

# Foreign Entry and Efficiency: Evidence from the Brazilian Banking Industry

**Marcos Roberto Vasconcelos**

Professor of Economics, Department of Economics,  
State University of Maringá, Brazil

e-mail: [mrvasconcelos@uem.br](mailto:mrvasconcelos@uem.br)

**José Ricardo Fucidji**

Professor of Economics, Department of Economics,  
State University of Maringá, Brazil

e-mail: [jrfucidji@uem.br](mailto:jrfucidji@uem.br)

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## Abstract

Since mid-1990's, processes of consolidation and internationalisation are under way in the Brazilian banking sector. Selected from several features of that process, two effects are discussed here: banking credit supply (macroeconomic efficiency) and operating and efficiency ratios (microeconomic efficiency) dynamics for nineteen top bank groups, can they be state-owned, private or foreign-owned firms. Thus, this paper verifies two frequently claimed hypotheses in debates on banking industry in developing countries: 1) entry of foreign banks in these countries would promote an increase of global banking credit; and 2) foreign banks are more efficient than their domestic counterparts. It evidences that such hypotheses do not seem to be supported by the Brazilian experience during the last seven years.

**Keywords:** banking industry; restructuring; banking credit; efficiency

**JEL Classification:** G21, G34, L51, G14

## 1. Introduction

The recent waves of banking internationalisation and consolidation in Brazil have affected the structure and the functioning of the domestic banking system. Discussion on these impacts rests on a extensive literature on the causes, consequences and implications of international restructuring in the context of the financial services industry in wider terms, and of the banking sector in particular. These literature presents the two following hypotheses.

Policymakers in developing countries, especially those in relatively slow growing ones, have had several reasons to allow or even to foster foreign banks' entry in their economy (Levine 1996 & 1997; Goldberg et al. 2000). First, foreign banks are supposed to widen the scope and quality of financial services supply available to customers; thus, they contribute towards updating of skills and technologies current in the financial system. This effect would occur either directly or indirectly, when domestic banks, compelled by competition, seek to emulate foreign banks' performance and, consequently, improve the whole system's efficiency.<sup>1</sup> Second, due to their relationship with institutions located in capital supplier economies, the presence of foreign banks tends to broaden the host country's access to international capital and make domestic credit supply less liable to downswings of macroeconomic activity; bank loans may be anti-cyclical, smoothing credit constraints during periods of domestic credit stingency (Goldberg et al. 2000). Third, through their operations in sophisticated and deeper markets elsewhere, foreign banks usually press and lead policymakers towards a regulatory and supervisory banking system that proves to be stronger, more transparent and controlled. Fourth, intensification of competition in the banking market is likely to reduce spreads and other bank costs to borrowers and final clients. Lastly, positive effects (at least theoretically) of the dynamic and efficient financial sectors are likely to affect

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<sup>1</sup> In another strain of this argument, banking efficiency is associated with governance and managerial behaviour (Hughes et al. 2002). Though based only on North-American data, such hypothesis implies the denial of location-specific hypothesis for banking efficiency determination.

economic development (Levine 1997; Kono and Schuknecht 1998; Taylor 1998; Claessens et al. 1998; Claessens and Glaessner 1998; Cetorelli and Gambera 1999; Scholtens 2000; Tamirisa et al. 2000).

The hypothesis that foreign banks increase the efficiency of the banking system has indeed received support from international case studies. Evaluating data from a sample of eighty countries, Claessens et al. (1998) found evidences that foreign banks' entry reduces average profitability and overheads without a noticeable effect on net interest margins and on amounts of non-performing loan provisions. Decrease in profitability may be seen as a result of growing competitive pressures on the market, while overhead reductions may express improvements in organisational arrangements and managerial techniques employed by domestic banks. These findings, according to above authors, would denote an improvement of efficiency levels in host banking systems.

Claessens et al. (1998) also pointed out that foreign banks usually achieve better performance than domestic banks, measured by profit ratios, spreads and tax payments, when the host country is a developing one; and vice versa in the case of developed countries. Discussing mid-1990s deregulation and denationalisation processes in Argentina's banking system, Clarke et al. (1999) noticed similar effects. In another case study, Claessens and Glaessner (1998) basically arrived at the same conclusions, emphasising too the influence of financial market liberalisation on economic development and the trend of market overture towards institutional harmonisation across markets, with a complete regulatory predominance of developed countries on developing ones. Case studies such as that by Berger et al. (2000) on foreign banks in developed countries and Guillén and Tschoegl (2000) on Spanish banks internationalisation to Latin America have come to similar conclusions.

Furthermore the above authors stress that foreign banks may act as catalytic agents of more efficient techniques in less advanced financial markets, even if the foreign banks face

informational disadvantages in the early stages of operation (Berger et al. 1999). Lastly, the above studies emphasised the macroeconomic stabilising effects of opening.

Recently other studies have challenged the hypothesis of foreign banks' higher efficiency, particularly in developing countries. These analyses have found that impacts of foreign agents' entry depend on industry conditions prior to entry, as well as on acquired bank's financial conditions in mergers and acquisitions. Indeed, Goldberg et al. (2000) found that, in the Mexican and Argentinian restructuring processes, the financial soundness of acquiring and acquired firms is more important in explaining bank performances than owners' nationality. Likewise, Kumbhakar et al. (2001) mention countries such as Norway, Turkey, South Korea, Japan and Spain, where restructuring impacts have been associated with sectoral conditions and type of liberalisation undertaken, rather than with the owners' nationality. India is the only example of their sample in which one may ascribe efficiency effects to foreign banks' entry. National specificity is claimed to be relevant in case studies on countries as different as the Philippines (Montinola and Moreno 2001) and Canada (Stanton 2002). Cardim de Carvalho (2001) and Rocha (2002) followed the same hypothesis in their studies on Brazilian banking restructuring.<sup>2</sup>

This paper seeks to contribute to ongoing debate on the supposedly better operational performance of foreign banks, as compared with that of domestic ones, in cases of liberalisation of access to domestic markets. Two features will be approached: trajectories of banking credit (as a proxy for macroeconomic efficiency) and operating ratios (as proxies for microeconomic efficiency) of the top nineteen bank groups, comprising state-, private- or foreign-owned banks. The results suggest that arguments favoring the liberalisation of the banking sector, based on an assumption of the higher-efficiency-of-foreign-banks, do not

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<sup>2</sup> Though research has been limited to a single bank, Stanton (2002, p. 129) acknowledges the relevance of local specificity for banking efficiency determination. Rocha (2002) lists further works (Mathieson and Roldos 2001; Crystal et al. 2001; and Bhattacharya 1993) which warn on the scanty empirical evidence and the carelessness of conclusions borne out by the "optimistic" stand on "potential" effects (Rocha 2002, pp. 152-154 and 182-183).

seem to be supported by the Brazilian experience over the last seven years. To date, foreign banks are proving themselves no more willing than domestic banks to grant loans, and their major affiliates are not showing higher efficiency ratios than those for major Brazilian private banks.

Section 2 analyses the recent trajectory of banking credit in Brazil. Section 3 discusses operating and efficiency ratios of the top nineteen banking groups in business in the country. Concluding remarks follow in Section 4.

## **2. Increase of aggregate banking credit: the macroeconomic dimension of efficiency**

A frequent argument to foreign banks' entry in Brazil assumes that these banks are more prone to grant loans than domestic financial institutions. The reason is that they have accumulated greater experience and better lending procedures in their home countries (Peek and Rosengreen 2000). In other words, foreign banks would conduct the whole banking system towards higher levels of microeconomic efficiency and, as a corollary, macroeconomic efficiency, measured by banking credit expansion, will follow.

It was thus expected that, if banking institutions from countries in which the credit/GDP ratio is higher than the Brazilian one, gained an entry in Brazil, they would bring that very same ratio into the country too (Moura 1998). Furthermore, in the years following the 1994 Real Stabilisation Plan, various researchers actually expected a spontaneous increase in banking credit supply to the domestic market, as a consequence of reduction in inflation levels (e.g. see Barros and Almeida Jr. 1997; and Barros et al. 1998).

Unfortunately, the optimistic prognoses showed above have revealed themselves to be baseless. As shown in Figures 1 and 2, one does not observe a noticeable change in the bulk banking credit, in spite of a 314% increase in foreign banks' participation - mainly over federal-government- and state-government owned banks (17%), and, secondly, over domestic

private banks (5%). Banking credit aggregate (measured in 1994 constant value in the Figure 1) displays a slight trend downwards as from the second half of 1996, precisely when foreign participation in the Brazilian banking industry began to increase.

