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Regulating development banks: a case study of the Brazilian Development Bank (BNDES) (1952-2019)

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Abstract

The State can intervene in the financial system in different ways. In this paper we discuss how two different forms of intervention, financial regulation and development banks, interact in the real world. Our aim is to understand how current financial regulatory standards are influencing development banks and their performance as a tool for the socialization of investment, specially to comprehend if and how regulation is jeopardizing those institutions in accomplishing their mission. We analyze the case of the Brazilian Development Bank (BNDES) in the period 1952-2019, focusing in the period after the adoption of Basel standards by Brazilian authorities (1994). More specifically, we describe and assess the current regulatory framework that rules BNDES governance, operations, and risk management practices in terms of its impacts on the bank's ability in accomplishing its mission as a development bank.

JEL Codes: G18; G28; G29.

Keywords: Financial system; financial regulation; development banks; Basel standards; Brazilian Development Bank.

Regulando bancos de desenvolvimento: um estudo de caso do BNDES entre 1952 e 2019

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Resumo

O Estado pode intervir no sistema financeiro de diferentes formas. Neste trabalho, discutimos como duas dessas formas, a regulação financeira e os bancos de desenvolvimento, interagem no mundo real. Nosso objetivo é compreender como os padrões regulatórios atuais influenciam os bancos de desenvolvimento e sua performance na promoção da socialização dos investimentos e, em particular, se e como a regulação prejudica essas instituições em cumprirem sua missão. Analisamos o caso do Banco Nacional de Desenvolvimento Econômico e Social (BNDES) no período entre 1952 e 2019, com foco no intervalo de tempo após a adoção dos Acordos de Basileia pelas autoridades brasileiras – o que ocorreu em 1994. Mais especificamente, descrevemos e analisamos o arcabouço regulatório brasileiro corrente no que tange à governança, limites operacionais e práticas de gerenciamento de risco do BNDES e avaliamos seu impacto no cumprimento da missão dessa instituição como banco de desenvolvimento.

Palavras-chave: Sistema financeiro; regulação financeira; bancos de desenvolvimento; regras de Basileia; BNDES.

Códigos JEL: G18; G28; G29.

Introduction

From a Minskyian perspective, in modern capitalist societies, investment financing tends to be 'ill done' because of uncertainty and speculation. The 'invisible hand' of the market is unable to assure that investments will be enough so that the economy would achieve full employment. Moreover, the adoption of financially fragile positions in the process of investment might induce financial instability and crisis that may hamper economic development for purely financial reasons.

Therefore, the government needs to intervene to promote the so-called 'socialization of investment' and to contain financial fragility. For Minsky, socialization of investment would include different tools that complement private investment in the origination of new fixed assets, such as dedicated taxes for infrastructure construction, capital budgeting, and development banks. These banks should play two essential roles. The first is to ensure that finance is always available to investment projects along the financial cycle, based on an 'entrepreneurial' rationale. The second is to work to supplement private financial institutions to ensure that the market would never be short of finance to invest, playing a counter-cyclical role to promote a level of effective demand that gravitates around full employment.

However, development banks, as any economic unit, are also subject to a 'survival constraint,' redesigned into 'financial regulatory constraints.' The government should assure that every bank always meets these constraints, what demands monitoring and supervision, and a set of rules that guarantees every bank does not compromise financial stability. At the same time, regulation should not conflict with the mission of development banks in promoting the socialization of investment.

This paper aims at analyzing a real-world case to understand how current financial regulatory standards are influencing development banks and their performance as a tool for the socialization of investment. We analyze the case of the Brazilian Development

Bank (BNDES)[1] from 1952 to 2019, focusing in the period after the adoption of Basel standards by Brazilian authorities (1994). More specifically, we describe and assess the current regulatory framework that rules BNDES governance, operations, and risk management practices in terms of its impacts on the bank's ability in accomplishing its mission as a development bank.

The remainder of this paper has five sections, as follow. Section 1 provides an overview of BNDES, detailing some historical facts, institutional particularities (such as funding instruments) and data that characterize how the bank works. Section 2 provides a brief history of BNDES regulation over time. Section 3 presents the current regulatory framework, focusing on Basel regulations, operational limits and governance rules, and discussing the main modifications in recent years. Section 4 discusses the impacts of the current regulatory framework on BNDES. The conclusion points the constraints imposed by Brazilian regulation that may conflict with the BNDES mission in socializing investments.

[1] BNDES is the acronym of the official name in Portuguese of the Brazilian Development Bank adopted after 1982: Banco Nacional do Desenvolvimento Econômico e Social.

1 The Brazilian Development Bank (BNDES): a brief overview

The Brazilian government created BNDES in 1952 to act as a government agent to finance the re-equipment and development of the national economy[2]. Its original mission was to provide long-term funds for heavy industries and infrastructure investment projects. In its early years, BNDES' operations funded investments related to Brazil´s economic structural transition from a rural and an export-oriented commodity producer, to an urban and industrial society.

BNDES creation was a suggestion of the Joint Brazil-United States Economic Development Commission (CMBEU) to the Brazilian government, inspired by the US experience with development financial institutions in the 1930s – the same institutions Minsky had in mind when discussing development banks[3]. The Commission also analyzed the feasibility of many investment projects – particularly in infrastructure. BNDES later used the work of CMBEU to pick up the first projects it financed. The bank concentrated some functions of the Ministry of Finance (MoF) and became the center of studies and formulation of policies to eliminate the obstacles to public and private investments.

Since it started, BNDES, according to its by-laws, can only extend loans to investment projects that have a positive internal rate of return over the interest rate charged. In a Minskyian terminology, BNDES always had to comply with an 'entrepreneurial rationale.' Its current by-law states in article 10: "To grant financial collaboration, BNDES shall carry out: **I** – the technical and economic-financial examination of the undertaking, project or business plan, including the assessment of its social and environmental implications; [and] **II** – verification of security of the reimbursement" (BNDES, 2019). Additionally, the bank acted according to the second Minskyian proposition for DBs: provide long-term countercyclical funds to increase investment up

[2] Law no. 1628, June 20, 1952.

[3] See Torres and Martins, 2019

to the full employment level. It also had another function, which Minsky did not mention in his insights, to extend long-term loans to change the industrial structure of the country.

The Brazilian federal government has always been the sole owner of BNDES. As a state-owned bank, it is not subject to judicial and extrajudicial reorganization, bankruptcy proceedings, and Central Bank intervention[4]. The development bank has always had a special relationship with the Brazilian National Treasury, and most of its resources come from special government funds. In the 1950s and 1960s, an income surtax provided most of the bank's funding. There were also discretionary allocations of part of the revenue of the financial transaction tax and some external funding from the US government, under the "Wheat Agreement" with the government of Brazil[5].

This arrangement changed after the Second National Development Plan in 1974. Since then, BNDES became by law the only manager of one of the two most important government funds[6], the Social Integration Program (PIS/PASEP)[7]. From then on, the bank had a significant and permanent source to finance investments. The Worker's

[4] The prospectus for the issuance of BNDES bonds in the international markets states that "as a state-owned financial institution, we [BNDES are not subject to Law No. 6,024 of 13 March 1974, or the Financial Institutions Liquidation Law, which empowers the Central Bank to intervene extrajudicially in and liquidate private sector and non-federal financial institutions. Moreover, according to Brazilian Bankruptcy and Restructuring Law, as a wholly owned government company, we are not subject to judicial and extrajudicial reorganisation and bankruptcy proceedings. As a result, our creditors cannot use the enforcement actions provided for by the Brazilian Bankruptcy and Restructuring Law against us, including petitioning for our winding up, liquidation or dissolution. Neither the Financial Institutions Liquidation Law nor the Brazilian Bankruptcy and Restructuring Law expressly states whether the Brazilian Government is liable for our obligations in the event of our insolvency. However, the legal consultant of the Ministry of Development, Industry and Foreign Trade, which then served as a regulatory supervisor to BNDES, issued a legal opinion dated 18 June 2010 stating that, as a wholly owned federal government company, we are not subject to bankruptcy, and that, as our sole shareholder, the Brazilian Government is liable for our indebtedness in case of an event of default"

[5] The "Wheat Agreement' was part of the US foreign aid program and allowed the Brazilian government finance in the long run the acquisition of agriculture products - mainly wheat - to use the local currency proceeds after selling them in the domestic market to fund BNDES, see US Department of State, 1961.

[6] The other is the Fundo de Garantia por Tempo de Serviço (FGTS) that provide long-term loans for housing and supports the worker´s when they are fired or they retire

[7] PIS resources come from a tax levied on corporations' sales.

Support Fund (FAT), created by the 1988 Constitution, absorbed the PIS contributions with the purpose of funding unemployment benefits and supporting BNDES, which up to nowadays has the right to kept 40% of all FAT inflows to finance investments[8].

As the years passed by, BNDES assumed broader functions, such as providing funds to finance exports of high-value manufactured goods and services, and social investments; to stimulate the development of capital markets, and to finance privatization of state-owned companies and SME. However, despite having broadened its scope, BNDES maintained its original focus, which was to provide long-term funds for large industrial and infrastructure investment projects.

BNDES was, until 2015, part of a selected group of large development banks active in the global financial system. In terms of total assets, measured in US dollars, it ranked third after the China Development Bank and the KfW from Germany (Figure 1). BNDES size tripled between 2006 and 2012, indicating that the bank played an important role after the 2008 crisis.

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
China Development Bank	n/a	n/a	n/a	665	776	993	1.209	1.354	1.662	1.943
KfW Bankengruppe	440	517	557	574	592	641	672	640	592	547
BNDES	87	112	118	217	314	324	339	323	328	235
Korean Development Bank	112	130	125	134	142	146	180	245	254	263

Figure 1: Total assets in USD billion from 2006 to 2015
Source: Araújo and De Negri (2017).

Historically, BNDES held around 20% of the Brazilian credit market, measured by all outstanding bank loans (Figure 2). The development bank played a critical anticyclical role, particularly after the 2008 crisis, and provided a stable funding source for investments throughout this period. Figure 2 shows that, since 2015, BNDES is shrinking.

[8] Regulated by Law no. 7998/1990

Its outstanding loans dropped more than seven percentage points of GDP, from December 2015 to June 2019.

