

**MACROECONOMIC POLICY IN  
BRAZIL: INFLATION TARGETING,  
PUBLIC DEBT STRUCTURE  
AND CREDIT POLICIES**

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BANCO DE ESPAÑA

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## **Abstract**

Macroeconomic policy in Latin America underwent significant changes in the late nineties. Brazil is an outstanding example: inflation targeting was introduced in 1999 and a new fiscal policy framework was set up in 2000 with the Fiscal Responsibility Law. However, two elements of the Brazilian economy constrained the apparently state-of-the-art macroeconomic policy framework: the composition of public debt and the structure of the banking system. This paper discusses why macroeconomic policies were restricted by those factors and how they have evolved differently. The structure of public debt, characterised by indexation, short-term maturities and short US dollar positions, imposed significant constraints on macroeconomic policies during the 2000s. Nevertheless, these vulnerabilities were gradually overcome and the composition of public debt has remained stable in the aftermath of the global financial crisis. At the same time, the structure of the banking system was characterised by credit segmentation and high interest spreads, and these characteristics are still present today. These features have become key elements in understanding current macroeconomic developments, credit dynamics and the economic policy stance.

**Keywords:** public debt, central banking, credit policies, Brazil.

**JEL Classification:** H30, E58, E.63.

## Resumen

La conducción de las políticas macroeconómicas experimentó importantes cambios en América Latina a finales de los noventa. Brasil es un ejemplo notable de aquellos, al introducirse el objetivo de inflación como marco de política monetaria en 1999, y un nuevo marco fiscal en 2000, con la ley de responsabilidad fiscal. Sin embargo, hay dos elementos que en la práctica restringieron este marco de política macroeconómica: la composición de la deuda pública y la estructura del sistema bancario. Este trabajo expone la importancia que tuvieron estos factores y cómo han evolucionado de modo distinto desde entonces. La estructura de la deuda pública, caracterizada por la indexación, el corto plazo de los vencimientos y una posición corta en dólares, supuso una importante restricción a las políticas macroeconómicas durante la década del 2000. Sin embargo, estos problemas fueron superados de modo gradual, y la composición de la deuda pública no se deterioró tras la crisis financiera global. El segundo factor relevante era la estructura del sistema bancario, que se caracterizaba por la segmentación y los elevados márgenes de los intereses de préstamos sobre depósitos. Estos elementos han persistido, y se han convertido en elementos clave para entender los desarrollos macroeconómicos actuales, la política crediticia y el tono de la política monetaria.

**Palabras clave:** deuda pública, banca central, políticas crediticias, Brasil.

**Códigos JEL:** H30, E58, E63.

## 1 Introduction

Over the last decade, Latin American economies have witnessed sustained economic growth —boosted partially by the commodities boom and vast foreign capital inflows— and a general improvement in their economic policy frameworks. These developments, to some extent, supported the region, helping it come through the global financial and economic crisis successfully. In particular, some countries were able to rid themselves of the burdens that constrained economic policy management in the past (i.e. the “original sin” and the “fear of floating”) and apply countercyclical policy measures during the shock. Notwithstanding this progress, Latin America still exhibits important structural impediments to increases in growth potential, as the low rate of productivity growth in most countries testifies.

Brazil is a remarkable example of such improvements and limitations and constitutes a natural case study. Macroeconomic policy in Brazil underwent significant change in the late 1990s. Inflation targeting was introduced as the monetary policy framework in 1999, replacing the previous framework of the *Plano Real*, which had been designed as an exchange rate mechanism for stabilising inflation. The new inflation targeting regime was accompanied by a de jure commitment to exchange rate flexibility.<sup>1</sup> In addition, a new fiscal policy framework was set up in 2000 with the Fiscal Responsibility Law, aimed at imposing discipline on public finances at all levels of administration (central government, states and municipalities). The Law contributed to an improvement in fiscal accounts and helped sustain net debt dynamics, although it was not a structural rule and did not prevent structural surplus/deficit.

However, the Brazilian economy had very specific features which constrained this apparently state-of-the-art macroeconomic framework. Two features, in particular, stand out: public debt composition and the structure of the banking system. This paper discusses how macroeconomic policies were restricted by those factors and how they have evolved differently. The public debt structure imposed significant limitations on macroeconomic policies during the 2000s. Its main vulnerabilities were indexation, short-term maturities and short US dollar positions. Nevertheless, these vulnerabilities were gradually overcome during that period and the composition of public debt has remained stable in the aftermath of the global financial crisis. By contrast, the structure of the banking system, characterised by credit segmentation and high interest spreads, remains unchanged. All these features constitute key elements in understanding current macroeconomic developments and credit dynamics.

The rest of the paper is structured as follows. Section 2 discusses how monetary and fiscal policies were constrained for a long period of time by the structure of public debt. Traditionally, internal debt was characterised by short-term maturities and widespread indexation. Even if internal debt dollarisation was not high for regional standards, the public sector had a short US dollar position, i.e. external debt was higher than the holdings of international reserves. Those features were a significant source of vulnerability and constrained the monetary policy framework. Monetary policy tightening implied, as a by-product, an increase in public debt funding costs, while exchange rate depreciations, otherwise a channel for dampening negative external shocks, could become contractive, on account of impaired debt dynamics due to the currency mismatch between FX assets and

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1. See Bogdanski et al. (2000) and (2001) for a detailed description of the inflation targeting regime that replaced the exchange rate mechanism for stabilising inflation under the *Plano Real*.

liabilities. Therefore, overcoming these constraints was a key prerequisite for conducting countercyclical macroeconomic policies.

Section 3 discusses how the banking system had, and indeed still has, a number of features which have imposed stringent limitations on standard macroeconomic policy. One of the most defining issues is the segmentation of credit allocation: only a fraction of credit is non-earmarked, i.e. freely allocated by banks. The rest is earmarked by a complex system in which the large public development bank *Banco Nacional de Desenvolvimento Economico e Social* (BNDES) has a prominent role. Earmarked credit implies channelling savings to certain sectors where credit provision is supposedly lacking due to market failures. However, beyond a given point, this system implies a crowding out of the private banking system. The high banking spreads between the lending and deposit rates of non-earmarked credit are another key issue. Banking spreads depend on a number of factors, including large compulsory and unremunerated reserve requirements, but also the burden imposed by the earmarking system. Considering these features of the banking system, we assess the room for conducting countercyclical macroeconomic policies in 2002, 2008 and 2013.

Additionally, Brazil's banking system has conditioned the monetary policy transmission mechanism. The short-term interest rate, which is the standard monetary policy tool, has little impact on the dynamics of earmarked credit. In turn, the earmarked credit interest rate is linked to the "official" long-term interest rate fixed by the National Monetary Council. Moreover, earmarked credit may be stimulated by administrative measures and the direct allocation of resources by BNDES, areas of decision-making which lie beyond the scope of the central bank. Finally, the central bank has ample room for conducting quantitative monetary policy, e.g. tightening reserve requirements, with a strong impact on non-earmarked lending rates. Indeed, quasi-fiscal expansions related to public credit policies are also essential to assess the fiscal policy stance. In this sense, the credit expansion of recent years is directly related to policies aimed at stimulating housing and long-term investment.

Finally, Section 4 presents the main conclusions.



## 2 Inflation targeting and public debt composition

Public debt had important vulnerabilities in the early 2000s, which imposed significant constraints on macroeconomic policies. These vulnerabilities stemmed from the composition of public debt, rather than from its volume. In fact, the ratio of public debt to GDP was relatively low by international standards, amounting to 52% of GDP in 1999.<sup>2</sup> Debt composition improved gradually during the following decade and its main vulnerabilities were overcome. Such improvements were instrumental to Brazil withstanding the financial shock during the global financial crisis, and the composition of public debt has remained stable ever since.

### 2.1 Public debt structure as a constraint on macroeconomic policy in the 2000s

The composition of public debt was an important source of vulnerability in Brazil in the early 2000s for two reasons. First, a significant fraction of internal debt was exposed to rollover risks, since it was indexed to short-term interest rates or had a short maturity.<sup>3</sup> This is apparent in Table 1, which disaggregates debt across maturities and instruments. The bias towards short-term maturities was particularly significant for fixed interest rate debt: all fixed interest rate debt matured in less than one year. Debt at longer maturities was fixed at floating interest rates or indexed to inflation. Internal debt was biased towards short-term maturities: 55% of total debt matured in less than one year and public debt over five years accounted for only 14.9% of total debt. Moreover, fixed interest rate debt represented only 9% of total debt, the rest being indexed either to short-term interest rates, inflation or the foreign exchange rate. The public debt structure was a consequence of decades of high inflation, when indexation and shortening of maturities protected the real value of savings from inflation.

**Table 1: Internal debt as of end 1999**

#### A: As % GDP

	Less than one year	1 yr < x < 2 yr	2 yr < x < 3 yr	3 yr < x < 4 yr	4 yr < x < 5 yr	x > 5 yr	Total
<b>Fixed interest rate</b>	3.4	0.0	0.0	0.0	0.0	0.0	3.4
<b>Floating interest rate</b>	12.7	5.0	0.6	0.5	0.5	2.6	21.8
<b>Inflation</b>	0.2	0.2	0.1	0.1	0.2	1.4	2.1
<b>Indexed to exchange rate</b>	4.6	3.5	0.2	0.1	0.1	0.1	8.7
<b>Other</b>	0.1	0.1	0.0	0.2	0.0	1.7	2.1
<b>Total</b>	21.0	8.9	0.9	0.9	0.8	5.7	38.2

Source: National Treasury, Banco de España.

#### B: As % Total Debt

	Less than one year	1 yr < x < 2 yr	2 yr < x < 3 yr	3 yr < x < 4 yr	4 yr < x < 5 yr	x > 5 yr	Total
<b>Fixed interest rate</b>	9.0	0.0	0.0	0.0	0.0	0.0	9.0
<b>Floating interest rate</b>	33.2	13.1	1.5	1.3	1.3	6.7	57.0
<b>Inflation</b>	0.5	0.6	0.3	0.2	0.5	3.6	5.6
<b>Indexed to exchange rate</b>	12.1	9.2	0.6	0.3	0.4	0.2	22.8
<b>Other</b>	0.2	0.3	0.1	0.5	0.0	4.4	5.6
<b>Total</b>	54.9	23.3	2.5	2.3	2.1	14.9	100.0

Source: National Treasury, Banco de España.