### **FIGURE 1 ABOUT HERE**

Recurring external shocks and high macroeconomic instability in Brazil since 1995 are certainly contributing to this figure. Banking firms in Brazil, both foreign and domestic, remain operating mostly as fund managers rather than as credit intermediates, adopting a “more defensive behaviour, thus expressing its higher liquidity preference and risk aversion” (Paula, Jr. et al. 1999, p. 1). Banking firms more cautious behaviour has made them prefer applications in Federal Government bonds (which carry lower risks) *vis à vis* loaning to private sector, since though loaning could mean a higher *ex ante* yield, it carries also higher lender-risk, especially in such a unstable environments.

### **FIGURE 2 ABOUT HERE**

The credit/GDP ratio in Brazil, as may be seen in Figure 3, decreased 2.3% – from 29.2% in 1993 to 26.9% in 2000. Average banking credit stock is barely 30% of Brazilian GDP, a much lower proportion than that in other countries. According to Pinto (2000), who used data from J. P. Morgan, this ratio amounts to 160% of GDP in the United States, 143% in Japan, and 130% in the European Union countries. Compared to other Latin American countries (39%), the Brazilian ratio (29% in 2000) is still too low. In the Chilean case, credit stock amounts to 60% of GDP.

**FIGURE 3 ABOUT HERE**

Facing low banking credit/GDP ratio and taking into account that credit supply in Brazil is still provided mainly by banking institutions<sup>3</sup>, the Brazilian Central Bank has been undertaking a “normative effort” since 1997 to increase banking credit supply in the economy. Among the resolutions published to provide a stronger basis towards this aim, at least two are worth mentioning. First, the introduction of the Credit Risk Central System (Sistema Central de Risco de Crédito) by the National Monetary Council in May 1997. It defined a single database for all economic agents (individuals and firms) with debts over US\$7,000 (or R\$50,000, and now reduced to US\$ 700). Such measures intended to lessen potential informational asymmetries existing between creditors and debtors. Second, Central Bank Resolution 2493 of May 1998 allowed banks to sell a stake or the whole of its loan portfolio to the so-called Financial Credit Security Companies (Companhias Securitizadoras de Créditos Financeiros), which have since been authorised to convert loan contracts into securities (Puga 1999, pp. 13-14). Further arrangements were made after the early 1999 foreign exchange crisis, including rules for non-performing loan provisions, reductions in compulsory reserves on demand deposits, and others aimed at simplifying borrower’s operations (Gazeta Mercantil, 1999a; 1999b).

It must be stressed that private and public banks seem to be introducing more efficient credit management systems. This resulted in a fall in non-performing loan shares as well as in bank exposure (Cerqueira 1998, p. 45). To accelerate this trend, “the Central Bank through Resolution 2554 of December 1998 has established that financial institutions must present to the Central Bank a timetable to implant internal control systems, according to the Basle Agreement” (Puga 1999, p. 14).

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<sup>3</sup> According to Soares (2001, p. 15), banking loans, during 1989-1999, were equivalent to 92% of total loans of the Brazilian financial system.

Despite foreign banks' increasing share in credit operations in the Brazilian financial system over the last seven years, a noticeable growth of banking credit aggregate has not been reported. After all, foreign banks seek to reap the best opportunities for value maximising weighted by risk and, similarly to business conducting by Brazilian banks, prefer risk-free assets. They therefore buy public debt bonds that since 1994 pay the highest interest rates in Brazilian economy (Paula Jr. et al., 1999). Or rather, foreign and domestic banks are maintaining public debt bonds in their portfolios and are earning their highest revenues from this source. Notwithstanding efforts in recent years, international patterns of credit/GDP ratio are unlikely to be achieved without any decrease in federal public debt interest rates, which, as pointed out above, yield high profitability *with* low risk assets (Cintra 2000).

Besides macroeconomic instability, an alternative explanation for the low progress in banking credit supply in Brazil has been put forward. Soares (2001) states that the cause of slow credit growth in recent years is the Brazilian adherence to the 1994 Basle Agreement (Central Bank Resolution 2099), which has imposed a higher level of capitalisation on risk-prone banks, namely those banks which have to use more of their own capital (at least 8%) to finance market positions. Moreover, market positions of banks were weighted by five different risk-ratings.<sup>4</sup> This resolution forced banks to adopt one of the following two options: either they had to raise their own capital or they had to change their portfolio composition towards more risk-free assets – if they aim to increase their assets without raising their capital account (Soares 2001, p. 28). However, the Brazilian Central Bank have assigned null risk (rate 0%) to federal public debt holdings and normal risk (rate 100%) to lending and financing operations. This boils down to the fact that, for each marginal hundred dollars applied in lending and financing, banks were compelled to raise their equity capital by eight dollars. The

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<sup>4</sup> The Basle Agreement states: “i) a leverage of 12.5, that is, minimum capital of 8% on weighted total assets; and ii) five sort of risks to the assets: liquidity, public federal debt, gold holdings, municipality and state debt, and loans – all of them ranked in null risk, moderate risk, and normal risk, that is, with weights 0%, 10%, 20%, 50%, and 100%” (Soares 2001, pp. 28-29).

Central Bank's Circular no. 2784, of November 1997, demanded an even higher level of capitalisation, raising the capital/assets ratio from 8% to 11%. This implied a decrease of banking credit limits. Soares (2001, pp. 36-37) concludes that banking policy adopted by the Central Bank has “pushed” banks further towards federal public debt holdings and, at the same time, has exempted them from lending. Furthermore, one must underline that between 1994 and 1997 the Central Bank promoted three upward shifts in the banks' required capital/assets minimum ratio. By means of this policy, “even if a representative bank intended to extend credit lines, it would feel unsafe in doing so, fearing the next shift” (Soares 2001, p. 39).

#### **FIGURE 4 ABOUT HERE**

Whether due to impacts from macroeconomic instability or to those from banking regulations, there is no evidence that the performance of foreign banks is somewhat different from that practised by domestic private ones. In other words, their owners are reluctant to raise affiliates' equity capital through a consequently aggressive strategy of loan granting. They have rather preferred to hold low-risk rated assets, such as federal public debt bonds (as shown in Figures 4 and 5). By the way, even public banks have adopted this strategy by raising participation of public debt bonds in their portfolio. In fact, as from December 2000, Brazilian private banks overtook public banks in loans/total assets.

#### **FIGURE 5 ABOUT HERE**

Thus, to increase “aggregate credit supply, so that credit/GDP ratio may rise by means of the granting of loans, preferentially to the manufacturing sector and to small business”

(Soares 2001, p. 40), a change of the policy of the Central Bank would be necessary, since it has imposed on Brazilian banks stronger requirements than those recommended by the Basle Agreement.<sup>5</sup> Moreover, a reduction in prime interest rates would be also implied. The question is that both “solutions” are tied to financing conditions and to the level of public indebtedness. The Brazilian government's failure to improve the rolling over conditions of its public debt in terms of cost and maturity dates, requires captive markets for the debt. In turn, interest rates must be maintained at far higher levels than those practised in advanced economies, while operational and supposedly prudential rules must be issued; but in fact those rules are intended to channel banking funds to debt bonds, as a prime concern.

## **2.1. Risk-taking behaviour**

A further feature must be taken into account when evaluating credit effects of entry and increasing market share of foreign banks in Brazil, namely, the cherry picking phenomenon. One presumes that foreign banks are more risk-averse – and thus more conservative – in granting loans when compared to domestic ones, such that foreign banks have a better performance in their lending portfolio.

So that cherry picking in the Brazilian banking system could be evaluated, the present authors have ranked nineteen top banks by their total assets<sup>6</sup> (operating until September 2001), involving balance sheets data for June 2000 and June 2001. Ranking has been accomplished according to their risk-rating, in increasing order, AA, A, B, C, D, E, F, G, and

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<sup>5</sup> Soares (2001, pp. 40-43) suggests that a necessary condition to increase lending is to raise the leverage allowance of banks (limited to 9.09 nowadays) added to norms – such as weighting interest-risk of loans, imposing limits to proportion of public debt in the banks' portfolio, and reducing the weight of credit-risk for small loans – so that a channelling of credit to business may occur.

<sup>6</sup> Banco do Brasil, Caixa Economica Federal, Bradesco, Itau, Santander, Unibanco, BankBoston, ABN Amro, Safra, HSBC, Citibank, Nossa Caixa, Sudameris, BBA Creditanstalt, BBV, Votorantin, BNB, Mercantil de Sao Paulo, and Banrisul.

