

**Financial System in Brazil:  
Resilience to Shocks, No Dollarization, but Struggling to  
Promote Growth\***

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The financial system in Brazil has evolved to a system with smaller presence of public banks and larger participation of foreign banks, less directed credit, and well capitalized banks. Over the years it has been resilient to shocks and was able to preserve the real value of savings in the system, thus avoiding both dollarization and desintermediation. It is still a challenge to reduce the cost and increase the volume of credit in the economy. Notwithstanding, recent advances in the regulation of the financial system should pave the way for better intermediation and promotion of growth.

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## **Table of Contents**

### **1 Introduction**

### **2 Stylized facts of the Brazilian Financial System**

### **3 Restructuring the financial system**

- Program of Incentives for Restructuring and Strengthening the National Financial System (PROER)
- Program of Incentives for the Reduction of the State Role in the Banking Activity (PROES)
- Program for the Strengthening of the Federal Financial Institutions (PROEF)
- Estimate of fiscal cost of banking restructuring in Brazil
- Increasing the presence of foreign banks

### **4 The role of the financial system in preserving the real value of private savings**

### **5 Challenges to promote growth**

### **6 Recent progress in strengthening the Brazilian financial system**

- Interest rate and spreads in Brazil
- Recent progress in the structural area

### **7 Concluding remarks**

#### **References**

#### **Appendix**

##### **A. Recent measures adopted for Brazilian Financial Markets**

##### **B. Bankruptcy legislation reform**

## **1. Introduction**

There are two different financial systems in recent Brazilian history. The first one had strong presence of state and federal public banks, limited number of foreign banks, a large role for directed credit, limited competition, and banks profits dependent on inflation revenues. The second one has few state banks, a strong presence of foreign banks, its credit is mostly freely allocated, the banks are well capitalized and profits do not depend on inflation. The conversion from one system to the other has occurred in the last decade, following a wider shift to a more open economy both in terms of trade and capital flows, a deep restructuring process that followed the end of high inflation, and, more recently, renewed efforts to develop a set of regulations and procedures that strengthen the financial system (microeconomic and legal reforms).

High inflation prior to the Real plan in 1994 provided incentives for banks to compete for deposits because of the profits they generate to banks that invested the resources in inflation protected public securities. The inflation profits (from the so called "float") induced banks to expand, open new branches, offer "free" bank services and develop a high degree of technological progress, especially aimed at enhancing the speed of processing financial transactions. Investments that would not be feasible in a low inflation environment turned out to be profitable.

The end of high inflation induced a rapid revamp of the system. Banks had to find alternative sources of revenue other than inflation. Services could not continue to be freely offered. Consolidation was the order of the day, since offering deposits was less profitable. In a Darwinian process, only the most competitive and strong banks survived this major shift in the banking business.

It is no coincidence that the major official restructuring programs were launched less than a year after the inflation stabilization in 1994. Three large private banks were the core of the Program of Incentives for Restructuring and Strengthening the National Financial System (PROER). The end of the inflation tax and the implicit government guarantee led also to restructuring and privatization of state banks under the Program of Incentives for the Reduction of the State Role in the Banking Activity (PROES) (out of

initially 35 state banks, only 12 banks remain under state control, of which 4 are scheduled to be privatized this year).

The banking system remains with two major federal banks – Caixa Economica Federal and Banco do Brasil. Under the Program for Strengthening the Federal Banks (PROEF ) these banks and two development banks Banco do Nordeste and Banco da Amazonia were subject to a more rigorous than usual supervision by the Central Bank of Brazil (BCB), carried out during 1999 and 2000, which showed the need for larger provisions and adjustment for capital adequacy (stricter than those suggested in the Basle Accord). The objective under the program was to promote more competitive, transparent and efficient federal banks.

The restructuring programs were followed by the creation of the FGC (“Fundo Garantidor de Crédito”) – a mandatory, privately funded deposit insurance scheme. Concerns on the strength of the financial system had led the BCB to take actions to enhance the prudential regulatory and supervisory framework. It launched in 1997 the Global Consolidated Inspection (GCI) program to enhance supervisory practices, upgrade the skills of supervisors, and evolve a strategic vision of the future of the financial system. It has also taken necessary measures to make the regulations and supervisory practices in compliance with the Basle Core Principles. In April 2002, the new payment system became operative under a real-time gross settlement (RTGS) mode that avoids the possibility of overdrafts at any time.

Brazil experience with high inflation did not give rise to a significant process of currency substitution. Experiences in other economies showed that high and variable inflation rates encourage a flight from domestic money and raise demand for alternative assets, including those denominated in foreign currency. This paper claims that the rapid response by the Brazilian financial system to changing and turbulent environment, plus government actions, have allowed not only to preserve residents deposits invested in domestic assets, but also helped to ensure themselves against exogenous shocks which additionally contributed to protect domestic households’ and firms’ confidence in the domestic financial assets. The financial system introduced several new financial products overtime to preserve asset value of households and firms, and the government, in turn,

has had a critical role in providing the necessary mix of its debt instruments to allow banks to frame products to protect savings against macroeconomic instabilities.

The perception of preservation of value depends also in confidence in the system. In this respect, the rapid response to resolve bank problems together with improvements in the prudential area in the early phase of the macroeconomic stabilization process helped the Brazilian economy to withstand the turbulent financial environment that it faced in the late 1990s, and more recently. Resilience to shocks provides confidence in the system, which allows the system to preserve its depositors base.

In the new financial system important challenges remain. Inefficiencies and imperfections in the system still persist, as bank spreads are large, the volume of credit as a share of GDP is low, and supply of non-government longer-term loans is almost absent. There is, hence, room for improvements to make the system fulfill properly its financial intermediation role to support economic development. In this respect, further efforts are required in the regulatory and supervisory framework to reduce inefficiencies and make the system safer. In addition, there is a need for institutional reforms to minimize costs of intermediation, as well as for appropriate schemes to allow markets for new instruments to develop.

This paper is organized as follows. Next section points to the main issues that characterized the Brazilian financial system. Section 3 describes the deep restructuring process carried on the financial system. Section 4 explains how currency substitution was avoided in a high inflation economy. Section 5 raises the problems still remaining to prevent a better functioning of the system. Section 6 describes the recent progress in improving the system. And the concluding remarks are in Section 7.

## 2. Stylized facts of the Brazilian Financial System

The Brazilian financial system has been experiencing in the last decade a deep process of transformation in its structure by adapting to the macroeconomic environment and regulatory framework. In the second half of the 1980s, the system was characterized by the strong presence of commercial banks, especially with a large share of official banks. With change in the legislation in 1988, the number of universal banks had increased rapidly as commercial banks were converted into the new scheme as well as new ones were created. The number of financial institutions was almost doubled – from 111 to 203 – and there was also a large increase in the number of branches, bolstered by the acceleration of inflation and the associated opportunity to increase the collection of inflation revenue in the late 1980s through the launching of the Real Plan in 1994 (see Table 1).

**Table 1 - Banks: institutions and branches**

Itemization	1988		1994		2002 (June)	
	Institutions	Branches	Institutions	Branches	Institutions	Branches
Commercial banks	106	13 837	28	4 160	24	380
Universal banks	0	0	173	11 305	146	14 874
Saving banks	5	2 374	2	1 935	1	1 694
Total <sup>1/</sup>	111	58,2	203	59,8	171	72,6

Source: Central Bank of Brazil, Economic Department

Note: Banco do Brasil became a multiple bank in 2001

<sup>1/</sup> GDP to branches ratio (R\$ million/branche)

Macroeconomic stabilization and bank restructuring since 1994 have led to a considerable change in the financial system. The sharp fall in inflation rate has made the banking business less profitable allowing thus a consolidation of the system, contracting the number of institutions and branches through mergers and acquisition or simply closing of non- competitive institutions (Table 1). Additionally, the composition of the system was reorganized in terms of ownership with the participation of the private sector in the system increasing considerably from 49.1 to 66.6 percent, especially of foreign banks in the period 1993-2002 (Table 2).

**Table 2 - Bank ownership, total banking assets, December 1993 and June 2002**

Institutions (by ownership)	1993 (December)		2002 (June)	
	CR\$ billion	%	R\$ million	%
Public banks	46 947	50,94	329 949	33,41
Federal	36 189	39,27	291 137	29,48
State	10 758	11,67	38 812	3,93
Private banks	45 213	49,06	657 674	66,59
Domestic	37 226	40,39	357 925	36,24
Foreign	7 987	8,67	299 749	30,35
Total	92 160	100	987 623	100

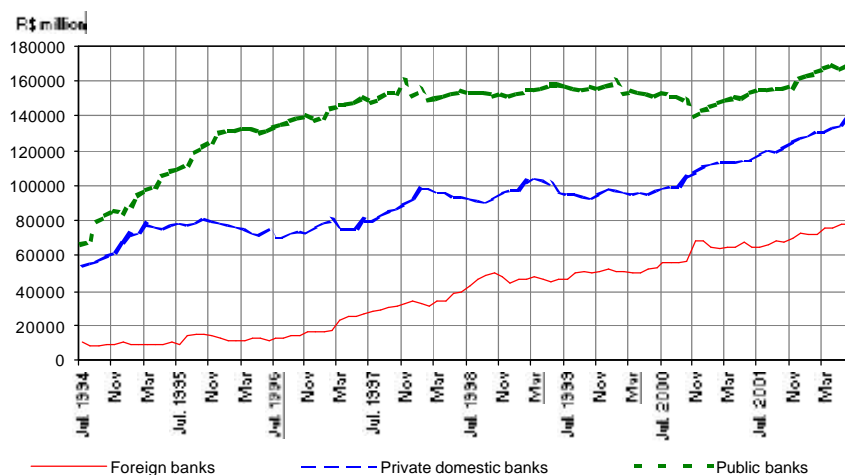
Source: Banco Central do Brasil, COSIF

The Brazilian financial system is one of the largest among emerging market countries. Total assets excluding mutual funds reached R\$ 1,147 billion in June 2002, equivalent to around 90% of GDP. The banking system, including commercial and universal banks and saving banks accounts for 84% of total assets of the System, with remaining assets held by development banks, credit unions, and non-banking institutions.

Banks have performed well in terms of profitability. In June 2002, the return to equity ratio (ROE) reached 9,1%, from 5,1% in December 2001. The results have been higher on average for foreign banks, 12,8%, with private domestic banks reaching 8,2% and public banks 7,6%. The return to total assets has also risen, from 0,5% in December 2001 to 0,9% on average in June 2002 (see Financial Stability Report, 2002).