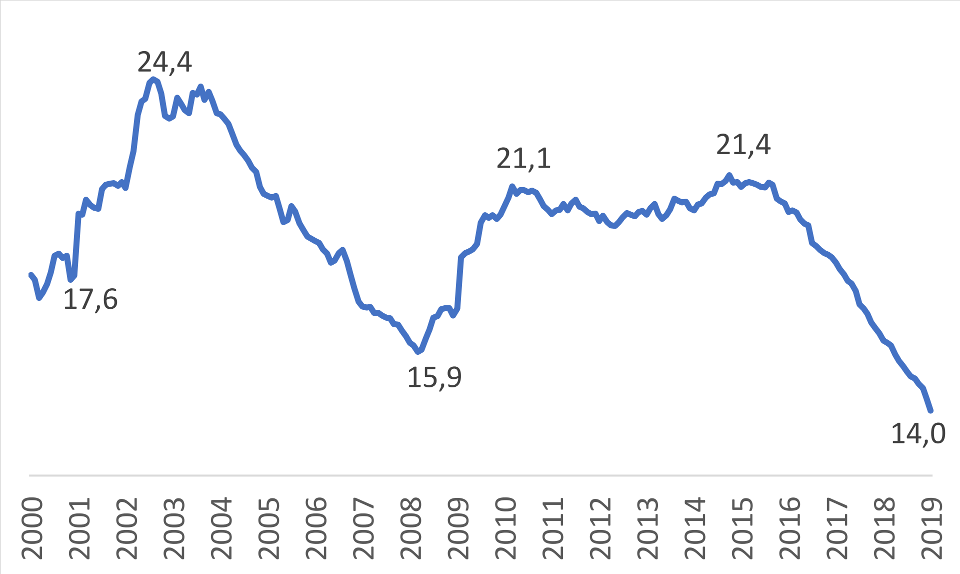

Figure 2: Outstanding bank loans – BNDES share (%) from June 2000 to June 2019
Source: BCB.

The shrinkage of BNDES in recent years is the result of several factors. The most important one is the severe downfall of investments in the Brazilian economy, which, from 2013 to the first quarter of 2019, decreased from 21% of GDP to 15.5%. This downfall reduced the demand for new loans. The second factor is the adoption since 2017 of a new methodology for fixing BNDES' interest rates and the sharp reduction of the rates in the long-term financial market. The result is that the final cost for the clients of the development bank is, since then, higher than the corporate market prime rate up to five years.

At the same time, there was a political decision to accelerate since 2015 the amortization of the massive loans extended by the Brazilian National Treasury to BNDES between 2008 and 2014 (Figure 3). Finally, BNDES faces nowadays a deep reputational problem related to political bribery investigations paid to politicians by large public and private companies, which also were clients of the development bank; although the authorities have until now found no wrongdoing of BNDES´ staff (TORRES FILHO, 2018).

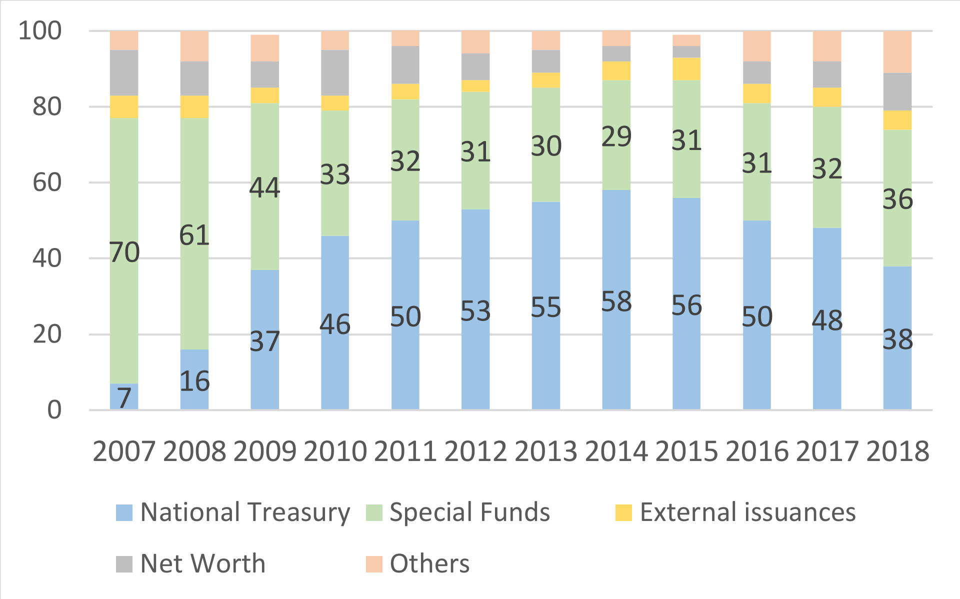

Figure 3: BNDES funding by source (%) from 2007 to 2018
Source: BNDES.

BNDES main funding sources, as already stated, come from special government funds and, in later years, from long-term loans from the National Treasury. According to Figure 3, Treasury provided most of the funds that allowed BNDES fast expansion in the aftermath of the crisis (58% of all BNDES liabilities in 2014). Special funds comprise FAT, regional constitutional funds (Northeast, North, and Center-West) and the Merchant Navy Fund (29%). The rest – 13% – are liabilities from private and multilateral agencies sources, domestic or international.

BNDES interest rates were, until 2017, fixed directly by the regulator (CMN), independently from the Central Bank short-term rate or the private term structure of the interest rate. Therefore, until 2015, BNDES was independent of the rest of the domestic financial market. It could follow operational and interest rate policies insulated from the fluctuations on the supply from the financial market and the monetary policy of the central bank.

Figure 4 shows the evolution of disbursements (new loans) accumulated in 12 months in Brazilian Reais (BRL). It shows the massive expansion of BNDES loans during the 2000s and mid-2010s, especially during the aftermath of the crisis, because of the role played by the bank in the 'socialization of investment.'

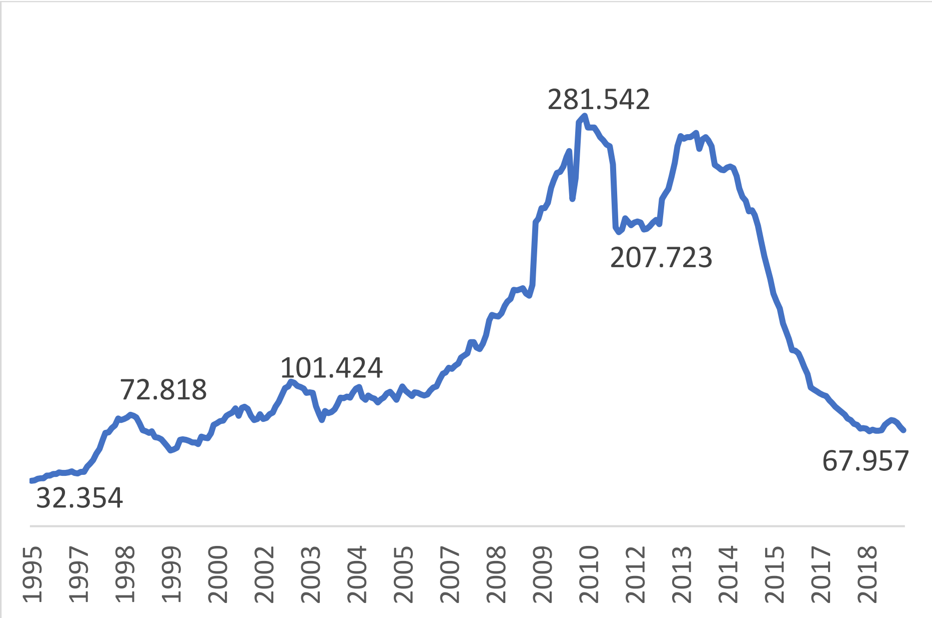

Figure 4: BNDES disbursements accumulated in 12 months (BRL million, June 2019 prices) from December 1995 to June 2019
Source: BNDES.

BNDES extends loans directly and usually keeps them in its books until maturity (originate and hold strategy). The other half are loans extended by commercial banks and refinanced at BNDES (on-lending). In this case, the bank that originated the loan holds the risks of the final credit taker. Historically, there is a balance between these two types of operations (Figure 5). Indirect transactions are useful for BNDES, as the development bank has no agency network and uses other financial institutions as arms-length agents for its operations.

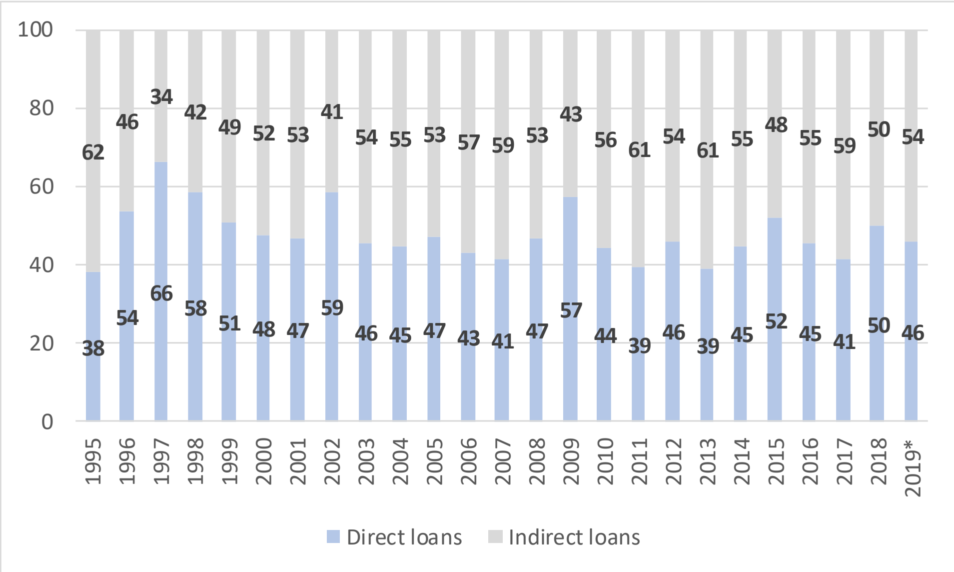

Figure 5: Share of direct and indirect disbursements on BNDES total (%) from 1995 to June 2019
Source: BNDES. *June 2019.

The share of the manufacturing industry in BNDES disbursements shrunk over time, from 57.0% at the end of 1995 to 18.0% in the mid-2019 (Figure 6). Infrastructure financing increased its share of BNDES disbursements, especially from 2011 on. In recent years, the percentage of expenditures directed to agribusiness also has increased, due to the rapid growth of export-oriented companies

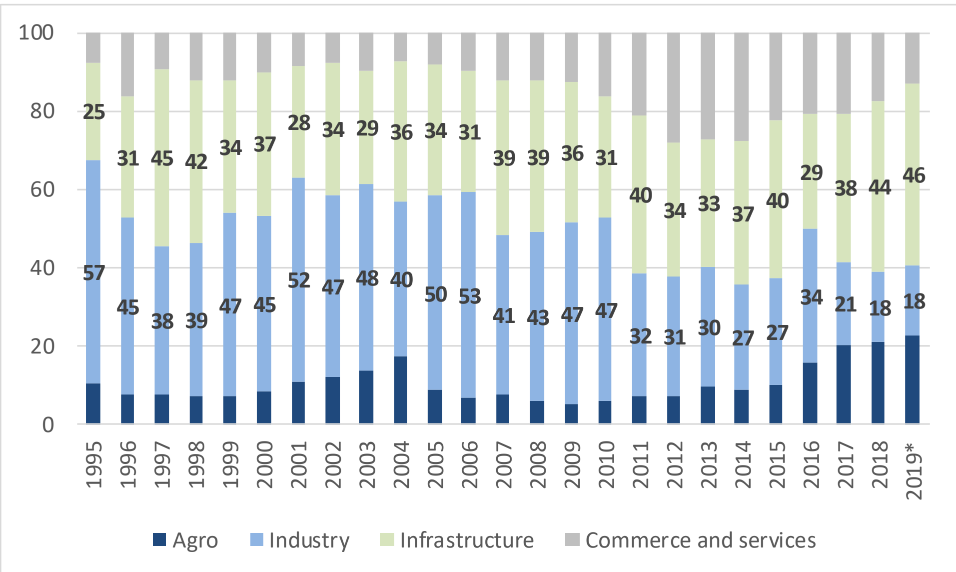

Figure 6: Distribution of BNDES disbursements by sector (% over BNDES total) from 1995 to June 2019
Source: BNDES. *June 2019.