H<sup>7</sup>, in such a way that ranking of bank groups lists weighed risk-rating percentage, from nine to one. For instance, rating AA has been given weight 9; A has a weight of 8; B weights 7, and so on and so forth. Thus, the higher the value, the lower is the bank's risk-taking, or rather, its lending portfolio performance is better.

### TABLE 1 ABOUT HERE

Table 1 shows that there is no evidence that foreign banks are more risk-averse than domestic private ones, or more conservative in granting loans and finance. Among top ten loan portfolios in the ranking, five were domestic private banks (although BBA Creditanstalt has high foreign shareholder participation); four are foreign-owned and one of them is a public bank. Only the subset of public banks appears to take riskier loans into their portfolio, since four out of the sample's five public banks have the lowest positions. This result is not surprising since public banks have always been traditionally less restricting in granting loans. Nevertheless, results may also (or exclusively) reflect the lender's capability to analyse, by efficient systems, credit demand required of them.<sup>8</sup>

Since D to G-rated credits are overdue loans and H-rated credits are loans in default, data shown in Table 1 compare levels of non-performing loans across banks. One may infer that public banks show higher levels of non-performing loans and that there is no real

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<sup>7</sup> From AA to C rates, loans are considered "normal risk", including not only lateness up to 60 days, but also risk perception obtained from borrower's business financial analysis. From D to G, rates loans are considered "extended risk 1", that is, lateness from 61 to 180 days, with sufficient guarantees, besides risk perception from borrower's business financial analysis. Lastly, loans rated H are considered "extended risk 2", or default loans, or rather, over 60 days lateness appropriations, and adjusted to capture lateness over 60 days, without sufficient guarantees, as well as over 180 days, whatsoever, and also financial analysis risk perception. For further explanations, see <http://www.bcb.gov.br/htms/infeccon/notaempr.pdf>.

<sup>8</sup> Another way of measuring agents' risk-aversion is by the height of spreads applied to each loan operation. Such an analysis would also indicate the institution's efficiency in the management of its lending portfolio. This was done by Stanton (2002) in his research covering a large Canadian bank from 1995 to 2000. Nevertheless, such narrow scope in the study (a single institution) denotes the high complexity and difficulty in accessing data at lower levels of aggregation.

difference, regarding to this factor, between domestic and foreign private banks. This finding corroborates analysis by Cardim de Carvalho (2001) on the Brazilian case and that by Goldberg et al. (2000) on foreign banks' entry in Mexico and Argentina. Those analyses conclude, as previously pointed out, that the owner's origin is not always a good criterion for inferring the performance of banking institutions.

Overall, data in this section seem to show that banking credit/GDP ratio and risk taking of banking institutions largely reveal the environmental (local) conditions former to the restructuring process (the institutional features of the public debt market; public banks' "specialisation" in longer term loans and easier conditions to borrowers) than restructuring proper. This feature corroborates a certain trend in international literature (pointed out earlier) which emphasises the relevance of the country's and even the firm's specificity of each banking system to explain the varying effects of the banking restructuring process (Kumbhakar et al. 2001; Montinola and Moreno 2001; Stanton 2002).

### **3. Operational and efficiency evidences: the microeconomic dimension**

In an comprehensive literature survey, Berger et al. (1999) classify analyses of banking restructuring effects as static (if, at certain given moments, evidences are shown by complex indexes derived from a mix of econometric and linear programming techniques), and dynamic (if evolution of paths through time is compared). Analysis in this section is also mixed: it draws evidences from a sample of a few basic accounting indicators (static analysis) from the 1994-2000 period (dynamic analysis). Furthermore, the probable causes of their path will be also discussed.

Prior to analysing evidences, a methodological warning is necessary (as pointed out by Costa 2000). Certain studies and analyses given in the press rank bank institutions of different sizes and profiles in a single group. A single criterion is employed: origin of the bank

controller and the bank's trait as private or public. Such evaluation may jeopardise a serious research, since other variables, much more important than the controller's nationality, are set aside. When 126 private domestic banks are dumped in the same group, banks such as Bradesco (US\$ 21 billion in total assets; US\$ 11 billion in deposits on December 2000; more than 2500 branches throughout in Brazil) and Hexabanco (US\$ 6 million in total assets; US\$ 3,7 million in deposits; branches only in the city of Sao Paulo) are dealt with as "equals". It must be similarly emphasised that domestic private banks have a greater variety in size and profile than that in domestic public bank or in foreign private bank groups. Large global banks, employing technologies and systems inaccessible to small domestic private banks, are included in the latter subset.

Aiming at a more equitable comparison of indexes between sub-groups, only bank groups which on September 2001 were listed among the top 19 banks in assets and which remained through January 2002 as independent institutions were taken into account<sup>10</sup>. Thus Banco Mercantil de Sao Paulo, acquired by Bradesco on January 2002, was removed from the sample. It is still necessary to emphasise the differences in size and profile within each group. For instance, retail bank groups, such as Bradesco, Itau and Unibanco, and corporate and private banking banks, such as BBA Creditanstalt, Votorantin and Safra, are included among domestic private banks. Even among foreign-owned banks there is a great profile variety. Whereas Santander, BBV, ABN Amro and HSBC have a high number of customers and branches, BankBoston and Citibank operate in the private banking, wholesale and business segments and Lloyds (Financeira Losango) in personal credit. Among domestic public banks, difference in size between Banco do Brasil and Caixa Economica Federal and the rest, besides

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<sup>10</sup> The concept of bank group has been used since indicators have been built from data of conglomerates' balance sheets. For instance, the Sisbacen account data of the pre-1997 HSBC conglomerate are those of the Bamerindus; likewise, pre-1998 BBV conglomerate data refer to the Excel-Economico Bank.

their differences on the national-wide or regional-wide activities respectively, should be emphasised.

Five operational indexes are given for sampled banks: leverage rate, equity profitability, net margin, revenue of operating assets, cost to revenue ratio. Current literature (Berger and Humphrey 1997; Berger and Mester 1999; Kumbhakar et al. 2001) suggests superiority of efficiency indexes that rank agents according to profit yield as a contrast to indexes that rank them according to cost decrease. In part this is due to techniques to estimate the production possibilities frontier against which the agents' performance is measured and in which cost variables are regarded either as inputs or as output. Among the indicators, three are concerned with profit yield (technically, value maximisation) and one with cost decrease. Leverage rate is more ambiguous as an efficiency index: on one hand, it may mean low efficiency by "conservative" agents; on the other hand, it may mean low efficiency in risk evaluation by "aggressive" agents. In the latter case, financial soundness of the banking institution and the quality of its lending portfolio may constitute alternative evaluations.

### 3.1. Leverage rate

Leverage rate is measured by the proportion of total liability minus net capital with regard to net capital. It expresses the institution's ability in "circulating" more money without increasing by the same proportion its own capital, or rather, its capacity in leveraging assets by third party's resources. The higher the leverage rate, the greater is the liquidity risk borne by the institution. Thus, a higher leverage rate indicates a less risk-averse institution. It is, however, more prone to insolvency if assets fall abruptly and in great numbers.

Table 2 and Figure 6 show that, throughout the entire period, leverage rates for public banks group are higher than those in foreign-owned and domestic private banks. Further,

average leverage rate of public banks increased through December 2000 and decreased in June 2001, chiefly owing to the reduction of leverage rate of Caixa Economica Federal.

#### **TABLE 2 ABOUT HERE**

There was an increase in leverage rate in all three groups during 1994-1997. However, as from 1997 and during 1998, foreign-owned and domestic bank groups decrease their leverage levels.

#### **FIGURE 6 ABOUT HERE**

Various explanations may be forwarded and probably each reason has some weight of sorts. In the first place, it may have been affected by the deterioration of the Brazilian macroeconomy caused by the Asian and Russian crises of 1997 and 1998 respectively. These crises caused banks, especially foreign-owned operating in Brazil, to take a more conservative stance. Fear that assets in national currency would lose their dollar value has been one of the chief causes. Second, during 1997 and 1998 many banks started to be controlled by foreign institutions. Assets were shored and familiarity with the new bank was being acquired. As a consequence, acquirers were more conservative in operational terms. Thirdly, banks' leverage capacity was greatly diminished since, as from 1997, the Brazilian Central Bank required a higher capital to assets ratio (from 0.08 to 0.10 and 0.11 throughout the same year) from them. Analysis of each bank shows that a decrease in mid-sized leverage rate of foreign-owned bank group occurred during 1997-98 because of Citibank and BankBoston's rate reductions, or rather, more conservative foreign banks in times of crisis (first explanation), and during 1998-99 by a reduction of leverage rates of the ABN Amro-Real Bank (second

explanation). On the other hand, behaviour in the other two groups demerits the explanation given by an increase in the capital to assets ratio. In fact, neither leverage average of public banks nor that of domestic private ones decreased during the 1997-1998 period.