Despite the environment of high inflation rate for years, as well as exogenous shocks faced by the Brazilian economy, the depositors' base has been preserved for financial assets denominated in domestic currency. This has been allowed due to the rapid response by banks in offering appropriate instruments through financial innovations that have protected investors against adverse movements in asset prices. Figure 1 shows the evolution of deposit share by groups of banks – public, private and foreign – since the launching of the stabilization program. The funds deposited in private banks have expanded with increasing share of foreign banks in the period.

**Figure 1 - Total deposits in Brazilian banks, June 1994-June 2002**



Other important aspect of deposits being held in own currency and in the domestic financial system is that this reflects households' and firms' confidence in the system's soundness. In this respect, the minimum ratio between the reference net worth and total assets weighted by the risk was kept at 16,1% in June 2002, when the required level by Brazilian regulation is 11% for banks and other financial institutions, except for banks owned by credit unions and for credit unions, respectively 13% and 20%. The Basle ratio for the banking system was 15,6%, higher the level of 8 percent recommended internationally. Additionally, stress tests carried with 137 banks, based on June 2002 date, have shown the system's resilience to exchange, interest rates and credit risks (see chapter 4 of Financial Stability Report 2002).

There are some empirical exercises indicating that the maintenance of deposits by residents in the domestic banking system has contributed to the GDP growth. Although financial institutions were very efficient in providing instruments to preserve the value of financial assets in a context of macroeconomic instabilities and structural constraints, they have fulfilled poorly their role of intermediating savings among domestic firms and households. As compared to other economies with similar level of development, the volume of credit to GDP has been relatively small in the Brazilian financial system. During the high inflation period, banking businesses focused basically on short-term treasury operations. The exceptions were in some areas where the government has been involved



through subsidy or earmarked lending, such as the financing of the housing sector and long-term capital. This tendency has, however, been changing gradually.

The improved macroeconomic environment and efforts at regulatory level have reflected in terms of better functioning of the financial system. The volume of free, market-based credit has increased recently not only in absolute terms but also in its share of the total in detriment to the directed credit (see Table 3).

**Table 3 - Total credit of the financial system as % of the GDP**

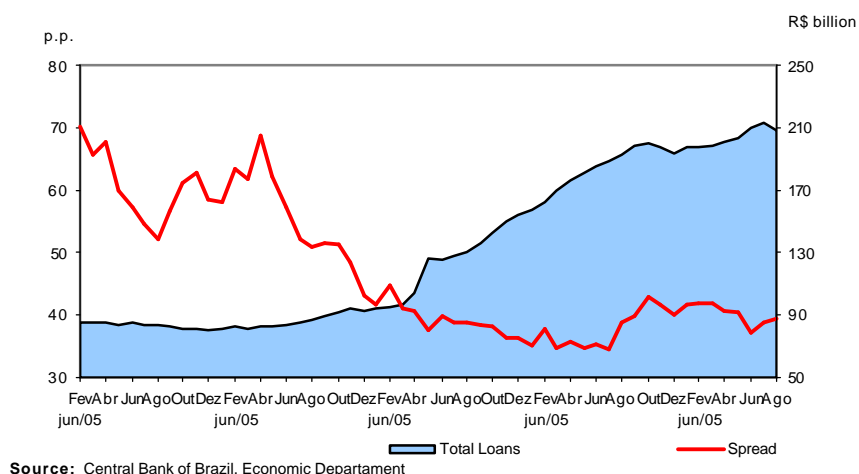
	% of GDP		
	2000	2001	2002*
Free resources	14,17	16,38	17,40
Households	4,72	5,90	6,15
Enterprises	6,32	7,08	7,13
Forex linked	3,12	3,40	4,11
Directed resources	12,86	9,87	10,76
Housing	4,62	1,79	1,72
Agricultural	2,49	2,21	2,34
BNDES	5,25	5,53	6,60
Others	0,51	0,33	0,11
Leasing	1,26	0,97	0,82
Public Sector	1,16	0,83	0,87
Total	29,45	28,05	29,85

Source: BCB, Monetary Policy Press Release, October 2002

\* September

The spread between borrowing and lending rate in the financial system, which has been traditionally very wide, has narrowed recently (Figure 2 and Tables 4 and 5). Considering the freely allocated resources, 58% of credits were related to fixed rate operations. Loans with indexed interest rate, usually rates linked to foreign exchange variation, represent 29,2% of the total and operations using flotation rates are the remaining.

**Figure 2 - Evolution of the interest rate spread and total freely allocated resources, Feb.1998 - Aug.2002**



Source: Central Bank of Brazil, Economic Department

**Table 4 - Average interest rates and spreads charged in loans with free resources**

	Deposits (% p.a.)	Loans (% p.a.)	Spread (p.p.)
2001 Dec	20,3	49,0	28,7
2002 Sep	13,5	43,6	30,1

Source: Central Bank of Brazil, Monetary Policy Press Release, October 2002.

**Table 5 - Interest rates and spread charged in loans: freely allocated resources**

	Interest rate (% p.a.)				Spreads (p.p.)		
	Fixed rate		Indexed <sup>1/</sup>	Floating rate <sup>2/</sup>	Fixed rate	Indexed <sup>1/</sup>	Floating rate <sup>2/</sup>
	Enterprises	Households					
2001 Dec	43,8	71,8	25,4	28,4	39,9	4,4	9,3
2002 Sep	42,3	74,7	6,5	25,9	39,4	13,3	8,0

Source: Central Bank of Brazil, Monetary Policy Press Release, October 2002.

1/ Linked to foreign exchange variation

2/ Linked to interbank deposit certificates (CDI)

Despite recent substantial progress, undoubtedly, there is much room for improvement to allow the financial system to play fully its role as intermediary in order to support economic activity.

### **3. Restructuring the Financial System**

The Brazilian financial system has evolved in three different areas. It has faced the consolidation of the number of banks, reduced the presence of public sector and increased the participation of foreign banks.

The system is composed basically by universal banks as a result of past government incentives in the late 1980s. For example, after the approval of the National Monetary Council (CMN) Resolution 1.542 in 1988, the number of banks increased significantly, enhancing competition and leading to the opening of large number of new branches nationwide. This trend also reflected the system's response to the inflationary process, as the network of branches was used to collect seignorage revenue, especially through the opening of new demand deposit accounts.

Since the launching of the Real Plan, the Brazilian financial system has experienced a deep process of restructuring. Financial environment has changed significantly with the macroeconomic stabilization, forcing a voluntary structural change by banks that resulted not only in a shift of the focus concerning profitable activities, but also in a new design of the market.

Facing the loss of seignorage with the Real Plan, banks had their lending to the private sector expanded in order to preserve profits. Banks thus satisfied the strong demand for credit by the private sector that was stimulated by more stable environment. In early-1995, as the BCB had raised the interest rate in response to the Mexican crises, followed by sharp deceleration in economic activity, banks started facing difficulties with deterioration in their balance sheets and increasing non-performing loans. In the first phase, small banks were those who suffered most with the change in the economic environment, and thus many went through difficulties. The BCB started to intervene in banks, and a series of mergers and acquisitions took place (Table 6). Between June 1994 and the end of 1995, twenty-eight institutions were under the BCB's intervention.

**Table 6 - Number of institutions liquidated, intervened in or under RAET<sup>1</sup>, and merger and acquisitions, 1994-2002**

Year	Institutions liquidated, intervened in or under RAET	Merger and acquisitions
1994	10	0
1995	18	1
1996	5	8
1997	10	6
1998	6	11
1999	1	2
2000	2	10
2001	4	3
2002*	1	5
Total	57	46

Source: Central Bank of Brazil, Organization of the Financial System Department and and Rocha,

\* Up to October 15

1/ RAET: Regime de Administração Especial Temporária (under temporary special

Still, the situation aggravated further turning into a case of systemic nature as two of the ten largest banks experienced difficulties. The government responded by putting in place the Program of Incentives for Restructuring and Strengthening the National Financial System (PROER), and measures to reinforce the BCB's power.

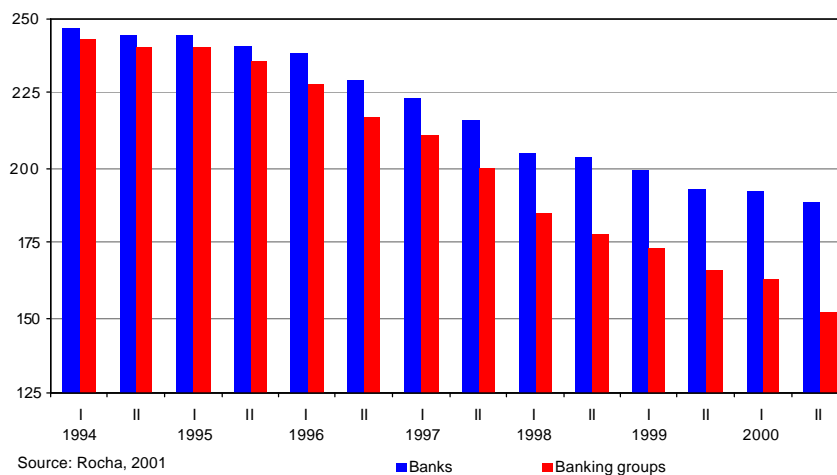
Furthermore, the BCB introduced measures to stimulate restructuring of the financial system. The minimum capital requirement was maintained for mergers and acquisitions and transfers of shareholders control while the requirement for establishing new banks was raised. To foster the normalization of financial market conditions, the BCB authorized financial services to be charged.

These movements have increased concentration in the banking industry, especially the forming of large conglomerates (Figure 3). Some banks that changed the ownership have preserved the original name, but actually they belong to a large group, thus under the same policy. In analyzing the concentration process, therefore, these banks need to be considered as part of a single institution, as shown by Rocha (2001). Considering the total assets, the Herfindahl-Hirschman Index of concentration in terms of banking groups increased from 0,073 in June 1994 to 0,0812 in December 2000. The increase was more

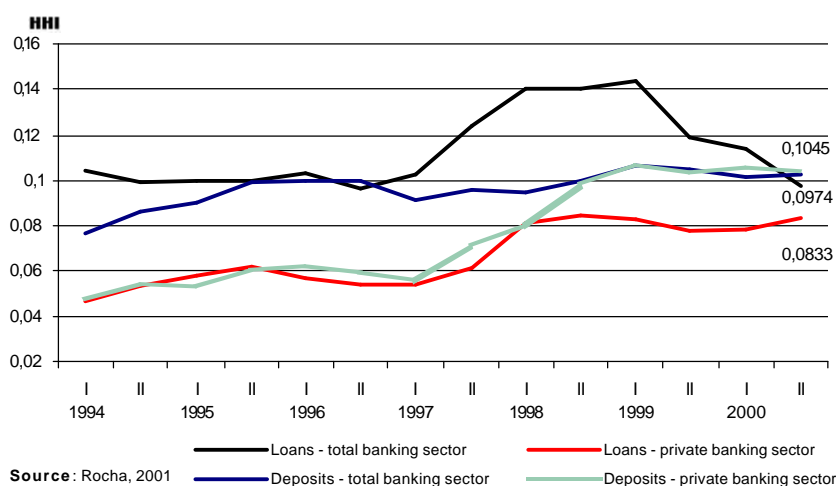
significant for the private sector – from 0,0392 to 0,0798 – and also in terms of total deposits, loans and net worth (Figure 4).

