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Brazil: Recent Economic Developments

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INTERNATIONAL MONETARY FUND

BRAZIL

Recent Economic Developments

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Approved by the Western Hemisphere Department

January 28, 1998

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I. Social and Demographic Indicators

Area (thousand sq. km)	8,511,970
Population (1996)	
Total (million)	157
Annual rate of growth, 1986-96 (percent a year)	1.4
Density (per sq. km.)	18.4
GDP per capita (US$)	4,771
Population characteristics (1995)	
Life expectancy at birth (years)	67
Crude birth rate (per thousand)	21
Crude death rate (per thousand)	7
Infant mortality (per thousand live births)	44
Under 5 mortality rate (per thousand)	57
Income distribution (1995)	
By highest 10 percent of households	48.7
By lowest 20 percent of households	2.6
Distribution of labor force, percent in total	
Agriculture	23.1
Industry	23.7
Nutrition	
Calorie intake (per capita a day)	2,751
Health	
Population per physician	844
Population per hospital bed	299
Population per nurse	3,379
Access to electricity	
Percent of dwellings	
Urban	88.5
Rural	20.6
Access to safe water	
Percent of population (1991)	
Urban	99.8
Rural	85.7
Education (1993)	
Enrollment rates, percent in	
Primary education	111
Secondary education	43
Tertiary education	12

II. Economic Indicators, 1993–96

	1993	1994	1995	1996
	(In percent)			
Annual changes in sectoral product aggregates at factor cost 1/				
GDP (in constant prices)				
Agriculture	-1.0	9.3	5.1	3.1
Industry and mining	6.9	3.5	4.2	2.5
Services	3.5	4.2	6.0	3.4
Investment, consumption, and savings ratio				
Gross investment/GDP ratio	19.2	19.6	19.2	19.3
Private consumption/GDP ratio	62.3	63.3	65.3	65.6
Government consumption/GDP ratio	16.3	16.0	16.8	16.9
National savings/GDP ratio	19.0	19.4	16.7	16.0
	(In millions of *reais*)			
Public Sector finances				
Noninterest revenues	4,263.1	119,825.2	216,853.5	249,174.5
Noninterest expenditures	3,896.1	104,305.7	214,400.5	249,821.5
Primary balance (deficit -) 1/	367.0	15,519.5	2,193.0	-647.0
Operational balance (deficit -)	42.3	4,764.1	-31,569.8	-29,114.2

Brazil: Basic Data

	1993	1994	1995	1996
Memorandum items:				
Primary balance (percent of GDP)	2.6	4.3	0.3	-0.1
Operational balance (percent of GDP)	0.3	0.5	-4.8	-3.9
Monetary accounts				
Liabilities to private sector	14,500.0	181,078.0	248,757.0	267,331.0
Money (M-1)	718.0	19,757.0	23,770.0	24,732.0
Quasi-money	10,664.0	121,651.0	165,199.0	171,813.0
Net domestic assets	18,663.0	168,762.0	234,499.0	254,896.0
Credit to the public sector	8,714.0	17,577.0	27,627.0	44,447.0
Credit to the private sector	13,661.0	181,779.0	222,220.0	235,019.0
	(Percentage change)			
General price index (end-of-period)	2,708.6	910.0	14.8	9.3
	(In billions of U.S. dollars)			
Balance of payments				
Trade balance	13.3	10.5	-3.5	-5.6
Exports, f.o.b.	38.6	43.6	46.5	47.8
Imports, f.o.b.	25.3	33.1	50.0	53.3
Services and transfers (net)	-13.9	-12.1	-14.6	-18.8
Of which				
Interest	-8.1	-6.3	-8.2	-9.8
Current account	-0.6	-1.7	-18.1	-24.4
Capital account	10.1	14.3	29.4	32.4
Foreign direct investment	0.4	1.7	3.6	9.1
Portfolio investment	6.6	7.3	2.3	6.0
Long-term capital (net)	3.0	5.2	5.5	12.4
Overall balance	8.4	12.9	13.5	9.0
Change in reserves (increase = -)	-14.6	-8.7	-7.2	-12.9
Memorandum items:				
Debt service ratio (before rescheduling) 1/	47.5	34.7	43.7	52.3
Current account (as percent of GDP)	-0.1	-0.3	2.5	-3.3
External debt outstanding (as percent of GDP)	33.2	26.6	22.3	23.8
Central bank gross reserves 2/	11.9	11.4	10.4	11.0

1/ As percent of exports of goods and nonfactor services.
2/ In months of imports of goods and nonfactor services.

INTRODUCTION

1. Chapter I describes major economic developments in Brazil in 1997, as additional background for the policy discussions in EBS/98/12. A number of issues have been raised in these discussions, including the slow progress being made in the negotiation of the fiscal adjustment programs with the states, the sustainability of the growing current account deficit, as well as the strength of the banking system following macroeconomic stabilization. These issues are looked at in more detail in Chapters II–VII. Chapter II discusses the post-*Real* crisis in the states and the recent state adjustment programs being negotiated with the federal government. Privatization and the associated foreign direct investment flows are described in Chapter III, highlighting the impact of investment plans on future export potential and growth. Chapter IV discusses the monetary transmission mechanism in Brazil, particularly in light of the sharp reduction in inflation after the *Real Plan*. Chapter V provides an update on the condition of the banking system and the recent measures taken by the authorities to strengthen the banks. It also looks at the supervision of banks and of the large derivatives market in the light of the Asia crisis. Chapter VI describes trends in export performance and analyzes price and nonprice competitiveness. This is followed-up in Chapter VII by a discussion of developments in tradable and nontradable prices and the external current account.

I. A REVIEW OF MAJOR ECONOMIC DEVELOPMENTS IN 1997[1]

A. Macroeconomic Trends

2. On October 28, 1997 Brazil suffered the well-known contagion effects in its financial and exchange markets from the turmoil in Asia. The São Paulo stock market (Bovespa) dropped by about 30 percent and the net losses of international reserves by the central bank amounted to US$8 billion (or about 13 percent of total reserves) at the end of the month. The government's response was swift and went a long way to reassure financial markets, with stock prices recovering part of the earlier losses by the end of the year despite continuing volatility in international markets. The central bank doubled its intervention interest rates (to a range of 3.05–3.28 percent a month) on October 30. This move was followed by the announcement of a strong fiscal package (equivalent to over 2½ percent of GDP in 1998) and a renewed effort to accelerate the structural reforms needed to ensure a lasting improvement in the fiscal accounts. The government moved quickly to implement the fiscal measures, with the fiscal package approved by congress, with minor modifications, on December 4, recognizing that an early improvement in the fiscal situation is necessary to ensure a timely reduction in interest rates and minimize the potential negative impact on growth in 1998.

3. The pressures on the currency in the last week of October occurred against the background of increased concerns regarding the sustainability of the current policy mix during 1997, despite signs of a modest improvement in the external and fiscal accounts. The *Real*

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[1]Prepared by Graeme Justice.

Plan which marked its third anniversary in 1997 has achieved **substantial progress** in the macroeconomic area with:

- three years of **positive growth of per capita income**, relatively low unemployment, and improved living standards for the lower income groups;
- a sharp and **sustained decline in inflation**;
- strong **growth of productivity and investment**, including foreign direct investment; and
- renewed **access to international capital markets**.

On the **structural front** an important start has been made in a number of areas: a reduction of the involvement of the state in the economy through privatization, concessions and deregulation; restructuring of the debt of the states; public debt management; strengthening of the banking and financial system; and the opening up of the economy associated, in particular, with the process of regional trade integration.

4. Nevertheless, despite these achievements, aspects of the macroeconomic performance have given cause for concern. In particular, growth has been entirely led by domestic demand with a loss of export market share, a sharp increase in import penetration, and a deteriorating current account balance. A deceleration of consumer demand from the second quarter of 1997, and some improvement in competitiveness, led to a modest recovery of exports and some moderation of import growth from midyear. Nevertheless, for the year as a whole, the current account deficit is estimated to have been about 4.3 percent of GDP compared with 3.3 percent in 1996, although about half of this deficit was estimated to have been financed by foreign direct investment.

5. Progress was made in improving the **public sector accounts** in 1997, although the primary balance of the public sector, which improved from a deficit of 0.1 percent of GDP in 1996 to an estimated surplus in 1997 of 1 percent of GDP, fell short of the government target of 1.5 percent of GDP. The public sector borrowing requirement is estimated to have declined from 6.1 percent of GDP in 1996 to about 4.4 percent of GDP in 1997, reflecting the introduction of a new bank debit tax, a real decline in personnel spending at the federal level, a decline in average interest rates for the year, and some adjustment effort at the state level. **Monetary policy** remained relatively tight as the central bank kept nominal interest rates unchanged from April until October, in the face of declining inflation. This contributed to a deceleration of domestic demand and import growth which, together with an acceleration in the growth of exports, led to a modest improvement in the external accounts from midyear on.

6. The progress on inflation, combined with strong foreign investment inflows linked to the acceleration of the privatization program, gave some assurances to the market that the country would be able to avoid the kind of disturbances that were already being seen in Asia

in mid-1997. However, the deepening of the Asian crisis led to a change in the perception of risk in international markets and raised concerns that a more balanced mix of economic policies was needed in the face of the deteriorating external environment. Market concerns were probably heightened by the political calendar which calls for presidential and gubernatorial elections in October 1998, and which were expected to further hinder the approval of the constitutional reforms of the civil service and social security needed to help secure a lasting improvement in the fiscal accounts. The stock exchange had experienced repeated bouts of weakness before the October 28 collapse, albeit with subsequent rebounds, while interest rates and the expected rate of depreciation began edging upward in the forward exchange market.

7. The **package of fiscal measures** announced in early November 1997 is expected to increase the primary surplus of the consolidated public sector from an expected 1 percent of GDP in 1997 to about 2½ percent of GDP in 1998, taking into account the impact of slower growth on revenues. The fiscal package includes a range of revenue-enhancing measures, reductions in fiscal benefits, cuts in current and investment spending, increases in public sector tariffs and reductions in state financing limits. The government has also taken steps to accelerate the passage of the administrative and social security reforms, with approval of both reforms expected in early 1998. While these reforms have been weakened in congress, they will still have a positive impact in the short and, especially, the medium term.