Finally, growth of average leverage rate of domestic private banks throughout almost the whole period must be highlighted. Bradesco has the highest rate. The combination of safer lending portfolios (see previous section) and higher leverage rates by the three biggest domestic private banks have been interpreted by Cardim de Carvalho (2001: 24-25) as a demonstration of market control by these institutions with a higher diversification capability in lending portfolio.

### 3.2. Equity profitability

Equity profitability is calculated by net profit over liquid capital. Index evaluates profitability and return rate of shareholders of the banking institution. Or rather, the institution's capacity in managing its assets and liabilities and thus produce profit yield for the owners.

#### **TABLE 3 ABOUT HERE**

Table 3 and Figure 7 show (1) highest average equity profitability rate by domestic private banks since 1995; by the end of the analysed period (June 2001) they had a higher profitability than that registered in December 1994; (2) a decreasing profitability trajectory of foreign banks till 1997, with an opposite movement till December 2000; (3) an improvement in public banks' average profitability. Positive performance by the domestic private bank group is chiefly due to the evolution of profitability index of its three major members. The group's profitability is due to Bradesco, Itau and Unibanco, even though there was a

significant decrease in equity profitability of the Safra and BBA Creditstalt banks throughout the period. The performance of Itau since 1998 must be highlighted. As may be surmised, negative equity profitability in domestic public bank and in foreign-owned bank groups in June 2001 was due to losses by Caixa Economica Federal and Santander respectively<sup>11</sup>.

### **FIGURE 7 ABOUT HERE**

High indexes in equity profitability by foreign banks – and by banks later acquired by them – in 1994 are worth mentioning. Slight improvement and, in some cases, deterioration in equity profitability, should likewise be emphasised when bank institutions came under foreign control. Such behaviour has been a concern to the banks' head offices that invested heavily in Brazil during the last five years. In fact, during the late 2001 and early 2002 some banks signalled exit from the Brazilian banking market (Dovkants 2002).

Probable reasons for profitability differential among foreign and domestic banks may be forwarded. On one hand, there has been a relative competitiveness of private and public domestic banks in automated systems. In fact, they were pioneers in Internet banking (The New York Times, March 25, 2001), as discussed below in the sub-section on cost reduction. On the other hand, restructuring difficulties of banks acquired by certain foreign groups, such as Santander and Bilbao Vyscaya, have to be acknowledged. Finally, high indexes of equity profitability by BankBoston and Citibank groups in June 2001 was greatly due to bank legislation in the United States. The latter determined that financial institutions in foreign countries should hedge their assets from exchange variations. Since the real had a sharp

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<sup>11</sup> Results of Caixa Economica Federal and Santander will affect the averages of their respective groups in almost all indexes during the first half of 2001. The former raised provisions for housing credit; the latter acquired the public bank Banespa, in financial disarray.

depreciation when exchanged *vis-a-vis* the dollar during the first half of 2001, BankBoston and Citibank earned high amounts through hedge positions.

### 3.3. Net margin

Net margin index, the ratio between net profit and revenue, is an indication of the successful bank institution in the process of profit yielding. It therefore measures the microeconomic efficiency of bank institutions within the context of their various financial services.

#### **TABLE 4 ABOUT HERE**

Net Margin Index and Equity Profitability have a similar behaviour. The former also marks domestic private banks with the best results (Table 4 and Figure 8). One may note too an improvement in the net margin average of public banks and a decrease in net margin average of foreign-owned banks throughout the whole period.

#### **FIGURE 8 ABOUT HERE**

One may also perceive a contagion of results from public bank and foreign-owned bank groups by respective results from Caixa Economica Federal and Santander bank. Individually, Itau is in the limelight. Since 1998, Itau has been showing the best net margin indexes within the 19 top bank groups in Brazil. Unibanco's effort is worth mentioning, and to a lesser extent, that of Bradesco, for improvement in this efficiency criterion.

### 3.4. Revenue of operating assets

Revenue of operating assets, the fourth relevant index, is the ratio of revenues to operating assets. It shows average nominal interests received by banks in their various operations involving credit and financing.

#### **TABLE 5 ABOUT HERE**

Table 5 and Figure 9 show two distinct moments in the above index. There is a decreasing trend during the period comprising December 1994 to December 1996. Whereas from December 1997 a rising trend occurs. This is especially true in the case of the domestic private bank group. In the first place, the above reflects a rise in interest rates and bank spreads during the period. It may also show a more efficient and profitable employment of treasury application of resources managed by the banks themselves. This hypothesis is corroborated when the foreign-owned bank group has the best performance and the public bank group the worst. The former comprises large volumes and a vocation for treasury operations; the latter comprises banks that traditionally give priority to lending operations. The above hypothesis is confirmed when index rise for Caixa Economica Federal in the first half of 2001 is analysed. Caixa Economica Federal during this period underwent deep profitability restructuring, involving an increase in bond portfolio (treasury operations) and a decrease in the credit one (Costa, 2001).

#### **FIGURE 9 ABOUT HERE**

These results suggest once more that domestic and foreign-owned banks derive a significant part of yield from treasury operations and become holders of a great volume of

public bonds with high interest rates and low risks. Although banks may receive more interests in lending and financing operations, they prefer to apply most of their assets in bonds. The latter yield low risk assets and demand lower overheads when compared to those involving credit and financing operations.

### 3.5. Cost-Revenue ratio

The fifth index is the ratio between operational costs and the sum of financial intermediation plus service fees. Bank efficiency index herein shows the operational costs that banking institutions have to use so that they might produce revenue from financial intermediation and service. Thus, the highest the index, the less efficient is the institution.

#### **TABLE 6 ABOUT HERE**

The public bank group shows once again the worst performance (Table 6). On the other hand, differences in average efficiency between the domestic private bank group and the foreign-owned one are closer than those perceived in other indexes (Figure 10). It was only since December 2000 that the domestic group showed a higher efficiency than that of the foreign-owned group. There is a yearly improvement in bank efficiency index for all three groups since 1997, probably the result of bank restructuring. This situation was reversed in June 2001 through the performance of Caixa Economica Federal and Santander, as explained above.

#### **FIGURE 10 ABOUT HERE**

Evaluation of each bank or group of banks shows that all sampled institutions had an improvement in their efficiency index, whether they are public, domestic or foreign-owned. The performance of Banrisul and BNB, among public banks, may be emphasised; the latter with the highest progress index among all the sampled institutions.

During the growth and consolidation period, the major domestic bank group upgraded its investments in technology and in operational and control systems. Efficiency and profitability levels actually increased, as pointed out in the international literature (Claessens et al. 2000; 2002) and in a recent study issued in Brazil on production software networks, specifically on banking automation:

Impact of globalisation in Brazil has been partially limited by collection stance traditionally maintained by banks. However, this fact is rapidly changing. A great number of services, previously done by banks (payments, invoices etc, and, recently, savings administration), are being transferred to other service managers, such as post-offices and lotto booths. Transference of these services is a consequence of bank restructuring which has as its main policy a decrease in costs based on increasing job-replacing automation. Necessarily this policy leads towards a concentration of business that, through the principles that motivate the economic system, restricts itself to greater profitability activities. Automation of the financial system envisages a reduction of human mediation which may be ten times more expensive than a like product executed by electronic means. In its first phase simple operations, as consulting current accounts, were transferred to computerised call centres. After that, self-attendance modalities were developed; at a third stage, access to bank services through home and Internet banking was made available without one's presence on the bank premises. Actually new macroeconomic and competitive conditions require tools that would help financial agents to have a deep knowledge of their clients and details about the products of interest of the investor (Roselino and Gomes, 2000, pp. 61-62).

One may conclude that domestic private banks have recently reached good and even higher indexes than those shown by foreign-owned banks. It should not be forgotten, however, that these recent-arrived foreign banks on the Brazilian bank market are still in their adaptation phase. A safer comparison will be achieved when all domestic and foreign-owned banks have processed their latest and most important acquisitions.

#### 4. Concluding Remarks

Although the Brazilian banking system is currently a safer place for holding monetary and financial resources of economic agents than it has been up to some years ago, and although it offers a wide and sophisticated range of products and services, it is still wanting in lending, perhaps one of its most important functions in the economic system. Despite disinflation, internationalisation and consolidation of the banking sector, the strengthening of big domestic banks and an improvement in bank regulation and supervision, credit levels are shorter than may be expected or needed.