One should be cautious, however, in analyzing the concentration index. Although this measure indicates a process of concentration, it does not necessarily mean that the system is concentrated. The Horizontal Merger Guidelines, from U.S. Department of Justice and the Federal Trade Commission, use the Herfindahl-Hirschman Index (HHI) of market concentration in their analysis. The Guidelines classify the spectrum in three regions: unconcentrated (HHI below 0,1), moderately concentrated (HHI between 0,1 and 0,18) and highly concentrated (HHI above 0,18). Based on this reference, the Brazilian banking system is in the limit of the unconcentrated region. Other studies, such as the European Central Bank's (2002), shows that the Brazilian Banking System is less concentrated than Portugal – HHI of 0,10 –, Greece (0,11), Belgium (0,15), Holland (0,17), and Finland (0,25).

**Figure 3 - Number of banks and groups, 1994-2001**



**Figure 4 - Hirshman-Herfindahl Index for total loans and total deposits, total banking sector and private sector banking groups, 1994-2001**



### **Program of Incentives for Restructuring and Strengthening the National Financial System (PROER)**

Introduced in 1995, the PROER was framed to protect depositors by assuring the safety of their funds, and to prevent the emergence of systemic crisis in the banking system that could be costly in terms of welfare loss for the economy as a whole. It ensured that depositors could claim their funds at any moment, and penalized bad banking practices, by changing the management and making their assets and of the owners' non-disposable. The program incorporated some innovative aspects into the bank restructuring framework in Brazil, in particular, by requiring change in ownership of the institution, and making managers and owners legal and administratively responsible for their acts. Under the PROER, the BCB intervened in the sixth and eighth largest banks in terms of net worth. The difficulties faced by these banks had led to a concentration of the interbank market liquidity in some banks as depositors reallocated their funds. This fact could make the problem to spread to the rest of the system. The PROER was applied 7 times. With

implementation of the Fiscal Responsibility Law (Complementary Law 101 of May 4, 2000), new operations using the PROER require a specific authorization.

The mechanism of the PROER for large banks was somewhat different from those applied to smaller ones. For small and medium size institutions, the PROER sets forth that banks in difficulties would be sold with the program financing uncovered liabilities and providing funds to offset deposit runs. Large banks in difficulties in turn were split into two parts, the good and bad bank. The good one would keep assets of good quality and all deposits of the original institution, and be sold to a new owner. The bad one would keep the problem assets and liabilities, and would be under the BCB's intervention to be liquidated later on. Purchasers of the good bank could apply for a BCB's special credit facility to be used to cover the costs of restructuring, reorganization and modernization. They were allowed to breach temporarily the requirements of operational limit set in the Basle Accord.

The BCB's power to deal with problem banks and to prevent crises was enhanced. First, the Provisory Measure 1.182, of November 1995, allowed the BCB to ask problem banks for (i) new funding, (ii) change of control, or (iii) restructuring the shareholding. Until then, the BCB was enabled to act only after the problem had emerged reducing thus the responsibility of bank owners and managers. Second, the Provisory Measure of March 1996 increased the responsibility of auditing firms by encouraging them to inform the BCB whenever problems were identified, or banks refused to disclose information. Also, the BCB had raised the minimum capital requirement for the opening of offices abroad by existing or new banks, while the BCB had given power to supervise transactions carried by these offices. The financial statement of domestic financial institutions should include those of offices abroad complying with the Basel Accord operational limits.

### **Program of Incentives for the Reduction of the State Role in the Banking Activity (PROES)**

Official banks were particularly affected by the macroeconomic stabilization, as they had benefited by large collection of inflation revenue – equivalent to 4.2% of GDP in 1993, of which around 63% collected by these banks. Moreover their management

practice was influenced by local governments interests, which made difficult their rapid adjustment to the new economic conditions. In this context, the PROES was, as represented by the acronym, an incentive to reduce state government participation in the financial activity, and also part of a broader program of fiscal restructuring of states. The objective was to eliminate the problem of state banks finance, and of their frequent misuse that had hampered the management of state government finances.

Under the PROES, depositors are protected. States applying for the PROES were able to use a credit line to solve the bank's balance sheet problem up to 100% of the needed funds if the state government decided to privatize, close, or convert it into a development agency. Otherwise, if the state decided to keep the bank, the credit line covered only 50% of the needed funds. Under the program, ten state banks were liquidated, six were privatized, seven were transferred to the federal government for privatization, five were restructured and sixteen were converted into development agencies. Therefore the financial system that had thirty-five state-banks by August 1996, in September 2002 shrunk to twelve banks.

**Table 7 - PROES**

Situation of the banks	Number of institutions
Liquidated	10
Privatized	15
in process	5
Restructured	4
Development agencies authorized	16

Source: Central Bank of Brazil, Gedes

### **Program for the Strengthening of the Federal Financial Institutions (PROEF)**

The process of adjustment and strengthening of federal banks – the Banco do Brasil (BB), Caixa Econômica Federal (CEF) and Banco Meridional – started in 1995. As official banks were more subject to political influence in their lending decisions, the first phase of the adjustment process was conducted by recognizing losses that resulted from the bad quality of loans these banks provided over time. This recognition of losses forced



the Federal Treasury to capitalize the BB by US\$ 8 billion. The CEF was in turn a more complex case as it centralized housing loans since the restructuring of housing program.

The second phase contemplated a more rigorous than usual supervision. The BCB carried out the supervision in 1999 and 2000, which showed the need for larger provisions. The exercise indicated a need for the creation of a special program – the Program for the Strengthening of the Federal Financial Institutions (PROEF) – in June 2001. The PROEF had basically as its objective the adjustment of capital adequacy of the four public banks: the BB, CEF and two development banks – Banco do Nordeste and Banco da Amazônia. Under the program, the Government policy objective was to make these banks more competitive, transparent and efficient as reflected in the actions already taken and indicated in the objectives of the Consolidated General Inspection. The federal banks needed, hence, to comply with capital requirements stricter than those recommended in the Basle Accord.

The PROEF framework involved three actions: (i) the transfer of credit risks to the Treasury or a Special Purpose Company (Emgea); (ii) exchange of assets with low liquidity and low interest rate for those more liquid, paying market interest rate; (iii) capital increase in three of these four banks. The Emgea in turn had the duty to manage credits transferred from federal banks to the Treasury. The program represented an addition of R\$12.18 billion to the Treasury debt and R\$ 62.4 billion of bonds issued.

### **Estimate of fiscal cost of banking system restructuring in Brazil**

In the last two decades, banking crises – defined as a wave of bank failures – occurred with higher frequency in many countries as compared to previous periods, usually with large impact on fiscal accounts and economic activity. The difficulties faced by two large banks in the early phase of the macroeconomic stabilization in Brazil by the time the banking system was adjusting to the new environment led to the government programs to restructure the system. These programs and their associated measures allowed the government to prevent the occurrence of a systemic crisis. Although fiscal costs were incurred, they were relatively low.

The fiscal cost of bank restructuring in Brazil was estimated considering the impact on the Net Public Sector Debt, i.e., the additional new issuing of bonds needed in the year the events took place.

The estimate under this procedure is still a partial figure, as the PROER and PROES provided loans, and Central Bank and the Treasury are still collecting revenues. The final fiscal cost would be known only when all loans were paid. Using this methodology, the fiscal impact of the PROER was 0,88% of GDP until June 2002. The cost of PROES reached 5,68% of GDP based on bonds issued minus privatization revenues. For PROEF, the net debt was incremented by 2,09% of GDP. The three programs, the fiscal cost amounted to 8,63% of GDP.

The cost of the Brazilian restructuring programs was relatively low as compared to other countries. In a sample of 40 countries, Honohan and Klingebiel (2000) found that the average fiscal cost of bank restructuring was 12,8% of GDP. For developing countries, the cost was even higher, reaching 14,3% of GDP – in the range of 20% to 55% of GDP in the cases of East Asia. Hoggarth, Reis and Saporta (2002) estimates for the fiscal and quasi fiscal costs of banking crises amounted to 12,1% on average of GDP for high income countries and 17,6% for medium and low income countries (Table 8). Boyd and Smith (2000) and Rojas-Suárez and Weisbrod (1997), got similar pattern.

**Table 8 - Costs of restructuring financial sectors**

Country	Period	Fiscal and quasi-fiscal costs/GDP
High Income Countries (average) <sup>1/</sup>		12,1
Argentina	1980-1982	55,3
Argentina	1995	1,6
Brazil	1994-1996	5 - 10 (8,6*)
Chile	1981-1983	41,2
Colombia	1982-1987	5,0
Indonesia	1997-	50 - 55
Malaysia	1985-1988	4,7
Mexico	1994-1995	20,0
Thailand	1983-1987	1,5
Thailand	1997-	42,3
Uruguay	1981-1984	31,2
Venezuela	1994-1995	20,0
Medium and Low Income Countries (average)		17,6

Source: Hoggarth, Reis and Saporta, 2002.

1/ Average costs from: Finland, Japan, Korea, Norway, Spain, Sweden and United States

\* Author's estimate

## **Increasing the presence of foreign banks**

As observed elsewhere, the participation of foreign banks has increased, helping to stimulate competition and to consolidate the domestic system through mergers and acquisitions. The entry of foreign banks into the Brazilian Financial System is still controlled. This issue would be addressed in the still ongoing process of regulating the Article 192 of the 1988 Federal Constitution. It was thus temporarily regulated by the Article 52 of the Transitory Provisions that prohibits the opening of new branches by foreign banks in Brazil, and the increase of foreign participation in banks based in the country. These restrictions, however, does not apply for cases included in international agreements, of reciprocity of treatment, and of special interest for the Brazilian government.