B. The Real Economy

8. The fall in the **rate of growth of GDP** in the third quarter of 1997 confirmed the signs of a cooling of economic activity already given by other indicators such as retail sales and stocks. For the year as a whole, real GDP growth is estimated to have been 3.5 percent compared with 2.9 percent in 1996. While the doubling of interest rates at the end of October hit the normally buoyant Christmas sales period, the main impact on growth was expected to be felt in early 1998. The slowing of economic activity followed exceptionally strong growth of consumer demand through mid-1997 due to the easing of credit restrictions in the middle of 1996. The slowdown reflects, among other factors:

- *a reduction in the growth of purchasing power*. The rate of growth of real wage rates fell to 2.5 percent in the 12 months to September 1997 compared with 7.4 percent in 1996 and 10.3 percent in 1995;

- *growth in consumer retail credit delinquency*. The level of consumer retail credit delinquency (measured as the percentage share of late credit installment payments to total sales for São Paulo) increased to 8 percent in the first half of November, its highest level since July 1995, suggesting that the strong growth of consumer purchasing power in 1996 could have caused retailers to overestimate consumer capacity for indebtedness in 1997; and

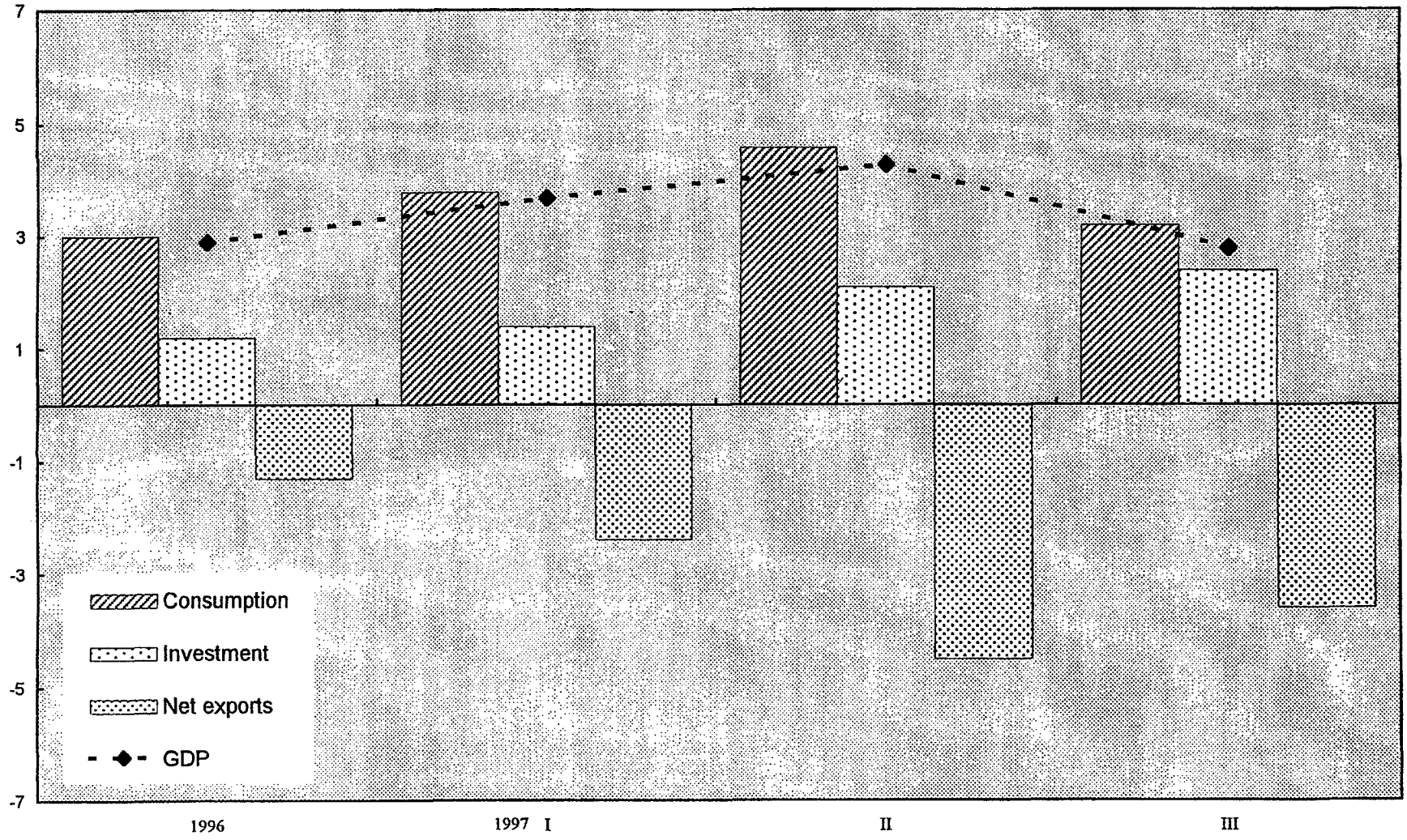
slowdown in consumer credit from the banking system. The decision to maintain central bank intervention rates constant from April 1997 led to a progressive increase in real interest rates and tightening of monetary policy in the course of 1997. The growth of bank consumer credit slowed significantly as from midyear, with the share of loans to individuals (which had risen rapidly since mid-1996) falling from a 12-month rate of 95 percent in April to a rate of 71 percent in November.

The slowdown in consumption more than offset a pickup in investment in the course of the year (Figure 1). Accordingly, the growth of production of consumer durables slowed from mid-1997, while the production of capital and intermediate goods remained, reflecting in part, the impact of the speeding up of the privatization program (discussed in Chapter III) on investment. For the year as a whole, consumption is expected to grow by 5.5 percent in real terms while investment which still only accounts for about 20 percent of domestic demand is expected to grow by 12 percent.

9. **Economic growth** in 1997 reflects exceptionally strong growth in mining, telecommunications, agriculture, and construction (Figure 2). This was offset to some extent, however, by a slowdown in manufacturing, commerce, and related services, which together account for about 65 percent of GDP. The growth in the mining sector (7.9 percent) reflects the domination of this sector by the mining giant, CVRD, and its exceptionally good financial results, as well as a 50 percent increase in investment since 1995. Telecommunications has also showed strong growth (7 percent) following the wide-scale restructuring of the telecommunications sector prior to privatization. Agricultural growth (4.9 percent) reflected good weather conditions coupled with high international prices, financial restructuring of farm debt and improved agricultural financing facilities. Construction growth (7.6 percent) benefited from new housing financing facilities and higher investment in infrastructure associated with the privatization program. On the other hand, the continuing contraction of the financial sector reflects the restructuring of the banking system following the stabilization of the economy.

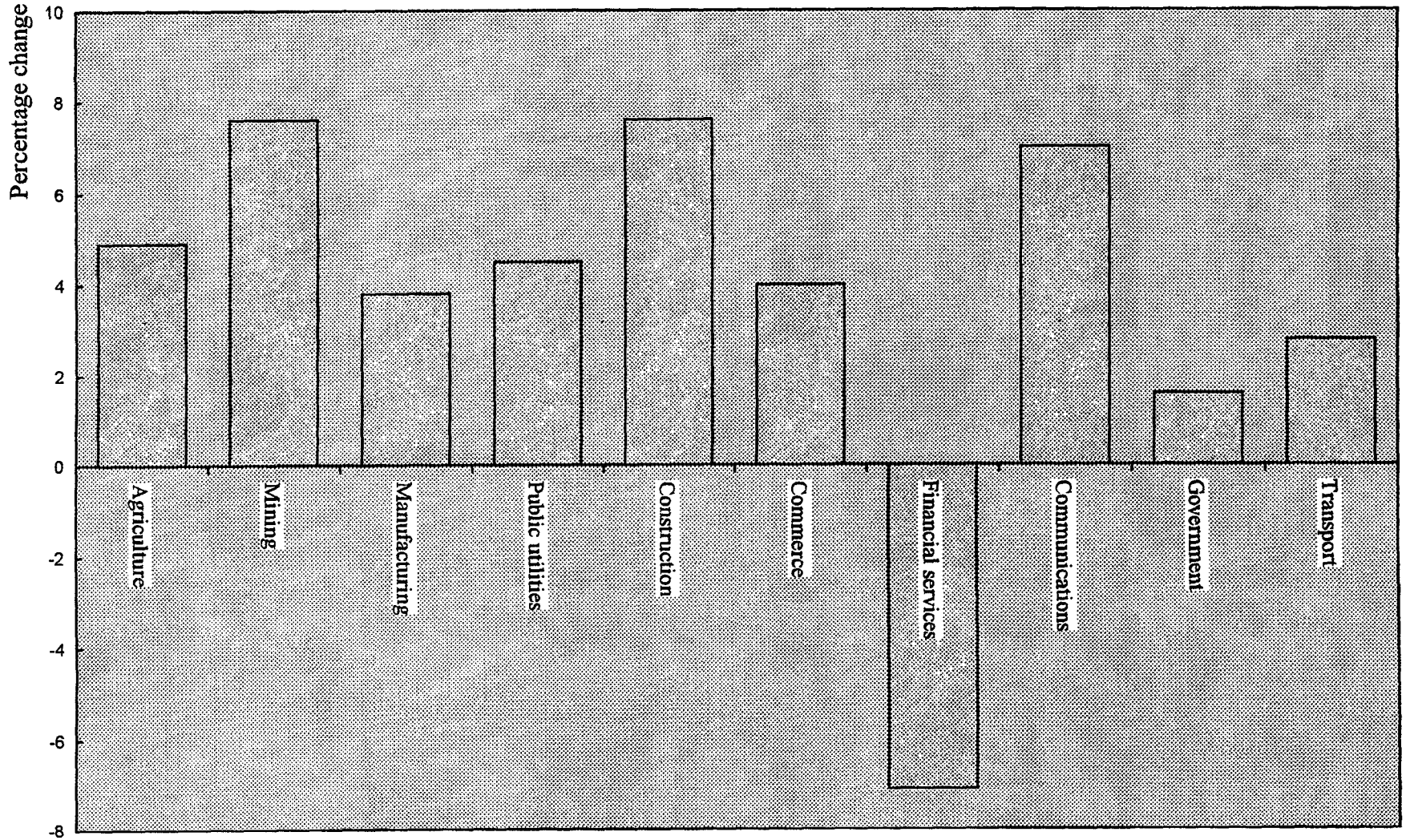
10. Progress in reducing **inflation** continued in 1997 with the 12-month increase in consumer prices falling to less than 4.5 percent in December 1997 compared with 9.1 percent in December 1996. Upward pressure on prices during the year came from adjustments in transport, electricity and telephone tariffs in May, June, and November which together are estimated to have accounted for more than 35 percent of the increase in prices in 1997. This pressure was offset to some extent by relative small increases in food prices which benefited from favorable weather conditions. One important trend observed in 1997 is that, despite higher public utility tariffs, the rate of growth of tradable and nontradable prices have shown clear signs that they are beginning to converge which, together with improvements in productivity growth, have eased overall inflation and signal that competitiveness is beginning to improve (see Chapter VII).

