 2013 and concluding on 1º January 2019. At the same moment, a public hearing on the adoption of Basel III proposals in Brazil was opened. Although the suggestions presented by banks until April 2012 could be considered in the final version of Basle III, the BCB have already announced that the Brazilian version will be very similar with the original one.

The Basel III Accord does not call into question the structure of Basel II. The three pillars will remain, with some improvements that is aimed at avoiding the market and regulatory failures revealed by the crisis, among which the pro-cyclical nature of the deleveraging process and the strong interconnection among financial institutions through a series of complex transactions. In response to these failures, the Basle Committee proposes changes in international regulatory standards in order to strengthen the capacity to absorb shocks of any nature (financial or economic) of banking institutions individually, as well as of the banking system as a whole. Then, the so-called macroprudential dimension of financial regulation eventually came to be considered by the Basle principles.

It is important to mention that the origin of the term “macroprudential” can be traced back to unpublished documents prepared in the late 1970s by the Cooke Committee (the precursor of the Basel Committee) and the Bank of England. However, public references to this term surfaced only in mid-1980s with the BIS document (BIS, 1986) which discussed it as a policy aimed at supporting the safety and soundness of the financial system as a whole, as well as payments mechanism (Galati & Moessner, 2011). While policy debate and academia research on the role of macroprudential regulation has flourished in the wake of the Global financial crisis, a consensus is still missing both on its meaning and on what kind of measures could be included in the macroprudential regulation toolkit. Regarding the first issue, in this paper the stylized characterization of the micro and macroprudential regulation proposed by Borio (2003) is followed: while macroprudential regulation aims at limiting financial system-wide distress (in other words, systemic risk) to avoid macroeconomic costs linked to financial instability, the goal of the microprudential one is to limit distress of individual institutions to protect consumer (investor/depositor). In respect to the second issue (the kind of measures), in coherence with the definition above, macroprudential tools are defined as prudential regulation tools set up with a macro (in the sense of system-wide/systemic)

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11 For a more detailed analysis of Basle I and II Accords in Brazil, see: Carvalho & Souza (2011).
12 See, for instance, Blanchard et al. (2011)
lens (Galati & Moessner, 2011). Furthermore, the macroprudential regulation interacts with macroeconomic policies tools which could also be used to limit systemic risk. Similarly, macroprudential measures can be auxiliary tools in the pursuit of other policies goals.

Under Basle III, the macroprudential tool included is the countercyclical capital buffer, which the BCB has already announced that will be also presented in the Brazilian version. However, other macroprudential regulation based on capital requirements was adopted by the BCB from December 2010 to November 2011. During this period, capital requirements for most consumer credit operations with maturities of over 24 months were raised from 11% to 16.5% (along with changes in the loan-to-value ratio on vehicle financing) with the aim of moderating the high growth rate of consumer credit.

Furthermore, the Brazilian preventive regulation still encompasses the strategy of liability regulation, focused on compulsory reserve requirements and additional liability compliance on multiple banks’ cash, time and savings deposits. Thereby, the adoption of the Basle principles on capital requirements (asset regulation) did not mean the extinction of the strategy focused on deposit liquidity, which took place in most developed and developing countries with the launch of the financial deregulation process. These requirements have been used as a countercyclical tool in the last quarter of 2008 (to mitigate the contagion effect of the global financial crisis on the credit market)\textsuperscript{13} as well as a macroprudential tool in December 2010, when the unremunerated reserve requirement on time deposits were raised from 15 percent to 20 percent and the additional reserve requirement on cash and time deposits were increased from 8 percent to 12 percent.

In fact, at the end of 2010, the BCB adopted a set of macroprudential measures, focused both on the asset and the liability side of multiple banks, with the stated prudential purpose of curbing the consumer credit boom to avoid systemic risk in the credit market. Nevertheless, these measures were also adopted as an auxiliary tool to attain a monetary policy goal, the control of inflation. More specifically, despite of increasing even more the policy rate, which could have undesirable side effects (mainly, encourage further capital inflows, which, in turn, would foster the currency appreciation), the BCB has chosen for using the macroprudential regulation.

This regulation was also used in two moments as an auxiliary tool of exchange rate policy to stem short-term capital flows and the resulting currency appreciation pressure. In January 2010, a non-interest reserve requirement equivalent to 60 percent of bank’s short dollar positions in the FX spot market that exceed US$ 3 billion or their capital base, whichever is smaller (to be implemented over 90 days). And in July 2011, as the boom of capital flows to Brazil persist, this requirement became mandatory for amounts over USD 1 billion or their capital base (whichever is smaller).