In this context, the Government decided in 1995 to open the privatization in the banking sector to foreign participation, and then widened the scope by allowing foreign banks entry into domestic market irrespective of privatization process. Therefore, the entry of foreign banks could be made by opening a new institution or by mergers and acquisitions. Foreign banks entered into the Brazilian market acquiring domestic banks through the PROER, banks with solvency problem or in the privatization process, as well as sound banks.

The main argument was to improve competition in the banking industry by increasing the supply of products and services, thus seeking more efficiency and reduction of costs. Another benefit would be the transfer of more advanced technology in terms of credit operations and risk evaluation, which would help to reduce bank spreads. All these factors would contribute to improve efficiency and soundness, and therefore make the banking sector more resilient to adverse shocks. In fact, competition has been stimulated by increased foreign participation in the domestic market. The opening of market for foreign banks could be evaluated in terms of inflow of foreign direct investment that amounted to US\$19,8 billion, or 15 percent of FDI, in a period of seven years. This tendency can also be noted as foreign banks have held the increasing share of assets and deposits, as showed in figure 1 and table 2.

#### 4. The role of the financial system in preserving the real value of private savings

An important role of the financial system is to provide financial services to households and firms (for example, allowing intertemporal smoothing of consumption and expenditures). The issue we examine in this section is whether the financial system in Brazil has been fulfilling these objectives. The experience has shown that, even in extremely uncertain environment, the financial system has been able to provide firms and households with safe liquid instruments to transact among them and to carry purchasing power forward in time, so that money has remained mostly at home.

Brazil's economic history has helped to shape its financial system structure and characteristics. High volatility of the main macroeconomic variables - high inflation prior to the Real plan and, subsequently, high volatility in real interest rates and, with the floating exchange regime, also in exchange rates - has led to a system resilient to shocks. In fact, in the period after the launching of the Real Plan, the Brazilian economy faced a sequence of exogenous shocks, but the financial system was able to preserve its investor base, as shown in Table 9.

**Table 9 - Financial applications as proportion of GDP, 1995-2002**

	% GDP							
	1995	1996	1997	1998	1999	2000	2001	2002 July
Mutual Funds	11,6	16,3	16,2	17,1	24,2	28,2	30,2	27,6
Saving Accounts	9,8	9,2	11,1	11,8	11,5	10,3	10,0	10,6
Time Deposits	12,6	10,3	10,0	9,7	9,8	8,3	9,1	10,2
Total	34,0	35,8	37,3	38,5	45,6	46,8	49,3	48,4

**Source:** Central Bank of Brazil, Economic Department

An economy with a healthy and well-developed financial market is, in principle, capable of adapting rapidly to a high inflation environment by offering a rich set of fairly liquid, high-yield instruments denominated in domestic currency ("quasi-monies") that preserve the real value of the public's portfolio. In contrast, a "financially repressed"

economy undergoing high inflation generally offers domestic residents few options other than to seek protection in foreign currency denominated assets and instruments.

In general, an economy financial institutional framework may determine whether the flight from domestic money results in a rapid and sizable process of currency substitution. In general, the relative importance of foreign currency as an inflation hedge will be inversely related to the economy's level of financial development. It should also be present an assurance to depositors not only that the real value is preserved but also that domestic financial assets are safe instruments. This would require a healthy financial system and confidence that those assets would not be frozen or unilaterally restructured by the government.

We claim that the rapid response by the Brazilian financial system to changing and turbulent environment, plus government actions, have allowed not only to preserve residents deposits invested in domestic assets, but also helped to insure themselves against exogenous shocks. These protections have helped to reinforce domestic households' and firms' confidence in the domestic financial assets. The financial system introduced several new financial products overtime to preserve asset value of households and firms. The government, in turn, has had a critical role in providing the necessary mix of its debt instruments to allow banks to frame products to protect savings against macroeconomic instabilities. Government was able to finance itself domestically through a variety of indexed instruments in the period of high inflation and especially when the external financing – to sovereign and private sector – was closed for Brazil during the period in which the country maintained external debt arrears.

**Figure 5 - Inflation path, Consumer Price Index (IPCA), monthly variation, 1991-2002**



**Source:** Central Bank of Brazil, Economic Department

Brazil had experienced several episodes of high inflation, but did not give rise to a significant process of currency substitution (see Bevilaqua e Garcia, 1999). Experiences in other economies showed that high and variable inflation rates encourage a flight from domestic money and raise demand for alternative assets, including those denominated in foreign currency.

Sudden outbursts of inflation do not generally lead to a massive flight from the domestic money, nor do protracted periods of high inflation erode at the same time or pace the three basic functions of the national currency – store of value, unit of account and medium of exchange. Instead, the flight from money in high inflation countries tends to be a gradual process, whereby the national currency loses in asynchronized sequence its usefulness. The store-of-value function is typically the first one to go, but it usually takes a prolonged period of high inflation – or a hyperinflationary burst – before the domestic money starts losing its roles of unit of account and, especially, of medium of exchange.

Although during the years of hyperinflation the banks were able to manage rather complex indexation arrangements and, in this way, preserve the local currency, the Brazilian banking system is still adjusting to a more competitive market environment. Contrary to some other high inflation countries in Latin America, Brazil was never a

dollarized economy. Indeed, despite a series of failed stabilization plans – involving six monetary reforms in ten years – the GDP growth in Brazil suffered relatively less damage than one could expect for an economy experiencing such a chronic high inflation process, though the potential GDP had been gradually hampered and all sort of distortions developed. Indexation, the adaptive policy response, became pervasive throughout the economy and its capacity to accommodate inflation may perhaps partially explain Brazil's failure to engage in serious structural change before 1994. Table 10 shows how the composition by index-remuneration of government securities held by corporate and households has evolved in the period 1991-2002, reflecting basically macroeconomic circumstances faced by economic agents.

**Table 10: Composition of the Domestic Public Sector Debt (Marketable), held by private sector by remuneration<sup>1/</sup>**

Year						% of total
	Fixed rate	Selic	Price index linked	Forex linked	Others	
1991	16,06	67,17		5,30	11,47	0,01
1992	54,80	9,04		23,56	3,00	9,60
1993	26,41	3,78		42,08	17,26	10,47
1994	40,20	16,03		12,51	8,29	22,96
1995	42,70	37,77		5,26	5,28	8,98
1996	61,00	18,61		1,75	9,38	9,26
1997	40,91	34,78		0,34	15,36	8,61
1998	1,68	70,98		0,37	20,91	6,07
1999	9,19	61,09		2,37	24,23	3,11
2000	15,34	52,36		5,87	21,70	4,74
2001	7,21	53,76		7,08	28,11	3,84
2002*	10,95	52,22		8,72	26,35	1,76

Source: Central Bank of Brazil, Economic Department

\* September

The dollarization process, defined as currency substitution (or dollarization of narrow money), or dollarization of less liquid assets such as time deposits (Catão and Terrones – 2000), has been unseen in Brazil. As showed, use of foreign currencies for domestic purpose has been negligible. Indeed, domestic use of foreign currencies is not allowed in Brazil. Usually, firms and households look for financial assets with appropriate index that preserves the real value. Therefore, the most usual movement in Brazilian financial system has been the allocation of funds among modalities of financial assets, due

to differential in returns, or migration of deposits between banks, due to confidence aspects.

Also, the dollarization of less liquid assets were not relevant in Brazil. Ize and Yeyati (1998) estimated the actual dollarization for some countries taking the average of total dollar deposits to total domestic and cross-border deposits for the period 1990-1996. The ratio for Brazil was 11,6% at the end of 1996 (Table 11). This figure can be compared with the ratio of 1.46 percent of deposits abroad of Brazilian residents in December 2001 – the result of the BCB survey on the Brazilian Capital Abroad – to total of domestic deposits and deposits abroad. The ratio is adjusted upward to 7.38% if it is assumed that all deposits abroad are demand deposits.

**Table 11 - Dollarization in emerging markets at the end of 1996**

Country	Dollarization ratio1/
Bolivia	97,9
Hungary	36,9
Mexico	32,1
Peru	80,5
Poland	24,1
Chile	14,2
Brazil	11,6 (1,5 - 7,4*)
Israel	18,2

**Source:** Ize, Alain and Eduardo Levy-Yeyati, 1998

**Note:** Actual dollarization ratio is obtained as an average of total dollar deposits over total domestic and cross-border deposits for the period

\* Author's estimate

Given the high rate of return on government securities and the presumption of lower risk, most banks have shown a strong preference for the holding of liquid government securities, as well as short-term interbank placements. Typically, the sum of these two categories of earning assets has been comparable to loans. For the banking system, securities and interbank placements make up a high 37 percent of total assets.

Innovations in telecommunications and computing allowed the Brazilian financial system to build a network of financial services to protect their customers from inflation.



Direct official intervention was also required to ensure a healthy banking system through restructuring banks, reinforcing prudential supervision and regulation. In the early phase of the stabilization program, some measures of prudential nature were implemented, such as controls on capital inflows and reserve requirements to offset, on the external front, easy credit condition in the international financial markets and, domestically, the exuberance of wealth effect resulting from sharp fall in inflation.

In a context of high uncertainty, the financial sector has fulfilled the role of intertemporal risk sharing; but much needs to be done in terms of its function as intratemporal allocation of risk through intermediation. With inflation acceleration in mid-1980s, indexation intervals became shorter and a share of deposits was held in accounts linked to the daily behavior of overnight interest rates. Traditionally, private banks have restricted their private sector lending to short-term, self-liquidating commercial transactions. Medium- and long term finance to industry and agriculture has mainly been provided by specialized federally owned institutions and development funds. The Brazilian banking sector, therefore, is not yet playing as full a role as it could in financial intermediation. Instead of intermediating credits to the private sector, banks have mainly engaged in short-term treasury operations. As a result, enterprises and households in Brazil have been disadvantaged by the lack of access to credit.

Brazil has also built a fairly sophisticated payment system motivated by the need to cope with high inflation rates (Listfield and Montes-Negret, 1996). This development was partly a result of the need to create alternative, quasi-money indexed financial assets before the launching of the Real Plan. During the high inflation period, the Brazilian payment system achieved a high degree of technological progress, especially aimed at enhancing the speed of processing financial transactions. Investments that would not be feasible in a low inflation environment turned out to be profitable. Costs were not incurred directly by the clients but rather compensated by float yields from inflation, which boosted the technological advances. The search for lowering the exposure of money balances to the effects of high inflation, for instance, motivated the widespread use of automation in check clearing. In other words, technology and human capital in banking, a legacy of the inflationary environment, were “positive” externalities to further development of the payment system.