Figure 1. Brazil: Contribution to GDP Growth
(Percent change)



Source: Fund staff estimates.

Figure 2. Brazil: Gross Domestic Product by Sector, 1997
(Percentage change)



Source: IBGE.

11. In keeping with the tendency in 1995 and 1996, **employment** continued to fall in 1997 (by ½ percent in the 12 months to August 1997), although at a much slower rate than previously. As a result, unemployment is estimated to have increased from 5.4 percent in 1996 to close to 6 percent by end-1997. Employment cutbacks occurred mainly in industry, with some modest growth in commerce and services. This has been a direct consequence of the process of economic liberalization begun in the early 1990s which has resulted in a large-scale restructuring of the productive sector (much of the decline in employment being concentrated in the large urban areas). Cutbacks in employment have been particularly intense in privatized enterprises which have seen cuts in employment as high as 50 percent (Chapter III). This accounts for the sharp drop in employment in the utilities sector, with telecommunications and electricity experiencing the largest cutbacks (Figure 3). Nevertheless, indications of poverty and irregularity showed some signs of improvement (Box 1).

12. Changes have also occurred in the structure of employment, with an increasing degree of outsourcing and greater use of informal labor and self-employed workers. According to ministry of labor data, formal employment has dropped 20 percent since 1990 to about 30 percent of the labor force while informal employment has increased 11 percent, reflecting rigid labor laws and the high incidence of taxation on labor (see Figure 3). Nevertheless, with the fall in employment, workers' bargaining power in wage negotiations has been reduced significantly, reversing the growth in real wages since mid-1994. Confirming this picture are recent figures (released by the Inter-Union Department for Statistics and Socio-Economic Studies (DIEESE)), showing an increase in the number of wage agreements including adjustments below the growth of the consumer price index (Table 1).

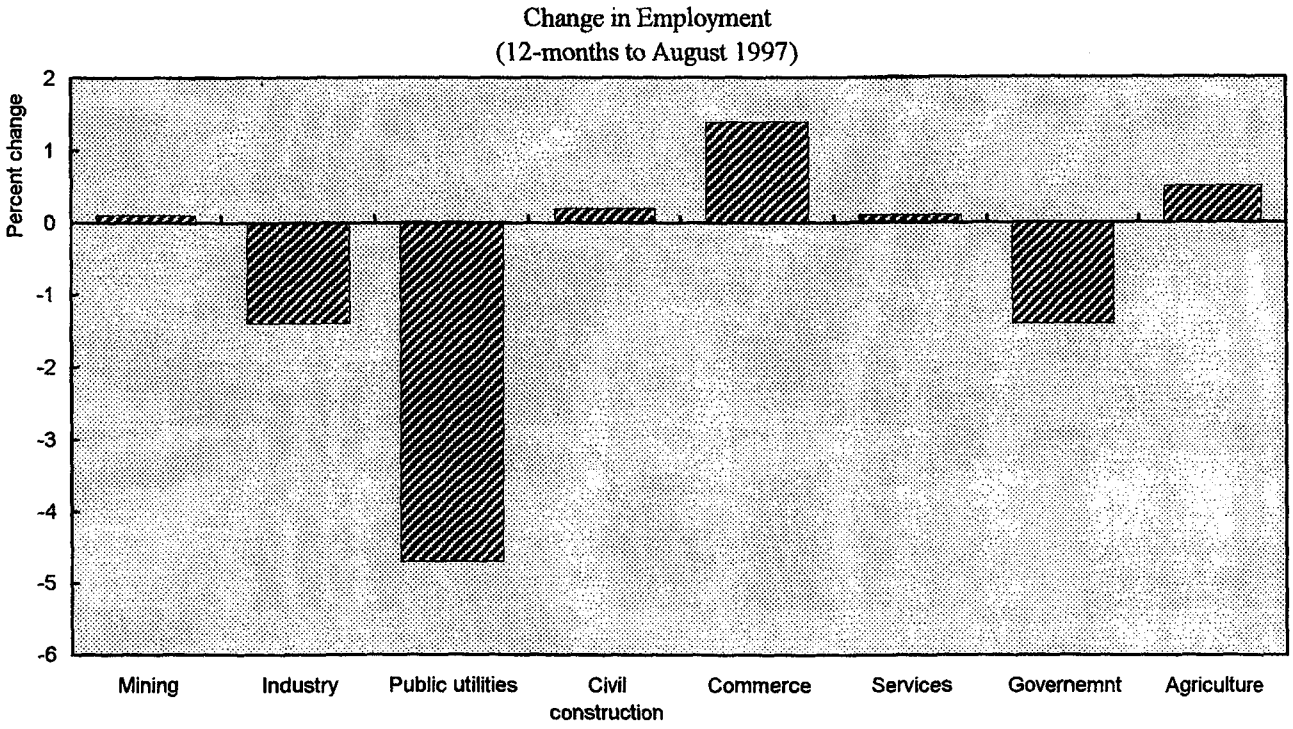
Table 1. Brazil: Wage Settlements in Relation to Consumer Price Inflation

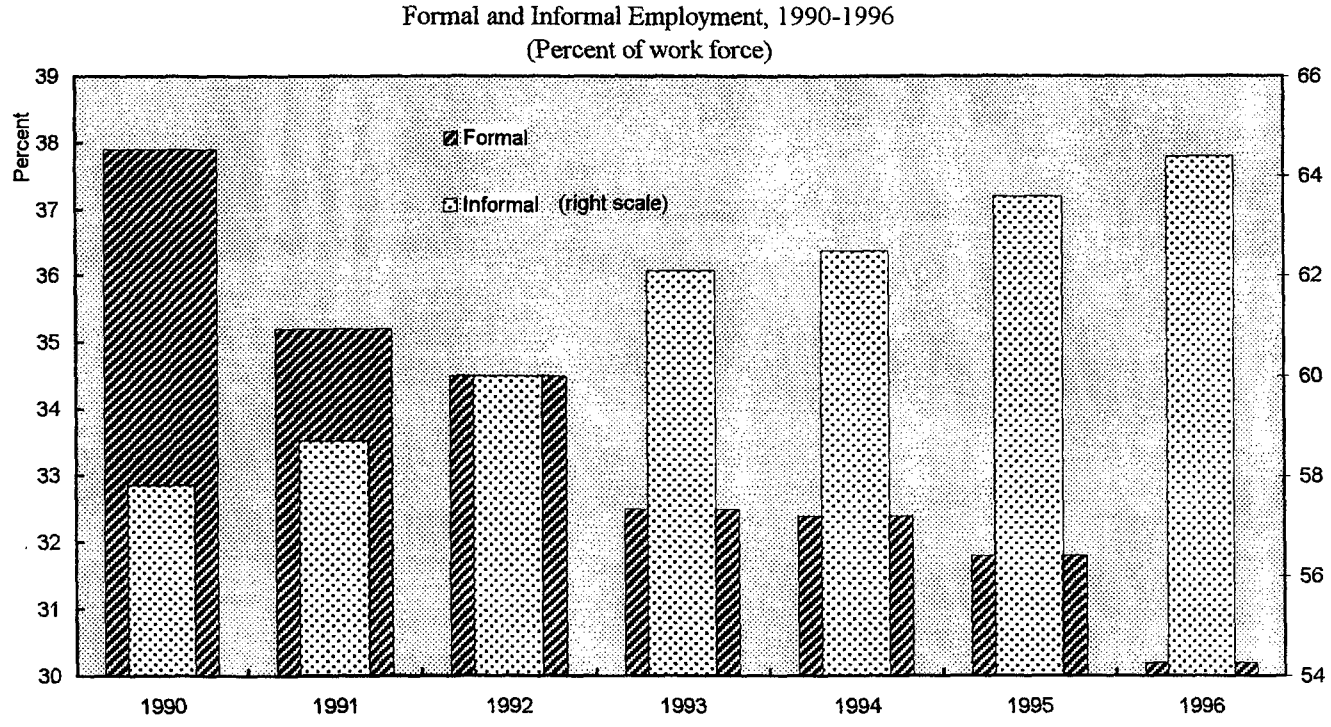
(Percent of total wage settlements)

	1996	First Half 1997
Industry		
Below	53.8	63.0
Equal	1.2	15.2
Above	45.0	21.8
Retailing		
Below	22.6	23.1
Equal	9.7	30.8
Above	67.7	46.1
Services		
Below	28.8	36.2
Equal	6.9	11.7
Above	64.3	52.1

Source: Inter-Union Department of Statistics and Socio-Economic Studies (DIEESE).

Figure 3. Brazil: Recent Employment Trends





Sources: Ministry of Labour.

Box 1. Brazil: Poverty and Income Distribution

The stabilization of the economy following the introduction of the *Real Plan* has had a major impact on poverty and income distribution, reversing part of the earlier erosion of real incomes due to high inflation. The reduction in poverty and inequality since 1994 was due largely to an increase in the minimum wage of 43 percent in May 1995 at a time when inflation had already fallen sharply to a level of 2.1 percent a month.

The table below shows data on *inequality* based on data for the six metropolitan areas in Brazil as measured by the ratio of the share of income of those in the top 20 percent income bracket to the income of those in the lowest 50 percent. The ratio fell from an average of 4.5 percent in the 12 months to May 1994 to 4.0 in the 12 months to May 1997 (latest available data). While the increase in the minimum wage in May 1995 had a major effect in reducing inequality, the subsequent deindexation of the wage structure from the minimum wage meant that the increase in the minimum wage in May 1996 had less effect on this measure of income distribution.

Brazil: Measures of Poverty and Income Distribution

12 months ending	Inequality (Ratio)	Poverty (P0) (In percent)	Poverty Gap (P1) (In percent)
May 1997	3.98	25.1	16.6
May 1996	4.00	25.9	16.7
May 1995	4.46	32.1	19.7
May 1994	4.47	33.3	20.4
May 1993	3 80	31.7	19.0
May 1992	3.72	28.8	16.9
May 1991	4.10	23.2	14.0

Source: IPEA (M. Neri).

Nevertheless, increases in the minimum wage have continued to have an impact in reducing *poverty*, although not on the poverty gap. The table presents two measures of *poverty*:

- *Poverty (P0)* is equal to the percentage of the population falling under a poverty line of US$50 a month. P0 fell from an average of 33 percent in the 12 months to May 1994 to an average of 25 percent in the 12 months to May 1997. Since 1994, more than 16 million people have risen above the poverty line.

- *Poverty gap (P1)* is equal to the distance below the poverty line of the average income of those households falling below the poverty line[1] (i.e., in the 12 months to May 1997 the average income of these households was 16.6 percent below the poverty line). *P1* shows that the sharp reduction in the "poverty gap" occurred between 1994 and 1996.