\textsuperscript{13} See Cunha, Prates e Ferrari Filho (2011).
Summing up, in order to deal with economic policy dilemmas and try to achieve the multiple policy objectives (containing the growth rate and inflationary pressures without reinforcing the exchange rate misalignment), the Brazilian monetary authority adopted a broader strategy of economic policy, encompassing macroeconomic policy, macroprudential regulation as well as derivatives markets regulation and capital controls, as detailed in the following sections. It is also important to mention that the centralization of macroprudential and monetary policies responsibilities within the same institution (the Brazilian Central Bank) contributes to the coordination between these two set of policy tools, enhancing the effectiveness of the economic policy.\(^{14}\)

2.2. Capital market regulation

As in the banking system, in the regulation of the domestic capital market (which encompasses the equity and the fixed income segments), Brazilian regulators try to follow international recommendations, established by the International Organization of Securities and Exchange Commission (Iosco). These recommendations still follow the traditional model, according to which this regulation should protect the integrity of the market by promoting transparency, accountability and by controlling as well as eliminating conflicts of interest and market manipulation.\(^{15}\)

The Securities and Exchange Commission (CVM in the Portuguese acronym) is the domestic regulatory institution responsible for this market-based regulation by: (i) controlling and monitoring the markets; (ii) increasing market safety (for instance, circuit breakers); (iii) establishing rules to safeguard minority investors’ rights and to improve corporate governance (Corporate Law 10.303/2011); (iv) creating a special segment (called New market) at the São Paulo Stock Exchange to attend the demands of more discriminating investors.\(^{16}\)

Besides that, other important goal of Brazilian regulators since the last decade has been fostering the development of the capital market through many initiatives, among which the most significant were: (i) the financial openness of this segment that was completed in January 2000, when the Resolution CMN n. 2689 allowed the access of non-resident investors to all the segments of the domestic capital market (Prates, 2006; De Paula, 2011)\(^{17}\); (ii) the creation of new instruments to push the securitization process, such as the Investment Fund in Credit Claims (FIDC in the Portuguese acronym); (iii) on 15 December 2010, the launch of a stimulus package to stimulate the

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\(^{14}\) This issue is recognized by Blanchard et al. (2010).

\(^{15}\) As pointed out by Carvalho & Souza (2011:21), this model disregards systemic concerns although recently “a vigorous research field has emerged in the study of how systemic risks similar to those created by the possibility of paralysis of the banking system could emerge as a result of the collapse of securities markets”.

\(^{16}\) See CVM website: www.cvm.gov.br.

\(^{17}\) For a detail description of capital account liberalization in Brazil, see: De Paula (2011).
development of a private market for long-term financing by increasing the attractiveness of long-
term fixed-income securities.

Regarding this more recent initiative, along with tax cuts (with a cost estimated at R$ 972
million in the first two years), important institutional changes were introduced with the aim of
increasing the expected profitability and the liquidity of these securities. Among those, two
specially important were the regulation of public offering of long-term securities (called Letras
Financeiras), issued by banks which hitherto could only be sold privately, and the repeal of Article
60 of the Corporation Law (Law no. 6,404, 1976), which defined a limit for fixed-income securities
issuance.\textsuperscript{18}

Finally, the domestic capital market regulation also encompasses an institution-based
approach, which has an implicit prudential dimension. Rules regarding the composition of resident
institutional investors portfolios are established and supervised by the following institutions (see
Table 1): in the case of Private insurance, the National Council of Private Insurance (CNSP) and the
Superintendence of Private Insurance (Susep); in the case of Pension, the Funds National Council of
Complementary Private Pension (CNPC) and the National Superintendence of Complementary
Private Pension (Previc); finally, the CVM is responsible for the regulation of the Investment funds,
but the BCB’s is in charge of verifying risk management and control by the administrator of
resources as well as by the segregation between fund management and the management of the
administering institution.