BNDES also supports investment intermediated by the capital markets. BNDESPar, BNDES' capital market subsidiary, was initially set to complement BNDES loans. It improved the financial robustness (debt-equity) of its clients. Having BNDES as shareholder instead of a creditor reduces the financial fragility of these companies. Later, BNDESPar adopted another strategy, which also envisaged capital gains (speculative rationale), associated with the privatization of state-owned companies, the development of Brazilian capital markets and the restructuring of indebted Brazilian companies.

This brief overview had the aim to describe BNDES main features and characterize the bank as a Minskyian development bank. The development bank worked to ensure that funding was always available to investment projects despite the financial cycle, based on an entrepreneurial rationale. It also combined the extension of loans with capital market operations to mitigate the financial fragility of its clients.

The current situation is very challenging for BNDES. There is a political decision to downsize in the bank's balance sheet to open room for private banks and capital markets. Part of this process involves how BNDES regulation is changing. However, this is not the only reason for regulatory changes at BNDES. It is also the result of the alignment of Brazilian regulation to new international standards. The next sections will detail the regulation of BNDES, show how it evolved, and discuss the potential constraints posed to a Minskyian development bank.

2 A historical account of BNDES regulation

Along 70 years, BNDES faced very different regulatory frameworks. In its early years, there was no formal central bank established in Brazil. Banco do Brasil (BB) – a commercial state-owned bank – and the Currency and Credit Superintendence (Sumoc) of the Ministry of Finance (MoF) carried out some of the activities of financial regulation (supervision and best practices). However, neither BB nor Sumoc regulated BNDES.

The law created few restrictions to BNDES operations, such as the prohibition to receive time deposits from the public[9], but, in general, the bank could operate broadly in the banking business. In the 1950s and 1960, MoF was very active in influencing loans origination and had to approve any change in the bank's by-laws, but not in setting risk management and operational standards. According to the bank statute, its financial department was responsible for operational limits and compliance with the general banking legislation (BNDES, 1952; 1964)[10]. BNDES management relied mostly on self-regulation.

This scenario changed after 1964. A financial reform imposed the segmentation of the Brazilian financial system following the same lines of the US Glass-Steagall Act. The reform created two new regulatory institutions, the Central Bank of Brazil (BCB) and the National Monetary Council (CMN)[11]. The law introduced the concept of 'national financial system,' which comprises CMN, BCB, BB, BNDES, and all other private and public financial institutions. CMN has jurisdiction over the national financial system. It is responsible for regulating the liquidity and solvency conditions of financial institutions and their creation, operation, and oversight. The Council conceded regulatory and supervisory powers to BCB to accomplish these tasks.

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[9] Though BNDES cannot take cash deposits from the public, the bank can use cash deposits to transfer resources to its clients. These resources are not a funding source for BNDES.

[10] This means that BNDES can operate in the banking business as any other bank in Brazil given the restrictions imposed by its internal statute and by its charter-law, but cannot carry out financial activities authorized in Brazilian law.

[11] Law no. 4595, December 31, 1964.

CMN and BCB had the duty to regulate BNDES, and the general regulations on financial institutions became applicable to the development bank. In practice, however, in a segmented financial system, CMN and BCB tailored rules according to a bank's set of activities. Norms were very restrictive on what private investment banks, commercial banks, and other financial institutions could and could not do[12]. BNDES held a special status and did not fit into the segmented categories established in the financial reform. Limits and constraints were in general not restrictive to BNDES, The development bank was required to comply with some general standards, such as the rules on external loans[13], but there was still a large room for self-regulation.

In this new regulatory architecture, CMN and BCB became relevant players, along with MoF and the Ministry of Planning, in setting, until the mid-1970s, BNDES funding. For instance, CMN had the discretionary power to channel resources raised by the financial transactions tax – created in 1966 – to BNDES (CICEF, 2010). Another example is the access of BNDES to special government funds, such as the PIS resources by CMN[14], before 1974.

In the end-1980s, Brazil repealed financial segmentation, allowing financial institutions to become universal banks[15]. Any single could bank hold commercial, investment and development portfolios, separated in different baskets to comply with dedicated rules to each of them. This decision was the first step in the direction of *standardization* of banking regulations.

In the following years, this process culminated in the adoption of the Basel Capital Accord in 1994[16]. Brazil adopted Basel I for two main reasons. First, the government decided to increase and modernize the connection between the Brazilian economy to the global financial system and economy, opening its boundaries to foreign financial institutions and

[12] E.g. CMN Resolution no. 18/1966, which regulates private investment and development banks.

[13] CMN Resolution no. 96/1967.

[14] CMN Resolution no. 298/1974.

[15] CMN Resolution no. 1524/1988.

[16] CMN Resolution no. 2099/1994.

markets, foreign investments, and external trade. Second, the restructuring of Brazilian external debt, under the Brady Plan, demanded some institutional 'improvements.' The alignment of local banking regulations to international standards would foster the soundness of the Brazilian financial system in the eyes of foreign investors. Additionally, Basel rules would promote a leveled playing field for foreign entrants in the local banking market (privatization of state-owned banks or liquidation of private bankrupted institutions).

The structure Brazilian financial system changed fiercely after 1994, induced by financial opening; privatization of public institutions owned by subnational governments; bankruptcy and liquidation of important private banks; and the end of hyperinflation, after 1994. Amid this process, BNDES did not depend on the inflationary float nor had large amounts of troubled assets, but needed to adapt to this new environment. The standardization of banking regulations under the aegis of Basel I required BNDES to comply with rules designed to regulate private (internationally active) banks. Later on, the redefinition of rules governing operational limits also aligned the regulation of BNDES and private banks.

Prado and Monteiro Filha (2005) argued that it was inadequate to apply Basel rules to BNDES because risk management in BNDES was different from private banks'. The authors proposed the development of an alternative regulatory framework tailored to the specificities of BNDES.

Brazilian regulators never took that suggestion seriously. However, CMN agreed to introduce some waivers to deal with BNDES´ singularities. Castro (2009: 165-6) identified six main waivers or modifications after BNDES claims in CMN and BCB regulations: (i) the treatment of FAT as subordinated debt, making these resources eligible to Tier 2 capital[17]; (ii) the provision of a transition period to comply with immobilization

[17] CMN Resolution no. 2837/2001. BNDES claimed that Constitutional FAT have features of hybrid instruments and therefore should be classified as a Tier 1 capital instrument. CMN's interpretation differed and treated FAT as subordinated debt, becoming eligible as a Tier 2 capital instrument.

limits during the 2000s[18]; (iii) special treatment regarding client exposure limits[19]; (iv) classification of loans with guarantees from the Brazilian Federal government in the risk-weight factor of 0% after BNDES claim (applicable to all banks); (v) reduction in the risk-weight factor of Electricity Emergency Program operations from 100% to 50%[20]; (vi) change in the calculation of foreign exchange and public sector exposures, using net accounting values, for the measurement of allowances for doubtful accounts (loans), after BNDES claim. There was an inclusion of another waiver in 2009 that increased the ceiling of credit limit related to the development bank net assets, for two large state-owned companies: Petrobras – integrated oil company – and Eletrobras – integrated power company, and a privatizes mining company – Vale.

Those exemptions continued under the framework of Basel II. The second Accord was much more complex than the first as it broadened the scope of risk management to account for credit, market and operational risks included transparency requirements for the sake of market discipline and allowed for the development of internal models for risk assessment. CMN adopted the Brazilian version of Basel II in 2004[21]. Those new standards demanded substantial changes in the organization and operational rules of BNDES, especially regarding the risk management functions. Castro (2009) provides a detailed account of the bank's experience in the adoption of Basel II.

The 2008 international financial crisis inaugurated a new round of regulatory changes that led to Basel III. The third accord did not dismantle Basel II, but made it more rigid, regarding risk assessment, transparency, and capital requirements. More specifically, it made it more difficult to classify an instrument as capital and adds countercyclical, conservation, and systemic capital buffers. Basel III also demands a more detailed treatment of derivatives and securitization exposures and introduces unprecedented minimum liquidity and leverage requirements. Those measures were responses to

[18] CMN Resolution no. 3105/2003. This transition period has been further extended several times.

[19] CMN Resolutions no. 3615/2008 and 3963/2011.

[20] BCB Circular no. 3216/2003.

[21] CMN Resolution no. 3444/2007 and BCB Circular no. 3360/2007, among others.

particular problems identified during the crisis, but, again, they did not imply a substantial change in the regulatory framework.

Brazilian authorities adopted Basel III in 2013[22]. Since then, CMN and BCB became more restrictive for waivers and started, progressively, to repeal some of them. For instance, the local version of Basel III is wiping out the resources of FAT from BNDES' capital. It seems that the purpose of Brazilian authorities is to make banking regulation *standardized*, despite the public or private control of banks, their characteristics, or their missions. In this scenario, a conflict between the purpose of a development bank and regulation may emerge.

[22] CMN Resolutions no. 4192 and 4193/2013 and BCB Circular no. 3644/2013, among others.

3 Regulation of BNDES: the current rules

The present section summarizes the significant pieces of regulation that set prudential requirements, operational limits, and governance standards to BNDES. It considers the rules that are currently in force but occasionally refers to previous ordinances as a comparative exercise. It includes a description of regulations, followed by an assessment of indicators or considerations regarding BNDES position in the face of the requirements. This section focuses on core regulations edited only by CMN and BCB plus the new rules on corporate governance of state-owned companies, although different authorities regulate some accessory activities of BNDES. Annex I details the Brazilian regulatory architecture.

3.1 Basel standards

3.1.a Financial system segmentation by systemic importance

Since 2017, the CMN established the segmentation of financial institutions and conglomerates for proportional application of prudential requirements[23], according to their systemic importance. The classification methodology takes into account the type and size of a financial institution and, in the case of banks, takes also in consideration if they are internationally active. There are five levels:

- Level 1 (S1): banks[24] that have total exposures larger than 10% of the Brazilian gross domestic product (GDP) or relevant international activities (total assets abroad greater than US$ 10 billion);

[23] CMN Resolution no. 4553, from January 30, 2017.