1/ The poverty gap (P1) is measured using the following formula:

$$P1 = (q/n).((Z-Y)/Z)$$

where q is the number of individuals below the poverty line, n is the number of individuals in the population, Z is the poverty line and Y is average income of those below the poverty line (expressed in percentage terms).

C. Balance of Payments

13. A deceleration of consumer demand, in combination with improvements in competitiveness, led to a recovery in exports and moderation in imports since mid-1997. This helped slow the deterioration in the trade balance which had been associated with the strong growth of consumption in the second half of 1996 and early 1997 and a stagnation of nonagricultural exports, and had led to concerns regarding the **sustainability of the current account deficit**. For the year as a whole, the trade deficit was US$8.5 billion, compared with US$4.2 billion in 1996, but lower than consensus forecast estimates of US$11–12 billion made earlier in 1997. This, together with net service payments associated with tourist expenditures and profit remittances, resulted in a current account deficit of almost US$34 billion, equivalent to 4.3 percent of GDP, compared with a deficit of 3.3 percent in 1996. Despite the high short-term capital outflows associated in part with the October 28 stock market fall, medium- and long-term inflows were strong in 1997, with nearly half the current account deficit being financed by foreign direct investment (which showed little signs of being affected by the October events). Gross international reserves ended the year at US$52.2 billion, equivalent to about eight months of imports of goods and nonfactor services, and to 162 percent the official estimate of short-term external debt. This compares with gross reserves of about US$62 billion in mid-October 1997.

14. There was a recovery in the **performance of total exports** in 1997, which grew by 11 percent, in U.S. dollar terms. This was mainly a reflection of the strong growth in exports of basic commodities, in particular coffee and soybeans, which grew by about 26 percent, largely due to favorable international prices. The growth of manufactured exports was also encouraging (about 9 percent), although growth was concentrated in automobiles, which benefits from the special automobile regime with Mercosul, and airplanes.[2] Nevertheless, other areas such as processed sugar, cigarettes, cargo vehicles and heavy machinery, performed well, although it is too early to say whether this points to the prospect of a more widespread improvement in response to recent improvements in profitability, following a declining in unit labor costs and the depreciation of the real exchange rate (for a discussion of competitiveness see Chapter VI). Among semimanufactured exports, iron and steel plates showed the weakest performance (a decline of 35.5 percent) as a result of higher domestic demand, particularly from the automobile industry, demonstrating a counter cyclical pattern of trade, with domestic manufacturers largely concentrating on the domestic market. The negative performance of other semimanufactured products, on the other hand, can be explained by price declines for pulp, aluminum, and unrefined sugar.

15. While **total exports are reasonably diversified and evenly distributed by region of destination**, Figure 4 shows that their composition by region varies sharply by product type. For commodities, around 75 percent of exports in 1997 were to the European Union and Asia. The European Union alone accounted for 55 percent of the total. For manufactured

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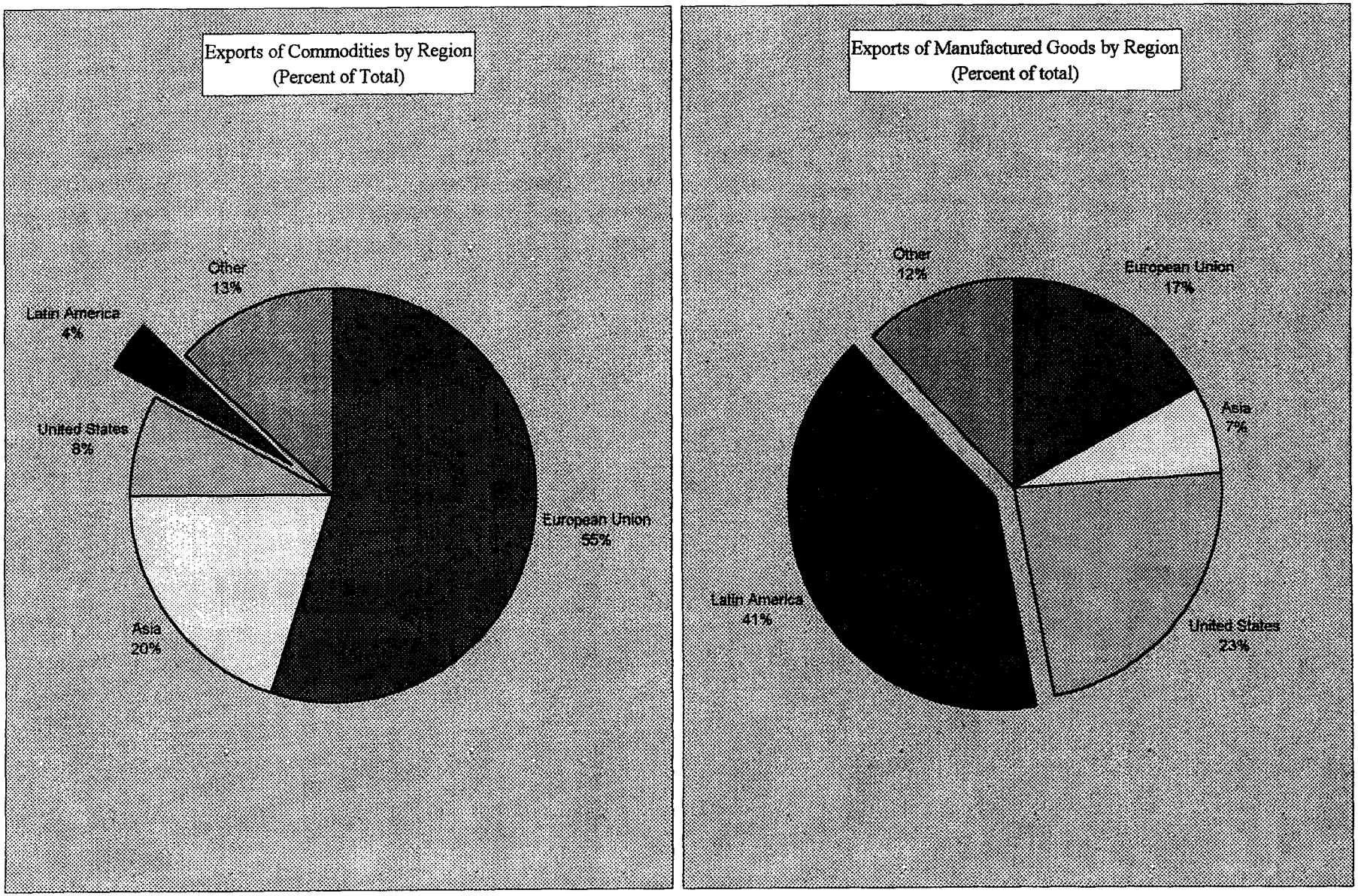
[2] Airplane exports include the re-export of Boeing planes owned by VASP, a Brazilian airline company, to the Bolivian airline, which VASP bought last year.

Figure 4. Brazil: Exports by Region in 1997



Sources: Brazilian authorities.

products about 65 percent are exported to Latin America and the United States. Since 1995, the United States' share has fallen and the share of Latin America (especially Mercosul) has increased. Mercosul accounted for about 28 percent of total exports in 1997, compared with 19 percent in 1995, the first year of the common external tariff.

16. A number of measures were adopted in 1996 and 1997 to stimulate exports. These measures included the extension to nonmanufacturing exports of the exemption from the state level value-added tax (ICMS) as well as from some federal social contributions (PIS/PASEP and COFINS). The export pre-financing program (FINEMEX) of the National Development Bank (BNDES) was broadened to cover up to 100 percent financing of exports, and the BNDES introduced a program to finance exports of small- and medium-sized companies (PROEX). The government also introduced an export credit insurance scheme, and simplified customs procedures. The privatization of some ports contributed to the reduction of port charges.

17. The **growth of total imports** decelerated from an annual rate of about 23 percent in the first half of 1997 (relative to the same period in 1996) to 15 percent for the year as a whole. In the second half of 1997, the growth of imports of consumer goods decelerated rapidly while that of capital goods rose, despite the removal of exemptions from duty for many capital goods in July. This is consistent with the shift in the dynamics of domestic demand from consumption to investment observed in the national accounts. Import growth decelerated sharply in the last two months of the year, due to the impact of higher real interest rates on consumer demand.

18. The deterioration in the current account deficit in 1997 also reflected a weakening of the **services account** due to: (a) higher net remittances of profits and dividends (up US$2.9 billion) and (b) net international travel (up US$0.8 billion). Concern with the deterioration in the services account led the central bank to impose restrictions on installment purchases through international credit cards (this type of spending accounted for about 70 percent of travel debits in 1997).

19. The rise in automobile exports observed in 1997 is almost entirely within the **special automobile regime** with Brazil's Mercosul partner countries. Cars produced in Mercosul countries and exported to Mercosul markets pay only half of the 63 percent import tariff paid on cars imported from outside the regime. Also, local car producers can import machinery, equipment, and parts paying a tariff of 2 percent instead of 17 percent paid by nonproducers. Under current arrangements, this regime should end by 1999 and the external tariff decline to 20 percent.[3]

20. Apart from the increase in the average common external tariff for Brazil from 14 to 17 percent in November (as part of the package of fiscal measures introduced to strengthen

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[3]Other important distortions to the trade regime beside automobiles, include the "information law" which protects the computer sector with a nominal tariff of about 50 percent.

the *real*), there was just one other major change to **trade policy** in 1997. A new import tariff on capital goods was imposed at 17 percent. While the unweighted average external tariff is 17 percent, specific tariffs range as high as 65 percent for some products.

21. About half the current account deficit was covered by **foreign direct investment** which, together with an increase in **long-term capital inflows**, led to an improvement in the quality of external financing. Prior to October, Brazil had not experienced any difficulties raising external financing despite a sharp increase in amortization payments in 1997 (gross financing needs, minus foreign direct investment reached US$40 billion during the first nine months of 1997, compared with US$22 billion in the same period in 1996). Brazil's increased access to international financing had been demonstrated by the placement of a *global bond* of US$3 billion, at favorable terms in May 1997, allowing for the retirement of some US$2.25 billion in Brady bonds and the freeing of the associated U.S. collateral bonds.[4] During the last two months of the year, however, the sharp increase in interest rate spreads for Brazilian paper inevitably limited the scope for new placements and reduced net portfolio inflows for the year as a whole. On the other hand, there was a sharp increase in suppliers' credits due to the impact in 1997 of a central bank regulation introduced in March limiting import financing to 360 days or more.[5] This measure, which was introduced to limit the scope for interest rate arbitrage, had the effect of increasing net medium- and long-term import financing in 1997.