2.3. Derivatives market regulation

The derivative market can be defined as the market in which forward deliverable
instruments are traded. Unlike most emerging economies, Brazil’s derivatives market is one of the
most liquid and deep in the world due to a set of factors. In chronological order, first, there are
specificities of the inflationary process until the Real Plan (1994), namely, the indexed-based
money, which avoided the dollarization of the economy. Second, the macroeconomic environment
since 1994 was characterized by high interest rates and exchange rate volatility. Third, Brazil has
high degree of financial openness. The already mentioned Resolution CMN n. 2689/2000 also
allowed non-resident investors to have unrestricted access to the derivative segment of the domestic
financial markets. This compromises even more the capability of the monetary and exchange-rate
policy to influence the determination of the exchange rate, as well as the formation of the interest
curve.

Besides these features (liquidity, deepness and openness), the Brazilian derivatives market is
also characterized by two regulatory specificities. On the one hand, all derivatives operations
\textsuperscript{18} For more information on this package, see: Freitas (2011).
carried out in the on-shore market should be registered. More specifically, the ones conducted in the organized (BM&F) and the Over-the-Counter (OTC) markets (which are registered in Cetip, a publicly-held company that offers services related to registration, depository, trading and settlement of assets and securities)\(^\text{19}\). However, with the contagion effect of the global financial crisis, shortcomings in the regulation were disclosed. It is worth reminding that with the abrupt devaluation of the real following the worsening of the crisis in mid-September 2008 (as a result of the bankruptcy of the United States investment bank, Lehman Brothers) – that pushed the exchange rate above R$ 2 per dollar – around 220 companies (mostly, exporters) which had performed high-risk operations in the FX derivative market incurred in major losses. At the same time, banks had faced counterpart risk because of loopholes in the regulation (in fact, some operations in the OTC market were not registered) and lack of transparency due to the non-consolidation of each agent derivatives positions\(^\text{20}\). To fix these problems, at the end of 2008, the CVM released the statement 475/08 in combination with Resolution 566/08, which both made the dissemination of data regarding derivatives more transparent and facilitated the analysis of firms’ accounting exchange rate exposure\(^\text{21}\). Nonetheless, it is even more important to address the transparency shortcoming was a private initiative, the creation of the Central of Exposure in Derivatives (CED in the portuguese acronym), in December 2010, by the Brazilian Bank Association (Febraban).

On the other hand, also in contrast to the majority of countries, in Brazil the FX Derivatives’ operations are non-deliverable, in other words, gains or losses in these operations are liquidated in the domestic currency (the real) and not in United States dollars (which, in turn, is related with the non-dollarization of Brazilian economy during the high inflation period). This specificity has two correlated implications. As the contagion effect of the global financial crisis also highlighted, the impact of gains and losses in FX Derivatives’ on the capital account and, therefore, on the exchange rate trend are smaller than in countries with deliverable contracts (for instance, South Korea\(^\text{22}\)). However, at the same time, due to this specific trait, these operations simulate the impact of capital flows on the exchange rate without any effective capital flows. This means that these synthetic or virtual operations carried out by financial (banks and non-banks) and non-financial agents are outside the scope of both prudential regulation and capital controls (which will be analyzed in the next section). In other words, while other countries faced only a problem of low efficacy of capital

\(^{19}\) Brazilian firm data on the use of derivative became available in 1996 (CVM), Normative Statement 235/1995.

\(^{20}\) These operations were performed in the context of an uninterrupted appreciation of the Brazilian real since 2003, with the aim of offering protection to the estimated amount of exports against the devaluation, or of obtaining speculative gains (if the value of the operation surpassed the exports), or of reducing the cost of bank loans (Prates & Cintra, 2010).

\(^{21}\) For more information on these changes, see: Rossi Jr. (2011).

\(^{22}\) For a comparison of the global financial crisis’ contagion effect on the Brazilian and South Korea derivative and exchange markets, see: Prates & Cintra (2010) and Farhi & Borghi (2009).
controls to deal with these operations due to its high degree of leverage, Brazil has faced an even greater challenge, as these two kinds of regulation have proven to be ineffective.