[24] Universal banks, commercial banks, investment banks, foreign exchange banks and the federal savings bank.

- Level 2 (S2): banks that have total exposures between 1% and 10% of the Brazilian GDP, or other financial institutions that have total exposures larger than 1% of the Brazilian GDP;

- Level 3 (S3): financial institutions that have total exposures between 0.1% and 1% of the Brazilian GDP;

- Level 4 (S4): financial institutions that have total exposures of less than 0.1% of the Brazilian GDP;

- Level 5 (S5): financial institutions other than banks that have total exposures of less than 0.1% of the Brazilian GDP and use the simplified methodology for capital requirements, or institutions that are not subject to capital requirements.

This rule establishes that shifts in classifications will respect a minimum time lag, which will vary as institutions are ascending or descending in the scale. In the top levels, an institution needs to fit a segment's standard for at least three consecutive semesters to scale-up or at least five consecutive semesters to scale-down. The CMN also delegates to BCB the discretion to change the classification of an institution according to the occurrence of merger and acquisitions, the ability to attend proportional prudential regulations of origin and destination levels before due dates and, only among S2, S3, S4 and S5, the results of supervision.

According to the classification, institutions will have to attend to different prudential requirements, as we will detail in the subsections below. The level S1 is representative of systemically important financial institutions (SIFIs) and, therefore, applies more stringent requirements. The degree of regulatory stringency decreases as the level increases; i.e., S5 institutions need to comply with less rigid requirements.

Since the regulation is in force, BNDES total exposure exceeded the threshold of 10% of Brazilian GDP, but the regulator classified the development bank as S2. This decision might suggest that BNDES received special treatment by BCB and CMN due to its unique character in the Brazilian financial system. In practice, this treatment is not that special: though the bank is not in the SIFI club (S1), it receives the same regulatory treatment that applies to other private banks, such as Safra, Votorantim and Citibank Brazil, and state-owned, such as Northeast of Brazil and Banrisul. All of them are universal banks that accept cash and time deposits from the public. BCB and CMN have the authority to shift this classification in the future. This classification is a political decision, which is subject to the discretion of Brazilian authorities.

3.1.b Capital requirements

BNDES is currently subject to Basel III capital requirements without waivers in comparison to private banks. Historically, CMN and BCB regulations conceded some waivers and adjustments, such as the treatment of the Workers' Support Fund (FAT) as subordinated debt in the capital basis and the risk-weight factor applicable to loans with guarantees from Brazilian government (CASTRO, 2009, p. 165-6). But, Basel III provided a full alignment among BNDES, other public banks, and private universal banks in terms of rules, with the repeal of such waivers and other special treatments conceded to BNDES assets and obligations.

The bank needs to consolidate its financial statements in a prudential conglomerate[25], encompassing BNDES and its two subsidiaries, BNDESPar and Finame. Brazilian regulation allows financial institutions to use internal models to calculate risk-weighted assets. Some advocates of the application of Basel Accords to development banks argue that the use of internal models is a positive measure, which makes feasible the alignment of the unique features of development banks to Basel-type risk management standards (CASTRO, 2017: 57). However, this is not the case of BNDES: the bank uses BCB standardized approach to calculate total risk-weighted assets (RWA), taking into account credit, market, and operational risks[26].

[25] CMN Resolution no. 4195/2013.

[26] Respectively, BCB Circulars no. 3644 (credit risk); 3634, 3635, 3636, 3637, 3638, 3639, 3641 and 3645 (market risk); 3640 (operational risk), all of them issued in 2013. BNDES considered to develop internal models and ran preliminary models and projections. Castro (2009: 222) shows that the results of those

Financial regulation does not differentiate among BNDES and private universal banks, but some lasting features of the bank's balance sheet make some risk-weights ineffective to the former, such as the 20% credit risk-weight factor to short-term securities. In practice, credit is the leading risk component of BNDES risk-weighted assets. The concentration of BNDES assets' credit risks is in 100% and 50% risk-weighting factors, respectively, 75.7% and 24.3% as of December 2018. Market risks and operational risks are residual, representing individually less than 10% of total risk-weighted assets. FX market risk is a result of transactions with FX derivatives used to hedge BNDES loans and obligations in foreign currencies, and its relatively large size is due to the accounting form used by the bank to compute these transactions. Figure 7 plots the data for March 2019.

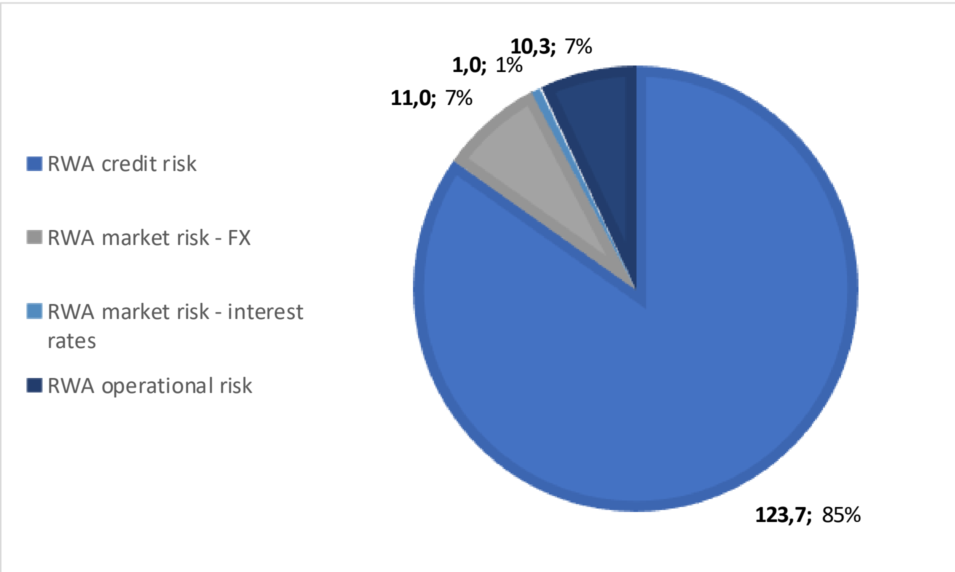

Figure 7: BNDES risk-weighted assets by category (USD billion; % in total) – March 2019
Source: IF.Data, BCB.

preliminary models for credit risk indicated a capital requirement that is around 4 times smaller than the one calculated by the BCB standardized approach. However, the development of such models is cost- and time-intensive. BNDES internal model was never submitted for the validation of BCB. The general norm in Brazil is the use of the standardized approach, even for large private banks. With Basel III, the incentives for the adoption of internal models changed substantially: capital-saving benefits are tiny in the new framework.

Regarding capital requirements, since January 2019, the BCB standardized approach fully aligns Brazilian requirements with international Basel III standards, as specified below:

- Common Equity Tier 1 (CET1) capital: 4.5% of RWA plus 2.5% of RWA (conservation buffer) plus 0.0-2.5% of RWA (countercyclical buffer) plus 2.0% of RWA (buffer for national systemically important financial institutions (SIFI));

- Tier 1 capital: 6.0% of RWA;

- Total capital: 8.0% of RWA.

Currently (as of July 2019), the countercyclical buffer is set at zero and BNDES is not subject to the SIFI buffer as an S2 financial institution. Capital requirements applicable to BNDES are 7.0% of RWA in CET1, 6.0% of RWA in Tier 1 capital and 8.0% of RWA in total capital. Figures 8 and 9 show BNDES capital cushions in comparison to those standards. The reader can see that BNDES largely exceeds the minimum regulatory requirements – this is the case even if the current 1.0% SIFI cushion is applied.

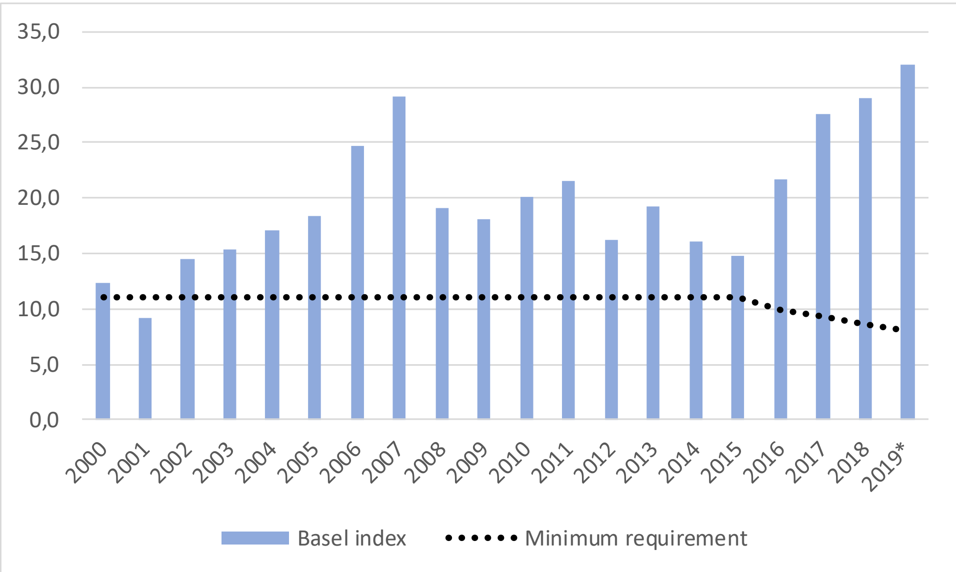

Figure 8: BNDES capital vs. minimum total capital requirement (2000-2019)
Source: IF.Data, BCB. *March 2019

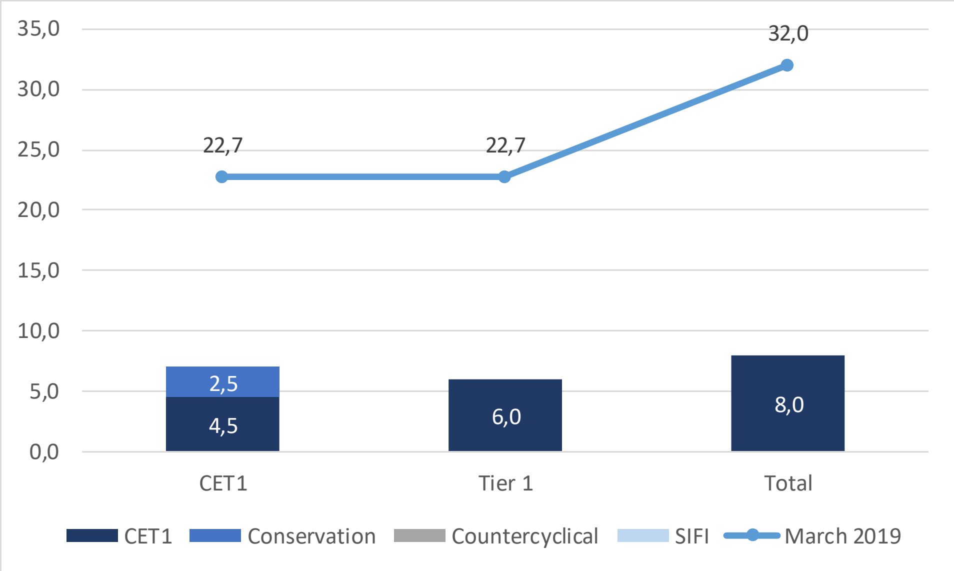

Figure 9: BNDES capital (line) vs. minimum capital requirements (bars) – March 2019
Source: IF.Data, BCB.