22. **Short-term capital flows** suffered from the contagion effects from Asia in late 1997. Net short-term capital outflows, which are estimated at US$20 million for 1997, had been effected negatively at the beginning of the year as the return on fixed income assets adjusted by the expected exchange rate changes became increasingly unattractive, causing the central bank to halt its policy of reducing nominal interest rates in April. Central bank intervention in the exchange market to defend the exchange rate band resulted in a net loss of US$8.2 billion in international reserves in the last few days of October. As noted above, the overall loss of international reserves is estimated at US$7.9 billion for 1997.

23. During 1997 the authorities continued their policy of an **adjustable exchange rate band system**. The outer band of R$1.05 to R$1.14 per U.S. dollar was established on February 18, 1997 and, during the year, the authorities maintained their policy of depreciating the *real* vis-à-vis the U.S. dollar at an average of monthly rate of about 0.6 percent, notwithstanding the turmoil in financial markets in the last quarter of the year. On January 18, 1998, the central bank announced a new band of R$1.12 per U.S. dollar (lower limit) and R$1.22 per U.S. dollar (upper limit) which represents about a 7 percent adjustment from the previous band.

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[4]A similar operation in December freed an additional US$1.1 billion in U.S. collateral bonds.

[5]If they cannot obtain these terms, they are required to enter into a forward contract for the necessary foreign exchange several months before the payment is due or be subject to a penalty by the central bank.

D. Monetary Policy

24. Monetary policy remained cautious in the first ten months of the year, mainly because of **concern over the vulnerability of the external position**. In April, the central bank departed from the policy of gradually reducing interest rates in line with the decline in inflation and maintained unchanged the central bank basic rate (TBC) at 1.58 percent a month in nominal terms until the foreign exchange market turmoil at the end of October. Market interest rates, particularly lending rates, remained quite high in real terms during this period, contributing to the strength of the capital account, as well as to a slowdown in economic activity. The annualized overnight rate of interest averaged 21.4 percent in nominal terms and 13.6 percent in real terms during the first ten months of the year.

25. The rate of growth of outstanding **credits from the financial system to the private sector** showed clear signs of deceleration after May, especially in loans to individuals for acquisition of goods, the major factor responsible for the strong performance of sales of durable and nondurable goods since the middle of 1996. The rate of growth of bank lending to the private sector increased to 17.4 percent in November 1997 (compared with 7.6 percent in December 1996). However, the growth of consumer lending, (which accounts for about 10 percent of credit to the private sector) rose to a peak annual rate of 106 percent in July (on rumors that restraints on credit were to be imposed), before decelerating to 71 percent in November 1997. The slowdown in the growth of consumer credit also reflected lenders' reaction to rising delinquency rates (Figure 5), and the slowdown in domestic demand.

26. The **conservative stance of monetary policy** in the first three quarters of 1997 is confirmed by a number of other factors including (a) the qualitative improvement in the composition of the factors effecting liquidity in the economy (improved treasury performance reduced the need for sterilization and the slower growth of the international reserves made a contribution in the same direction); and (b) the greater flexibility of interest rate policy provided by the skillful construction of a yield curve based on a lengthening of the average maturity of federal public securities. The growth of the monetary aggregates in 1997 reflected (a) the gradual remonetization of the economy (even so the monetary base is still only about 3 percent of GDP); (b) the introduction of a financial transactions tax (CPMF) in January 1997 which is charged on any drawing from bank accounts and money market instruments (as a result, funds that would have normally been deposited in short-term investment funds remained in demand deposits, increasing bank reserves);[6] and (c) the increase in real interest rates from April which resulted in a pickup in savings and time deposits.

27. The 12-month rate of expansion of **M2**, which in recent years has tracked inflation well, decelerated at the beginning of 1997 from 12.9 percent from end-1996 to about 6 percent at end-March 1997, before accelerating in the second and third quarter under the

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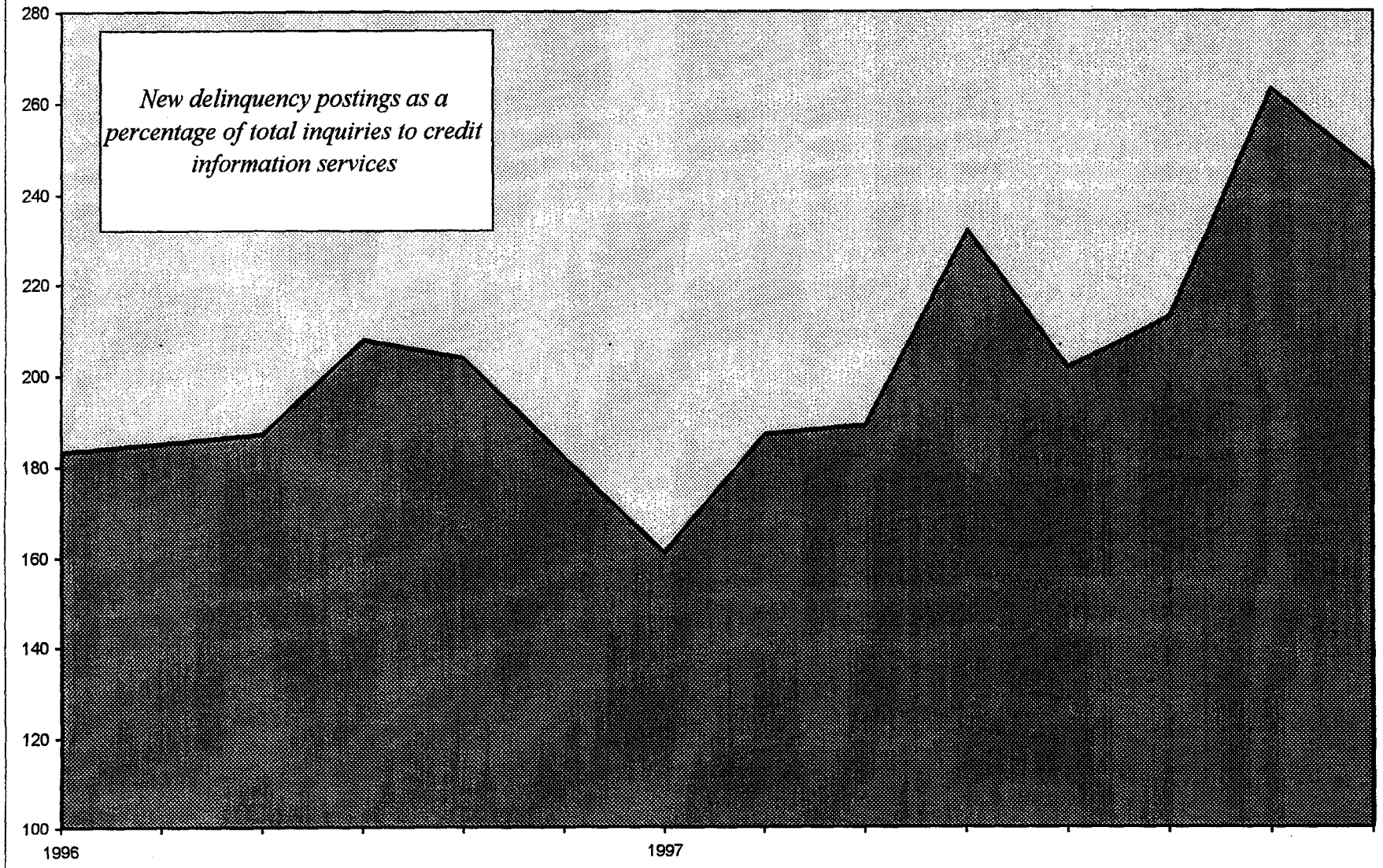
[6]This caused a sharp increase in the rate of growth of M1 to over 50 percent in the first half of 1997.

Figure 5. Brazil: Consumer Delinquency Levels, July 1996-August 1997
(Index 1994=100)



Source: Cental Bank of Brazil.

combined influence of the CPMF and higher real interest rates (to 14.6 percent in October). On the other hand, the rate of growth of **M4**, which was not effected by the CPMF, continued to slow from 29 percent at end-1996 to 25 percent at end-October 1997. It is estimated that the rate of growth of M4 picked up to about 30 percent by the end of the year, partly reflecting the increase in real interest rates. Overall, these movements suggest that allowing for the distortions in the narrow monetary aggregates, the remonetization of the economy is being carried out in a cautious manner, without causing inflationary pressures.

28. The central bank and treasury continued successfully the process of **lengthening the maturity of federal debt** prior to the recent turbulence in financial markets. The average maturity of federal debt increased from just under 80 days at end-1996 to 224 days at end-September 1997 (Figure 6). This resulted in a downward sloping yield curve for government debt. As well as lengthening the maturities of fixed rate debt with treasury notes (LTN) and central bank bonds (BBC), the supply of two-, three-, and five-year foreign exchange rate pegged NBC-Es and NTN-Ds was increased. This was largely in response to the demand for an exchange rate hedge late in the year and to reduce pressures in the forward market. The outstanding stock of U.S. dollar indexed debt increased from 9.1 percent of securitized public debt at end-1996 to 12.6 percent at end-1997.