The Brazilian regulatory authorities realized this shortcoming and launched specific measures to reach these operations in 2010 and 2011, that had a central role in the appreciation of Brazilian currency (i.e., in the fall of the R$/US$ exchange rate) before and after the global financial crisis. These measures can be classified as instrument-based as it applies only to FX derivatives operations. In the first moment (October 2010), the financial tax (IOF) on margin requirements on FX derivatives transactions increased from 0.38 percent to 6 percent and some loopholes for IOF on margin requirements were closed. Nevertheless, these initiatives were insufficient to stem the appreciation trend because the specific feature of these transactions in Brazil. Therefore, on July 2011, a new legislation was launched, establishing rules to curb the speculative operations on the FX derivatives markets as well as to improve even more its transparency, among which:

- The CMN became the agency responsible for regulating the derivatives market;
- All FX must be priced according to the same method (measuring the delta);
- All FX derivatives must be registered in clearing houses;
- The FX exposure of all agents must be consolidated (liquid position);
- Excessive long positions on BRL off all agents pay a financial tax (1%). This tax can be increased up to 25 percent. On March 2012, exporters hedge operations (up to 1.2 times the exports of the previous year) were exempted from the IOF.

2.4. Capital controls

The academic research and policy recommendations on capital controls (and related concepts such as the IMF concept of Capital Flows Management Measure, and Ocampo concept of Capital account regulations – see note 7) have flourished since 2009, when a new boom of capital flows to emerging countries took place, resuming policy dilemmas to the emerging countries. Besides the post-crisis circumstances, this boom is also a manifestation and a consequence of the fact that no structural change on the International Monetary and Financial System was adopted on the wake of the global financial crisis. Once more, “emerging-market assets” became objects of desire on the part of global investors.

Despite the pejorative term of “controls”, as pointed out by Ocampo (2012)\textsuperscript{23} and the IMF (IMF 2011 and Ostry et al. 2011), in this paper the concept of capital controls is considered appropriated and useful to identify the particularities of each kind of financial regulation which

\textsuperscript{23} “Domestic financial regulations are called by that name, but if they involve cross-border flows, they are called ‘controls’. We would refer to them by their appropriate name: capital account regulations” (Ocampo, 2012:20).
affects cross-border flows in a country such as Brazil, with an open capital account. Unlike the IMF current definition – that sticks to a juridical definition brought forward by the OECD in its Code of Liberalization of Capital Movements (2009), considering capital controls only and exclusively measures with impact on capital inflows which discriminate between residents and nonresidents\(^{24}\) – the following definition of capital controls is adopted: a range of financial regulation tools (price and quantitative-based, residency and currency-based) which manage cross-border flows (both inflows and outflows) that are not (or are only partially) intermediated by the domestic banking system (and, therefore, are outside the scope of prudential regulation).

This management has two goals: (i) a macroprudential one: limiting the financial fragility associated with capital flow reversals (such as those related with currency mismatches); (ii) an economic policy one: increasing the policy space to control the key macroeconomic prices (exchange rate and interest rate); in other words, capital controls enlarge the room of manoeuvre of the macroeconomic policy, mainly to pursue counter-cyclical policies during booms and bursts.\(^{25}\)

It is important to mention that there are important feedbacks between these two goals: as the Brazilian experience showed, currency appreciation stimulates speculative positions in FX derivatives, threatening financial stability. Therefore, the capacity of maintaining the exchange-rate in a competitive level (second goal) contributes to financial stability (first goal). However, while in some contexts both goals are presented and have a countercyclical dimension, in other ones the policy makers may face only the macroeconomic policy challenge. For instance, one situation of currency appreciation pressures (which threaten the export performance) due to non-resident portfolio investments in domestic currency denominated investments (that not result in currency mismatches) in a country with a huge amount of international reserves do not necessarily jeopardize the financial stability.

Furthermore, as in Gallagher, Griffith-Jones and Ocampo (2012) approach, capital controls are seen as an essential and permanent part of the economic policy toolkit of an open capital account emerging country\(^{26}\) and not as measures of last resort. In this sense, it is not possible to establish a clear cut triple hierarchy between instruments to manage capital flows as supported by the current IMF approach. According to it, “before imposing capital controls, countries need first to exhaust their macroeconomic-cum-exchange-rate policy options (...) Second, while prudential

\(^{24}\) An explanation for the highlighting of this jurisdictive criteria is given in IMF (2011, p. 45): "This prioritization of measures takes into account institutional and political economy concerns flowing from the general standard of fairness that a member expects that its nationals will enjoy as a result of its participation in a multilateral framework."

\(^{25}\) These goals are very similar with the ones of capital account regulations: "(...) be a complementary macroeconomic policy tool and help reduce the risks associated with liability structures tilted towards reversible capital flows" (Ocampo, 2012: 22).