The composition of BNDES capital is a sensitive topic after the adoption of the third version of the Basel Accord. Basel III aimed at generally improving banks' capital quality and is much more rigid in the classification of obligations as CET1, Tier 1, and Tier 2 capital. It imposes stringent requirements on the features of banks' securities and obligations to qualify as capital.

Since 2001, the obligations to the constitutional FAT and other regional funds[27] were partly recognized as Tier 2 capital, as mentioned above[28]. Only BNDES and other federal public banks use these specific funding instruments. In 2018, CMN decided to eliminate the special treatment to these resources and established a gradual phase-out of these funds from BNDES capital basis[29]. From 2019 to 2029, the new regulations eliminated the possibility to include FAT as a capital instrument, according to a gradual adjustment that reduces 10% per year its participation on the computable resources.

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[27] Northeast, North and Center-West Constitutional Financing Funds, created by Law no. 7827, 1989, which regulate the article 159 of the Constitution of the Federative Republic of Brazil.

[28] CMN Resolution no. 2837/2001.

[29] CMN Resolution no. 4679, 2018.

As of December 2018, Tier 2 FAT amounted BRL 52.7 million in BNDES capital, 31.6%). Though currently BNDES capital largely exceeds the regulatory minimum, this adjustment will shrink the bank's capital basis in the future. If we disregard the transitional period and calculate a final impact on BNDES capital, the bank's Basel index would fall from 32.0% to 21.9% in December 2018, i.e., almost ten percentage points. The impact of that measure on other development financial institutions could be even more sensitive.

Nevertheless, one should recognize that BNDES and other federal public banks have the Brazilian Treasury as the main – or even the sole – owner and guarantor of its liabilities. Therefore, the Treasury, as it did in the past, could alleviate any extra capital needs to be determined by regulators through direct capitalization. Brazil issues its currency, the Brazilian Real, and the Treasury is sovereign to conduct such operations if required, even though political pressures can operate to limit this type of transaction.

Nevertheless, this relationship with the Treasury creates liquidity pressures as the government had always maximized the distribution of BNDES profits to improve the fiscal budget[30]. The drain of BNDES profits via dividend distribution to the Treasury was usual in the 1990s and the 2000s. As compensation, Treasury capitalized BNDES with perpetual public bonds. Currently, BNDES' downsizing is resuming this type of transactions. So, one can argue that BNDES' issues concerning capital depend directly from the policy established by the Treasury, which in turns depends on the political cycle.

3.1.c Liquidity coverage and net stable funding ratios

Basel III explicitly added a new layer of banking regulation, namely minimum liquidity requirements. These rules express the acknowledgment that solvency is not the only issue related to systemic risk, as the 2008 international financial crisis revealed. Liquidity is central, and therefore, the new accord introduced two standardized liquidity measures and

[30] By law, corporations may distribute up to 75% of annual profits.

minimum thresholds: the liquidity coverage ratio (LCR) and the net stable funding ratio (NSFR).

The former is a measure of a bank’s short-term liquidity cushion, referring to the proportion of high-quality liquid assets to an estimated net cash outflow under a situation of liquidity stress in the period of the next 30 calendar days. The latter is a measure of a bank’s ‘long-term’ liquidity cushion, referring to the ratio relating the total available stable funding and the required stable funding. The concept of stable funding is the portion of a bank’s capital and liabilities that will remain in its balance sheet for more than one year. The NSFR, thus, is a measure of balance sheet mismatches.

CMN introduced Basel III liquidity requirements in Brazil in two moments. First, it regulated LCR in 2015, and two years later, in 2017, it edited the rule for NSFR[31]. Only SIFIs, i.e., institutions classified in S1, are required to comply with Basel III liquidity requirements. Therefore, BNDES, as an S2 institution, does not need to comply with LCR and NSFR. The bank calculates both indicators, as disclosed in BNDES financial statements, shown in Figure 10.

The design of Basel liquidity requirements didn´t focus banks that have a balance sheet like BNDES, with a large concentration of assets and liabilities in the long term, over a one-year horizon. However, should BNDES be required to comply with LCR and NSFR, it would not face difficulties.

[31] CMN Resolutions no. 4401, 2015, and 4616, 2017, respectively. BCB complementary regulations were BCB Circulars no. 3749 and 3761, 2015 (LCR), and no. 3869, 2017 (NSFR).

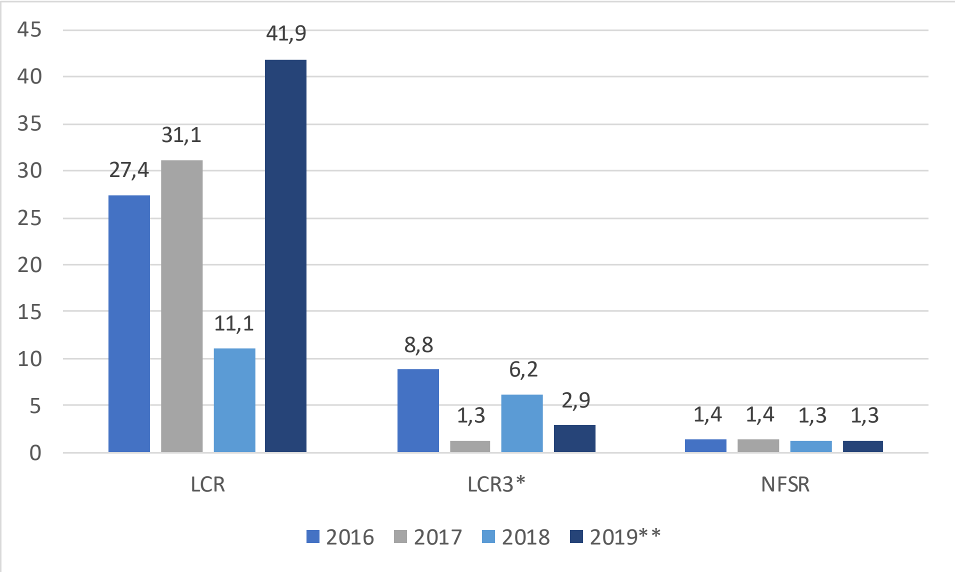

Figure 10: BNDES LCR, LCR3 and NFSR (2016-2019)
Source: IF.Data, BCB. *LCR3 extends the LCR horizon for three months instead of one.
** March 2019.

3.1.d Leverage ratio

One of the main marks of the 2008 crisis was the crumbling of highly leveraged financial institutions. To deal with this problem, Basel III introduced a minimum raw leverage ratio of 3.0%. The Basel leverage ratio is the inverse of the common leverage indicator used in accounting, which plots liabilities over net worth. A minimum 3.0% leverage ratio means maximum leverage of 33.3 times the net worth or capital – a very high level yet.

CMN adopted the leverage ratio (LR) from January 2018[32]. Compliance is mandatory for institutions classified in S1 and S2, which is the case of BNDES. Currently, BNDES is very comfortable with LR: as of March 2019, the bank's LR was 13.3% – i.e., liabilities represent 7.5 times BNDES capital (Figure 11). However, shortly, the shrink of the bank capital basis will contribute to reducing this indicator. If the bank starts going to fund in capital markets, it would be another source of pressure over LR, but one needs to keep in mind that the regulatory standard is very lax.

[32] CMN Resolution no. 4615/2017. BCB Circular no. 3748/2015 defines the methodology.

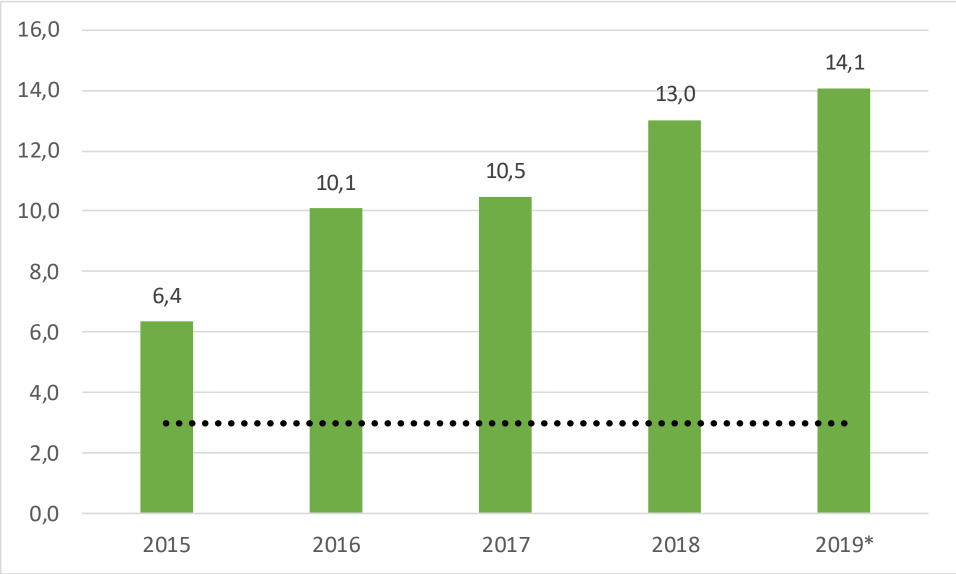

Figure 1q: BNDES Leverage Ratio (2016-2019)
Source: IF.Data, BCB. *March 2019.

3.1.e Structure of risk and capital management

Basel II required the implementation of new structures for the management of operational, market, credit and liquidity risks and capital by Brazilian financial institutions[33]. These rules engendered many organizational changes, even though the conception of risk management that prevailed at that time was very fragmented. With the adoption of Basel III, there was a call for the integration of those activities. CMN required financial institutions classified in S1, S2, S3, and S4 to implement structures to on-going capital management and on-going and integrated risk management[34]. These structures need to be suitable to the business model, the nature of transactions and the complexity of products, services, processes, and activities of each institution, being proportional to size, risk exposure, and systemic importance. The board has several attributions regarding those on-going management tasks.

[33] Respectively, CMN Resolutions no. 3380/2006, 3464/2007, 3721/2009, 4090/2012 and 3988/2011.

[34] CMN Resolution no. 4557/2017.