Furthermore, the external debt crisis in the early 1980s was crucial for the automation of foreign exchange transactions. The need to pursue a tight control of the cash flow in foreign currencies by the BCB encouraged the development of the settlement process, including the introduction of electronic inputs in the domestic currency leg of foreign exchange transactions in substitution for inputs via Telex.

Even in a process of internal adjustment with the stabilization program, the Brazilian financial system has weathered well the difficult economic environment. The exchange rate devaluation of January 1999, for instance, seems to have been anticipated by most financial institutions, having reduced or hedged their external exposures. The relatively high share of securities and interbank placements proved important in 1998 and the 1999, as many foreign banks withdrew credit lines to Brazilian financial institutions. By virtue of the large holdings of liquid, dollar indexed government securities, most banks were able to meet the withdrawal without suffering severe liquidity problems, and without having to call on the BCB to provide emergency liquidity. Liquidity conditions were generally eased in the third quarter of 1998 and again in the first quarter of 1999, as the BCB sterilized a large part of the outflows of international reserves. It absorbed the liquidity it created by borrowing in the overnight market.

## **5. Challenges to promote growth**

Other fundamental role of the financial system is to channel household savings to the corporate sector and allocate investment funds among firms. The question here is whether the Brazilian financial system has been able to play this intermediation role. One can see as shown by the relatively low volume of credit as percentage of product in Brazil that the financial system has performed this role appropriately. This points to the need to identify possible inefficiencies and distortions to be corrected for the financial system to promote economic growth.

Levine (1996) had surveyed the literature on finance and development, and concluded that “the preponderance of theoretical reasoning and empirical evidence suggests a positive, first-order relationship between financial development and economic growth”, but – as he noted – this must be stated hesitantly and with ample qualifications. A growing

body of empirical analyses, including firm-level, industry-level and individual country studies, and broad cross-country comparisons, demonstrate a strong positive link between the functioning of the financial system and long-run economic growth. Theory and evidence in turn make it difficult to conclude the opposite that the financial system merely – and automatically – responds to industrialization and economic activity, or that financial development is an inconsequential addendum to the process of economic growth.

The role of financial instruments, markets, and institutions in an economy is, conceptually, associated to the need to mitigate the effects of information and transactions costs. Informational asymmetries and transactions costs may inhibit liquidity and intensify liquidity risk. These frictions create incentives for the emergence of financial markets and institutions that augment liquidity.

Liquidity is the ease and speed with which agents can convert assets into purchasing power at agreed prices; and liquidity risk arises due to uncertainties associated with converting assets into a medium of exchange. Liquid capital markets, therefore, are markets where it is relatively inexpensive to trade financial instruments and where there is little uncertainty about the timing and settlement of those trades.

The link between liquidity and economic development arises because some high-return projects require a long-run commitment of capital, but savers do not like to relinquish control of their savings for long periods. Thus, if the financial system does not augment the liquidity of long-term investment, less investment is likely to occur in the high-return projects. With liquid capital markets, savers can hold liquid assets that they can quickly and easily sell if they seek access to their savings. Simultaneously, capital markets transform these liquid financial instruments into long-term capital investments. By providing demand deposits and choosing an appropriate mixture of liquid and illiquid investments, banks provide complete insurance to savers against liquidity risk while simultaneously facilitating long-run investments in high return projects.

The financial system provides, hence, the function of facilitating the trading, hedging, diversifying, and pooling of risk; allocating resources; monitoring managers and exerting corporate control; mobilizing savings; and easing the trading of goods, services, and financial contracts. Banks, mutual funds, and securities markets all provide vehicles

for trading, pooling, and diversifying risk. The financial system's ability to provide risk diversification services can affect long-run economic growth by altering resource allocation and saving rates.

In the case of Brazil, we are particularly interested in the financial system's function of facilitating the management of liquidity and idiosyncratic risks. These concerns are related to the environment of high inflation and volatile nominal variables – especially interest and exchange rates – that the country has experienced over decades.

Empirical tests showed that the maintenance of residents' deposits in the Brazilian financial system during the period of high inflation and external shocks was an important element to preserve GDP growth rate even in extreme circumstances. Carneiro de Matos (2002) tested the causality between financial development (D) and economic growth (Y) by adopting the following specification:

$$\Delta Y_t = a + \sum_{j=1}^k b_j \cdot \Delta Y_{t-j} + \sum_{j=1}^m c_j \cdot \Delta D_{t-j} + dU_{t-1} + u_t$$

$$\Delta D_t = \mathbf{a} + \sum_{j=1}^k \mathbf{b}_j \cdot \Delta Y_{t-j} + \sum_{j=1}^m \mathbf{d}_j \cdot \Delta D_{t-j} + \mathbf{d}V_{t-1} + \mathbf{u}_t$$

where U and V are error-correcting terms; k and m, lags of Y and D respectively.

He showed that GDP growth is affected positively by credit to the private sector (1964-2000) and the extent residents are willing to maintain their assets in the domestic financial system. Using, among other parameters, the ratio of residents' funds deposited in the financial system to M2 (1947-2000) as a proxy of financial development, empirical tests support the view that it is important to preserve public's confidence in domestic financial assets to improve the GDP growth prospects. Such a ratio may reflect an intangible asset of the financial intermediaries, i.e. general public's confidence that contracts between customers and these intermediaries would be respected and protected. As long as deposits are maintained in the domestic system, the possibility of financial activities to develop domestically increases. Brazil had experienced changes of inflation indexes, forced lengthening of deposit maturities, banking failures, inflation and unstable macroeconomic policies, among other factors, which hampered public's confidence in the

system. Economic agents have thus become more risk averse regarding investments in domestic assets, which may somewhat be reflected in the high interest rates prevailing in the economy. Carneiro de Matos used other parameters but results were weaker.

He applied capital accumulation and macroeconomic instability as control variables. For the first variable, he used the ratio capital stock to worker and, for the second, the volatility of monthly inflation rate. The empirical tests suggested as a general result that the causality is from financial development to economic growth. The variable “asset held by public in the system” indicated that financial development affects the output per head at 5 percent level of significance for the null hypothesis of no causality between variables. If controlled by capital stock to worker and macroeconomic instability, the level of significance is reduced to 2.5 percent. The feedback hypothesis that GDP per head causes the financial variable was rejected. Regarding credit to the private sector to GDP, the null hypothesis was rejected at 2.5 percent of significance, and when controlled by capital stock and macroeconomic instability, the level of significance fall to 1 percent. The reverse causality, however, indicated level of significance of 10 percent when the control variables were applied.

Another feature of Brazilian financial system has been the enterprises’ reliance on self-financing, particularly for small and medium sized enterprises, which have often lacked access to credit markets. The generally high real interest rates prevailing in the country for many years now, as well as the two decades of high and variable inflation that preceded the introduction of the Real Plan in mid-1994, encouraged the Brazilian enterprises to reduce their reliance on debt financing and to rely more on retained earnings. As a result, the Brazilian companies entered the 1990s with balance sheets that looked fairly underdeveloped when compared to companies in other countries. There is thus room for further gains to expand credit to the private sector, but the extent to which credit could be expanded requires careful consideration. As Allen and Gale (2000) noted, for most developed countries internal finance dominates external finance, while in a range of emerging countries, external finance is more important.

Frequently, balance sheets of the Brazilian enterprises showed working capital financed by expensive short-term local currency financing, and fairly large positions in real assets (such as real estate) that were used to hedge against inflation, but were not used in

the production process. Private investments have also been primarily financed by long-term credits from official agencies, especially from the national investment bank (BNDES), as well as short-term loans.

The disinflation brought about by the Real Plan has led to considerable corporate restructuring. This entailed two complementary strategies: reducing debt by liquidating unproductive (real) assets; and replacing expensive short-term bank debt with medium-term capital raised in either local, or increasingly, international capital markets.

Despite these restructurings that have taken place over the past few years, the level of indebtedness of Brazilian non-financial enterprises is still low compared with those of other Latin American countries. Although the advent of low inflation under the Real Plan in and of itself probably encouraged an increase in the supply of loanable funds, the demand for borrowing has been discouraged by the high real interest rates that have prevailed over the last several years due especially by turbulent external environment. At the same time, in view of fiscal imbalances, lending to the private sector has also stagnated over the last several years, suggesting a classical case of crowding out.

Only the largest domestic enterprises and the multinational firms operating in Brazil have access to external markets as alternative sources of financing. Most firms with foreign currency liabilities either had a natural hedge in the form of foreign currency receivables, or hedged themselves in other ways, for example by acquiring U.S. dollar-indexed government securities. Those few enterprises that were unhedged or only partially hedged ended to be the Brazilian subsidiaries of foreign conglomerates that may be assumed to provide sufficient financial backing.

The consequence of the relatively low gearing of the Brazilian companies and their limited exposure to foreign currency risk is that the non-financial corporate sector was not seriously affected by the depreciation of the Real since January nor by the continuing relatively high level of interest rates. Yet, in the process of liberalizing the financial market in Brazil, further efforts are required in terms of macroeconomic stability and institutional reforms to expand prudently credit to the private sector. For industries and firms that rely heavily on external financing growth is faster in countries with well-developed banks and

securities markets than in countries with poorly developed financial systems (Levine, 1998).

In a macroeconomic environment of low inflation and fiscal consolidation, the banking sector has operated progressively under a different set of incentives, which will contribute to financial deepening. Instead of financing short-term government debt and relying on inflationary revenues, banks are reshaping their activities and are competing for creditworthy customers. The BCB is supporting this development by focusing on better risk assessment in the sector and by strengthening supervision and the regulatory framework. Reduced state involvement in the economy is promoting an enhanced role for private initiative.

The Brazilian financial system can also benefit from more competition. Enhanced competition in the banking sector will only benefit the economy if banks are accurately able to assess creditworthiness. Recently adopted technology for credit rating and credit information would contribute to improve the reach of the financial system and access for small businesses. Furthermore, the banking system itself depends on the continuing process of adjustment in the real economy; in turn, this presupposes further exit of ill-adapted institutions that had been established under different competitive conditions. This is linked to how far the system could be freed from the remaining elements of state guidance.

Still, the expansion of bank credit to the private sector needs to be cautious and gradual, particularly in an environment of severe exogenous shocks that the Brazilian economy has been experiencing. The objective should be to develop a bank intermediation on the basis of adequate risk assessment rather than promoting overly rapid credit expansion absent all necessary links and institutional requirements in place. Institutional reforms that reinforce public's confidence on the financial system are important to promote economic growth. Since the launch of the Real Plan, supervisory and regulatory framework has been significantly strengthened by the BCB, as it had presented some weaknesses, for instance, until 1995 the legislation of bank intervention did not allow for preventive action, which was restricted to emergency crisis situation.