\(^{26}\) In that regard, Gallagher, Griffith-Jones and Ocampo (2012:13) pointed out that capital account regulations, which encompass capital controls “should be considered differently in nations where the capital account is still largely closed versus those nations where CARs are prudential regulations to manage an open capital account".
regulations and capital controls can help reduce the buildup of vulnerabilities on domestic balance sheets, they both inevitable create distortions (…) (though non-discriminatory prudential measures are always appropriate)” (Ostry at al., 2011:4). Then, firstly, macroeconomic policies should be adopted; if these policies are insufficient, prudential regulation measures should be launched; and only lastly capital controls should be used as this kind of measure might have, from a welfare perspective, a higher distorting effect than the former.

The Brazilian experience with capital flows management after the global financial crisis shed light to this last point. This management has encompassed a prudential regulation tool (the non-interest reserve requirement on bank’s short dollar positions – see section 2.1) which do not reach two other important kind of capital flows: portfolio investment in the equity and fixed income; and foreign indebtedness of residents. Therefore, to curb the undesirable effects of those flows on financial and macroeconomic stability, the Brazilian regulatory authorities adopted two price-based capital controls: a financial tax (IOF) on these portfolio investment; and a financial tax on foreign loans by residents (see Table 1).

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oct./2009</td>
<td>The Ministry of Finance reinstated a 2% financial transaction tax (IOF) on equity and fixed income portfolio inflows.</td>
</tr>
<tr>
<td>Oct./2010</td>
<td>(i) IOF increased twice (from 2 to 4 percent) for fixed income portfolio investments and equity funds. (ii) IOF increased to 6 percent for fixed income investments</td>
</tr>
<tr>
<td>Mar./2011</td>
<td>Increased to 6 percent the IOF on new foreign loans (banking loans and securities issued abroad) with maturities of up a year. Companies and banks previously only paid a 5.38 percent IOF on loans up to 90 days.</td>
</tr>
<tr>
<td>April/2011</td>
<td>(i) 6 percent IOF extended for the renewal of foreign loans with maturities of up a year (ii) 6 percent IOF extended for both new and renewed foreign loans with maturities of up to 2 years</td>
</tr>
<tr>
<td>Dec/2011</td>
<td>IOF on equity and fixed income (linked with infrastructure projects) portfolio inflows reduced to 0%</td>
</tr>
<tr>
<td>March/2012</td>
<td>(i) 6 percent IOF extended for both new and renewed foreign loans with maturities of up to 3 years (ii) Export advanced payment transactions with maturities of more than a year prohibited (iii) 6 percent IOF extended for both new and renewed foreign loans with maturities of up to 5 years</td>
</tr>
</tbody>
</table>

Source: Own elaboration based on BCB website.

3. Evaluation of the financial regulation

To evaluate the financial regulation in Brazil (based on the analytical perspective presented in the Introduction), firstly it is necessary to verify if all the dimensions identified in the second
section are covered by the financial regulation toolkit. Table 2 summarizes the relationship between these dimensions and each kind of regulation.

All these regulations are important for encompassing the multiple dimensions defined above (and, then, to achieve the three aims). In fact, only the derivatives transactions carried out in the off-shore market are not covered by the Brazilian financial regulation toolkit. Table 2 also makes evident the importance of three types of regulation (prudential regulation, capital controls and derivative market regulations) to reach all possible sources of exchange rate volatility and misalignment.