2. Internal (domestic) debt represented 38% of GDP while external (international) debt accounted for 14% of GDP. Internal or domestic debt refers to debt issued in Brazil. External or international debt refers to debt issued abroad.

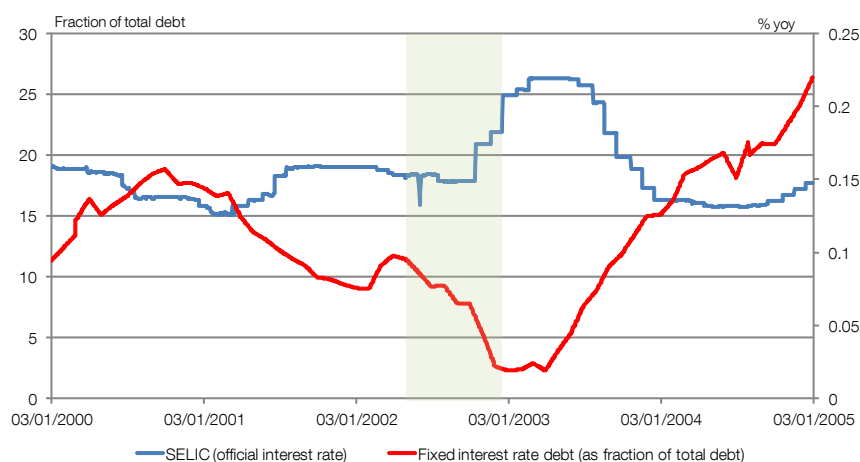
3. Bevilacqua and García (1999) discuss how the prominent role of domestic banks as investors in public debt contributed to mitigate these risks somewhat.

Second, the public sector was a net debtor in foreign currency and therefore exchange rate depreciations had a potential negative impact on debt dynamics. Although financial dollarisation was not as widespread as in other countries of the region, debt exposed to exchange rate fluctuations —the total amount of internal debt and external debt indexed to exchange rates— reached 20% of GDP in 2000. So large was it that it surpassed the low holdings of international reserves.<sup>4</sup> As for the composition of external debt, the bulk was contractual debt, i.e. debt with international financial institutions (IMF, BID and Paris Club) and restructured debt (Brady bonds). Sovereign debt issuance had increased after the introduction of the *Plano Real*, although access to external markets remained precarious.

The macroeconomic framework introduced at the end of the *Plano Real*, based on inflation targeting and exchange rate flexibility, was limited by this public debt structure. Inflation targeting was constrained by widespread debt indexation, since public debt was prominently short-term and indexed to interest rates. Then, as a by-product, monetary policy tightening implied an increase in debt service. Furthermore, exchange rate flexibility was restricted by the public sector net debtor position in foreign currency. Exchange rate depreciations had negative valuation effects and an adverse impact on public debt dynamics, so exchange rates could not float freely to dampen external shocks without impairing public debt. In a nutshell, macroeconomic policies aimed at mitigating inflationary pressures or absorbing negative shocks could lead to very adverse net debt dynamics.

Moreover, the structure of public debt could worsen quickly during financial stress, as happened in 2002. Then, political uncertainty during the run-up to the presidential elections triggered a reversal of foreign capital inflows, a significant increase in sovereign debt spreads and a sharp exchange rate depreciation. The problems were aggravated by the gradual shortening of maturities and the reduction in fixed interest debt (see Chart 1).

**CHART 1. IMPACT OF 2002 TURMOIL ON PUBLIC DEBT STRUCTURE**



Source: BCB, Tesouro Nacional  
 Note: SELIC is the official short-term interest rate.

The central bank tightened monetary policy in response to these developments, although it failed to prevent the marked exchange rate depreciation, which had significant negative balance sheet effects. Moreover, interest rate payments rocketed as monetary policy

4. During the years of high inflation, Brazilian banks used to offer domestic currency deposits, perfectly indexed, as a way of preserving the real value of savings, investing the proceeds in indexed domestic currency bonds. See Goldfajn et al. (2003), Garcia (1996), or Bevilaqua and Garcia (2012).

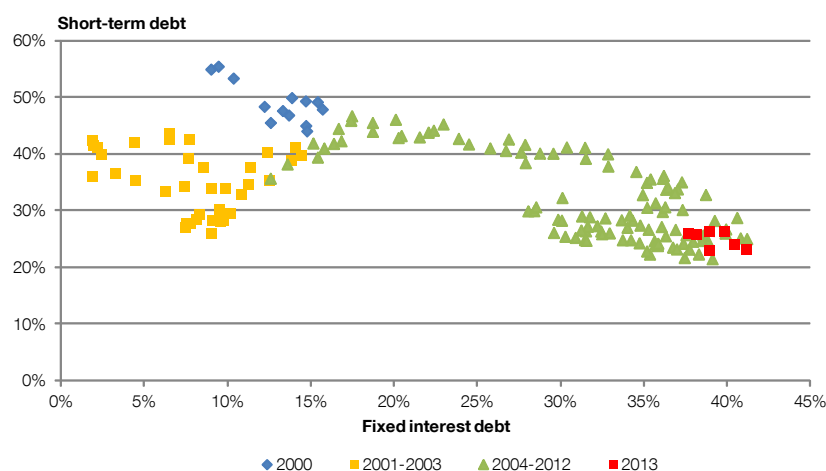
tightening implied an increase in funding costs. Therefore, the ratio of net debt to GDP increased in 2002 by 8.4 pp, in spite of the primary surplus posted by the public sector: a negative valuation effect implied an increase in debt of 9.9 pp of GDP, while interest payments amounted to 7.7 pp of GDP.

Financial instability eased after October, and the exchange rate appreciated, contributing to the stabilisation of net debt dynamics. However, interest payments remained high and the worsening of the public debt structure continued.<sup>5</sup> The 2002 episode was a relevant test for the inflation targeting regime and underscored the importance of addressing public debt vulnerabilities. Overcoming those problems was essential to improving macroeconomic stability and it gradually became a policy priority for the economic authorities.

## 2.2 Improvements in public debt composition

Public debt composition experienced two remarkable improvements in the period 2003-07. The first was the shift in the composition of the gross public debt structure, which started as far back as 1999. Chart 2 plots the percentage of short-term debt along the vertical (y) axis, while the percentage of fixed interest rate debt is indicated by the horizontal (x) axis. Short-term debt and indexed debt decreased gradually and, consequently, so did the rollover risk. The amount of floating interest rate debt halved during this period, with a significant increase in fixed interest debt. Debt maturities lengthened on account of a reduction in short-term debt and a gradual increase in long-term debt.

**CHART 2. INTERNAL PUBLIC DEBT COMPOSITION**



Source: Tesouro Nacional.

Note: The chart depicts short-term (<12 months) and fixed rate debt over total debt. Monthly data, since 2000.

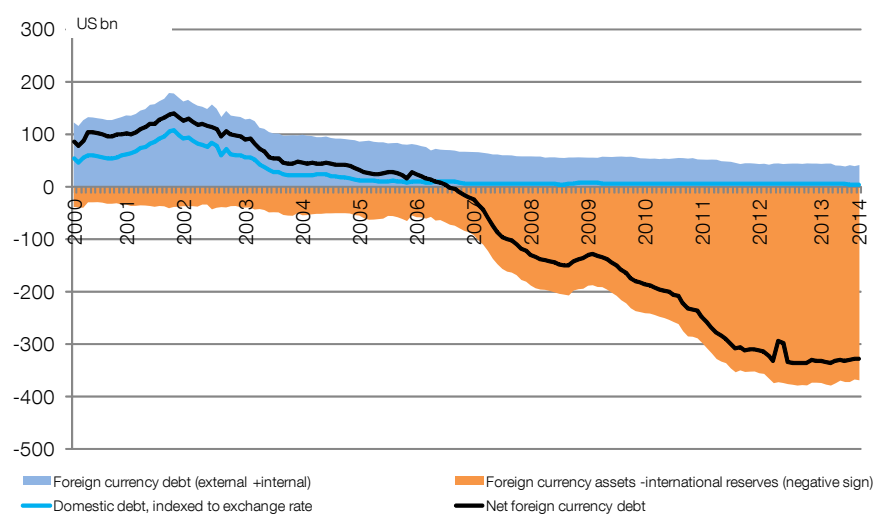
The second change was the dedollarisation of public debt during that period. The public sector's foreign currency position gradually improved until it became a net creditor. This change was driven by a reduction in foreign currency debt and also by a significant increase in the central bank's international reserves. The first was a consequence of active debt management by authorities, which moved towards local currency debt in an attempt to

5. See Bevilaqua and Loyo (2005) or García (2006) for a comprehensive description of the problems faced by inflation targeting since its implementation until 2005. Inflation climbed higher owing to the exchange rate pass-through and inflation expectations overshoot. Given the magnitude of the deterioration, the central bank raised the inflation targets for 2003 and 2004 to 8.5% and 5.5% respectively. Monetary policy was further tightened in early 2003, but inflation remained above target in 2002 and 2003.

reduce the vulnerabilities associated with excessive foreign currency debt. As shown by Acevedo et al. (2007), in a context of currency appreciation such as the one recorded in the period 2003-07, policy-makers had an incentive to maintain or increase the share of foreign currency debt, as this would have enabled a more rapid reduction of public debt to GDP ratios. But, in Brazil, authorities put the long-term benefits of debt structure improvement (contingent on financial turbulence when the exchange rate sharply depreciates) before the short-term benefit of a debt/GDP reduction. Consequently, debt indexed to the exchange rate and external debt shrank.

Moreover, international reserves increased substantially during this period. Reserve holdings amounted to USD 180 billion (13% of GDP) at the end of 2007, well above the USD 37 billion (6% of GDP) at the end of 1999. The increase in international reserves was driven by central bank interventions in the foreign exchange market, the purpose of which was to moderate currency appreciation pressures stemming from large capital inflows. Once the public sector had a long foreign currency position, any exchange rate depreciation reduced net debt. Accordingly, there was more room to conduct expansionary macroeconomic policies during financial stress. Both changes were, to a large extent, the consequence of the active policies of the Treasury. Box 1 discusses the policies intended to improve the internal and external debt composition, such as the lengthening of maturities and the reduction in FX indexation.