## **6. Recent progress to strengthen the Brazilian Financial System**

High lending rates, interest margin and overhead costs, and low levels of credit as a proportion of GDP have been the characteristics of the Brazilian financial system. Brazil's liquid liabilities to GDP are lower than the Latin American average, and well below the average for upper middle-income countries. Private commercial bank loans have short maturity and even short-term credit is scarce. Brazil needs, therefore, further progress to develop its financial system, though the basic elements are already in place. A more fundamental issue is assessing the necessary reforms to increase the banking system participation in financing sustainable growth.

The major impediments to the development of more active medium- and long-term lending operations by the private banking sector were the long history of high inflation rate and uncertain macroeconomic environment, notably high and volatile real interest rates and crowding-out by the public sector's financing needs, at both federal and state levels. A continued commitment to a policy consistent with low inflation as followed since the launching of the Real Plan in 1994 is an important element. It is fundamental to persevere in the fiscal adjustment to enhance the credibility in the macroeconomic policies, which would contribute to a sustainable reduction of interest rates. Improved fiscal performance and better management of the public debt is expected to create incentives for financing the private sector.

Co-ordination of macroeconomic policies has already led to substantially lower real interest rates. But other reforms are needed to reduce spreads in the economy. The cost of financial transactions needs to be reduced by reforming the tax system. Reforms need, however, to be implemented prudently to the extent that a change in the rules would have implications for tax revenue and create incentives to reveal bad debts in the economy.

Since 1999, the BCB has been working towards the reduction of the interest rate spreads of domestic credit operations to a pattern more consistent with similar economies. It has followed – whenever economic conditions allow – a policy of gradual reduction of reserve requirements and cuts in the financial market tax rate. Reducing reserve requirements and directed credit could reduce bank spreads and net margin. Until the beginning of 2001, banking interest rates had been showing a downward trend, with more



credit being offered, longer tenors and reduced default levels. From that moment on, these trends reverted, due to the Argentine crisis, the energy rationing, the deceleration in the U.S. economy and the world economy cooling, with consequent increase in the Over-Selic rate and the devaluation of the exchange rate. These effects are probably temporary and the perspective indicates that spreads will be returning to their downward trend as soon as the uncertainties reduce. The volume of credit, on the other hand, remained on an increasing trend, although at a slower pace. The segment of freely allocated resources in the past 12 months performed consistently with the change in the macroeconomic scenario observed in the Brazilian economy.

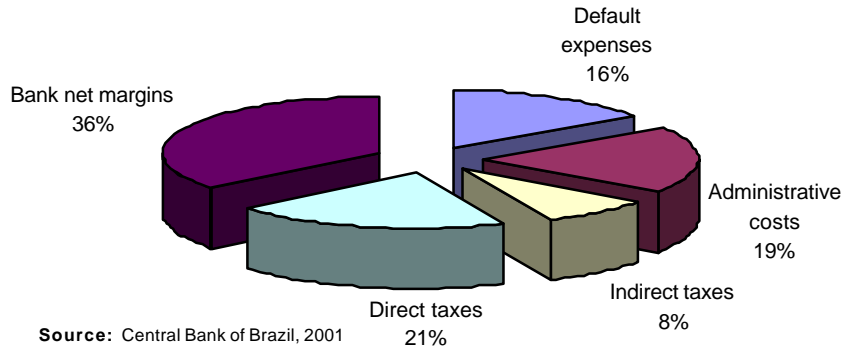
### **Interest rate and spreads in Brazil**

Despite the trend observed recently, the bank spreads remain high by international standards. A certain degree of hysteresis in the system may account for a large part of the explanation. As mentioned, for many years, the Brazilian banks had focused on treasury operations. The assets sold to clients as a protection against inflation had to be very liquid, as they were cash substitutes. Even with indexation, a volatile inflation rate made intermediation very risky. To compensate this risk, private banks resorted to extremely high spreads in their lending interest rates, as well as very high levels of collateral. In addition, bank interest rates have presented high and persistent dispersion across banks. These elements displace a market where productive inefficiencies and regulatory constraints give room for some banks to operate even charging much higher interest rates than their competitors.

With inflation under control and a more stable macroeconomic environment, there has been a notable trend towards a more balanced credit market, with a vigorous fall in bank interest margins and an increase in credit to the private sector. Since 1995, interest spreads have been in a downward trend. The overall interest spread has fallen from an annual rate as high as 135 percent in 1995 to 35 percent in 2001 (Figure 2).

The estimates for the accounting composition of banking spreads are: default expenses (15,8% of the spread), administrative costs (19,2%), indirect taxes (8,2%), direct taxes (21%) and bank net margins (35,7%) (Figure 6).

**Figure 6- Accounting decomposition of banking spreads**



Nakane and Koyama(2001) analyzed the long-term banking spread through an econometric simulation and estimated the following equation to express the relationship among the variables:

$$\ln spread_t = -0,0003 Tend_t + 0,503 \ln selic_t + 1,554 \ln adm_t + 0,219 \ln risk_t + 0,723 \ln imp_t$$

where

$spread_t$  is the ratio of (1+) the interest rate of the lending operations in the freely allocated resources segment and (1+) the rate on the funding (30-day CDB), both monthly;

$Tend_t$  is a deterministic trend, to control the effect of other variables such as inflation rate and economic activity level on spread;

$selic_t$  is (1+) the average daily rate of Selic operations expressed monthly;

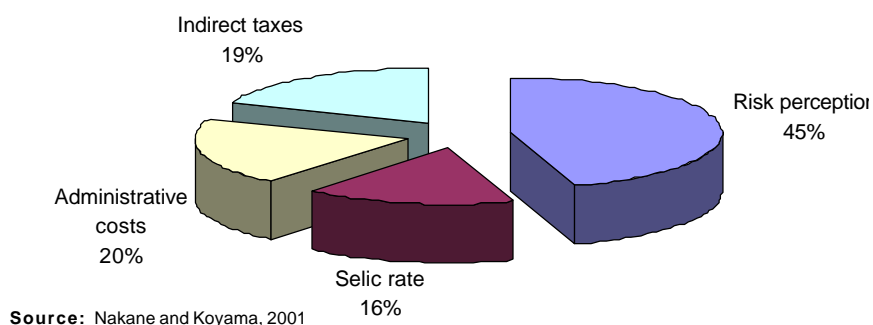
$adm_t$  is (1+) the proportion of administrative costs in the volume of credit;

$risk_t$  is (1+) the yield of C-Bond over the U.S. Treasury yield with same maturity, monthly expressed;

$imp_t$  is (1+) the indirect taxes quote, representing the weight of IOF, PIS, Cofins and CPMF in a 1-month loan funded through a 30-day CDB.

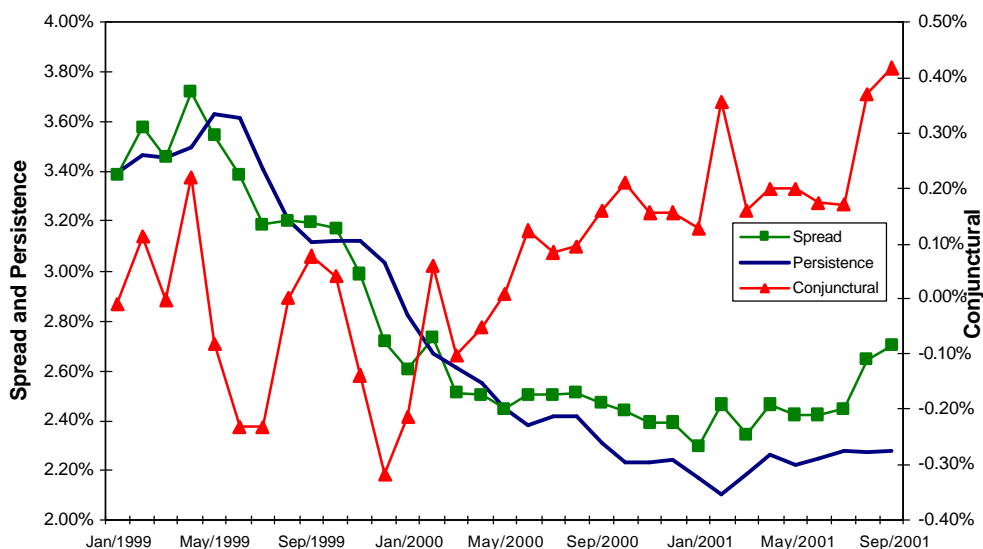
The results of the model show that 45% of spread's behavior is due to the risk perception trend. Other factors are the Selic rate (16% of the spread), administrative costs (20%) and indirect taxes (19%) (Figure 7).

**Figure 7 - Econometric decomposition of long term spread**



The historical analysis of its trend shows that the banking spread may be brought to its persistence component as soon as the macroeconomic environment becomes smoother, reverting the decoupling observed since May 2000. The persistence corresponds to a relationship between observations in time  $t$  and in lags of  $k$  ( $t-k$ ) (Figure 8).

**Figure 8 - Spread Composition - Conjunction and Persistent Factors**



Source: Nakane and Koyama, 2001

Afanasieff, Lhacer e Nakane (2002) applied the two-step approach based on an adaptation of a model of bid-ask prices of securities dealers to the determination of banking spreads. The objective was to decompose the main determinants of the interest spread into microeconomic – inefficiencies or lack of competition of the sector, for example – and macroeconomic – volatility of the basic interest rate, inflation and economic growth – variables.

Their empirical exercise using a panel data of 142 banks for the period February 1997 to November 2000 showed the relevance of the macroeconomic conditions on bank's observable characteristics as the main determinants of bank interest spreads in Brazil. Some unidentified factors, however, still account for a large part of the behavior of spreads. It is thus unclear whether further reductions could be achieved with improvements in macroeconomic conditions only. Given the nature of the cross-sectional dispersion, spreads seem to be more affected by changes in microeconomic environment that touch upon industry structure and modifies the behavior of banks to improve managerial practices. For the BCB's policy, the conclusion is that priority would be now focused on improvements in the prudential regulation and supervision instruments as a

most effective instrument to ensure the convergence of local banks toward international best practices.