**Table 2. Financial regulation toolkit**

<table>
<thead>
<tr>
<th>Regulation</th>
<th>Agents</th>
<th>Asset X liability</th>
<th>Currency</th>
<th>Market</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Financial (banks and non-banks)</td>
<td>Resident X</td>
<td>Domestic and FX denominated and liquidated</td>
<td>On-shore X off-shore</td>
</tr>
<tr>
<td></td>
<td>X non-financial</td>
<td>Non-resident</td>
<td></td>
<td>Spot and derivatives (on-shore)</td>
</tr>
<tr>
<td>**Prudential</td>
<td>Banks</td>
<td>Asset</td>
<td></td>
<td></td>
</tr>
<tr>
<td>regulation**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Capital adequacy</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reserve requirements</td>
<td>Banks</td>
<td>Resident</td>
<td>Domestic and FX denominated and liquidated</td>
<td>On-shore</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Liability</td>
<td></td>
<td>Spot</td>
</tr>
<tr>
<td>Safety Net</td>
<td>Banks</td>
<td>Resident</td>
<td>Domestic and FX denominated and liquidated</td>
<td>On-shore</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Liability</td>
<td></td>
<td>Spot</td>
</tr>
<tr>
<td>Capital market</td>
<td>Both</td>
<td>Both</td>
<td>Domestic and FX-denominated (NTN-cambiais)</td>
<td>On-shore</td>
</tr>
<tr>
<td>regulation**</td>
<td></td>
<td>Both</td>
<td></td>
<td>Spot</td>
</tr>
<tr>
<td>Derivatives</td>
<td>Both</td>
<td>Both</td>
<td>Domestic and FX-denominated</td>
<td>On-shore</td>
</tr>
<tr>
<td>regulation**</td>
<td></td>
<td>Both</td>
<td>(but indirect effect on off-shore)</td>
<td>Derivatives</td>
</tr>
<tr>
<td>Capital controls</td>
<td>Portfolio inflows</td>
<td>Both</td>
<td>Domestic and FX-denominated</td>
<td>On-shore</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Non-resident</td>
<td></td>
<td>Spot</td>
</tr>
<tr>
<td></td>
<td>Foreign Loans</td>
<td>Both</td>
<td>FX liquidated and denominated</td>
<td>Off-shore</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Resident</td>
<td></td>
<td>Spot</td>
</tr>
</tbody>
</table>

Source: Own elaboration based on the following websites: [www.bcb.gov.br](http://www.bcb.gov.br); [www.cvm.gov.br](http://www.cvm.gov.br); [www.fazenda.gov.br](http://www.fazenda.gov.br).

Furthermore, there are important feedbacks and synergy among the different regulatory tools. For instance, as pointed out by the literature on domestic financial regulation, preventive regulation is important to minimize the use of safety net tools (which could threaten monetary stability). Regarding the managing of capital flows, capital controls need to be instituted to cover
particular types of capital flows that are outside the scope of prudential regulation (for instance, foreign loans by non-financial companies).

Secondly, it is necessary to check whether the three main goals of financial regulation have been achieved. Regarding the first and the second ones – managing instability and contributing to the management of key-prices – there is no doubt that many improvement took place after the global financial crisis, mainly in relation to external instability and to exchange rate management as a broaden strategy of regulating both capital flows and FX derivative operations that has been adopted. Nevertheless, it is important to mention that this strategy took a long time to be launched. Its early limited scope and the gradual implementation of measures resulted in regulatory arbitrage, that is, private agents found loopholes to circumvent the regulations. During 2009 and 2010, its impact was more on the composition of inflows than on their volume and on the currency appreciation trend (as at that time the regulations did not covered both banks FX spot long positions and FX derivatives positions).

Summing up, some lessons can be learned from the recent Brazilian experience in dealing with capital flows and agents FX positions, such as: (i) country-specific factors (macroeconomic and institutional ones) should be taken into account in the designing of the specific range of measures to be adopted; (ii) in countries with open and depth derivatives markets, a third type of regulation, the derivatives market regulation, need to complement capital controls and prudential financial regulation; while other countries faced only a problem of low efficacy of these two regulations due to the high leverage degree of derivatives operations, in Brazil they turned out to be ineffective as these operations are non-deliverable, (iii) in sophisticated and open financial markets, financial regulation should be dynamic and involve a “fine-tuning” to close the loopholes; (iii) financial regulation should complement macroeconomic policies in a permanent basis.

However, Brazil financial regulatory toolkit has some shortcomings, among which: the preventive regulation of the banking system are anchored on Basle principles, which even with Basle III still present inherent fragilities; these regulation could take into account other Brazilian specificities (such as the greater risk of currency mismatch due to the currency hierarchy); other prudential financial regulation instruments could be adopted as a form of capital controls, as well as other types of capital controls with a higher effectiveness (for instance, quantitative-based ones and outflow controls) could be implemented. In relation with capital market regulation, as in Brazil securitization and ressecuritization is still limited and a Shadow Banking System is not present, the adoption of the traditional model is not a problem for now.

It is important to note that the evaluation presented above assume that the open capital account environment will be maintained in the following years. In this setting, a broader regulation of capital flows and FX derivatives should be implemented (to manage instability and, mainly, the
exchange-rate). A hard critical view would support that the high degree of financial openness should be reverted through changes in capital market regulation and derivatives markets regulation. However, it is seemed utopian to think that this path is feasible without structural changes in the monetary and financial international system (which did not happen after the global financial crisis).