**CHART 3. DEDOLLARISATION OF PUBLIC DEBT. FX ASSETS AND LIABILITIES**



Source: BCB, Tesouro Nacional.

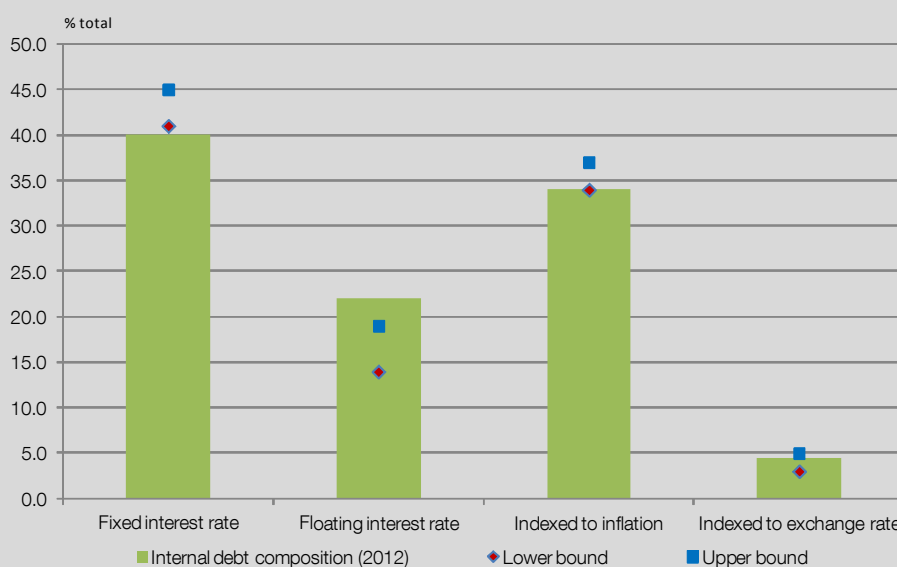
Note: The chart shows the dedollarisation of public debt. Foreign currency debt includes internal and external debt in foreign currency. Foreign currency assets include international reserves, with a negative sign. Net foreign currency debt is defined as the difference between foreign currency liabilities and assets.

## BOX 1. DEBT MANAGEMENT IN BRAZIL

In this box we review the active Treasury debt management strategy to improve internal and external debt composition.

Internal debt management. The internal debt structure was characterised by short-term maturities and widespread indexation to floating interest rates and inflation. The Treasury's long-term goal was the reduction in financing costs in the long term, subject to acceptable levels of rollover and market and operational risks. The Treasury established a number of intermediate objectives: i) the lengthening of the average maturity; ii) the improvement of maturity profiles, with a particular focus on short-term debt; iii) the gradual increase in fixed interest rate debt or debt indexed to inflation, and a reduction of debt at floating interest rates; and iv) the development of a term structure for public debt. Since 2001 the Treasury has published an annual financing plan (*Plano Anual do Financiamento*).

### DEBT MANAGEMENT. OPTIMAL PUBLIC DEBT



The Treasury estimated an optimal debt structure model (Treasury, 2013), in which it establishes ceilings and floors on the different debt instruments for 2013. For instance, fixed income debt should amount to between 41% and 45% of total internal debt; debt indexed to inflation should fluctuate between 34% and 37%; debt at floating interest rates should range between 14% and 19%; and, finally, debt indexed to the exchange rate should stand between 3% and 5% of total debt. This optimal debt composition is considered a medium-term benchmark and should take into account debt maturities. In the long term, the Federal Public Debt (FPD) Profile is defined by indicators with tolerance margins of +/-2%. For instance, fixed rate debt and inflation linked debt should amount to 45% and 35% of total debt respectively, whereas floating rate debt and exchange rate debt should account for 15% and 5%, respectively. There is also a limit of 20% for bonds maturing in 12 months. The internal debt structure moved towards this profile over the period, as Chart 1 shows. Indeed, the proportion of inflation and exchange linked FPD has already reached the proposed limits.

External debt management. In the mid-1990s, external debt comprised a) contractual debt with international financial institutions (IMF, BID and Paris Club); b) restructured debt or Brady bonds; and iii) sovereign debt issued in external financial markets. In recent years the Treasury has actively managed external debt to achieve

different objectives. For instance, in order to reduce restructured debt and gain access to external markets at a low cost of financing, the Treasury conducted repurchases of restructured debt (comprising Brady bonds), replacing it with sovereign debt issued in financial markets which did not have the stigma of the former. After a number of operations, the last Brady bonds were redeemed in 2006, with international reserves used to finance the purchases. Once this had been achieved, the Treasury conducted operations to further improve the composition of external debt in terms of maturities and prices, constructing an interest rate curve for external debt, with qualitative issuances, from 2006 onwards. For instance, in 2007, a successful exchange offer swapped debt maturing in 2020, 2024, 2027 and 2030 for debt maturing in 2037; and early redemptions of external debt were also conducted, in contexts of improving access to financial markets (for instance, the tender offer for early redemption conducted in 2007). Finally, the Treasury launched a programme of issuance in domestic currency (*real*) in external markets in 2005. Table 1 summarises the main operations in 2005 and 2006.

#### Selected operations of debt management in Brazil, 2005 and 2006

Type of debt		Operation	Date
<b>Contractual</b>	IMF	Early redemption of the debt with the IMF, total amount 20.4 bn (2005)	2005
<b>Restructured</b>	Brady bonds	Exchange offer of C-bonds for A-bonds, total amount 4.5 bn (2005)	2005
		Early redemption of Brady Bonds, total amount 6.6 bn (2005 and 2006)	2006
	Paris Club	Early redemption debt with the Paris Club, total amount 1.7 bn (2006)	2006
<b>Sovereign</b>		Bond issuance in domestic currency in external markets (Global BRL 2016), amount 4.9 bn	2005
		Redemption of debt maturing in 2007, 2009 & 2010, to improve maturity profile	2006
		Exchange offer bond G2037 for bonds G2020, 2024, 2027, and 2030, total amount 3.7 bn	2006

Source: National Treasury, own elaboration.

All in all, the public debt structure changed dramatically during the period: internal debt shifted closer to the optimal debt structure, given the desired combination of return risk, while external debt registered a reduction of restructured debt, a gradual increase in sovereign debt and other qualitative improvements.

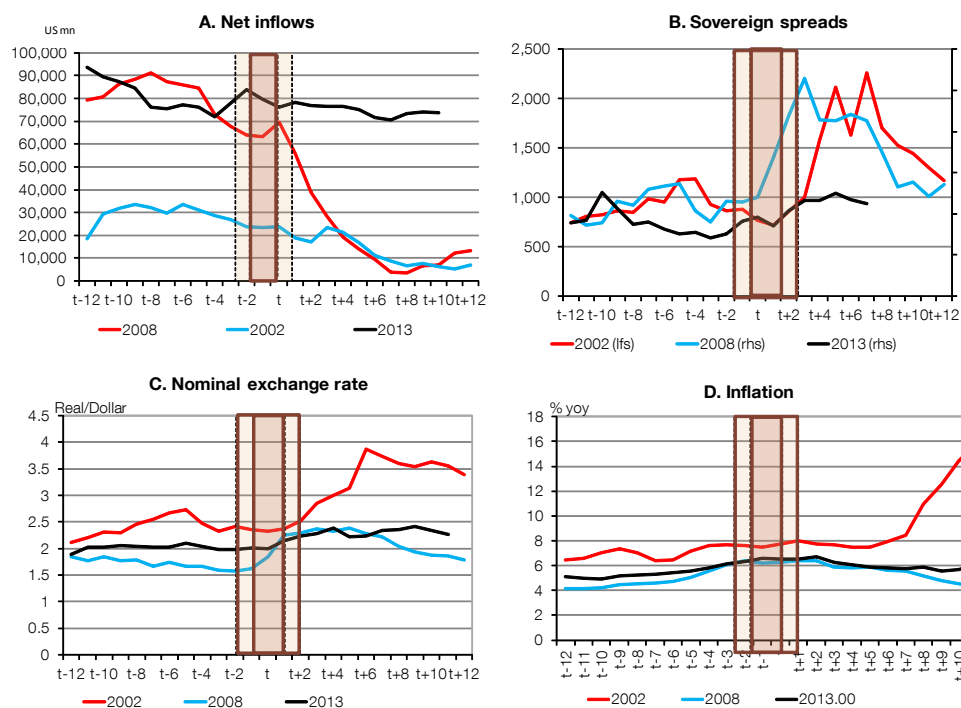
### 2.3 Macroeconomic policy during financial shocks: the importance of the public debt structure

The global economic and financial crisis of 2008 had a strong impact on the Brazilian economy through a contraction in external demand and disruptions in financial markets.<sup>6</sup> From this perspective, the impact was not significantly different from previous episodes of financial stress, such as the sudden drying up of foreign capital inflows in 2002, and indeed it could have been more severe, since the depressed global demand limited the possibilities of adjustment through the external sector and depreciation. Nevertheless, its economic consequences were by far less dramatic and more short-lived. The key difference between those episodes is that, in 2008, macroeconomic policies could adopt a decisive countercyclical stance, partly due to the important improvements in the public debt structure made over previous years, but also to the build-up of fiscal and monetary space and credibility.

The main features of the financial shocks of 2002 and 2008, and the latest episode of 2012-13, are depicted in Chart 4.

6. For a detailed description of the 2002 episode, see García (2008). Mesquita and Torós (2010) discuss the central bank's response to the 2008 crisis. Gallego et al. (2010) provide an analysis of the resilience of Latin America to the last crisis.