The on-going activity of integrated risk management should assure the adoption of the following standards and the performance of the following tasks: (i) risk management policies and strategies; (ii) non-compliance tracking and reporting processes; (iii) risk management procedures, routines, and systems; (iv) periodical assessment of (iii); (v) previous risk assessment of new products and services, changes in the business model, macroeconomic prospects, among others; (vi) documents on the roles and responsibilities of staff; (vii) stress test program[35]; (viii) on-going effectivity assessment of risk mitigation strategies; (ix) business continuation plans; (x) timely risk managerial reports directed to the board[36]. A document titled 'Risk Appetite Declaration' is required, and banks need to appoint a director (Chief Risk Officer) in charge of risk management.

Regarding on-going capital management, CMN requires that institutions dispose of or perform the following tasks: (i) capital management policies and strategies; (ii) capital management procedures, routines and systems; (iii) impact assessment on capital of stress tests conducted by risk management areas; (iv) capital plan; (v) capital contingency plan; (vi) assessment of capital adequacy; (vii) timely capital managerial reports directed to the board.

BNDES created a Risk Management Department in 2007[37] as a response to regulatory challenges posed by Basel II and the adoption of International Financial Reporting Standards (CASTRO, 2009: 201). Castro (2009) provides a detailed account of the BNDES experience in the creation of the Risk Management Department, stressing the challenges posed by the need to separate risk management functions in a decentralized structure, their integration into one single department and in the redefinition of

[35] S2 institutions do not need to use the reverse stress methodology.

[36] Besides CMN regulation, BNDES also has to comply with the Inter-ministry Commission on Corporate Governance and Management of Federal Government Equity Holdings (CGPAR) Resolution no. 18/2016, which requires the implementation of risk management and compliance policies commensurate with size, nature, complexity and risk of activities carried out by the bank. CMN and CGPAR regulations are not conflictive, but focus on different aspects of risk management activities (e.g. CGPAR regulation is explicitly concerned with ethical and conduct standards by BNDES staff, while CMN regulation is less specific on these topics).

[37] BNDES Resolution no. 1488/2007.

governance and responsibilities along BNDES areas – in addition to information technology difficulties.

BNDES anticipated the integration of risk management activities in one department, but some organizational changes centralized other functions - especially, compliance and internal controls - under the same department, named Risk Management, Controlling and Integrity Department. Therefore, when CMN regulation introduced some measures that required adaptation, BNDES' structure was already in place, requiring minor changes in the day-to-day of risk and capital management tasks. The perception of BNDES staff is that the organizational impact was positive – see Castro (2009: Chapter 6) for a discussion of risk management in BNDES.

3.1.f Transparency and market discipline

There are three pillars in Basel II: minimum capital requirements, supervision, and market discipline. Basel Committee understood the promotion of market discipline as a critical factor for the stability of the financial system. It relied on the dissemination of information to investors, analysts, customers, etc., making easier the assessment of a bank's financial soundness and risk management practices. Should a particular bank not performing underperform, the 'market' would be able to see and react, pushing for changes in business practices or risk management. Pillar 3 provisions included transparency or disclosure requirements regarding financial statements, risk management, managerial reports, and so son.

Basel III reinforced the original transparency requirements, adding several elements and broadening the scope of information disclosed by banks. According to the Basel Committee, Pillar 3 disclosures now contains information on credit, liquidity, market and operational risks, and the leverage ratio; risk-weighted assets as calculated by internal models and the standardized approach; and an overview of risk management and critical prudential metrics.

In Brazil, BCB established very detailed disclosure requirements in two different moments, 2013 and 2019[38]. From 2020 on, BNDES and all other financial institutions will issue quarterly the so-called Pillar 3 reports, as spreadsheets, detailing: (i) prudential and risk management indicators; (ii) comparison of accounting and prudential information; (iii) capital composition; (iv) macroprudential indicators; (v) leverage ratio; (vi) liquidity ratios; (vii) credit risk; (viii) counterparty credit risk (derivatives); (ix) securitizations; (x) market risk; (xi) banking book; (xii) compensation schemes.

Though there is no apparent conflict between transparency requirements and the mission of development banks, one needs to keep in mind that information on BNDES will reflect the peculiarities of the bank's transactions and are not entirely comparable to other public or private institutions that have different business focus or are purely profit-oriented.

However, Pillar 3 requirements may be insufficient to assure proper accountability. It is worth noticing that BNDES is investing a lot in recent years in initiatives to promote transparency and assess the bank's impacts on the broad economy. In times of the criminalization of government policies in general, disclosure of information will be central to assure BNDES reputation and soundness.

3.2 Operational limits

3.2.a Client exposure limits

Brazilian financial institutions have to comply with a client exposure limit of 25% of total capital[39]. This provision applies not only to loans advanced to a private client, either natural or legal person, or a public entity but also to investments in securities issued by this client. Also, the regulation limits the sum of the so-called 'concentrated exposures' to 600% of total capital. Concentrated exposures are exposures that account for 10% or more of total capital per client. Non-compliance with client exposure limits entails the

[38] BCB Circulars no. 3678/2013 and 3930/2019.

[39] CMN Resolution no. 2844/2001.

prohibition to extend new loans to a client (or a set of clients) or increase investments in securities issued by that client (or a set of clients). BCB demands immediate information and the formulation of a plan for reducing that exposure.

BNDES received a special treatment regarding Petrobrás' total credit risk in 2009. The exemption from the Central Bank allowed the development bank to calculate an independent ceiling of the credit risk for each of the subsidiaries of this oil company. It was not mandatory anymore to consolidate them in one only group for this sake. It also could discount equity holdings of these companies from securities and concentrated exposures[40]. In 2011, BCB extended those waivers to energy companies controlled by the federal government (Eletrobras)[41].

In 2012, CMN extended the client exposure benefit to mining companies (Vale do Rio Doce) but repealed the special treatment for equity holdings of BNDES[42]. Therefore, the development bank, from then on, would have to add loans and equity holdings for the sake of client exposures, as all other banks already did. This last decision made more likely the violation of the 25% limit. Moreover, for the first time, regulations established a timetable for adjustment and alignment of client exposure limits to the general rule, providing a phase-out arrangement that would end in June 2024.

In 2018, CMN went further in the removal of regulatory waivers. The new rules didn´t mention energy companies anymore and repealed the individualization of legal persons controlled by the government, with effects from January 2019[43]. Moreover, BNDES would have to calculate those limits taking as reference Tier 1 capital instead of total capital. The regulators extended the deadline for full compliance to the end of 2027, giving a reasonable time to BNDES adapt its portfolio.

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[40] CMN Resolution no. 3615/2008.

[41] CMN Resolution no. 3963/2011.

[42] CMN Resolution no. 4089/2012, further amended by Resolution no. 4430/2015.

[43] CMN Resolution no. 4678/2018.

In the 2018 financial statements, BNDES highlighted that only one client was non-compliant with the general rule, but it had reduced this exposure in line with the timetable established by CMN. The development bank now faces another difficulty that is the consolidation into economic groups of clients previously treated as separate legal persons. Brazilian authorities eliminated the exemption to the regulation of client exposure limits, and from 2028 on BNDES will need to comply with the same rules as private banks.

3.2.b Fixed assets (immobilization) limits

BNDES received most of its shares of state-owned companies as paid-in capital in its early years. Lately, the development bank bought Petrobras equity after the 2008 financial crisis with Treasury funds, following government investment policies. The value of some of these shares skyrocketed after Brazil´s integration into the global financial markets in 1994. The equity holdings of private companies are the result of its mission of acquiring participations in Initial Public Offers (IPO), or the execution of collaterals from defaulted loans (Figure 12).

Since 1996, CMN imposes a limit on banks of 90% of the total on the amount they can apply in fixed assets, named in Brazilian regulation, as immobilization limits[44]. The regulator subsequently reduced this limit to 80%, 70%, 60% and eventually 50%, from 2002 on[45]. In 2002, it was clear that BNDES would not be able to comply with the 50% threshold and CMN authorized and exception for the development bank, conceding an additional time to BNDES adjust its portfolio[46], provisionally considering the development bank ‘compliant.’ This status was very relevant because non-compliance would generate an obligation to remove from total capital the resources exceeding the regulatory limit, compromising the observance of Basel capital requirements. BNDES had four years to eliminate 10% of the exceeding values and then needed to progressively

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[44] CMN Resolution no. 2283/1996.

[45] CMN Resolution no. 2669/1999.

[46] CMN Resolution no. 3105/2003.

adjust the remainder, until June 2013, when the bank would again have to be in full compliance with the general rule.

BNDES once more could not comply with that rule due to the high stakes of the shares held by the development bank in comparison to the size and liquidity of the stock market. Therefore, the regulator renewed this waiver on several occasions. For instance, in 2009, CMN provided a new deadline extension to June 2021 and added the possibility of lowering stocks acquired due to 'investments consistent with BNDES corporate purpose.' In 2012, CMN restricted this set of shares to oil, electricity and mining companies, but conceded an extension of the deadline to June 2024[47]. In 2015, a new regulation redefined the intermediary adjustment timetable but kept the final period in June 2024[48]. In recent years, however, it seems that CMN shifted its approach regarding this special treatment, favoring a one-size-fits-all approach. In 2018, a new regulation removed this waiver, aligning BNDES and private banks immobilization limits[49]. Since the 1st of January 2019, these new limits are in force.

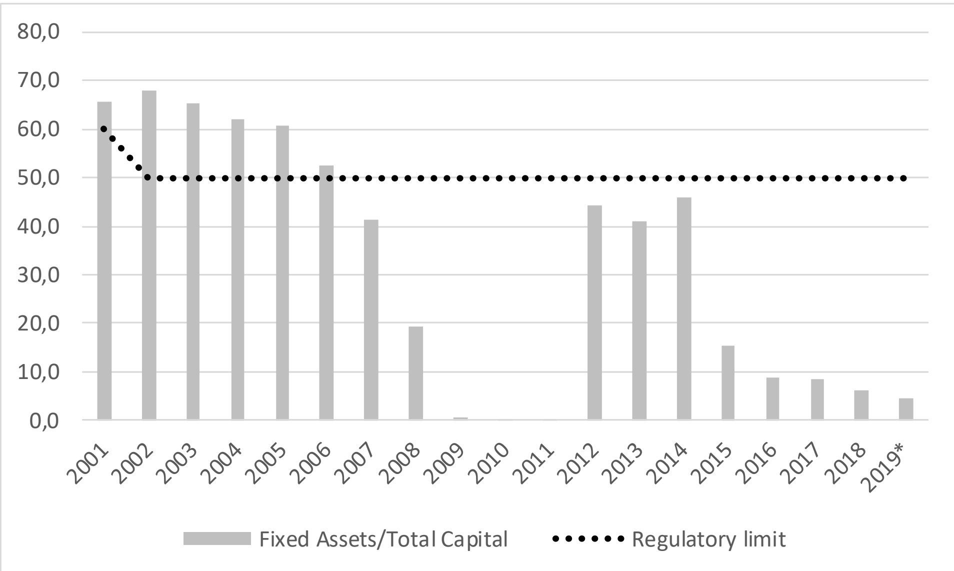

Figure 12: BNDES fixed assets/total capital ratio (2001 to 2019)
Source: IF.Data, BCB. * As of March 2019.