Finally, regarding the third goal of financial regulation – supporting the process of capital accumulation by stimulating the development of finance and long term funding mechanisms in favorable conditions in terms of cost and maturities – the stimulus package launched at the end of 2010 to stimulate the development of a long-term securities market had a quite limited impact so far. Concerning the cost of credit, the government launched recently an important initiative of credit policy though the two public commercial banks (Banco do Brasil and Caixa Econômica Federal). These institutions reduced the bank spread of many credit operations with the aim of forcing private banks to pursue the same strategy.

It is worth to mention that, besides this role (namely, boost competition in the bank sector), Brazilian public banks have other two key functions: (i) perform a countercyclical role during times of economic downturn and of tightening credit conditions by private banks (preserving, at least in part, the private investment and consumer spending), as Banco do Brasil, Caixa Econômica Federal and, mainly, BNDES (the Brazilian development bank) did after the contagion effect of the global financial crisis (from the last quarter of 2008 to the end of 2009); (ii) provide credit to certain sectors and/or activities considered strategic for the development due to their high risk and/or low profitability (such as rural activities, real state credit to low income citizens and some kinds of long-term investments) (Prates & Freitas, 2010). Then, the mixed nature (private and public) of the Brazilian banking sector should be maintained.

Nevertheless, to achieve this third goal, other institutional and macroeconomic initiatives should be adopted in order to enlarge the maturity profile of financial and increase the involvement of private banks in the financing of investments. As proposed by Freitas (2011), firstly, it is necessary to complete the separation of monetary policy and public debt management in order to prevent the contamination of the public debt stock by the interest rate policy. Secondly, the coordination of macroeconomic policies as well as between these policies and financial regulation tools should be improved to allow a permanent reduction of the policy rate. Thirdly, the financial investments should be taxed according to their maturity profile, setting higher rates of income tax for short-term applications. Fourthly, the minimum investment period of time and savings deposits should be increased.
Bibliography


OCAMPO, José Antonio (2012) The Case For and Experience With Capital Account Regulations. In: Gallagher, Griffith-Jones and Ocampo (op.cit.)


Annex
Chart - Brazilian Normative subsystem

<table>
<thead>
<tr>
<th>Normative entities(1)</th>
<th>Supervisory entities (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Monetary Council (CMN): responsible for the establishment of the guidelines of the monetary, credit and exchange policies. The CMN are integrated by the Minister of Finance, the Minister of Planning, Budget and Management and the President of the Central Bank of Brazil</td>
<td>Central Bank of Brazil (Bacen), which supervises the following financial institutions: commercial banks; multipurpose banks; development banks; investment banks; Federal Savings Banks (CEF); Credit, financing and investment companies; Real estate credit companies; Foreign exchange and bonds and securities brokerage companies; Bonds and securities distributing companies; Savings and loans associations; Credit unions; Mercantile leasing companies; Consortium administrators; financial institutions representative offices headquartered abroad (in the aspects related to the prevention against money laundering); Microentrepreneur credit enterprises; Incentive agencies; Mortgage companies. Besides these institutions, Bacen still supervises specific activities authorized by it, are carried out by: Tourist agencies and means of accommodation authorized by Bacen to operate in the foreign exchange market; Brazilian enterprises administering internationally valid credit cards; and Brazilian Post and Telegraph Company (ECT), in international funds transfers linked to international postal parcels.</td>
</tr>
<tr>
<td>Securities and Exchange Commission (CVM): responsible for regulating, developing, controlling and monitoring the securities markets of the country</td>
<td></td>
</tr>
<tr>
<td>National Council of Private Insurance (CNSP): responsible for defining the guidelines and policy norms on private insurances</td>
<td>Superintendence of Private Insurance (Susep): responsible for supervising private insurances</td>
</tr>
<tr>
<td>National Council of Complementary Private Pension (CNPC): responsible for regulating the private pension scheme operated by pension funds</td>
<td>National Superintendence of Complementary Private Pension (Previc): responsible for supervising pension funds</td>
</tr>
</tbody>
</table>

Source: Central Bank of Brazil (www.bcb.gov.br).

Notes:
(1) Responsible for the establishment of policies and norms applicable to SFN.
(2) Besides the entities presented in the table, the supervisory system also encompass the Federal Revenue office, responsible for financial taxes (IOF), a price-based capital control.