**CHART 4. FINANCIAL SHOCKS: 2002, 2008 and 2013**



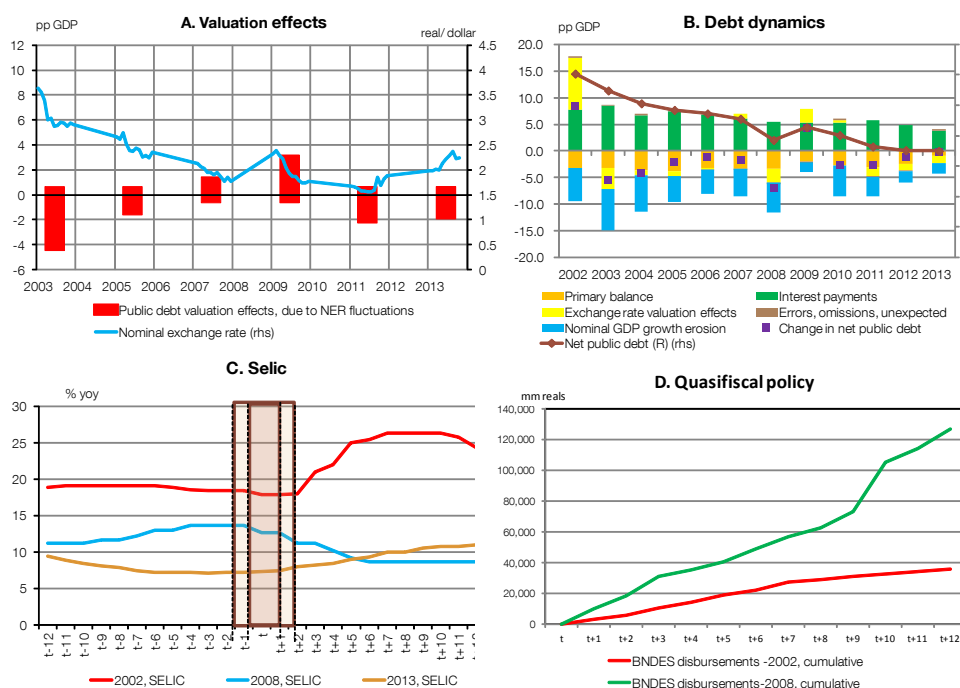
Source: BCB, Banco de España  
 Note: Events start in March 2002, September 2008 and April 2013, respectively.

All indicators suggest that the shocks were more sizable in the first two episodes than in the last one. Net capital inflows suffered a severe contraction (Panel A); sovereign spreads increased (Panel B) and the exchange rate depreciated sharply at the onset of each event (Panel C), although in relative terms the increase was higher and more sustained in 2002.<sup>7</sup> Exchange rate depreciation in 2008 acted partially as a buffer—in a context of reduced global demand—and helped absorb the financial shock. But the plunge in the exchange rate was not without risk and the central bank intervened strongly in the foreign exchange market to mitigate it. The main reason behind the relative strength of the exchange rate during the last episode was the short-lived nature of the sudden halt in foreign capital inflows. Lastly, in 2002 inflation rose substantially, in part as a consequence of the pass-through effect; but in 2008 inflation remained subdued and within the central bank's target band. The external shock of 2012-13 seems, in comparison, rather small, although net capital inflows decreased and sovereign spreads widened, albeit without reaching previous stress levels. However, there was less room to conduct countercyclical macroeconomic policies than in 2008—even though the public debt structure did not deteriorate—since the fiscal space was rather limited, inflation pressures constrained any monetary policy loosening, credit policies were under scrutiny and the increasing current account deficit exacerbated external vulnerabilities.

Macroeconomic policies differed in the three episodes, as depicted in Chart 5. Macroeconomic policies were very contractive in 2002, very expansive in 2008 and mildly contractive in 2012-13. The reason lies mainly with the impact of exchange rate depreciation on public debt. In 2002 the country was a net debtor in foreign currency, and the exchange rate depreciation had a negative valuation effect on debt (Chart 5, Panel A).

7. A possible explanation is that, in 2008, Brazil was impacted by a truly exogenous development: the collapse of Lehman Brothers. In 2002, and to some extent in 2012, the problem was a protracted loss of confidence, very much related to domestic developments.

**CHART 5: MACROECONOMIC POLICIES**



Source: BCB, Tesouro Nacional.  
 Note: Events start in March 2002, September 2008 and April 2013, respectively.

This triggered an increase in the risk premium. Public debt increased by 10 pp, reaching 63% of GDP and reducing the room to conduct countercyclical macroeconomic policies. The reverse happened in 2008, when Brazil had overcome the currency mismatch. The exchange rate depreciation led to a positive valuation effect. Public debt improved from 42% to 38% of GDP. The long foreign currency position, which had been a drag on the reduction in net debt during the exchange rate appreciation period in 2007, became a source of stability.

Therefore, monetary policy was tightened in 2002 to halt the outflow of capital and to reverse the exchange rate depreciation. The central bank increased the interest rate by 300 bp in May 2002 and again by 400 bp in August 2002, to leave it standing at 26.5% (see Chart 5, Panel C). In 2008 preventing exchange rate depreciation was no longer a policy target in itself, as net debt had improved. Monetary policy was eased in the aftermath of the global economic and financial crisis to alleviate the impact of the global crisis on the real economy.

The room to conduct fiscal and quasi-fiscal policies was also very different. In 2002 fiscal policy was constrained by the large increase in public debt. This was in stark contrast with the response in the aftermath of the 2008 crisis, when the Treasury adopted a very expansive fiscal stance. Direct fiscal expansion remained modest, but authorities pursued an aggressive quasi-fiscal policy, the main element of which was the credit policy of BNDES, the national development bank, and other public banks. The large resources granted by the Treasury to BNDES allowed significant disbursements of up to BRL 180 billion in the year after the crisis, as shown in Chart 5, Panel D. These resources were instrumental in maintaining credit growth to the industrial sector and underscored the countercyclical impact of this instrument.

Macroeconomic policies seemed also constrained by exchange rate developments in 2013 (along with persistent inflation pressures, previous fiscal deterioration and a change in international investors' perception of the country). The reason was not the impact of the



external shock on public debt dynamics, since net public debt decreased due to the creditor condition of the public sector in foreign currency. However, the protracted exchange rate depreciation risked spiralling out of control, introduced further inflationary pressures and could eventually lead to further losses in confidence. The significant impact on exchange rates, the policy responses and the change in the international mood might be more related to a critical assessment of previous economic policies or concerns about unexpected pockets of financial vulnerabilities, such as non-financial corporations' large issuances (Turner, 2014, and Shin, 2013). Nevertheless, market sentiment towards Brazil has improved more recently and the exchange rate has appreciated, finally stabilising at a comfortable level, mainly due to the central bank's decisive action in tightening monetary policy to curb inflation and intervening in FX markets to support the currency.

### 3 Monetary policy, credit policies, and the banking system structure

The structure of the banking system imposed other constraints on Brazil's macroeconomic policy framework, as some of its features had important implications for the process of credit expansion, and the implementation of monetary policy

Two key features in this respect were the dual system of credit allocation — earmarked and non-earmarked credit — and the segmentation of lenders between public and private institutions, both with significant weight. Currently, despite the financial deepening experienced by Brazil over the last decade, a significant proportion of credit remains earmarked by administrative measures, with public institutions playing a prominent role. That proportion has increased due to policy-makers' use of earmarked credit as a countercyclical tool during the global financial crisis. It is also worth noting that the evolution of earmarked credit and its cost are independent of monetary policy decisions concerning the official short-term interest rate. Lastly, banking spreads between non-earmarked loans and deposits are extremely large and depend on a wide range of factors; indeed, some of these factors are policy tools, e.g. reserve requirements and taxes on financial intermediation.

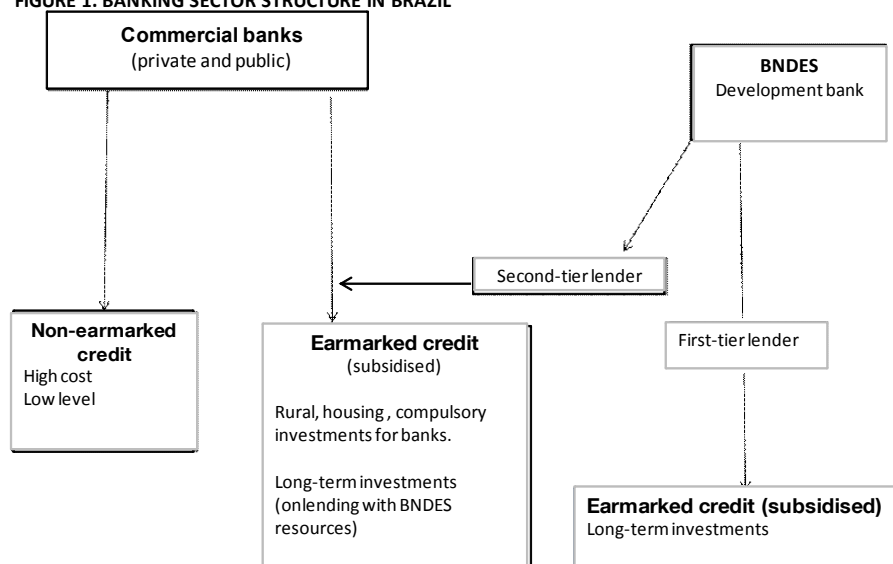
These features of the Brazilian banking system have two implications for economic policy management. First, there are a number of policies, besides standard monetary policy, which can affect the cost of non-earmarked credit. Second, monetary policy does not have a clear impact on earmarked credit. On the contrary, this type of credit is affected by other economic policies, which in many cases require the use of fiscal resources. In the following sub-sections we discuss the main characteristics of the banking system in more detail, tracking its development over the previous decade, and conclude with a discussion of the main implications of its characteristics for macroeconomic policy.

#### 3.1 Segmentation of credit

The Brazilian banking system has traditionally been characterised by the existence of different types of institutions (see Figure 1). Most of the banks are commercial, either public or private. They are deposit-taking institutions, engaged in credit provision at market interest rates, but they are also subject to important restrictions and provide earmarked credit to customers under specific programmes. There is also a large, public, development bank, *BNDES*, which was set up to foster investment projects and expedite the internationalisation of Brazilian firms through long-term loans at subsidised interest rates subject to a number of administrative restrictions and guidelines. This sort of funding is a prototype of what is known as earmarked credit. *BNDES* may operate both as a first-tier lender, directly involved in credit operations, or as a second-tier lender, directing funds to commercial banks. Credit allocation is, therefore, segmented, between earmarked and non-earmarked credit.