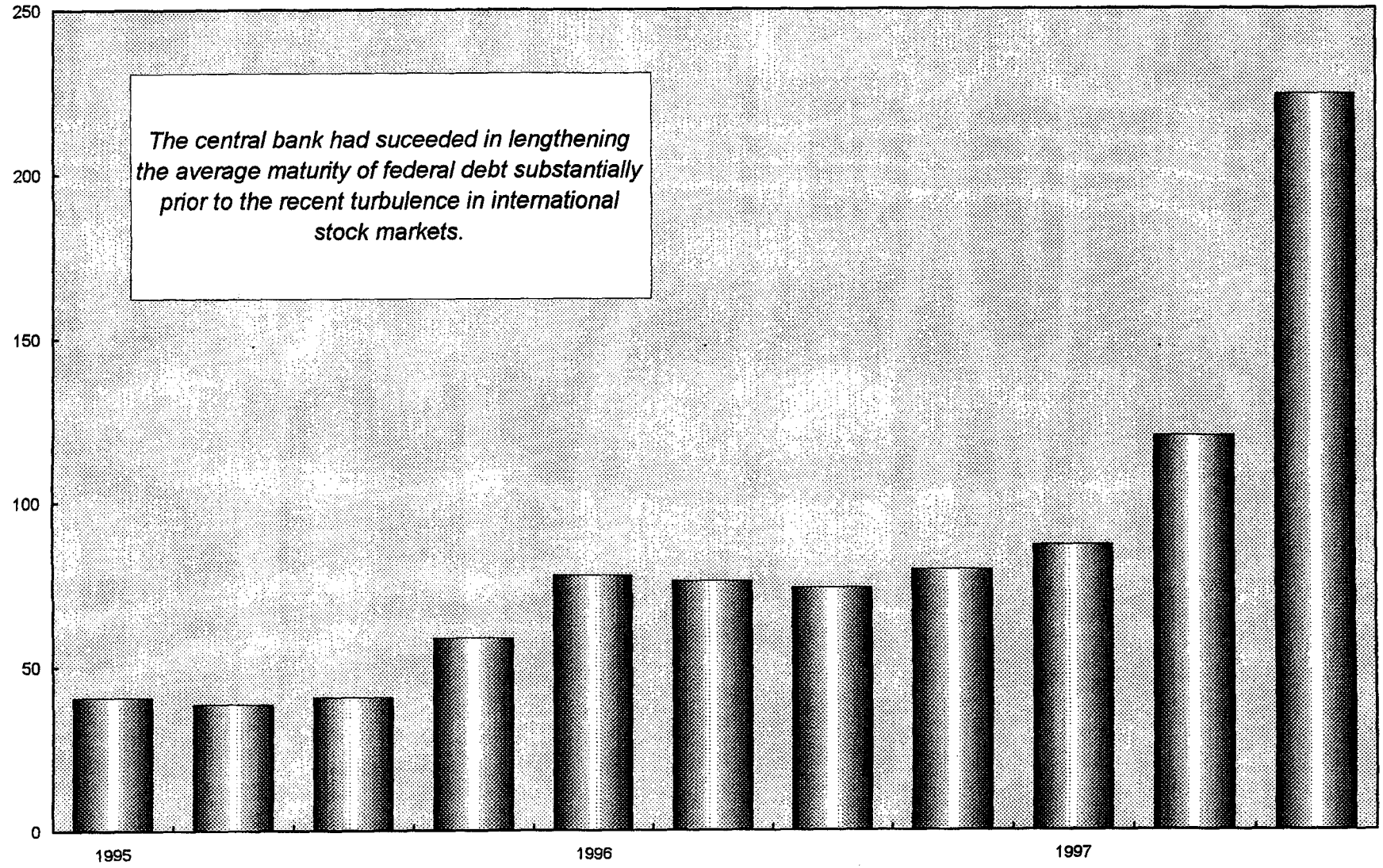
29. The **sharp increase in interest rates** on October 30 when the central bank basic rate was doubled from 1.58 to 3.05 percent a month, equivalent to 43.4 percent on an annual basis, represented an appropriate response to the pressures on the exchange rate, and clearly reduced these pressures in the short-term with some recovery of reserves and reducing the rates on the forward market. However, the maintenance of such high real interest rates for an extended period of time would be likely to lead to:

- a pronounced downturn in activity (real rates are now higher than in mid-1995 when they caused a sharp decline in real GDP);
- an increase in nonperforming loans (see Chapter V for a discussion of the condition of the banking system); and
- an increase in the interest payments burden for the public sector (at the current level of net public sector debt, each 1 percent increase in the annual effective interest rate on the net debt increases the interest bill by about 0.3 percent of GDP). Since the initial interest rate hike the central bank has taken steps to reduce its basic rate further to 2.7 percent by January 1998, although rates remain high in real terms (26 percent).

E. Fiscal Policy

30. The **fiscal position** strengthened moderately in 1997, with the primary surplus of the public sector estimated to have reached 1 percent of GDP (compared with a primary deficit of 0.1 percent of GDP in 1996), mainly as a result of net improvements in the finances of the states and municipalities, and of the public enterprises. The package of fiscal measures

Figure 6. Brazil: Average Maturity of Federal Debt, 1995-1997
(In months)



Source: Fund staff estimates.

announced in November is not expected to significantly affect the outcome for 1997, the main impact being felt in 1998. The **overall deficit of the public sector** is expected to decline from 6.1 percent in 1996 to about 4½ percent in 1997, reflecting the impact of lower interest rates on interest payments for the year as a whole (despite the recent interest rate increase). The primary surplus of the federal government is expected to remain little changed at 0.5 percent of GDP in 1997 (compared with 0.4 percent in 1996), because of a 5 percent decline in corporate tax revenue resulting from the 1996 tax reform and substantial increases in social security and other nonwage spending, which roughly outweighed the favorable effects of the introduction of the tax on financial transactions (CPMF), revenue from telecommunication concessions and wage constraint (a general wage increase for civil servants was not granted for a second year in a row).

31. Federal revenues in 1997 were boosted by the impact of the financial transactions tax (CPMF) introduced in February 1997, the increase in the tax on financial operations (IOF) in May, and revenues of R$1.4 billion from the sales of the "B" band telephone concessions. These new revenues amount to 1 percent of GDP, and without them total revenues would have fallen in 1997 as a percent of GDP (Figure 7).[7] One of the reasons for the slow pace of fiscal adjustment, even with a high tax burden of 30 percent of GDP is the rigidity of public sector expenditure, with only about 20 percent of total federal spending within the government's discretionary power. The other 80 percent includes expenditure on social security benefits, personnel, constitutionally obligatory transfers and interest, none of which can be strongly influenced without approval of congress and the passage of the social security and administrative reforms (Figure 8).[8]

32. There was an important improvement in the **fiscal position of the states and municipalities** in 1997 as measured below the line, which is estimated to have fallen to a primary deficit of 0.1 percent of GDP in 1997, compared with 0.6 percent in 1996. This improvement was mainly the result of expenditure restraint, including no general wage increases, increases in local enterprise tariffs and some reductions in employment. In addition, the privatization and closure of enterprises which relied heavily on state transfers more than offset the negative impact on revenues of the exemption (effective September 1996) from the state level value added tax (ICMS) of nonmanufactured exports and to purchases of capital goods. However, the lack of reliable above-the-line fiscal data makes it difficult to assess the sustainability of this improvement.

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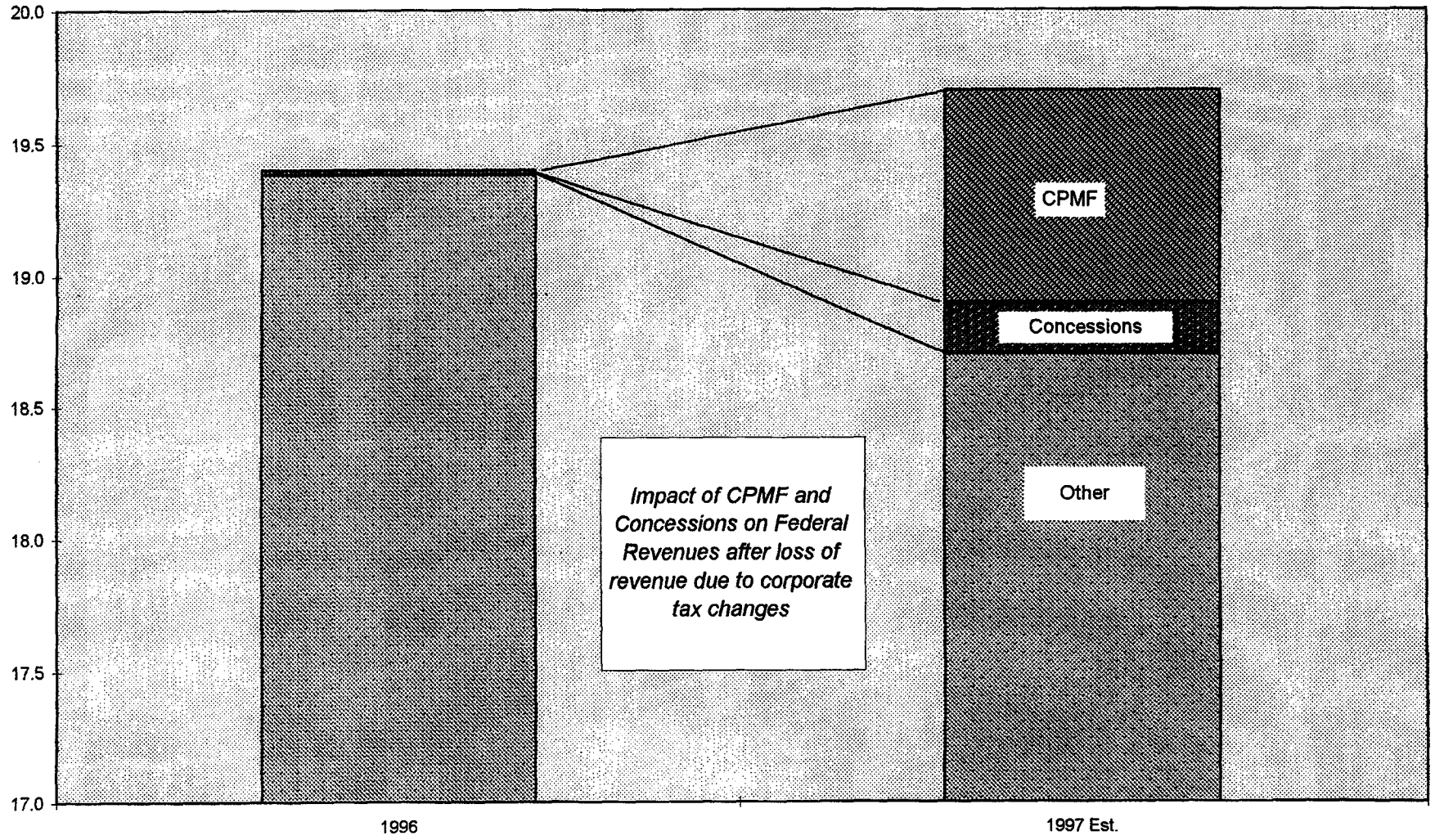
[7]The CPMF tax on financial transactions was introduced for one year effective February 1997 at a rate of 0.2 percent, with proceeds earmarked for health expenditure. In November 1997, it was extended to December 1998.