The entry of foreign banks has led to competitive pressure on the major domestic banks, which responded extremely positively. Bradesco, Itau and Unibanco have currently attained results equal to or even better than those of rival foreign-owned banks. Even with the caveat that although foreign banks are still in the adaptation phase and thus possible nuances in product lines and competitive strategies impose caution analysis of data put forth here, they are confronted with a "conventional wisdom" that expects a higher efficiency from foreign banks in developing countries – and the opposite for developed ones. Conversely, data confirmed and evidenced that such factors as environment prior to foreign bank entry, conditions met with by foreign banks (and to which they are still adapting themselves at varying degrees), and different strategies weight much more than the parent's nationality in explaining each bank's performance.

These results are *a fortiori* contrary to data commonly and temerarily given by the press that foreign-owned banks are more efficient than domestic ones. The real problem is taking bank groups and the controllers' nationality as the sole criterion, while discarding size and strategies of the banks, even those ones with an *identical* origin of capital.

Further, present results do not allow one to suppose the existence of a straight relationship between an increase of the sector's microeconomic efficiency and the positive impacts at macroeconomic level, as did Peek and Rosengren (2000).

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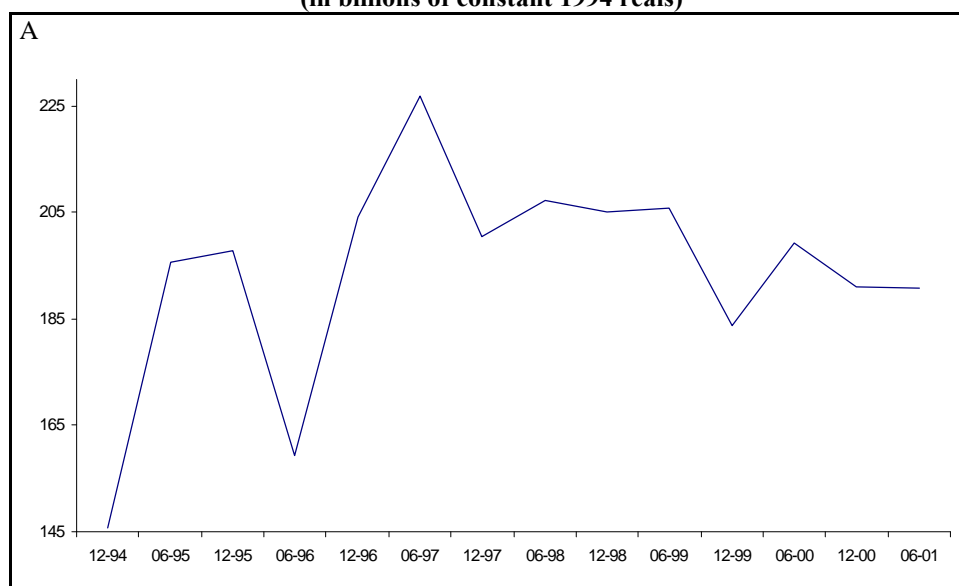
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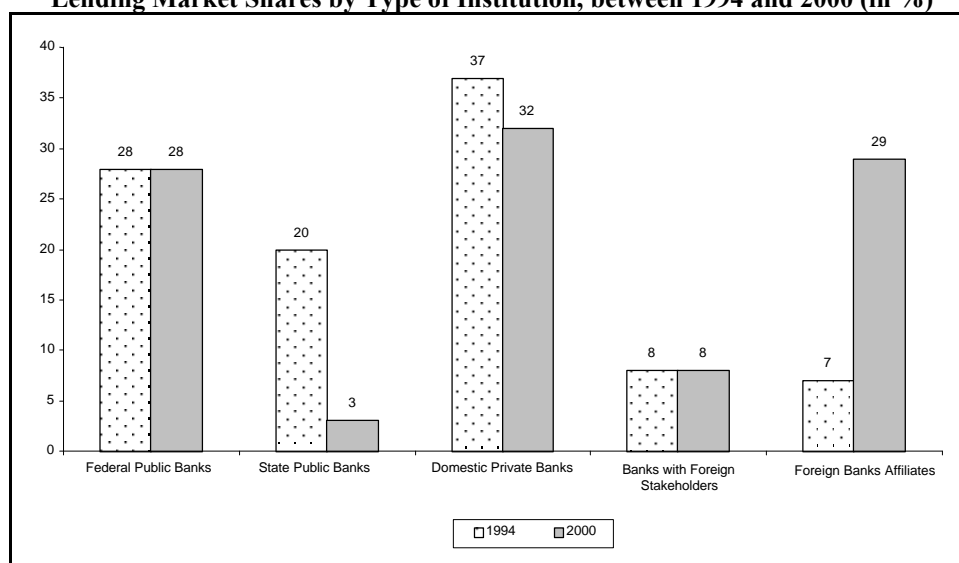
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**Graph 1**  
**Evolution of Banking Credit (December 1994 - June 2001)**  
**(in billions of constant 1994 reais)**



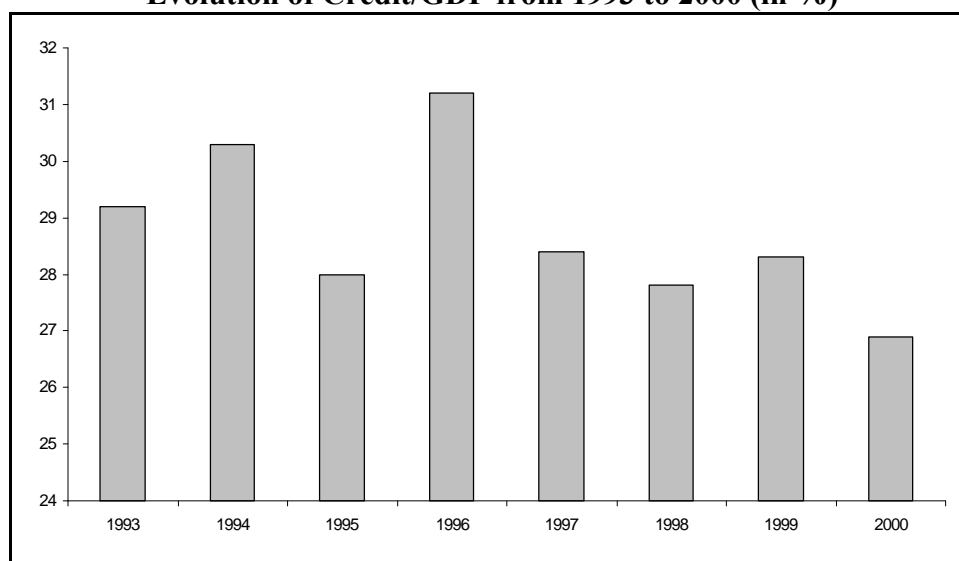
Source: prepared by authors from Sisbacen database.

**Figure 2**  
**Lending Market Shares by Type of Institution, between 1994 and 2000 (in %)**



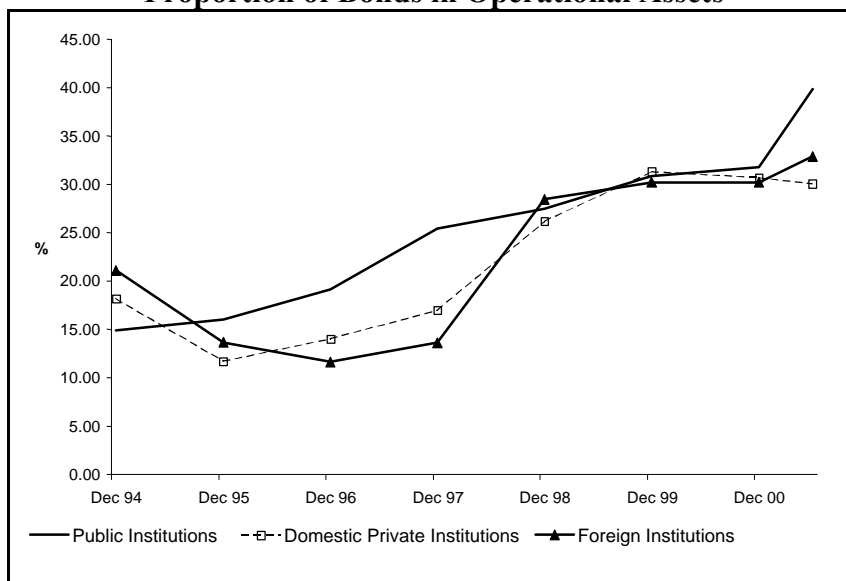
Source: prepared by authors from Sisbacen database.