Another feature of the banking system is its concentration. In 2012 around 130 institutions held 98% of the banking system's total assets, but the six largest banks accounted for 77% of its total assets and 78% of its total deposits. Of these six banks, three are public institutions holding 41% of the banking system's total assets and 45% of its total deposits: two commercial public banks, *Banco do Brasil* and *Caixa Economica Federal* (the latter being the main mortgage lender with a 75% mortgage market share), and one development bank, *BNDES*.

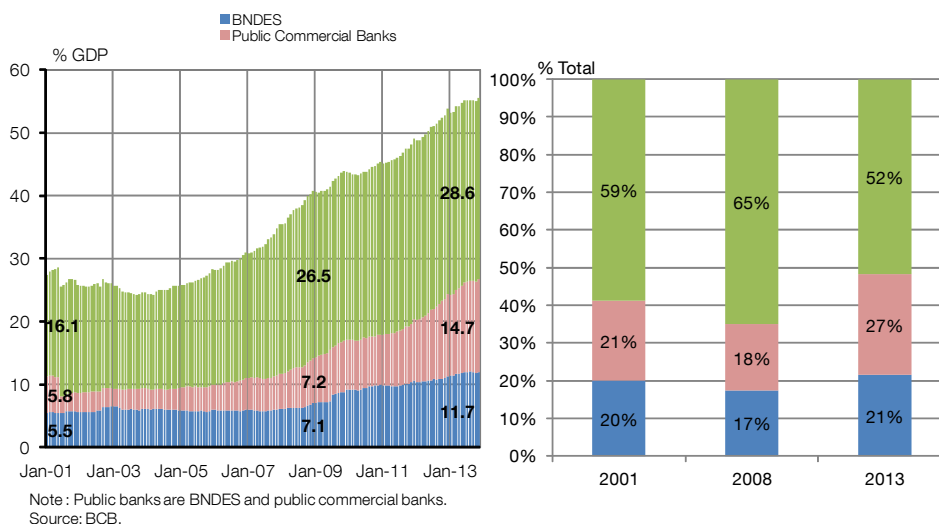
**FIGURE 1. BANKING SECTOR STRUCTURE IN BRAZIL**



Source: Own elaboration

The size of the Brazilian banking system substantially increased after the rapid credit expansion of the past decade. In 2001 loans to the non-financial private sector amounted to only 27.5% of GDP (see the two panels in Chart 6). Commercial banks accounted for the bulk of the banking system with 80% of total loans (22% of GDP). In terms of ownership, private institutions made up 59% of the total banking sector (16% of GDP), whereas public banks had a strong presence in the system with a share of 41% of all loans (11% of GDP). It is worth noting that the share of public banks in the system shows a negative correlation with the economic cycle, increasing during the economic crises of the 1980s, 1990s and the latest one.

**CHART 6. BANKING SYSTEM DECOMPOSITION BY OWNERSHIP**

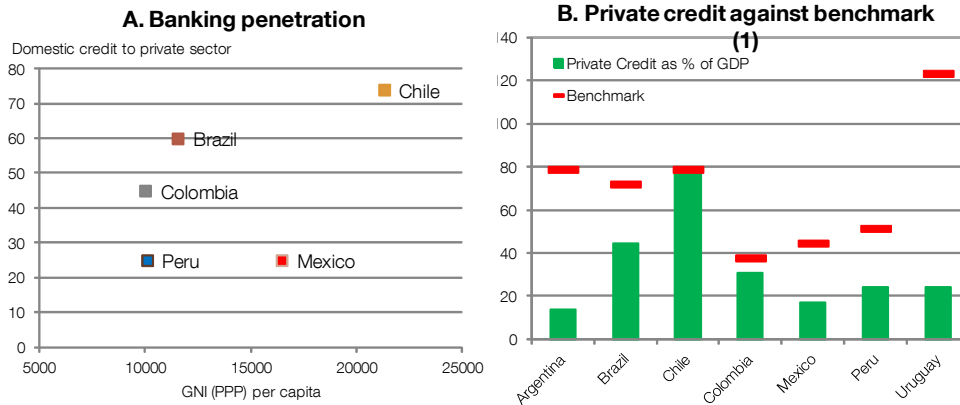


During the 2000s, year-on-year growth rates in bank loans showed a strong upward trend, peaking at 35% in 2008. This credit boom had two distinct phases: (1) pre-2008, characterised by financial deepening and non-earmarked credit expansion; and (2) post-2008, with earmarked credit being used as a countercyclical policy tool. The first phase of rapid credit expansion went hand in hand with a process of private financial intermediation: private banks regained ground, accounting in 2007 for 65% of total credit, almost 6 pp more than in 2001. During the 2008/09 crisis, growth in bank loans (especially those provided by

private institutions) slowed — despite a short-lived rebound in 2010 — but overall it has maintained an upward trend, supported by the expansion of earmarked credit used by the government as a countercyclical policy tool. As a result, bank loans to the non-financial sector more than doubled in terms of GDP in the period 2001-13, rising to 56%. The impulse of credit policy since 2008 has pushed the loan portfolio of public institutions up to 26% of GDP, with a share of 48% of total credit in 2013, a figure similar to the one observed in the crisis of the late 1990s. Lastly, loans by private institutions have risen to 29% of GDP, but their share of total credit has lost ground since the global financial crisis: in 2013 they accounted for 52% of total credit.

Despite this increase in the ratio of credit to GDP, banking penetration is still low in Brazil compared with advanced economies where the ratios are above 100%. Nevertheless, in terms of GDP (PPP) per capita — which is a better measure of economic development than GDP — credit penetration in Brazil is high compared with other Latin American countries. In any case, according to De la Torre et al. (2011), credit penetration in Latin America remains below the level consistent with its degree of economic development (see Chart 7, Panels A and B).

**CHART 7: BANKING SECTOR PENETRATION**

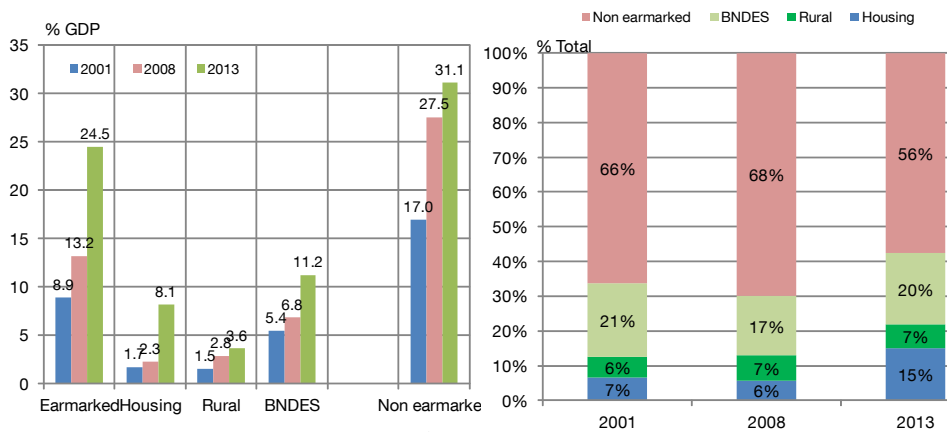


Source: BCB; World Bank; De la Torre, Fenzen & Ize (2011); Barclays Research.

(1) Benchmark is level of financial deepening, calculated by De la Torre et al. (2011), according to economic development of country.

These two phases of credit expansion are also apparent in the relative importance of earmarked and non-earmarked credit (see Chart 8). Traditionally the bulk of bank credit was non-earmarked, freely allocated at market prices by commercial banks.

**CHART 8. BANKING SYSTEM. DUAL SYSTEM OF CREDIT ALLOCATION**



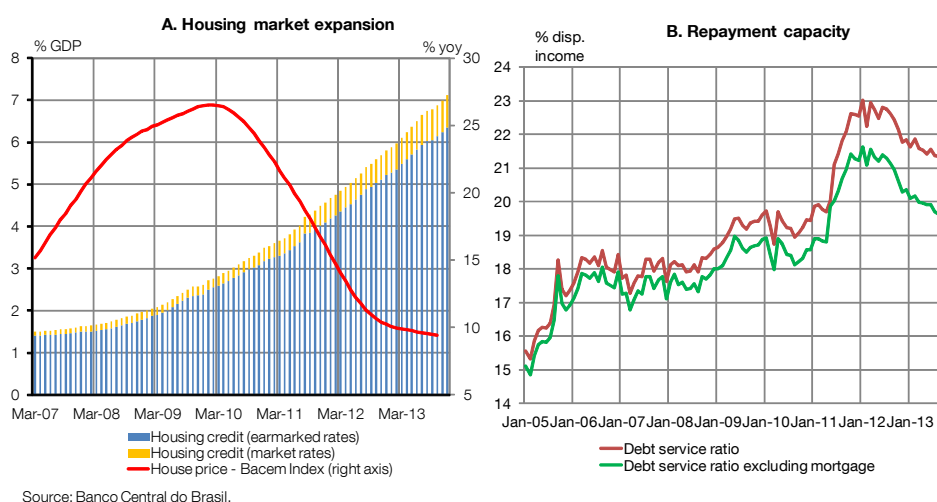
Note: Earmarked credit comprises Housing, Rural and BNDES.

Source: BCB

Nevertheless, earmarked credit has always accounted for a large part of total credit (around 40% in the early 2000s) owing to government support of investment, housing, rural development and social inclusion. After a decade of financial deepening, earmarked credit lost share, falling to 32% of total credit by 2008. But during the crisis earmarked credit was prolifically used as a countercyclical policy tool and, therefore, now accounts for a significant proportion of total credit (44% at the end of 2013).

Lastly, it is interesting to note the evolution of housing credit in Brazil as an important component of the earmarked credit segment (almost 30%). Its expansion began in 2005, driven by positive demand and supply factors. And despite the crisis, housing credit boomed after 2008 (see Chart 9, Panel A) following the implementation of federal programmes to foster investment in the housing sector. During the period 2009-12, housing credit expanded at increasing rates, accounting for 50% of annual growth in 2011, before moderating to 35% in 2012-13. At the same time, house prices rose by 25% on average and, although these price and credit increases have slowed recently, they have become a growing concern.