Cardoso (2002) in turn shows the effect of seignorage on banking spreads. In all regressions, bank seignorage revenue has the expected negative sign and is significant: an increase in seignorage collected by commercial banks reduces the spread. Bank seignorage revenue would depend on the interaction between inflation, the market for demand deposits, and the rate of reserve requirements imposed by the BCB. Intermediation costs usually rise with inflation because of the following reasons: inflation shortens the maturity of contracts and thus requires more frequent interest rate transactions per unit of assets. Chronic inflation leads to an expansion of the branch network as banks compete for low cost deposits by offering more services and branches. Lower inflation would increase operational cost relative to banks' income, but this effect appears to be smaller than the response to other variables, such as explicit taxes on financial intermediation and the costs of provisioning for non-performing loans.

The author also noted that the modest credit to GDP (28 percent in 2001) cannot be attributed to the lack of sophisticated credit analysis or lending capacity but from high interest rates, high reserve requirements, and government-directed lending. High levels of taxation and the costs of non-performing loans also affect bank spreads between interest rates on deposits and those on loans. Since the stabilization of inflation in 1994, the role of explicit taxation on financial intermediaries became more important for the explanation of the behavior of bank spreads than reserve requirements and bank seignorage revenue.

Empirical evidences indicated that financial liberalization – i.e., elimination of credit controls, deregulation of interest rates, private ownership of banks, free entry into the banking sector, freely flowing international capital, and bank autonomy over internal governance procedures under good regulation and supervision – may promote both financial deepening and a more efficient allocation of investment.

## **Recent progress in the structural area**

There are also more microeconomic reasons for the low existing level of financial intermediation. The BCB has been engaged in taking measures to reduce interest rates and banking spreads, especially structurally and as related to microeconomic factors. Regarding monetary stability and policy, the most important project is the improvement of the Payment System, implemented in June 2002 (see Focus Report of November 22<sup>nd</sup> on the Restructuring of the Brazilian Payment System).

The core features of the new payment system are: (1) clear definition of the role of the BCB in the payment system and establishment of a well-founded legal basis to allow better risk control devices; (2) setting up of a large-value fund transfer system at the BCB, operating under a real-time gross settlement (RTGS) mode and a real time monitoring of banks' reserve account balances to avoid the possibility of overdraft at any time; (3) enabling clearing houses to assume certainty of settlement through the establishment of proper safeguard mechanism; and (4) clear definition of all the risks involved in every stage of the pre-settlement and settlement process. The restructuring of the system was carried mainly to address two concerns: the episodes of overdrafts on Banks' reserve account and systemic risk issues.

To foster the competition and the culture of credit, the BCB has been aiming at disseminating and improving the quality of information. In this regard, when the project of the Payment System was released, the BCB started to disclose on its website basic information on interest rates charged by financial institutions. It also invested in the demands for quality and detail of this information. The Accounting Statements of Financial Institutions (Cosif) was revised in order to adjust its accounting reporting standards to international patterns, amplifying its transparency.

To boost competition and to strengthen customers' power, since last April, more detailed information on the overdraft account was reinforced. The financial institutions are obliged to give to their customers the respective filed information of the past two years, including personal data, historical credit and financing operations, and average monthly balance in the current accounts and in the other types of investment. Aiming at improving transparency on overdraft accounts, commercial banks must disclose more detailed

information about the financial fees on overdrafts, even in the monthly statements free of charge, comprising the period considered for the charge, the effective interest rate, and the amounts charged each month.

Imperfections of the legal system are likely to be an important bar to developing credit markets (OECD). Although difficult to quantify, the lack of effective bankruptcy procedure and secured credits is an important contributory in raising the cost of financial intermediation. Even secured lending is rather problematic as, under existing commercial legislation, enforcing claims on collateral is difficult given the seniority of debt to federal state and local authorities as well as to employees. This situation has been further aggravated by moral hazard, arising from a bias towards borrower protection where disputes arise.

To reduce the legal risks in credit operations, the BCB works towards authorizing more adequate instruments, fostering the improvement in the guarantees in the operations, and the minimization of losses in the case of insolvency. In October 1999, the Banking Credit Note was created, a credit instrument with quicker and easier transit with the Judiciary system, and the liquidity of the credits supported by this note was increased in March 2001, through the Provisional Measure n. 2,160. The coverage of the chattel mortgage as a guarantee was widened now including securities and other credit instruments, in addition to goods and real estate. It gives room to more credit operations with such a guarantee, historically with lower interest rates and banking spreads.

Besides, the netting of obligations in derivative instruments was permitted. Provisional Measure n. 2,192 contemplates the possibility of agreements to net obligations. The netting is therefore not affected by insolvency, creditor's agreement, bankruptcy, intervention or liquidation: after the netting, if there is a positive balance in favor of the insolvent part, it will be transferred in order to be part of the bankruptcy mass; if the balance is negative, it becomes a credit against the insolvent part. The target of this rule is the set of hedge operations, disseminated in the past years and that must be protected in default situations, and liquidated by difference. The better protection these operations may have, the lower the risk, and the lower the interest rates.

With the same target, the BCB analyzes the Project of Law of Bankruptcy, aiming to offer suggestions to improve this document. The judiciary system of bankruptcy and of corporations' recovery might work better, benefiting creditors and a better allocation of resources in the economy. Bankruptcy process takes too long and the creditors are hardly ever compensated. Creditor's agreement is a rigid and inflexible alternative and the judiciary system does not support informal ways of recovering corporations.

The BCB has been able to adapt several – previously less than effective – regulations and supervisory practices, to the 25 Basle Core Principles, which emphasized strict enforcement of rules on transparency and financial soundness. Law 9447 of March 1997 – formerly regulated through Provisory Measure 1182 of 1995 – together with existing legislation, enabled the BCB to comply with the Principles dealing with the preconditions for effective banking supervision and the formal powers of banking supervisors. Since 1995, the BCB has assessed bank capital adequacy on the basis of a Basle-type risk-weighted ratio. In May 1997, minimum capital was increased from 8 to 10 percent; and in November 1997, the ratio was further raised to 11 percent. In Brazil, only tier-one shareholders' equity, plus revaluation reserves, counts towards meeting minimum capital requirements. Depending on the specific bank's capital profile, this condition actually makes Brazil's current capital adequacy ration much tighter, equivalent to around 13-15 percent under the Basle rules. The capital requirements covering counterparty credit risks from banks' derivatives transactions are also more stringent than recommended by the Basle principles.

In parallel to rules on capital adequacy, other mechanisms have been created to enhance the supervisory capacity of the BCB. Banks have to submit quarterly consolidated accounts to the BCB. There are still differences between accounting principles in Brazil and International Accounting Standards, which influence banks' reported performance, such as reporting of tax credit and rules for the consolidation of certain types of subsidiaries. Regulations are being developed to ensure full conformity of banks' accounting practices with international standards, as well as to assist management of liquidity risk.

In 1998, the BCB adopted an important measure (Resolution 2554) setting forth that financial institutions should present an implementation program for internal control



systems in accordance with, and in some case more stringent, than the Basle core principles. Capital requirements to cover market risk, which includes both foreign exchange exposure and interest rate risk, were introduced in 2000. Also in 2000, the BCB created a new department to increase routine monitoring of individual banks on the basis of quantitative financial indicators (indirect supervision).

Among measures adopted to reduce costs of financial intermediation, the BCB has introduced a Credit Risk Data Center (“Central de Risco de Crédito”) in 1997. This Center functions to provide information on the quality of loans to individuals and economic groups, which is becoming an effective tool to improve credit portfolio monitoring for both the BCB and the individual banks.

The credit risk system is used to measure the overall exposure of the banking system to any one borrower, with differences in the details that are required for the reporting of large exposures. Every bank financing (loan, leasing operation, advance, guarantees given, or losses on such operations) that exceeds a value of R\$ 5,000 (equivalent to R\$1,700 as of mid 2002) and any collateral attached to such financing have to be reported monthly, loan by loan, classified by entity exercising ultimate economic control over the borrower. Information provided by the system includes debts forgiven, collateral protection and internal loan grading information. The BCB has devoted considerable effort to ensuring that banks are accurately filing borrower information in the system. Banks have been able to incorporate information from the risk bureau into credit scoring models for use in evaluating prospective borrowers. The high utility of the system stems from the fact that most borrowers have loans with more than one bank.

The information provided for the Credit Risk Data Center was widened. The data gathered on this center now includes information on good performance, and the financial institutions may access them to analyze credit profile. A detailed revision is under progress, to be finalized by November 2002, with support of market experts and international consultancies, with high investment in informatics. The BCB is preparing a comprehensive text about the Credit Risk Data Center, explaining how it works and detailing its effects on lending interest rates. The inclusion of a specific page on BCB's website is under development.

Progress has also been made in developing (i) new regulations on a forward-looking loan classification and provisioning system; and (ii) new prudential regulations for foreign exchange and market risk. The new loan classification system was integrated with the risk bureau.

The new regulation for loan classification and provisioning classifies loans according to borrower's ability to repay and places special emphasis on the payment status, the borrower's financial factors (e.g., cash flow guarantees, collateral) and the evaluation of the borrower by other banks in the BCB's credit risk bureau. It includes controls on the rescheduling of loans, which has been a weakness of the past system.

The BCB issued a regulation on July 1, 1999 dealing with foreign exchange risk as part of the efforts to upgrade capital regulation to take adequate account of market risk. This regulation mandates a progressively higher capital charge, as banks elect to take on larger foreign exchange positions. The foreign exchange position is defined to be the sum of the net on-balance sheet asset-liability exposure, the notional value of derivatives and the delta for option contracts. The BCB is also making progress towards putting in place an interest-rate regulation for the trading book that mandates an add-on capital charge based on a standardized interest-rate model. In many respects, the standardized model is similar to the approach used under the Market Risk Amendment to the Basle Capital Accord.

The BCB formally launched in December 1997 the Global Consolidated Inspection (GCI) program for the modernization of its supervision practices. The broad objectives of the program are to strengthen the BCB's supervisory practices, upgrade the skills of its human resources, and evolve a strategic vision for the future of the financial system. The GCI includes: examination of financial and non-financial activities on a consolidated basis; an assessment of controlled subsidiaries and affiliates, both local and foreign; and an inspection of branches abroad. The BCB expects that the program will permit a deeper understanding of the banks' lines of business, especially in the non-bank financial sector, and generally enhance its evaluation of the banks' internal procedures for the management of risks. The GCI includes specialized inspection teams that review information systems and treasury and market risk. It has recently been expanded to include the publicly owned financial institutions.

An important initiative following the Real Plan was the creation of a mandatory, privately funded, deposit insurance scheme (“Fundo Garantidor de Créditos”) through which deposits are guaranteed up to BRL 20,000 (or around US\$6,000 at mid-2002 exchange rate) for deposits and certain other types of financial assets. It is funded by a contribution of 0.025 percent levied on the monthly balances of insured accounts.