**Figure 3**  
**Evolution of Credit/GDP from 1993 to 2000 (in %)**



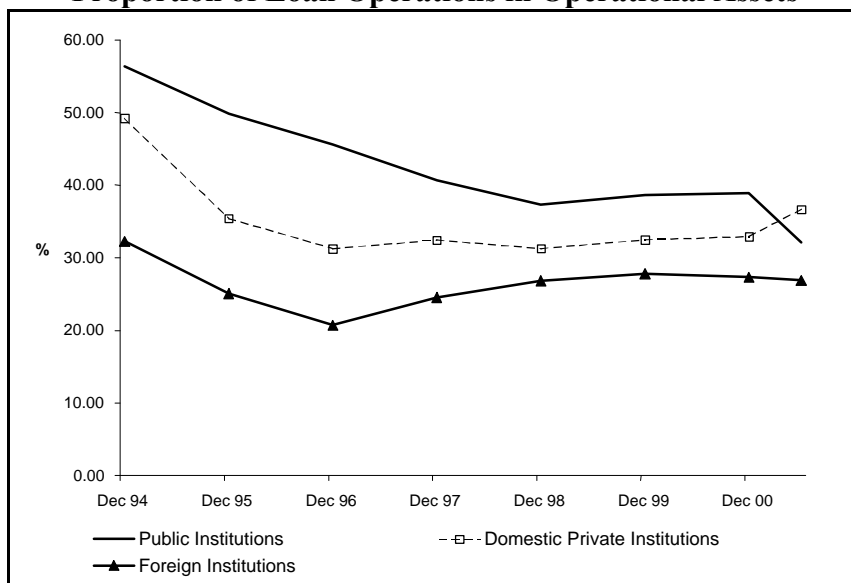
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**Figure 4**  
**Proportion of Bonds in Operational Assets**



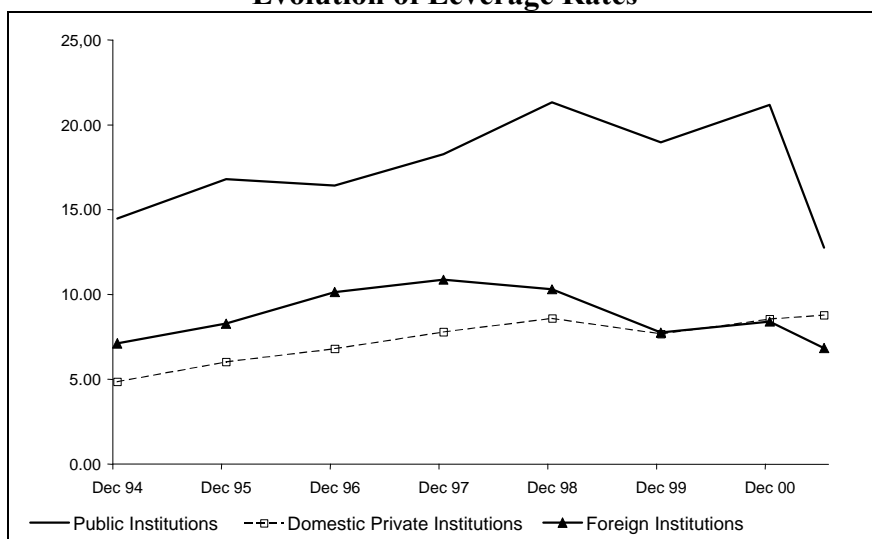
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**Figure 5**  
**Proportion of Loan Operations in Operational Assets**



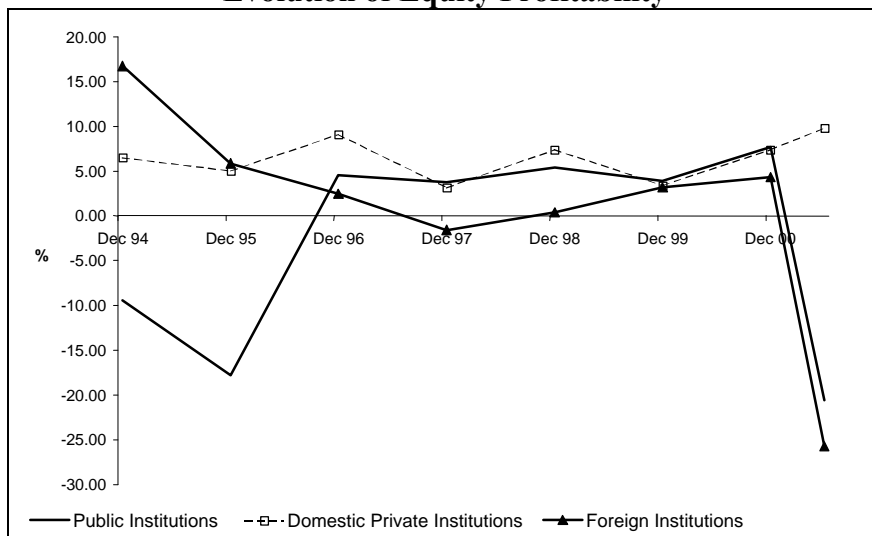
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**Figure 6**  
**Evolution of Leverage Rates**

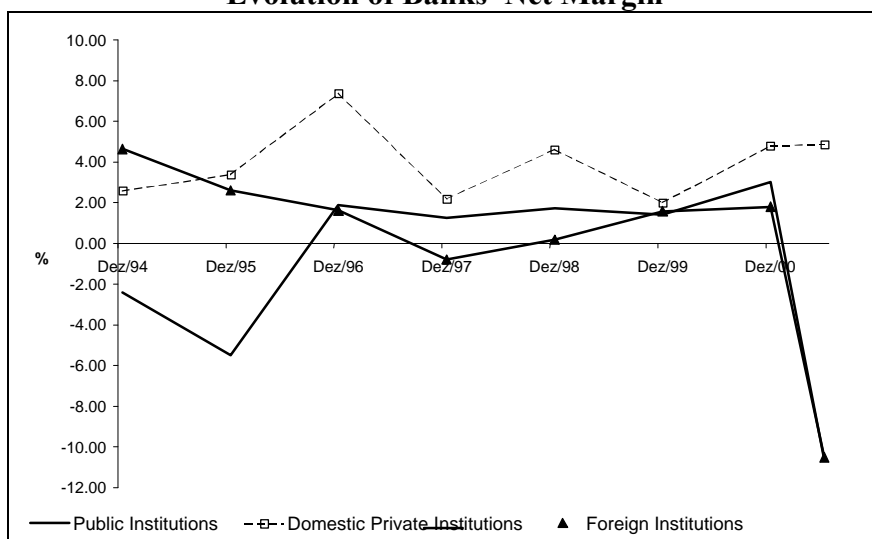


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**Figure 7**  
**Evolution of Equity Profitability**