**CHART 9. HOUSING CREDIT: EVOLUTION AND RISK**



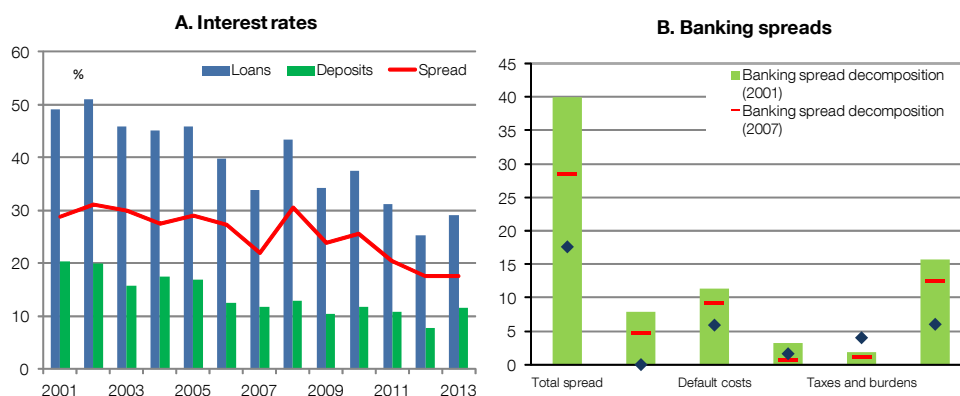
Furthermore, a significant number of borrowers are low income individuals with no credit history, leading to fears of a sub-prime crisis. However, as suggested by Pereira and Harris (2012), the upswing in housing markets in Brazil is better explained by other factors, which include regulatory and legal changes aimed at making housing more affordable. Given the current shortage of available housing and the increasing wealth of the country, public housing programmes are unlikely to give rise to such problems in the foreseeable future. Furthermore, despite rapid mortgage growth, the stock of mortgage credit is still low (6% of GDP in 2012) and does not compromise households' ability to pay (see Chart 9, Panel B); banks are well capitalised to overcome possible eventualities. For the time being, the ratio of troublesome to total loans remains at manageable levels, and credit portfolio losses are currently over-covered by banks' loan-loss provisions.

### 3.2 Large banking spreads

The large spreads between the interest rates applied to (non-earmarked) loans and those paid on deposits are the second defining feature of the Brazilian banking system. Traditionally, high banking spreads (and consequently, high interest rates on loans) have been an important obstacle to credit penetration.

In 2001, spreads on non-earmarked credit reached 40 pp on average, with interest rates of 70% charged on household loans and 40% on corporate loans. The central bank addressed the issue by launching a programme to analyse and guide its policy decisions.<sup>8</sup> Banking spreads have decreased since then, along with the process of financial deepening, as has the cost of credit. Non-earmarked interest rates have diminished since 2001 (see Chart 10, Panel A), mainly owing to the reduction of the official interest rate; but at the same time some structural changes have driven down the equilibrium real interest rate, such as a decrease in the risk premium and the low inflation environment (see *Banco Central do Brasil*, 2010, box entitled “*Taxa de Juros Real de Equilibrio*”). Banking spreads have also narrowed, according to the central bank, owing to lower administrative and default costs, a smaller impact of the compulsory allocation of credit and a fall in banking gross profits (see Chart 10, Panel B).

**CHART 10: EVOLUTION OF INTEREST RATES AND BANKING SPREADS (NON-EARMARKED CREDIT)**



Source: BCB.

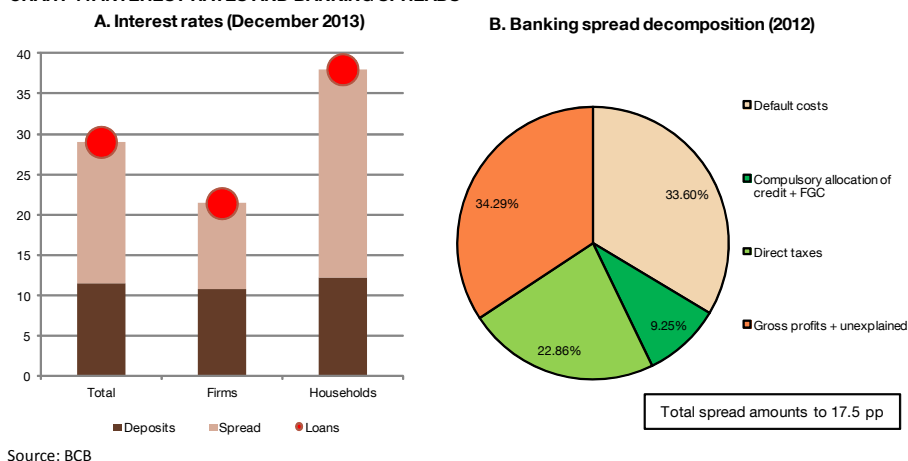
Despite these trends, real interest rates and banking spreads in Brazil remain among the highest in the world (see Chart 11, Panels A and B). As at December 2013, spreads on non-earmarked credit amounted to 17.5 pp. A breakdown by type of borrower shows that interest rates charged on loans to households were higher (38% on average, with a spread of 26 pp), but the cost of credit for firms was also high (21% on average, with a spread of 11 pp). In contrast, earmarked credit had lower interest rates and, therefore, also lower spreads; as at December 2013, spreads for firms and households were 2.7 pp and 2.5 pp, respectively.

Several factors, related to the cost of credit, are behind the large banking margins on non-earmarked credit. That cost is affected by direct and indirect taxes, administrative burdens, contributions to the *Fundo Garantidor de Crédito*<sup>9</sup> —a deposit insurance fund— and reserve requirements on deposits. Accordingly, it may be said that the gap between the spreads of earmarked and non-earmarked credit is due, on the one hand, to a highly subsidised earmarked credit and, on the other, to an excessively penalised non-earmarked credit.

<sup>8</sup> The central bank issues annual reports in this respect —see *Banco Central do Brasil*, “*Juros e Spread Bancário no Brasil*” <http://www.bcb.gov.br/?SPREAD>. The decomposition presented is made using BCB methodology (2008), which offers certain improvements over previous research.

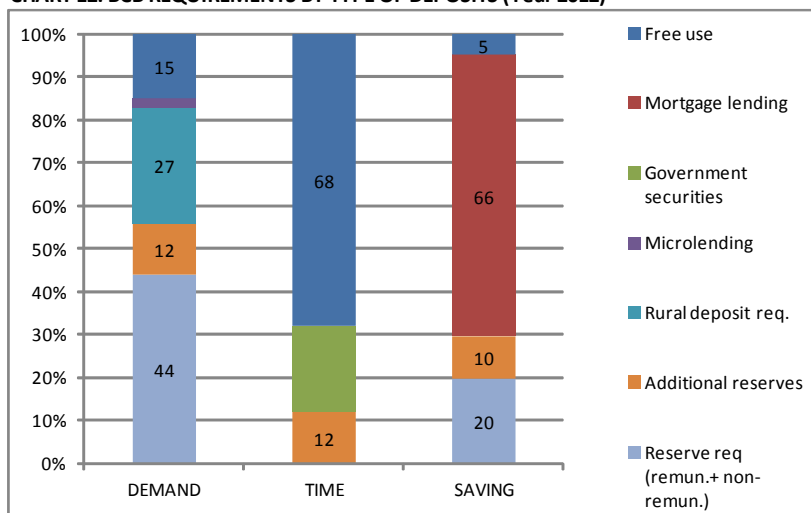
<sup>9</sup> There were four indirect taxes on credit operations: two general, the PIS (social integration programme/civil servants assistance programme) and the COFINS (social contribution for social security financing); and two specific, the IOF (financial transaction tax) and the CPMF (temporary tax on financial transactions). Two direct taxes applied to the financial system: income tax (IR) and the social contribution on net profits (CSLL). Moreover, there were also compulsory contributions to the *Fundo Garantidor de Crédito*.

**CHART 11: INTEREST RATES AND BANKING SPREADS**



The details are complex and costs may change over time, as reserve requirements are managed by the central bank as a means of loosening or tightening credit conditions. It can be argued, however, that they are high (Chart 12). This argument is supported by the fact that, in 2012, demand deposits were subject to a 44% unremunerated reserve requirement plus a 12% reserve requirement remunerated at the policy rate (the Selic rate, “sistema especial de liquidação e custódia”).

**CHART 12. BCB REQUIREMENTS BY TYPE OF DEPOSITS (Year 2012)**



For time deposits, the requirement amounted to 12%, and 30% for saving deposits, remunerated in both cases. Additionally, the existence of earmarked credit schemes to foster housing and rural investment also has an influence on banking spreads, since authorities require banks to lend a fraction of their deposits at subsidised interest rates. For instance, demand deposits are subject to a 29% requirement for funding rural and micro loans, roughly 20% of time deposits have to be invested in government securities, and savings deposits are subject to a 65% mortgage lending requirement. These investment requirements have effects similar to reserve requirements on financial intermediation: they increase the cost of non-earmarked credit as banks struggle to offset the impact on earnings.<sup>10</sup> In fact, under this

<sup>10</sup> The system of earmarked credit mitigated market failures, but it also helped keep banking spreads high and perhaps crowded out the development of non-earmarked credit.

system of bank requirements, only 15% of demand deposits, 68% of time deposits and 5% of savings deposits can be freely allocated at the banks' discretion.

High credit risk, explained by a number of institutional features of the Brazilian economy, is also identified as a relevant factor of large banking spreads. These include the drawbacks of an underdeveloped credit history register (mostly addressed by recent reforms, see below), which lacked information and increased ex ante credit risk, and the deficiencies of a slow legal system with a pro-debtor bias. These factors have traditionally contributed to create moral hazard, which has fed back into a higher risk premium. Moreover, deficiencies in the credit history register have helped create a captive market for banks and have increased interest rates. Credit risk has a straightforward effect on credit costs: it increases the risk premium and therefore the interest rate on loans. Lastly, according to the central bank's estimates, banks have enjoyed large profits,<sup>11</sup> a fact which is attributed to the lack of competition in the banking sector.