The Government has also been active in a microeconomic perspective to enhance the financial and capital markets with measures to increase savings and a more efficient intermediation. The main actions are listed in the appendix.

## **7. Concluding Remarks**

The financial system in Brazil has been shaped overtime, adapting to developments in the macroeconomic environment and regulatory framework. Since the launching of the Real Plan, the Brazilian financial system has experienced a deep process of restructuring. It has evolved in three different areas. It has carried the consolidation of the number of banks, reduced the presence of public sector and increased the participation of foreign banks. The government has had a critical role in the process by intervening and, in some cases, closing weak institutions, first, to prevent the emergence of systemic crisis in the banking system to develop and, second, to address problem of official banks and its fiscal implications.

One important characteristic of the system has been that (a) the depositors’ base was preserved for financial assets denominated in domestic currency, and (b) the system buffered severe shocks. This fact is notable if one considers the high inflation prior to the Real Plan and, subsequently, high volatility of interest rates or exchange rates the Brazilian economy had undergone.

Events in Brazil have shown that a healthy and well-developed financial system is capable of adjusting rapidly to circumstances by offering appropriate instruments through financial innovations preserving the real value of assets. These instruments were framed to fill the financial system customers’ needs, allowing intertemporal smoothing of

consumption by households and expenditures by firms. The government, in turn, has had a fundamental role in providing the necessary mix of debt instruments for the financial system to design its products. This arrangement has benefited the government by enabling it to finance its debts domestically even in extremely turbulent periods.

Although financial institutions have been efficient to preserve the value of financial assets, they have been struggling to perform the role of intermediating savings for investment. Macro and microeconomic factors, as reflected in high bank spreads and low credit to the private sector, have been constraints for the financial sector to provide longer-term loans. As compared to the average of upper middle-income countries, the volume of credit to GDP has been relatively small in Brazil – firms have relied on self-financing, or on long-term credits from official agencies.

More stable macroeconomic environment and efforts at microeconomic level have improved somewhat the functioning of the financial system. The volume of free, market-based credit has increased. The bank spread, though still large, has narrowed recently. But, undoubtedly, much needs to be done to allow financial system to play fully its intermediation role.

A fundamental point is to further the progress achieved so far to build an appropriate environment to enable the lengthening of maturities, and attract domestic funds currently invested elsewhere in less efficient way. For a better functioning of the financial system, further work is required to achieve: (a) a stable macroeconomic condition to create a more predictable environment for the decision making of firms and households; (b) an efficient financial system that intermediates funds efficiently; and (c) an institutional framework in which contracts are respected and rights preserved.

As a more stable and cheaper longer-term source of funds is assured with a more favorable perception of risk by investors, credit to the private sector tends to increase. In any event, the expansion of bank credit to the private sector would be carried gradually, while appropriate safeguards to preserve the health of the system are being built. Having this objective in mind, the BCB has reinforced supervision and regulatory framework with several actions in order that risks are better assessed. Since 1999, the BCB has also been engaged in taking measures to reduce bank spreads, especially those related to

microeconomic factors. In addition, for a sustainable reduction in the costs of financing and more room to expand credit to the private sector, fiscal discipline needs to be preserved. Risk premium could be lowered resulting from favorable shift in domestic and external investors' perception that sound macroeconomic policies would continue to be followed.

Economic growth tends, therefore, to be fostered if current constraints for the development of financial system are lessened. This involves further microeconomic reforms such as appropriate prudential and institutional framework.

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## **Appendix**

### **A. Recent Measures Adopted for Brazilian Financial Markets**

#### **Credit market:**

- New legislation to constitute finance companies for small business
- New credit instruments for agricultural sector to enhance liquidity and safety
- More flexibility in credit transfers from financial institutions to special securitization companies
- Investment funds for receivables
- Credit derivatives to hedge return rate
- Securitized operations and credit transfers were exempted from financial transaction tax (CPMF)

#### **Capital market**

- New corporate law that among other measures strengthened the minority shareholders rights, improved transparency and enhanced supervision
- Strengthening of the Brazilian Securities and Exchange Commission (CVM) by providing for more autonomy and fixed mandate to its Board
- Brazilian Depositary Receipts or certificate of deposit held by resident institution backed by shares of a foreign-based corporation
- New legislation that sets mutual funds with foreign resources to be invested in nascent businesses
- Stock exchange transactions were exempted from CPMF

#### **Actions to deepen financial and capital markets**

- Opening of accounts and transactions with banks exclusively through electronic means
- Measures to promote the broadening of banking correspondent network
- Pulverized sales of Petrobrás and Companhia Vale do Rio Doce shares
- Sales of National Treasury securities by internet
- Autonomous agents for securities' investment intermediation

## **B. Bankruptcy Legislation Reform**

Aiming to aggregate alternatives and suggestions to reform the Brazilian bankruptcy system, since the second semester of last year, the Research Department of Banco Central do Brasil has been studying the Brazilian bankruptcy legislation and the proposals for its reform. The analysis began in September 2001 after some critical thoughts held with the help of Brazilian specialists gathered in a workshop, under the coordination of Banco Central and the participation of the Ministry of Finance. Afterwards, the issue was also debated with national and foreign experts in an international seminar held in November 2001 at the Banco Central facilities.

This text aims to highlight the need of revision of the Brazilian bankruptcy system, which is based in the Decree-Law 7661, of June 21, 1945. The judiciary system of bankruptcy and companies' recovery in Brazil, besides being outmoded, presents some defects that make it difficult to reach a quick and efficient solution for the bankruptcy process, practically eliminating the possibility of recovery of companies facing problems and the preservation of their productive units.

An efficient bankruptcy and companies' recuperation system is considered fundamental to increase the productivity and the economy stability, reducing risks and costs of all economic agents. Thus, the reform of the bankruptcy legislation is one of the government priorities, in special Banco Central's, in order to increase the stability of the financial system, to reduce the banking risks and, as a consequence, to contribute to diminish the interest rate and the banking spread and to increase the credit offer.

A good bankruptcy law should arrange its rules and procedures to be compatible with the country economic and juridical organization, reflecting the values and priorities of its time. The current Brazilian bankruptcy system (Decree-Law 7661, of June 21, 1945) met properly the country when it was enacted. Today, due to the deep cultural and economic changes the country has passed through, together with several changes in the civil, labor and tributary legislations, the current bankruptcy system does not meet the Brazilian economy needs.

The bankruptcy processes in Brazil are excessively delayed and without adequate participation and supervision of the interested creditors, resulting in the deterioration of the failed company's assets and in big losses for the creditors. The companies' salvation and the preservation of the productive units are almost impracticable under our legal system. The only instrument with this goal (the arrangement) is very severe and has no flexibility to promote the companies' effective recovery. Besides, the tributary legislation rules in relation to the succession of the obligations of the commercial institutions, commercial funds and goods of companies facing problems, practically

eliminate the possibility of their productive units sale, harming much more the creditors and turning companies' recovery even more difficult.

Since 1983 the Draft Bill 4376/93 is in course at the House of Representatives, proposed by the Executive Power, which regulates the "recovery and liquidation of legal entities and individual debtors carrying out economic activities". The deputy Oswaldo Biolchi (PMDB/RS) was the relator of this project, which has already been approved by the Special Commission and should be submitted to the House Court (Global Agglutinative Sub-amendment after the Court Amendments to the Substitutive Adopted by the Special Commission, as of 6.6.2000).

The project modernizes the bankruptcy legislation, innovating many aspects, aiming to worth the productive companies and to maintain jobs. As a conception, without hurting the tradition and the Brazilian juridical organization, the project practically adopts a unitary system, similar to the one current in German law and in implementation in the European Union. The company facing financial problems, after having its situation recognized by the Judiciary Power, may have its economic viability analyzed through the presentation of a recovery plan. In the case the creditors accept this plan, the judge approves the judicial recovery process; otherwise, the bankrupt is determined.

There are many positive aspects of the new legislation to be approved in the House of Representatives. The main ones are the broadening and flexibility added to the judicial recovery process, by the inclusion of a great range of alternatives to face the economic and financial difficulties of the debtor company. Another positive point of the new law is the priority that it gives to the sale of the assets of the bankrupt company, with unmistakable advantages to the whole society and to the creditors. The immediate selling of the productive units of the bankrupt is a target sought by the society, since it allows the use of the bankrupt's productive resources, maintaining the production and protecting jobs.

Despite these important improvements, on the economic hand, the Draft Bill 4376/93 does not properly solve some of the serious problems that constitute the core of the failure of the current Brazilian bankruptcy system. First, because it does not assure the participation and supervision of the creditors during the bankruptcy, which is mostly associated to the priority given to the fiscal and labour credits. Second, because it does not follow the international practice of stimulating the negotiations among the parts as a mean to the companies' recovery. Third, because it does not solve the difficulties to sell the assets of both bankrupt companies and companies having troubles, since the bureaucracy involved is still excessive and the value of the real estate and facilities continues to be depreciated due to the problem of obligations' succession.

For this reason, the Banco Central do Brasil recently presented a set of suggestions to amend the (Global Agglutinative Sub-amendment after the Court Amendments to the Substitutive Adopted by the Special Commission, of the Draft Bill 4376/93. Amongst the suggestions to the Draft Bill in course in the House of Representatives, one can highlight:

- a) Extension also to bankruptcy of the limit of R\$30,000 as a privilege to the labour credits in the judicial recovery, maintaining the fair protection to great part of the employees in the case of bankruptcy, but prohibiting high level executives and people linked to the bankrupt company owners from having the same privilege of being afforded before other creditors. Besides being a frequently mechanism used to result in collusions and frauds, the current unlimited priority given to labour credits is one of the main reasons for the distance between sundry creditors and the supervision of the bankruptcy process;
- b) Prevision of formal approval of the judicial recovery plan by the creditors, through the creation of Creditors Committees and changes in the rules that direct the judicial decision regarding the decree of the judicial recovery or bankruptcy, turning the judicial recovery into a transparent deal with the creditors, which is the interested part with the best conditions to evaluate the economic viability of the proposed recovery plan;
- c) Creation of the extra-judicial recovery, allowing that agreements freely negotiated between the debtor and the creditors be approved by the Judicial Power; and
- d) More specific rules and a larger range of options for the sale of the bankrupt company assets, besides the traditional auction, improving the necessary efficiency and agility for the sale.

Such changes are not the whole set of modifications that are necessary to give more efficiency to our bankruptcy process, and fiscal legislation must be altered subsequently, including the National Tributary Code (Law 5172/66), in discussion in Central Bank and in the Ministry of Finance.