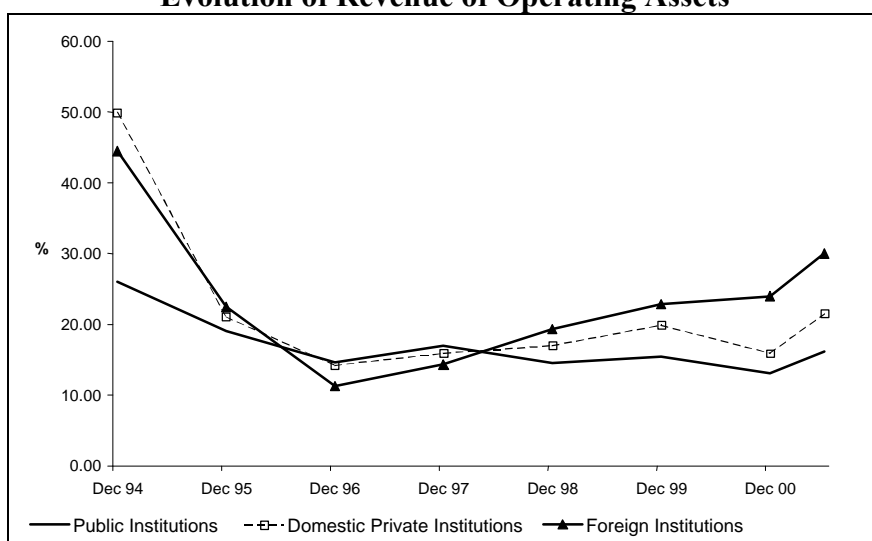


**Figure 8**  
**Evolution of Banks' Net Margin**



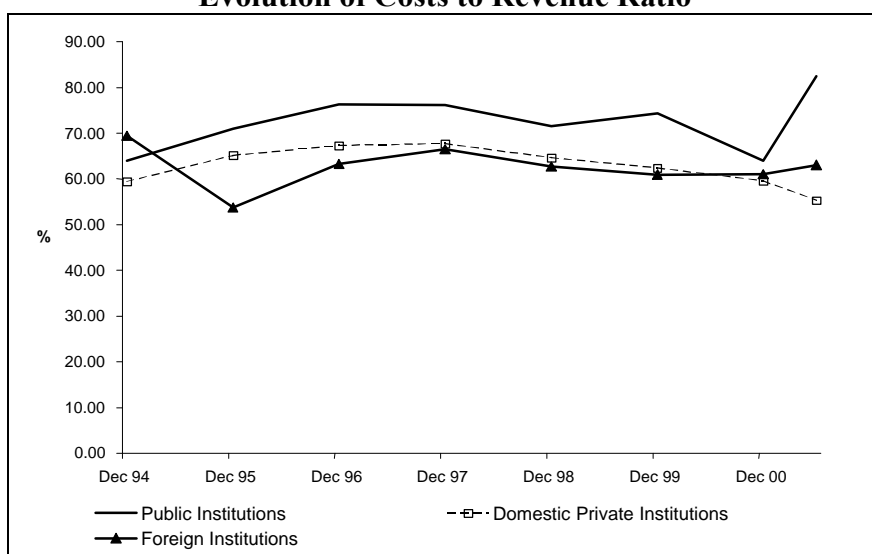
Source: prepared by authors from Sisbacen database.

**Figure 9**  
**Evolution of Revenue of Operating Assets**



Source: prepared by authors from Sisbacen database.

**Figure 10**  
**Evolution of Costs to Revenue Ratio**



Source: prepared by authors from Sisbacen database.

**Table 1**  
**Ranking of Risk Lending Portfolio of Top 19 Bank Groups**  
**in Brazil**

	June 01	June 00	
1) VOTORANTIM**	8.47	8.74	(2)
2) SAFRA**	8.43	8.42	(5)
3) HSBC***	8.37	8.52	(4)
4) MERCANTIL**	8.16	8.65	(3)
5) BILBAO VIZCAYA***	8.05	7.47	(10)
6) BBA-CREDITANSTALT**	8.00	8.06	(6)
7) CITIBANK***	7.96	7.82	(7)
8) BANKBOSTON***	7.92	8.82	(1)
9) UNIBANCO**	7.65	7.73	(8)
10) BANCO DO BRASIL*	7.56	6.16	(17)
11) ABN AMRO***	7.50	7.60	(9)
12) BRADESCO**	7.37	7.26	(12)
13) LLOYDS***	7.37	7.15	(13)
14) ITAÚ**	7.35	7.34	(11)
15) SANTANDER BR***	7.15	7.10	(14)
16) CAIXA ECONÔMICA FEDERAL*	6.96	6.77	(15)
17) BNB*	6.76	6.67	(16)
18) NOSSA CAIXA*	6.29	5.90	(19)
19) BANRISUL*	6.01	6.16	(18)

Source: prepared by authors from balance data.

<sup>1</sup> Classification was prepared from weighed average of percentages applied to modalities AA, A, B, C, D, E, F, G and H; taking into account weights 9, 8, 7, 6, 5, 4, 3, 2 and 1 respectively.

<sup>2</sup> Numbers between parentheses show institution's rank on June 2000.

\* public institution

\*\* domestic private institution

\*\*\* foreign institution.

**Table 2**  
**Evolution of Leverage Rate**

	Dec 94	Dec 95	Dec 96	Dec 97	Dec 98	Dec 99	Dec 00	Jun 01
<b>PUBLIC INSTITUTIONS</b>								
BANRISUL	10.58	25.70	19.96	29.65	30.71	9.85	11.85	13.57
BB	10.62	14.14	13.43	16.73	18.50	15.84	16.30	16.38
CEF	32.89	21.19	21.94	22.00	31.36	30.86	42.87	9.67
BNB	9.65	13.92	8.02	5.47	6.15	6.38	7.01	6.53
NOSSA CAIXA	9.00	10.17	11.67	13.77	12.65	13.40	16.05	15.91
AVERAGE	14.46	16.80	16.43	18.27	21.33	18.97	21.17	12.76
<b>DOMESTIC PRIVATE INSTITUTIONS</b>								
BRADERCO GROUP	2.99	4.13	4.59	5.55	7.81	8.39	8.65	8.88
ITAÚ GROUP	3.46	4.64	6.13	8.17	7.69	5.45	7.30	7.53
UNIBANCO GROUP	9.46	9.59	9.78	8.20	8.11	6.47	6.98	7.34
SAFRA	14.49	11.89	15.58	16.51	16.15	15.44	16.11	14.11
BBA-								
CREDITANSTALT	10.60	17.59	11.39	12.89	12.09	12.07	13.16	12.47
VOTORANTIN	9.58	14.18	12.53	10.29	14.76	13.81	11.51	14.43
AVERAGE	4.85	6.02	6.80	7.78	8.59	7.67	8.55	8.78
<b>FOREIGN-OWNED INSTITUTIONS</b>								
SANTANDER BR								
GROUP	7.03	5.31	6.20	4.44	7.95	9.45	10.37	3.98
ABN AMRO GROUP	6.98	6.24	8.58	8.97	12.77	3.87	4.19	4.24
BANKBOSTON								
GROUP	8.14	10.88	16.62	14.30	11.59	17.89	17.43	21.79
HSBC GROUP	6.32	27.20	26.55	10.67	12.26	12.28	11.66	15.84
CITIBANK GROUP	3.80	5.77	8.21	8.71	5.72	6.41	6.95	9.31
BIL BAO VYSCAYA								
GROUP	8.79	5.57	6.46	17.76	12.92	12.00	12.30	13.34
LLOYDS GROUP	12.17	10.82	8.78	18.34	12.54	10.84	9.71	14.53
AVERAGE	7.12	8.28	10.14	10.87	10.31	7.76	8.40	6.84

Source: Calculations by authors, from Sisbacen database.

**Table 3**  
**Equity Profitability**

	Dec 94	Dec 95	Dec 96	Dec 97	Dec 98	Dec 99	Dec 00	Jun 01
<b>PUBLIC INSTITUTIONS</b>								
BANRISUL	9.32	4.90	-6.72	-2.44	5.41	-2.68	-1.36	7.71
BB	-6.57	-41.45	4.78	4.93	5.20	2.74	7.76	3.82
CEF	-28.64	7.00	6.22	2.10	5.97	7.56	9.50	-51.19
BNB	8.71	24.84	5.82	5.76	5.31	5.11	3.08	0.85
NOSSA CAIXA	-7.77	-5.68	0.12	5.61	5.02	1.07	11.56	6.92
AVERAGE	-9.41	-17.80	4.54	3.74	5.42	3.91	7.69	-20.58
<b>DOMESTIC PRIVATE INSTITUTIONS</b>								
BRDESCO GROUP	6.14	5.23	7.69	-0.45	3.31	-0.10	3.64	7.83
ITAÚ GROUP	3.47	2.10	8.83	2.88	14.82	7.50	11.44	14.10
UNIBANCO GROUP	-0.43	-0.40	7.72	10.31	4.03	4.09	7.41	7.82
SAFRA	11.97	28.78	20.70	3.76	6.81	-2.27	6.07	6.48
BBA-								
CREDITANSTALT	61.54	27.07	22.50	11.55	12.25	7.16	13.75	8.79
VOTORANTIN	14.52	19.88	3.52	1.45	1.18	-4.54	1.95	14.90
AVERAGE	6.48	5.02	9.10	3.13	7.40	3.38	7.38	9.82
<b>FOREIGN-OWNED INSTITUTIONS</b>								
SANTANDER BR								
GROUP	15.84	6.75	-4.04	-20.66	0.30	0.97	5.26	-60.22
ABN AMRO GROUP	4.39	1.62	6.50	5.44	3.55	0.47	2.39	4.70
BANKBOSTON								
GROUP	52.08	7.67	4.47	6.69	5.06	7.03	10.65	35.14
HSBC GROUP	29.04	5.31	7.41	1.48	0.44	0.53	1.36	7.67
CITIBANK GROUP	17.63	10.17	-9.37	-3.08	1.57	9.73	6.07	19.41
BILBAO VYSCAYA								
GROUP	21.49	25.60	5.62	-21.72	-27.88	4.84	2.35	1.81
LLOYDS GROUP	19.12	3.03	-2.66	2.86	13.94	7.72	10.25	10.16
AVERAGE	16.76	5.86	2.46	-1.57	0.39	3.18	4.33	-25.74

Source: prepared by authors from Sisbacen database.