Policy recommendations to address the high credit risk include: improving credit history registries and reducing information asymmetries (portability of information); improvements in the legal system, to increase the recovery rate; lowering taxes on credit and simplifying reserve requirements; and, in the long run, eliminating administrative restrictions on credit allocation. During the past decade, Brazil's government took some steps in that direction. First, in 2005, the Brazilian Congress approved a new bankruptcy law designed to increase creditor protection and improve the efficiency of the bankruptcy system. The Law reduced credit risk through the establishment of a non-judicial foreclosure procedure,<sup>12</sup> making it easier and faster for a lender to repossess or sell a property in the event of borrower default. Araujo et al. (2012) find that the new regulation produced a significant increase in the total amount of long-term debt and a reduction of its cost. Second, in 2010 the government promoted new legislation to collect and maintain a "positive" credit history registry of consumers and firms, allowing credit information to be collected on good payers.<sup>13</sup> The law was finally approved by the Brazilian Parliament in 2011. In principal, the creation of a Positive Credit Registry reduces the operational costs of risk management and, therefore, should also lead to a reduction in the cost of credit as good payers are identified by the registry. At the same time, banks may discriminate between good and bad debtors, i.e. credit scoring would be available, which may lower interest rates, and also increase loan maturities.

### **3.3 Implications for monetary, credit and macro-prudential policies**

Monetary policy has been conducted with an inflation targeting regime since 1999. The official interest rate (Selic rate) is raised/lowered in order to tighten/ease monetary conditions and dampen inflation fluctuations and credit developments. The two features of the banking system previously discussed —segmentation and large banking spreads— have several far-reaching implications for monetary policy management.

In a nutshell, standard monetary policy has only a partial impact on the financial system, specifically on the cost of non-earmarked credit, as earmarked credit is linked to the

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11. The size of profits has to be taken with caution, as they are defined as the residual, i.e. the non-explained part of the spread, after deducting the effect of the other components.

12. Non-judicial foreclosure is possible if the mortgage was originated under a new contract called "alienação fiduciária". This is a type of secured real estate transaction through which borrowers transfer the legal title of properties used as collateral to the trustee, who holds the property in trust for the use and benefit of the borrowers. If borrowers default on the terms of their loan, the trustee may take full control of the property and sell it without court proceedings.

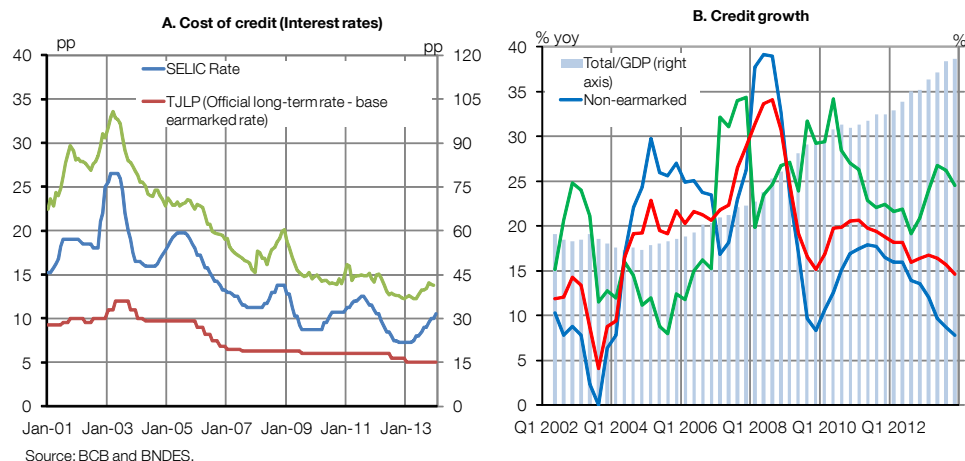
13. Brazil already has a system for collecting and storing data on "bad creditors", i.e. credit information on borrowers who are delinquent in their payment obligations (for example, the databases managed by SPC Brazil and Serasa Experian).



“official” long-term interest rate (*Taxa de Juros de Longo Prazo*, TJLP) and, therefore, is not directly influenced by monetary policy decisions. The TJLP is set each quarter by the National Monetary Council and calculated according to two parameters: the official inflation target for the next twelve months, plus a risk premium which incorporates an international real interest rate plus a (Brazil) country-specific risk from a long-term perspective. The TJLP is much lower than the central bank’s official interest rate (Selic rate) which guides the cost of non-earmarked credit (see Chart 13, Panel A) and much less volatile. In fact during 2013 the TJLP was held constant at 5%, despite the market turbulence and the increase in the financing cost —and the market’s country risk perception— of Brazil.

Accordingly, the central bank has a limited influence on the Brazilian banking system (non-earmarked credit). In turn, earmarked credit is basically influenced by administrative decisions, i.e. credit policies settled by the federal government, which can directly stimulate credit growth (earmarked credit) irrespective of how loose or tight the monetary policy stance may be (see Chart 13, Panels A and B). In this scenario, policy inconsistencies may emerge if monetary and credit policy stances differ, as seen in 2013 when public credit expanded and monetary policy tightened.

**CHART 13. CREDIT COST (INTEREST RATES) AND GROWTH**



Credit growth, especially after 2008, reflects to a large extent the deliberate efforts of the economic authorities to foster credit in specific sectors, basically through the activity of BNDES or programmes to address the housing shortage<sup>14</sup> (see Chart 14, Panel A). Earmarked credit aims to correct market failures: various mechanisms are set in place to provide subsidised credit to certain sectors, given their strategic importance or the existence of severe credit rationing.<sup>15</sup>

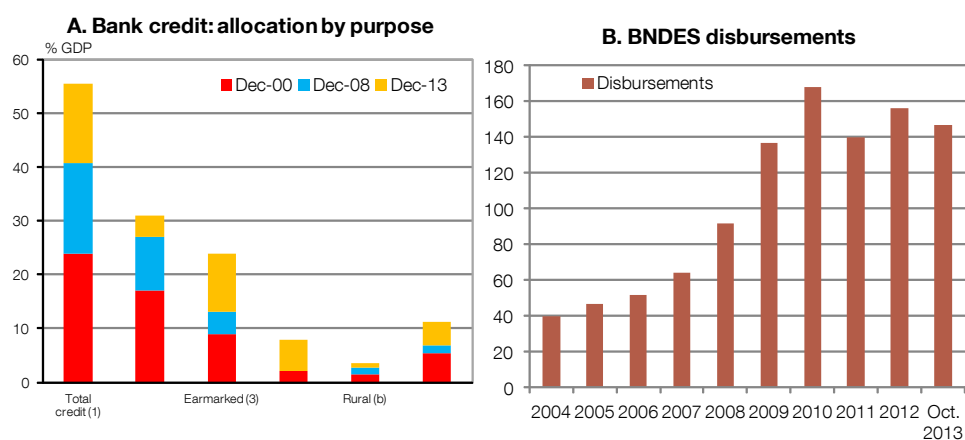
**14.** A normative analysis of the growth of earmarked credit in recent years is complex, as it requires detailed information on market failures and their evolution over the cycle. The extensive activity of BNDES helped mitigate the risks of a credit crunch, but posed important risks in other dimensions. Similar caution is also advisable when analysing the programme to foster housing investment: it can help mitigate the housing shortage, but it also poses risks. Development banks and measures to foster credit to certain sectors have merits, as they can fill a gap in the market, but their activity also poses risks, and can prevent the development of the banking system, as they compete with commercial banks and may eventually crowd out their activity.

**15.** Nevertheless, as proposed by De Barros and Latif (2013), earmarked credit has been part of a broader rent-seeking scheme included in a government intervention project called “National Developmentalism” which itself introduces market failures. See Bielschowsky (1995) for a comprehensive explanation of the “National Developmentalism” ideology.

Almost half of all earmarked credit is granted by BNDES. During the crisis, disbursements by BNDES practically tripled (see Chart 14, Panel B), reaching BRL 156 billion a year. But even before the crisis, BNDES was an important development bank at an international level. In 2007 it managed funds amounting to BRL 202 billion, almost double the loans granted by the Inter-American Development Bank. BNDES's activity has traditionally focused on supporting industrial development programmes and infrastructure projects that would not be funded otherwise, concentrating on specific sectors, e.g. investment in capital goods, infrastructures and exports (see Chart 15, Panel A); it is also involved in equity investments in strategic firms (equity, private equity and venture capital).

BNDES traditionally obtains resources from public funds (*Fondo de Amparo de Trabajadores*, FAT; *Fondo General de los Trabajadores*, FGTS), taxes (on wages, PSI/PASEP), debt issuance in domestic and international markets and transfers from the Treasury. It also obtains resources from multilateral organisations. The FAT was traditionally the main source of financing—at least 40% of its resources are transferred to BNDES—, but since the latest crisis the Treasury has become the main creditor (see Chart 15, Panel B). This extraordinary expansion of BNDES' portfolio in the aftermath of the crisis was mainly financed by the Treasury as part of a loosening quasi-fiscal policy. Thus, during the crisis, BNDES' traditional role of promoting investment was reinforced but, at the same time, the institution was used as a countercyclical policy instrument. In this sense, credit expansion by BNDES was instrumental in avoiding the risks of a credit crunch. More strikingly, BNDES' activity will remain strong after the recovery takes hold: according to budgetary plans, BNDES will be the major lender in infrastructure investment programmes in coming years.

**CHART 14: BANKING CREDIT ALLOCATION AND BNDES DISBURSEMENTS**

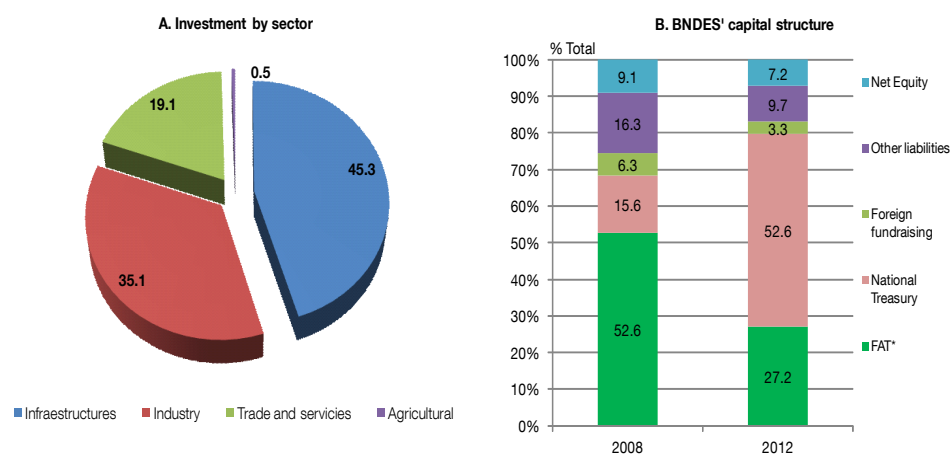


Source: BCB and BNDES.