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[47] CMN Resolution no. 4089/2012.

[48] CMN Resolution no. 4430/2015.

[49] CMN Resolution no. 4678/2018.

3.2.c Public sector exposure limits

Brazilian regulation imposes a limit for bank loans to public sector entities, such as federal, state and municipal governments and state-owned companies[50]. Total exposures should not exceed 45% of total capital. There are exemptions to loans guaranteed by the Brazilian National Treasury as well as to loans to Petrobrás and Eletrobrás. There is no differentiation among BNDES, other public banks, and private banks[51]. Considering the treatment of secured loans and the exemption of Petrobrás and Eletrobrás, BNDES had no problems in complying with this limit.

3.2.d Foreign exchange exposure limits

Exposure limits also apply to transactions that are subject to foreign exchange risk. Exposures to gold, foreign currencies, and other assets that may vary due to fluctuations in foreign exchange rates should not exceed the threshold of 30% of total capital[52]. There is no differentiation among BNDES, public banks, and private banks[53].

3.3 Governance

As a state-owned bank, BNDES has to comply with governance principles established to all government-owned companies. In 2016, the government enacted a new Law concerning corruption and mismanagement in the public sector[54]. The legislation is very

[50] CMN Resolution no. 4589/2017.

[51] The absence of waivers for public banks and BNDES exists since the former versions of this regulation, such as CMN Resolutions no. 2653/1999 and no. 2827/2001.

[52] CMN Resolution no. 3488/2007.

[53] The absence of waivers for BNDES exists since the former versions of this regulation, such as CMN Resolution no. 2606/1999.

[54] Law no. 13303/2016.

extensive, covering topics such as corporate organization, contract law, and bidding processes. For our purposes here, the main impact of this legislation is on appointments for the boards, risk management standards, and internal/external controls.

From 2016 on, Directors have to meet several criteria to be eligible to the board of a government-owned company. They must have a good reputation, notorious knowledge on the area and the proper academic formation and professional experience (at least ten years of professional experience and at least four years in a top-management position; or a career employee with at least ten years in the public company and any experience in top-management positions). Congressional representatives (in an on-going mandate) and employees from political parties (in the last 36 months) or unions, among others, cannot be appointed[55]. Rules on compensation schemes and succession planning policies edited by CMN are also part of the regulatory framework that governs BNDES[56].

Public companies are required to adopt structures for risk management and internal controls and to elaborate a Code of Conduct and Integrity. The legislation introduces the concept of integrity risk, which comprises situations of corruption, fraud, irregularities, or ethical and conduct deviations. The so-called Anticorruption Law[57] defines the responsibilities of public employees and provides details on enforcement actions and sanctions. It is relevant to notice that risk management at BNDES (and other public banks) needs to incorporate many different concerns in comparison to the private sector.

[55] In 2018 the government was considering to require the previous approval by BCB of Directors appointed to public banks' boards, but this measure has not gone ahead.

[56] Respectively, CMN Resolutions no. 3921/2010 and 4538/2016.

[57] Law no. 12846/2013, complementarily regulated by Decree no. 8420/2015.

3.4. Other regulations

A detailed analysis of every regulatory piece that affects BNDES transcends the purpose of this paper. Therefore, we will only identify some complementary regulatory topics and provide the proper references in footnotes in the following lines:

- Compliance[58] and internal controls[59];
- Internal audit[60];
- Anti-money laundering regulations[61];
- Recovery and resolution[62];
- Socio-environmental responsibilities[63].

[58] CGPAR Resolution no. 18/2016 and CMN Resolution no. 4595/2017.

[59] CMN Resolution no. 2554/1998.

[60] CMN Resolution no. 4588/2017.

[61] BCB Circulars no. 3461/2009 and 3780/2016, and BCB Circular Letters no. 3405/2009, 3409/2009, 3430/2010 and 3542/2012.

[62] Laws no. 6024/1974 and 9447/1997, Decree-Law no. 2321/1987, and CMN Resolution 4502/2016 (recovery plans).

[63] CMN Resolution no. 4327/2014.

4 Does BNDES face relevant regulatory constraints?

A historical account of BNDES performance in the last decades shows that the bank had a notorious ability to adapt to new regulations. The adoption of Basel I in 1994 outshined the experience of the bank with self-regulation, which lasted from its inception in the 1950s to the mid-1990s. This framework was tutelary and mandatory, initially to internationally active banks, but later applied without reserves to the rest of the Brazilian national financial system, despite its peculiarities.

Basel I inaugurated a new phase in Brazilian regulation. From the viewpoint of BNDES, we can characterize the framework that prevailed in the period from Basel I until the adoption of Basel III as standardized prudential requirements *with* waivers. After Basel III, we can call the BNDES regulatory framework as a framework of 'standardized prudential requirements *without* waivers.' We need to keep in mind that we are dealing with two different ambiances and that challenges posed by each framework are different.

Sobreira and Martins (2011) argued that many economists expected that the adoption of Basel would hurt BNDES activities. These authors stated five empirical hypotheses regarding the potential impacts of Basel I on BNDES: (i) a decrease or stagnation of loan extensions, with a decline in the share of loans over total assets; (ii) an increase in the percentage of investment-grade (less risky) loans; (iii) an increase in highly liquid assets, such as public bonds; (iv) a cointegration of total capital and risk-weighted assets; and (v) an increase in capital with lower quality (Tier 2 capital).

The analysis on the period from 1998 to the first half of 2010 show mixed results, while some hypothesis hold when compared with BNDES balance sheet data, others do not hold. At one hand, they found that: there was a consistent growth in disbursements, with an increase in the share of the loans to total assets from 68.9% in 1998 to 81.2% in 2007; risk-weighted assets and total capital did not cointegrate, and the participation of lower quality capital did not increase. At the other hand, they show a higher concentration of loans in investment-grade clients over time and an increase in the share of highly liquid assets.

Sobreira and Martins argue that Basel I rules did not jeopardize BNDES function as a development bank. The bank was able to implement an operational strategy that was relatively autonomous to the potential regulatory constraints. However, they point out that the increase of the share of investment-grade loans can signal an attempt to keep risks under tuff control, a strategy that might conflict with BNDES broad development mission. Moreover, the application of Basel I to BNDES without apparent constraints opened the room to the further automatic use of Basel II – and Basel III – regulations, without a proper discussion on the issue.

Castro (2009) discusses the implementation of Basel II and its impacts on BNDES, focusing on the changes in risk management structure and processes. The author argues that Basel II successfully responded to criticism direct to Basel I, being a notable improvement of the regulatory framework. She posits that the second accord was able to increase risk-sensitiveness, mitigate procyclicality, and reduce the bias against small and medium enterprises. Moreover, she highlights the flexibility of Basel II due to internal models and praises the accord as an international quality label for risk management practices – this would facilitate international issuances.

We interviewed some of the BNDES staff involved in financial regulation. They share the opinion of Castro, which is also a BNDES officer. They see current financial regulation as beneficial for the development bank for different reasons. It creates a barrier for politicians to use BNDES loans as a political tool if the debtor or the project is not compliant with sound business practices. It inhibits the appointment of incapable or inappropriate persons to the Board of Directors or the Board of Executive Directors[64]. They regard as positive the obligation of further disclosure of information and supervision from the central bank. They also see the compliance with Basel Accords as an important factor helping to modernize the internal procedures of the bank as well as to make it easier the access of the development bank to the domestic and international markets.

[64] All other executive positions in BNDES are exclusive of the staff, all subject to entrance by public examinations.

Therefore, BNDES staff considered Basel II and other prudential requirements adequate to development banks, as long the regulators are flexible enough to provide room for an adaptation to the purpose of these institutions. They suggest that the regulated entity and the regulator keep in an on-going dialogue that permits an adequate treatment of exceptions, concedes waivers and makes occasional adjustments. In practice, BNDES registered its most massive expansion in history under the framework of Basel II and was able to navigate through the troubled waters of the crisis without significant limitation or disruption. However, this does not mean that the Basel framework, or the type of regulatory framework in force in Brazil, is the most suitable for BNDES and other development banks. We should keep in mind that it still treats BNDES like a private bank.

Right before the failure of Lehman Brothers, there was an in-depth discussion on BNDES funding and capital needs because of two main drivers: the need to expand BNDES balance sheet to finance the Growth Acceleration Program (public and private investments; perform a countercyclical role in some specific areas (e.g. exports); and the need to comply with Basel capital requirements. The drop of 10.0 percentage points in the BNDES Basel index between December 2007 and December 2008 was illustrative of the challenge posed by regulation. The practical solution was the capitalization of the development by the National Treasury, which injected around R$ 11.5 billion in total capital between 2008 and 2009. The government solved the problem of non-compliance with client exposure and fixed assets operational limits through regulatory waivers.

BNDES never adopted internal models. Castro (2009) calculations show that BNDES would have reduced its capital requirement four times should if an internal model for credit risk were applied. However, the development bank continued to use the standardized approach, as the top-5 private banks did. Brazilian banks chose not to adopt internal models. Later, Basel III realigned the incentives, making internal models too costly in comparison to the capital saving benefits it may entail.

CMN and BCB reorientation in recent years towards the adoption of a framework of prudential requirements without waivers, which removed degrees of freedom from BNDES, squeezes its capital basis and will make several transactions unfeasible due to operational limits in the next decade, is a novelty in the Brazilian regulatory history. Though one can argue that BNDES classification in S2 despite its size is a kind of waiver, it poorly benefits the bank as liquidity ratios are not a problem and, currently, neither is an additional capital cushion of 1.0%.

This movement occurs at the same time that the government reassesses the role played by BNDES. MoF officers expect that as the development bank withdraws from the market, domestic private banks and capital markets fill the void. However, this process may not happen. The one-size-fits-all approach from Brazilian regulators seems to align with the conception of an atrophied BNDES, which contrasts with the context of economic stagnation.

A proper analysis of the post-Basel III period is a difficult task because part of the measures is still in a transitional phase. In practice, the current stagnation mitigates the potential conflicts between regulation and development because restrictions chiefly operate in the expansionary phase. Our primary perception, however, is that the downsizing policy of BNDES might create constraints in the supply of long-term funds in the domestic currency if investment accelerates. This restriction will happen if the regulators decide not the reintroduce waivers to the standardized regulatory framework. Another possible solution is to substitute BNDES funds for loans from the international market. However, this will depend on the circumstances and would introduce more exchange risk in the balance sheets of the Brazilian corporations.

Finally, the experience of BNDES shows that there are positive and negative effects due to the application of Basle rules to a development bank. Among the positive ones are the political insulation from the government and the politicians - as the bank has to comply with financial indicators and with supervision from the Central Bank. Other positive effects are due to the modernization effect of regulation on the institution and the potential to access finance in the markets.