**Table 4**  
**Banks' Net Margin**

	Dec 94	Dec 95	Dec 96	Dec 97	Dec 98	Dec 99	Dec 00	Jun 01
<b>PUBLIC INSTITUTIONS</b>								
BANRISUL	3.44	1.34	-1.82	-0.57	1.87	-1.45	-0.78	4.18
BB	-2.00	-13.11	2.39	1.43	1.62	0.95	3.22	1.73
CEF	-3.88	1.96	2.10	0.77	1.63	2.38	2.48	-28.96
BNB	4.59	12.89	3.31	5.04	4.22	3.06	2.64	0.75
NOSSA CAIXA	-2.59	-2.24	0.05	2.23	2.05	0.43	6.62	3.57
AVERAGE	-2.40	-5.50	1.87	1.24	1.73	1.40	3.02	-10.67
<b>DOMESTIC PRIVATE INSTITUTIONS</b>								
BRADESCO GROUP	5.25	4.42	9.01	-0.47	2.61	-0.07	2.28	3.79
ITAÚ GROUP	2.06	1.65	7.49	2.22	9.88	6.03	9.13	8.69
UNIBANCO GROUP	-0.05	-0.20	3.95	4.77	2.11	1.80	5.04	4.02
SAFRA	2.22	9.20	10.89	1.44	2.88	-1.01	2.77	2.59
BBA-								
CREDITANSTALT	14.41	10.86	13.47	4.08	5.06	3.41	6.05	3.28
VOTORANTIN	2.72	7.05	1.62	0.86	0.34	-1.18	0.90	3.52
AVERAGE	2.58	3.38	7.38	2.17	4.61	2.00	4.79	4.86
<b>FOREIGN-OWNED INSTITUTIONS</b>								
SANTANDER BR								
GROUP	6.03	3.15	-2.96	-13.26	0.13	0.38	1.19	-36.79
ABN AMRO GROUP	2.01	0.90	5.62	4.00	2.01	0.46	1.56	2.30
BANKBOSTON								
GROUP	8.43	3.42	2.03	2.21	1.71	1.42	3.44	5.20
HSBC GROUP	5.63	1.54	2.26	0.85	0.15	0.18	0.40	1.46
CITIBANK GROUP	3.46	4.14	-6.45	-1.61	1.01	5.24	3.78	5.86
BILBAO VYSCAYA								
GROUP	6.71	11.81	4.38	-9.97	-11.34	2.48	1.38	0.83
LLOYDS GROUP	4.82	0.89	-1.40	0.57	3.34	2.20	4.82	3.07
AVERAGE	4.64	2.60	1.61	-0.80	0.17	1.57	1.79	-10.53

Source: prepared by authors from Sisbacen database.

**Table 5**  
**Revenue of Operating Assets**

	Dec 94	Dec 95	Dec 96	Dec 97	Dec 98	Dec 99	Dec 00	Jun 01
<b>PUBLIC INSTITUTIONS</b>								
BANRISUL	23.67	9.86	17.87	14.24	9.24	17.28	13.49	12.81
BB	26.23	22.12	13.31	19.90	15.75	17.28	14.09	13.05
CEF	25.75	17.91	14.75	13.78	12.92	12.24	12.05	25.31
BNB	17.71	12.69	18.69	16.73	16.23	20.66	13.30	13.76
NOSSA CAIXA	32.32	24.31	20.61	19.62	20.03	17.85	10.48	11.93
AVERAGE	26.00	19.04	14.64	16.96	14.52	15.40	13.08	16.18
<b>DOMESTIC PRIVATE INSTITUTIONS</b>								
BRADESCO								
GROUP	37.46	22.31	12.91	14.77	15.32	18.17	17.33	22.87
ITAÚ GROUP	46.60	24.64	16.05	14.18	18.73	19.35	15.12	21.09
UNIBANCO								
GROUP	84.29	19.04	17.81	21.88	20.55	28.41	16.96	22.64
SAFRA	36.12	24.01	8.77	13.09	11.36	12.69	11.71	16.16
BBA-								
CREDITANSTALT	35.19	11.79	13.81	19.70	18.03	16.37	15.97	18.72
VOTORANTIN	50.02	13.00	10.12	12.37	21.16	26.56	16.29	26.17
AVERAGE	49.90	21.10	14.20	15.92	16.99	19.90	15.91	21.53
<b>FOREIGN-OWNED INSTITUTIONS</b>								
SANTANDER BR								
GROUP	34.46	34.21	18.49	27.60	25.69	26.67	36.64	32.11
ABN AMRO								
GROUP	30.66	27.48	10.26	12.23	11.09	22.95	29.48	40.12
BANKBOSTON								
GROUP	67.63	16.54	9.31	18.26	20.11	23.48	15.26	25.80
HSBC GROUP	60.56	8.58	7.98	14.21	23.69	22.73	24.91	31.53
CITIBANK GROUP	101.43	34.82	15.55	20.60	23.41	23.12	18.14	32.28
BILBAO VYSCAYA								
GROUP	32.19	33.54	16.30	7.97	17.26	14.62	11.88	14.33
LLOYDS GROUP	24.87	25.72	16.90	19.42	28.59	25.20	16.64	17.72
AVERAGE	44.49	22.47	11.30	14.33	19.37	22.89	23.99	30.01

Source: prepared by authors from Sisbacen database.

**Table 6**  
**Cost to Revenue Ratio**

	Dec 94	Dec 95	Dec 96	Dec 97	Dec 98	Dec 99	Dec 00	Jun 01
<b>PUBLIC INSTITUTIONS</b>								<b>In %</b>
BANRISUL	60.53	58.84	60.69	58.90	52.50	52.57	53.15	46.68
BB	61.19	73.40	72.46	85.43	74.63	75.79	66.87	65.15
CEF	67.46	69.69	80.74	66.86	67.68	68.36	62.33	124.22
BNB	76.35	76.87	93.86	82.07	90.92	95.56	51.95	47.47
NOSSA CAIXA	73.65	69.08	88.43	75.31	77.70	101.97	62.27	68.83
<b>AVERAGE</b>	<b>63.93</b>	<b>71.02</b>	<b>76.28</b>	<b>76.15</b>	<b>71.61</b>	<b>74.31</b>	<b>63.95</b>	<b>82.45</b>
<b>DOMESTIC PRIVATE INSTITUTIONS</b>								
BRDESCO GROUP	68.36	68.89	72.52	75.10	68.41	67.66	59.41	54.94
ITAÚ GROUP	60.83	67.36	67.11	73.58	69.56	68.87	70.22	60.82
UNIBANCO GROUP	53.72	65.43	68.20	63.37	63.07	57.39	56.64	54.72
SAFRA	61.56	57.64	60.10	58.25	56.09	58.25	52.72	51.97
BBA-CREDITANSTALT	64.50	50.99	54.09	59.55	54.41	51.85	51.30	51.91
VOTORANTIN	63.00	49.61	53.91	54.23	52.93	52.27	52.62	49.49
<b>AVERAGE</b>	<b>59.45</b>	<b>65.15</b>	<b>67.35</b>	<b>67.75</b>	<b>64.66</b>	<b>62.42</b>	<b>59.61</b>	<b>55.31</b>
<b>FOREIGN-OWNED PRIVATE INSTITUTIONS</b>								
SANTANDER BR GROUP	59.20	67.06	69.86	79.90	59.64	59.99	68.58	81.82
ABN AMRO GROUP	62.68	67.17	64.33	67.53	67.47	67.13	62.40	57.35
BANKBOSTON GROUP	128.43	57.21	61.09	60.77	57.49	58.68	57.19	51.92
HSBC GROUP	64.35	57.28	52.99	74.78	64.46	67.24	57.97	54.54
CITIBANK GROUP	60.23	57.81	76.05	60.16	57.96	53.91	52.79	48.98
BILBAO VYSCAYA GROUP	61.39	56.10	67.39	71.48	86.57	62.82	59.30	59.52
LLOYDS GROUP	65.18	52.68	55.42	59.32	57.01	56.74	55.01	52.47
<b>AVERAGE</b>	<b>69.40</b>	<b>53.78</b>	<b>63.30</b>	<b>66.47</b>	<b>62.73</b>	<b>60.99</b>	<b>61.08</b>	<b>63.09</b>

Source: prepared by authors from Sisbacen database.