Credit granted by BNDES is rationed, i.e. demand is higher than supply at the given price, fixed administratively. This implies that the authorities have an additional policy tool: the transfers made by the Treasury to BNDES. These transfers constitute an important policy tool, somewhere between fiscal and financial policy. The latter, because they determine credit conditions and have an important impact on credit (in this respect they have also become complementary to monetary policy). They are also akin to budgetary policy, because they require transfers from tax authorities and are therefore linked to fiscal policy. In fact, the

difference between the subsidised interest rate and the funding cost of the Treasury is included in the calculation of the total fiscal balance.<sup>16</sup>

**GRAPH 15. BNDES INVESTMENT BY SECTOR AND FUNDING**



Source: BCB and BNDES

\* Resources from FAT (Fundo de Amparo ao Trabalhador) directed to the financing of economic development programs through BNDES.

Earmarked credit also comprises some commercial banks' lending activities. Commercial banks are subject to a number of administrative restrictions and have to invest part of their liabilities (deposits) in certain sectors —housing and agriculture— at preferential rates, usually linked to the TJLP. For instance, mortgage loans are funded with earmarked resources coming from (i) a compulsory reserve requirement of 65% over saving deposits (more details below), and (ii) funds provided by the public pension system (*Fundo de Garantia do Tempo de Serviço*). Investment in housing is traditionally governed by the *Sistema Financeiro da Habitação* (SFH), established in 1964 to promote housing sector funding.<sup>17</sup> The *Sistema Nacional de Crédito Rural* (SNCR), set up in 1967, is designed to improve financing conditions for the rural sector.<sup>18</sup> Additionally, spreads on earmarked credit are also fixed administratively. At the end of the day, its cost is much lower than that of non-earmarked credit, whose spreads are extremely large, as discussed above.

Housing credit is another major segment of earmarked credit. Due to the implementation of federal programmes to encourage investment in the housing sector, housing credit boomed after 2008 and by 2012 accounted for approximately one-third of earmarked credit. Launched in 2009, *Minha Casa Minha Vida* is the main programme to

**16.** Public debt interest payments by the Treasury are accounted as fiscal spending in the calculation of the total fiscal balance. Nevertheless, in order to achieve more transparent and reliable fiscal accounts, the difference between the subsidised interest rates and the market interest rates —the real cost of the subsidised credit— should be entered as expenditure in the calculation of the primary balance, as that difference is actually a public transfer to the private sector through the banking system, which lends those funds at subsidised interest rates. Considering that the TJLP is currently 5% and the market Selic rate (a proxy of the funding cost of the Treasury) is 9%, a lower bound estimation of the fiscal cost of this credit policy would be around BRL 12 billion, i.e. 0.34% of GDP (in 2012, BNDES' liabilities with the Treasury amounted to BRL 376 billion).

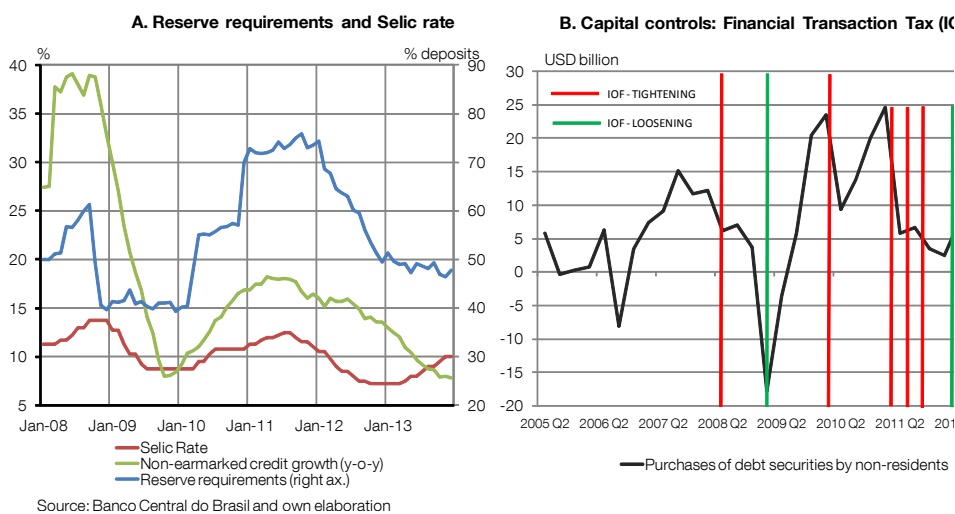
**17.** The *Sistema Financeiro de Habitação* (SFH) was established by Law 4380/64 as a set of rules and institutions designed to promote housing credit. The resources were obtained from the *Sistema Brasileiro de Poupança e Empréstimo* (SBPE) and the *Fundo de Garantia do Tempo de Serviço* (FGTS). The SBPE, established in 1964, comprises financial institutions which obtain saving deposits and channel them under the rules of the *Conselho Monetário Nacional* (CNM). The FGTS, established in 1966, was intended to save resources in order to provide benefits for the unemployed.

**18.** The SNCR obtains resources from different sources, particularly from the National Treasury, and compulsory requirements on sight deposits. The latter regulation stresses that banks have to choose between a) holding 25% of their sight deposits as unremunerated reserves at the central bank, and b) lending to the agricultural sector, also at subsidised rates.

promote access to housing for millions of low-/middle-income Brazilian families. The federal administration offers mortgages at subsidised interest rates and long terms to developers and buyers through the state bank *Caixa Economica Federal*, the country's largest mortgage lender with a 72% market share.

Finally, banking spreads and interest rates (especially of non-earmarked credit) can be affected by a number of policy tools besides standard monetary policy, which are usually included under the umbrella of macro-prudential policies, such as reserve requirements, taxes on financial intermediation or administrative restrictions on credit allocation. These policies have frequently been used to ease or tighten credit conditions and have, in fact, been key factors behind the process of credit expansion. In other words, there is room for other policies, such as quantitative monetary policy and macro-prudential policies, in addition to orthodox monetary policy (policy rate management). For instance, during the period 2008-12, reserve requirements were tightened or eased by the central bank in order to provide stability (liquidity) to the financial system or modulate the risk of excessive credit growth. In particular, from 2010, with the focus on mitigating the systemic risk posed by the rapid credit expansion, the central bank, besides adjusting short-term interest rates, tightened the reserve requirements on demand and time deposits, imposed higher capital ratios for long-term loans to households and increased the rate of the financial transaction tax (IOF). Those measures had an impact on the cost, terms and volume of new loans, moderating the demand and volume of non-earmarked credit (see Chart 16, Panels A and B).

**CHART 16. MONETARY POLICY, CAPITAL CONTROLS AND RESERVE REQUIREMENTS**



As a consequence of all those developments market distortions remain, reflected in the increasing participation of public banks and earmarked credit in the loan portfolio of the banking system and in the existence of interest rate spreads between private and public banks. Whereas the first is correlated with the economic cycle (and the role of public credit as a countercyclical policy tool) and should moderate somewhat as economic growth takes hold (as seen in past episodes), the second seems to imply a public policy trying to reduce the high levels of interest rates. Although this is a desirable target, market dynamics, efficiency and competition are usually more robust drivers of interest rate reductions than policy intervention.

## 4 Concluding remarks

The Brazilian economy has improved significantly in recent decades. Especially relevant are the improvements in its macroeconomic policy framework, which have allowed for greater economic stability and have made room for countercyclical policy management of crises. After a challenging phase of institutional reforms initiated in the early 2000s, the public sector now displays primary fiscal surpluses and a reinforced commitment to fiscal discipline. Net debt has trended downward, driven by primary surpluses and GDP growth. And debt management has helped improve debt composition, making public finances less vulnerable: the public debt structure is currently characterised by lower indexation, longer maturities and higher levels of international reserves. Thus, the traditional constraints imposed on macroeconomic policy by the public debt structure have largely been removed: the public sector has become a net creditor in foreign currency (helped at the same time by the huge accumulation of international reserves) and there is no negative effect of exchange rate depreciation on debt dynamics as there are no currency mismatches.

Regarding monetary policy, the inflation targeting regime introduced in 1999 has been successful in containing inflation, which has generally remained within the central bank's targets, and hyperinflation is no longer a risk. Nevertheless, the rate of inflation is still high compared to peers, possibly affected by supply-side constraints, excessive labour cost growth and low productivity.

Additionally, monetary policy is conducted within an atypical banking system which retains most of its traditional defining features. Credit allocation remains segmented. Indeed, direct credit provision by public banks has increased substantially in the wake of the global financial crisis. Accordingly, the short-term policy interest rate has a direct impact on only a fraction of total credit. Therefore, in order to correctly assess monetary policy, other quantitative measures, such as reserve requirements, must also be monitored. Banking spreads remain high by international standards, despite the efforts of the central bank to reduce them, and many of their traditional underlying determinants remain in place.

In any event, thanks to the lower vulnerabilities and increased credibility achieved in recent decades, Brazil was able to cope with a huge real and financial shock during the global economic and financial crisis. The leeway available for countercyclical policies in the wake of the global crisis suggests that the efforts made to pursue sound policies have paid off: the country remained resilient. However, major challenges remain, such as the drawbacks preventing growth potential from being unlocked, in particular the lack of infrastructure, the inadequate provision of public services and the challenge of increasing financial deepening to a level appropriate to the economic development of the country. This last factor is closely related to the functioning of the banking system and the high cost of non-earmarked credit.

While the behaviour of the Brazilian economy in the aftermath of the financial crisis has been notable, this has not prevented the recent build-up of economic and financial vulnerabilities, for instance, a widening current account deficit and the increase in non-financial corporations' foreign currency debt. The return of procyclical policies, that is, the need to conduct a restrictive monetary policy in recent years, against the backdrop of

exchange rate depreciation and a slowing economy, is a timely reminder that the overall economic policy framework —in particular in the area of structural policies— still requires further improvement.

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