Among the negative ones are the credit limits concerning credit exposure to local corporations, particularly the largest ones. This limitation would have imposed severe constraints in the aftermath of the 2008 financial crisis when the supply of foreign funds to these companies dried up. Large export-oriented corporation, such as Petrobras (oil) and Vale (mining) could not renew their loans in the overseas markets and menaced, because of the large size of their demand of funds, to dry the local market up. This strategy would have crowded-out the market, affecting negatively the domestic-oriented companies, which already faced difficulties with accessing new bank loans as the international crisis also influenced the local credit markets. This menace stimulated the government to issue bonds and use the proceeds to finance Petrobras, isolating the oil company from the rest of the market. However, the demand of the oil company for BNDES was higher than the ceilings on credit limits for any corporations, imposed by regulators. At that time, they solved the problem using exemptions to the general rule that they are now eliminating.

Therefore, the experience of BNDES suggests that development banks and regulation can be a win-win game. However, this positive result depends on a critical issue that neither the literature nor the interviews have mentioned. The role played by the capital provider of the development banks the government. Regardless of some specific factors, it is possible to solve most of the Basle financial limitations by injections of more capital. This solution is what happened to BNDES, particularly in the credit boom after the financial crisis. Along with exceptions from the "indulgent regulator," the behavior of the government, as an "indulgent capitalist," was relevant for BNDES to avoid the restrictions imposed by financial regulations on the bank's activity as a development agency.

Conclusions

According to the Minskyian theoretical framework, development banks are institutions that have a unique role to play in promoting the socialization of investment and economic development. They are institutions that should not encourage financial fragility among its clients and, at the same time, should balance their assets and liabilities properly, as a financially robust bank should do. However, development banks have a mission and, therefore, financial regulations should take them in to account avoiding needless conflicts.

This paper provided a real-world case study by analyzing the experience of BNDES, focusing mainly in the period following the adoption of Basel III in Brazil. We can notice two long-term patterns regarding the regulation of BNDES. First, self-regulation lost importance in defining the development bank management practices to mandatory provisions by CMN and BCB. Second, the standardization of Basel Accord requirements became a general rule that included BNDES, as the regulators repealed almost all waivers over time. Therefore, despite the special status of BNDES in the national financial system, there is now a nearly full alignment between BNDES' and private banks' regulations.

Currently, BNDES is not regulated as a SIFI (S1), even though the bank exceeds the CMN threshold. It is a level 2 financial institution (S2), along with other private (Safra, Votorantim and Citibank Brazil) and public banks (Bank of the Northeast of Brazil and Banrisul). This classification concedes a few regulatory waivers, such as the exemption of the SIFI capital surcharge (currently at 1.0%), and the immunity to report and comply with LCR and NFSR. Nevertheless, BCB has the discretionary power to reclassify BNDES at any time due to its size.

Regarding Basel requirements, BNDES uses the standardized approach to calculate the credit, market and operational risks, and the general standards to Common Equity Tier 1, Tier 1, Tier 2, and Total capital. The bank follows general regulations on integrated risk management and capital structures, as well as Basel Pillar 3 disclosure requirements, like any other bank.

Historically, BNDES received special treatment in terms of compliance with operational limits, especially, client exposure and fixed assets limits. Those waivers recognized the unique nature of BNDES transactions and provided a regulatory solution to combine financial stability and socialization of investment aims. The development bank is in a transition period to adequate its exposures in stocks of oil and mining companies to client exposure limits, but in the next decade, there will be full alignment between the regulation of BNDES and private banks.

This standardization pattern raises concerns on the adequacy of the current regulatory framework to the accomplishment of BNDES functions. In the second half of the 2000s, the development bank was able to combine regulatory compliance and a massive expansion of its transactions. However, in recent years, it has faced a more restrictive regulatory environment. For instance, BNDES will need to review its policies to assure that client exposure, and fixed assets meet the regulatory limits. Additionally, the bank will need to exclude its more stable funding source from its capital along the next decade.

The current political context in Brazil is materializing a view that calls for the dismantling of BNDES and its downsizing, with the purpose to open room for private banks and capital markets to flourish. Brazilian regulators are aligned with this view when they promote a one-size-fits-all approach to regulate BNDES. However, the current context eventually mitigates the potential conflicts between regulation and development because restrictions operate mainly in an expansionary situation.

We showed that, until now, whenever such conflicts appeared, the Brazilian government acted pragmatically to avoid open conflict between BNDES role as a long-term bank acting as an agent of investment policies and banking regulation. Regulatory waivers and a rise in paid-in capital of BNDES were sufficient to deal with all limitations. Therefore, the State acted as an "indulgent regulator" and as an "indulgent capitalist."

Since 2015, fiscal adjustment has substituted growth as the primary goal of economic policies. The government has, since then, used BNDES as a tool to reduce the expansion of public debt. BNDES has prepaid the loans extended by the Treasury, and BNDES' disbursements achieved its lower level since 2004 – less than 40% of its peak in 2013. At the same time, financial regulators eliminated most of BNDES' waivers, as they are not needed, at the moment.

This new behavior of the government shows that the 'indulgent state' – regulator and the Treasury – changed their approach towards BNDES. However, it is too early to state that this change is a permanent divide in the relation between the development bank and the Brazilian State. BNDES has fulfilled a political and economic role in the Brazilian economy, supplying long-term funds to investment project and in later years to other priorities of the government, such as the privatization of state-owned companies, the exports of high value-added goods and services, the development of the capital markets, etc. These activities generated positive political dividends to the incumbent government.

The complete dismantling of BNDES would generate an economic and political void that other institutions would need to fill. The private financial markets would have supply funds at lower spreads and longer maturities on the scale compatible with the economic growth process and the external accounts. At the same time, private and public agents would have to share a financial decision-making process that, until 2015, was mostly in the hands of the public sector, and this is a prominent political issue.

Should the government political orientation change in the future and BNDES has to face another round of expansion, Brazilian authorities could face more difficulties to reactivate the development bank due to the regulatory standardization promoted by CMN and BCB. However, this possible scenario is not a sufficient condition to allow us to suggest that a new 'cycle of indulgencies' will necessarily start again. In the last two years, despite the economic crisis, inflation has been in historic lows, market interest rates decreased to new lows and maturities expanded. Therefore, if the development of the capital markets continues, BNDES might not become once more an essential agent in the provision of long-term funds to long-term investment projects, even if economic growth resumes. If not, the standardized regulation approach adopted in recent years will impose new constraints. From a Minskyian perspective, in a situation like this, the government might need to redefine regulation so BNDES will not face significant restrictions in promoting the socialization of investment.

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Annex I: The contemporary Brazilian regulatory architecture

Brazil historically adopts a "functional approach" for financial supervision and regulation, according to which a specific regulator deals with different types of financial business[65]. The financial regulatory ecosystem is mainly composed by the National Monetary Council (CMN), the Central Bank of Brazil (BCB), the Securities and Exchange Commission of Brazil (CVM), National Council for Private Insurance (CNSP), the Superintendence of Private Insurance (Susep), National Council for Complementary Pension (CNPC), the National Superintendence of Pension Funds (Previc) and the Committee for the Regulation and Supervision of Financial, Securities, Insurance, and Complementary Pension Markets (Coremec). Figure 1 and Table 1 summarizes this ecosystem.

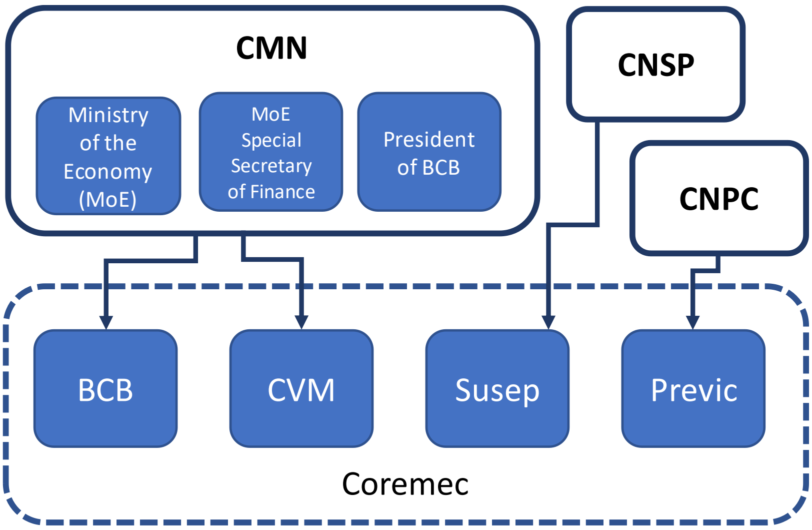

Figure 1: Brazilian regulatory structure
Source: Authors' elaboration.

[65] "The functional approach is one in which supervisory oversight is determined by the business that is being transacted by the entity, without regard to its legal status. Each type of business may have its own functional regulator" (G30, 2008: 83).

The CMN is at the top of the regulatory hierarchy. The members of the Council are nowadays Minister of the Economy (MoE), the MoE's Special Secretary of Finance and the President of BCB[66]. CMN is in charge of the rulemaking but not of supervision of financial and capital markets and institutions. The BCB is in charge of CMN's executive secretariat. Supervision and enforcement are performed by BCB (created in 1964) and CVM (established in 1976) or others according to their regulatory perimeters (a similar structure applies to insurance and pension markets). It is crucial to notice that the four regulators also have rulemaking powers. Finally, Coremec (created in 2006) is an advisory committee that has a coordinative role, gathering the four regulators.

<table>
<tr><th>Regulating entities</th><th>Regulators</th><th colspan="4">Institutions</th></tr>
<tr><td rowspan="2">National Monetary Council (CMN)</td><td>Central Bank of Brazil (BCB)</td><td>Financial institutions taking demand deposits</td><td>Other financial institutions (incl. BNDES)

Foreign exchange banks</td><td colspan="2" rowspan="2">Other financial intermediaries and entities administering financial assets of third parties</td></tr>
<tr><td>Securities and Exchange Commission (CVM)</td><td>Commodities and futures exchanges</td><td>Stock exchanges</td></tr>
<tr><td>National Council for Private Insurance (CNSP)</td><td>Private Insurance Superintendence (Susep)</td><td>Reinsurance Companies</td><td>Insurance companies</td><td>Capitalization companies</td><td>Entities operating private open pension funds</td></tr>
<tr><td>National Council for Complementary Pension (CNPC)</td><td>National Complementary Pension Superintendency (Previc)</td><td colspan="4">Entities operating private closed pension funds</td></tr>
</table>

Table 1: Brazilian regulatory structure
Source: BCB.

Since 1964 banks are chiefly regulated by CMN and BCB, while CVM is responsible for regulating them in the condition of intermediaries integrating the securities distribution system (for instance, when banks sell securities to clients) or as public companies. Thus, like any other bank, and despite its unique condition in the national financial system, BNDES is subject to CMN's and BCB's regulatory authority.

[66] Federal Law no. 13,844 from June 18, 2019.