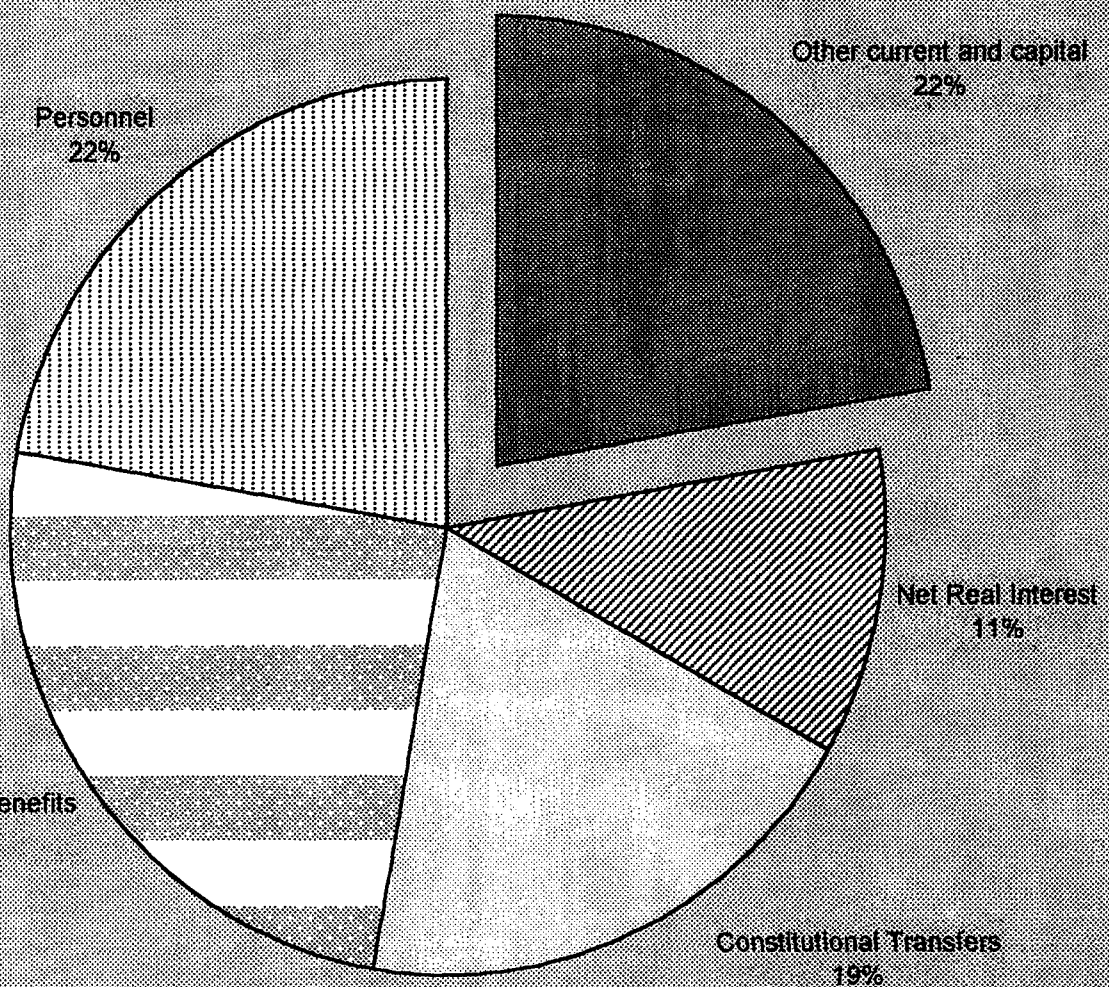
[8]Of the 55,000 workers *without* job tenure in the federal government, nearly all are concentrated in the education and health sectors where the political costs of laying off workers are high. The administrative reform is therefore needed to allow the layoff of workers *with* tenure, although the immediate savings would be offset by severance costs.

Figure 7. Brazil: Federal Revenue
(Percent of GDP)



Sources: Brazilian authorities, and Fund staff estimates.

Figure 8. Brazil: Distribution of Federal Expenditures
(Percent of total)



Rigidity of Federal expenditures with only about 22 percent subject to federal government short term discretionary control

Sources: Ministry of Finance.

33. The **fiscal package** announced by the government on November 10, 1997 is expected to yield the equivalent of over 2½ percent of GDP in net savings to the public sector in 1998. (The steps taken to speed up the associated administrative and social security reforms are discussed in Box 2.) This improvement, however, is likely to be partly offset by the impact of the expected downturn in economic activity and higher interest rates, resulting in a net improvement in the primary balance of about 1½ percent of GDP in 1998. The package includes far-reaching measures to improve the finances of the federal government, states and public enterprises. At the federal level, the **revenue measures** include a personal income tax surcharge of 10 percent for all taxpayers in the upper 25 percent tax rate, limits on deductions from taxable income, a 25 percent reduction in regional fiscal incentives for 1998, with further reduction in an increase in the industrial products tax (IPI) for automobiles, beverages, and temporary increases in the prices of petroleum derivatives and alcohol. On the **expenditure side**, the measures include cuts in budgeted payroll spending, a 15 percent cut in budgeted, nonwage current expenditures in the 1998 budget, except for education, health, social assistance and agricultural reform, and a 6 percent cut in budgeted capital outlays. The measures also call for the elimination of 70,000 unfilled posts, as well as a reduction in employee benefits.

34. At the **state and municipal level**, the federal government in seeking to harden budget constraints through limits on bank credit for states and municipalities, tightening access to external borrowing with federal guarantee, and accelerating the conclusion of the fiscal adjustment programs with the states in connection with the rescheduling of state debts. In addition, the senate has passed a resolution requiring each state to use 50 percent of its privatization revenues to reduce state debt, although the use of privatization proceeds by the states has not yet been finalized.

35. The negotiation of **fiscal adjustment programs** with the states as counterparts for the recent rescheduling of state debt, proceeded slowly in 1997. While 22 of the 27 states had signed debt rescheduling protocols with the federal government by early 1997, only São Paulo, by far the largest debtor, and two other states had signed fiscal adjustment programs (Mato Grosso and Ceará) by the end of the year (the negotiations of the states fiscal adjustment programs is discussed in Chapter II).

36. The primary surplus of the **public enterprises** is expected to increase from 0.1 percent of GDP in 1996 to 0.5 percent in 1997 as a result of the increase in public sector tariffs, and a cutback in spending, mainly on investment projects.

37. The broadening of the **privatization program** to include infrastructure sectors (telecommunications, electric power, transportation, sanitation and gas) as well as the financial sector, resulted in an acceleration of privatization and is expected to improve efficiency and reduce costs for domestic industries. Privatization receipts in 1997 are estimated at US$22 billion (2.6 percent of GDP) with transfer of debts accounting for R$3.6 billion. Most of the federal privatization proceeds of R$4 billion were used to reduce public debt. Progress was being made in establishing a clear regulatory framework for the sector, with a general telecommunications law and an oil deregulation bill approved by congress in recent months (the privatization program is discussed in Chapter III).

Box 2. Administrative and Social Security Reform

After almost three years of legislative delays, mounting pressures have speeded the passage of the administrative and social security reforms through congress with final approval of both reforms expected in early 1998. In November 1997, the lower house approved the *administrative reform* which has now passed to the senate. The version of the administrative reform approved by the lower house contains important instruments for reducing personnel costs:

- the establishment of a salary ceiling of R$12,720 for all civil servants;
- provision for the dismissal of civil servants for inadequate performance;
- the possibility of dismissing civil servants with job tenure when personnel costs exceed 60 percent of net revenue; and
- the possibility of temporarily laying off civil servants and paying them a lower salary than those who are working.

According to the ministry of public administration and reform of the state, the reform should save about 1 percent of GDP in its first three years of operation, although its impact in 1998 may be limited because of severance costs and the need for a complementary law to define the criteria for dismissing civil servants. Some of the major states, however, have already taken action to reduce excessive personnel costs without waiting for the law to be passed. The state of São Paulo, for example, has already dismissed 124,000 state workers during 1997 and is close to meeting the 60 percent payroll cap.

In November 1997, the senate also approved a strengthened version of the *social security reform* which has now returned to the lower house. The senate version has a number of positive aspects:

- the introduction of a minimum pensionable age and a minimum number of years of contribution to the system; and
- the elimination of the possibility of receiving a pension and a civil service wage, and more than one pension.

The social security reform would reduce the costs of (a) the civil service pension scheme which eats up nearly half the federal payroll, and (b) the national social security system (Previdência) which covers the private sector. The finances of the national social security scheme for private employees, which covers about 16 million pensioners, have deteriorated steadily from rough balance in 1995 to an estimated deficit of 0.3 percent of GDP in 1997. The government recognizes, however, that the current version of reform falls short of what would be eventually needed to put the pension system on a financially viable path, as it sets a minimum retirement age of 60 for men and 55 for women (which is high by international standards) and continues to grant generous criteria for the accrual of pensions rights and the calculation of the pensionable base.

II. The Post-*Real* Fiscal Crisis in the States[9]

38. Most of the state governments in Brazil fell into fiscal crisis in 1995 and 1996 because they were too slow to adjust to the new low inflation environment and because their finances were hurt by very high real interest rates. In response, the federal government has been trying to negotiate fiscal adjustment programs with the states. These programs, in conjunction with debt restructuring plans, are intended to help the states return to creditworthiness, by reducing their debt to sustainable levels, and by allowing them to generate primary surpluses sufficient to finance their debt service payments. This process has been slower than expected, with only three states, São Paulo, Mato Grosso, and Ceará having signed specific fiscal adjustment programs as of end-1997; seven states have signed debt restructuring contracts to date, out of 22 who had signed protocols in 1996 and 1997. Furthermore, the possibility that many states will use their privatization revenues to increase spending is one of the main risks to the overall fiscal program in 1998.

A. Background

39. Fiscal crises are not new to the states; neither are bailouts by the federal government. As a matter of fact, the current debt restructuring negotiations with the states marks the third time in the last ten years that the federal government has come to their rescue by assuming state debt (to nongovernment creditors) that was not being serviced, and negotiating a program with the states for them to repay the federal government over a longer period than was the case with the original loans. In 1989, the federal government formally assumed much of the external debt of the states, with the states then incurring an equal liability to the federal government in domestic currency, but with a longer maturity and an interest rate equivalent to that being paid by the federal government.[10] In 1993, the federal government once again assumed debt of the states, this time owed to federal financial institutions, and which the states also had stopped servicing for a few years.[11] The new liability of the states to the federal government had a maturity of 20 years, with a real interest rate equal to the average real interest rate of the original debt (between 6 and 8 percent). A ceiling of 11 percent of net revenues (i.e., own revenues plus transfers from the federal government less transfers to the municipalities) was also placed on the amount of annual debt service arising from all of these rescheduled debts, with any excess being capitalized.

40. Yet another form of federal bailout for the states was the *troca de títulos* with the central bank, i.e., the swapping of state bonds for central bank bonds, which began in 1994 and which started the process of the federalization of state bonded debt that was eventually

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[9]Prepared by Trevor Alleyne.

[10]The 1989 rescheduling resulted from Law 7976 (December 1989).

[11]This rescheduling was governed by Law 8727 (November 1993).

formalized with the most recent debt restructuring agreements. States had begun finding it increasingly difficult to place their bonds in the private market at the beginning of the Collor administration in 1992. Ultimately, the state-owned commercial banks, which typically were the underwriters of this debt, found themselves holding unmarketable state bonds, and at the same time facing liquidity problems, because of the growing practice by the states of simply forcing the state banks to capitalize their interest payments. The federal government, concerned about the possibility of a financial crisis among the state banks, agreed to allow the state banks to temporarily exchange the unmarketable state bonds for central bank bonds. At the same time, however, by accommodating the continued rollover of state debt and capitalization of interest payments, the federal government de facto spared the states the necessary fiscal adjustment measures that the market, through its refusal to hold state bonds, was trying to impose.[12]

41. Why did the states, so soon after having a major debt restructuring in 1993 fall again into fiscal trouble just two years later? The reasons can be distinguished in two groups: the structural factors, (i.e., those institutional factors which explain the apparent susceptibility of the states to fall into fiscal crises); and the proximate factors, (i.e., those factors which precipitated the crisis).

B. The Structural Factors Behind the Fiscal Crisis

42. Three structural factors largely account for the 1995–96 fiscal crisis: the inability or unwillingness of the federal government or the senate to exert control over the growth of state debt; the heavy reliance of the states on the inflation tax during the high inflation period, which led to the neglect of their tax administration and expenditure management systems; and the changes in revenue-sharing and spending responsibilities resulting from the 1988 Constitution.

43. The inability and/or unwillingness of the federal government and the senate to exert forceful control over the states allowed the latter to continue unsustainable fiscal policies, always with the expectation that a federal bailout would be forthcoming. According to Afonso (1997), referring to the repeated debt bailouts of the states by the federal government, "sooner or later ... the principal ends up being renegotiated, without conditions that would force the [state] governments to show more austerity than in the past."

44. Two important factors may explain the lack of effective control by the federal government and the senate over state indebtedness, despite a growing arsenal of instruments at their disposal to enforce such control (Box 3). First, Afonso has suggested that part of the

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[12]Originally, the amount that was exchangeable was limited to the amount that the state banks could guarantee using cash and other assets (excluding state loans) as collateral. In January 1995 this stipulation was waived. Whereas at the beginning of 1994, the central bank was holding no state bonds, by the end of the year, it was holding R$17.3 billion, or 71 percent of the state bonds in circulation.

Box 3. Instruments of Federal Government and Senate Control over State Debt [1/]

I. **Prohibitions/Restrictions on Borrowing**

- The Constitution (1988) gives the senate the sole power to set the debt ceiling of the states.
- Law 7492 (1986) prohibits state borrowing from its own commercial bank.
- Amendment 3 to the Constitution (1993) prohibits the issuance of new bonds by the states until 2000, except to finance the payment of judicial claims existing at the time of the 1988 Constitution. The amendment does not prohibit the rollover of principal or the capitalization of interest on existing bonds, however. These are determined by the senate on a state-by-state basis.
- Central bank resolution 2008 (1994) places a ceiling on state debt (other than bonds) held by private commercial banks.
- Through the External Financing Commission (COFIEX), the federal government controls state access to external financing.
- Senate resolution 11 (1994) requires that new borrowing must satisfy debt service and growth of debt criteria:

  (a) debt service criterion: the debt service (on existing and proposed debt) cannot exceed the current account of the previous 12 months, or 15 percent of revenues, whichever is smaller. [2/]

  (b) growth of stock criterion: new borrowing within any 12-month period cannot exceed the level of existing debt service, or 27 percent of revenues, whichever is larger.

II. **Enforcement Mechanisms**

- Loans to states by the federal government or federally owned institutions are prohibited if the states are in default on any obligation to the federal government, including debt service, social security payments, or debts to federal enterprises.
- The federal government can withhold constitutional transfers, or garner state VAT revenues to ensure their compliance with debt service obligations associated with the previously rescheduled debt with the federal government.

1/ The information in this box was obtained from Dillinger (1994).

2/ Debt service is defined to exclude the principal rollover and interest capitalization permitted by the senate; and the current account refers to the difference between revenues (less transfers to the municipalities) and recurrent spending (including interest payments).

willingness of the federal government to "federalize" the debt of the states in the past was a realization that its own macroeconomic policies, for example a maxidevaluation or a sharp rise in real interest rates, often were the factors that precipitated the fiscal crisis in the states by causing so large an increase in debt service costs as to make it nearly impossible for the states to comply.

45. The second factor that has contributed to the lack of effective control over the states has been their ability to exercise considerable influence in the national congress. The latter, according to Afonso, has tended to act like a "national congress of state and municipal legislators"[13] in matters relating to the tax system, the federal budget and the public debt. Indeed, in many instances the senate has acted in ways to reduce the urgency for the states to undertake fiscal adjustment; for example, by amending the 1993 debt rescheduling agreement to set a ceiling on the debt service of 11 percent of net revenue; and, since mid-1994, allowing the states to rollover virtually all their securitized debt.

46. The high inflation era masked a host of unsustainable fiscal policies and practices that were exposed once inflation declined sharply in the second half of 1994. At the root of these fiscal disequilibria was the reliance on the inflation tax as an important source of revenue. For example, Oliveira (1996) cites the frequent deliberate practice of the states delaying payments so as to take advantage of inflation financing; the large size of the payrolls (on average between 70 and 80 percent of net revenue); the habitual practice by the state treasuries of assuming various debts of independent state agencies, including state-owned enterprises; and the neglect of the tax system, which manifested itself in the excessive tax concessions and exemptions and in a large rate of tax evasion. Another fiscal malady attributable to the high inflation era was the lack of attention paid to expenditure control, especially, but not limited to payroll spending. In Brazil, with revenues reasonably well indexed to inflation, governments could rely on inflation to eat away the real value of whatever nominal increase in spending was budgeted.[14]

47. Largely as a result of the 1988 Constitution, the states assumed relatively more spending responsibilities without receiving relatively more resources with which to finance them. The 1988 Constitution shifted resources away from the federal government to the municipalities, with the states remaining basically unchanged in terms of their relative share of total general government revenues. A decentralization of spending also took place since the 1988 Constitution, with the states and the municipalities assuming more responsibility especially in the area of education, health, water and sanitation, and public works as the federal government reduced its relative size.[15] However, relative to the increased

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[13]Afonso, p. 3.

[14]Bacha (1994) described this situation as the Oliveira-Tanzi effect working in reverse.

[15]Afonso (1996) warns of being overly critical of the increase in spending by the states and

(continued...)

responsibilities that they assumed, the states' increase in resources has been far less, particularly compared with the municipalities (Box 4). According to Afonso, what is needed is a further process of decentralization, a "municipalization" of services now provided by the states, in accordance with the redistribution of resources brought about by the 1988 Constitution.

Box 4: Distribution of Net Revenues Among the Three Levels of Government 1/

	1980	1988	1990	1995
	(In percent of GDP)			
Federal	17.0	14.0	18.0	16.3
States	5.5	6.0	8.4	8.7
Municipalities	2.1	2.4	4.1	5.4
	(As a percent of total revenues)			
Federal	69.2	62.3	58.9	53.6
States	22.2	26.9	27.6	28.6
Municipalities	8.6	10.8	13.5	17.8

Sources: Afonso (1996); ministry of finance; and ministry of planning.

1/ Net revenues are equal to own revenues plus net transfers from other levels of government.

C. The 1995–96 Fiscal Crisis

48. Apart from the structural factors cited above, the immediate causes of the fiscal crisis in 1995 were the large increases in salaries granted to state employees at the end of 1994, the sharp rise in domestic interest rates in early 1995, and a stronger effort by the federal government to close the borrowing opportunities available to the states.

49. In late 1994, outgoing state governors, as was traditionally the case, granted civil servants large increases in salaries. However, unlike during the era of high inflation, the real financial burden of these increases did not dissipate during the year. In São Paulo, for instance, the wage bill increased on average by 27 percent in real terms in the 12 months

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[15](...continued)
municipalities. He argues that to some degree this increase is a natural consequence of the larger responsibilities assumed by the subnational levels of government since 1988.

following the introduction of the *Real Plan*, while in Rio de Janeiro and Minas Gerais the increases were 56 percent and 50 percent, respectively. Such increases in the wage bill, which were typical of increases in the other states, were enormous compared with the real increase of just under 10 percent in states' ICMS tax revenues. As a result, the ratio of payrolls to net revenues rose substantially in many states, with some, such as Alagoas, Rio Grande do Sul, and Rondônia, rising to more than 100 percent.

50. The other immediate cause of the fiscal crisis in 1995 was the rise in scheduled debt service payments for the states. For the states which had renegotiated debt with the federal government in 1989 and 1993, amortization payments began falling due following the expiration of the grace periods associated with both renegotiations. For the states having substantial contractual or securitized debt, the sharp rise in interest rates in March created severe problems in terms of meeting debt service.

51. The resulting cashflow problems led the states to turn increasingly turning to short-term revenue anticipation loans (AROs) from commercial banks at market interest rates, to accumulate arrears with respect to payroll and payments to suppliers, rollover 98 percent of securitized debt and capitalize the accrued interest (both authorized by the senate) and, in many cases, accumulate arrears in the servicing of loans to state-owned commercial banks.[16] With the thirteenth salary, holiday payments, and ARO debts falling due at the end of 1995, most of the states were in fiscal crisis as the end of the year approached.

52. In response, the federal government authorized the Caixa Econômica Federal to provide emergency lines of credit to the states in early 1996. There were three lines of credit: one to be used to pay wage and other outstanding arrears; another to finance voluntary retirement programs; and the final one to refinance outstanding AROs. In exchange for these loans, which carried market interest rates and maturities up to the end of 1998, the 17 states that signed agreements with the federal government promised to implement fiscal adjustment policies consistent with obtaining zero operational balances, including by reducing payroll spending to 60 percent of net revenues by 1998; to privatize state assets; to improve and modernize their systems of tax administration and public expenditure management; and to refrain from contracting new AROs. [17]

53. In all, the Caixa disbursed about R$2.5 billion under this program between late 1995 and 1996. However, the results fell short of expectations. Some of the objectives of the fiscal

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[16]In the more extreme cases, the state of Alagoas eventually fell eight months behind in meeting its payroll; and a few states and municipalities fraudulently issued bonds, ostensibly to pay off judicial claims (as permitted by the Constitution), but in reality to finance other current spending.

[17]See Voto 162/95 of the Conselho Monetário Nacional for a detailed description of the program.

adjustment program were unrealistic.[18] Also, the fiscal adjustment programs were slow to get off the ground because the federal government was still in the process of developing its manpower capacity to monitor the finances of the states. At the same time, because the entire amounts of the loans were disbursed up front, the urgency to implement reforms on the part of the states waned once the immediate crisis of meeting payroll expenses had been taken care of. The voluntary retirement programs also met with only limited success. As 1996 evolved, with the fundamental situation of the states unchanged (many states had begun to accumulate arrears again) it became clear that the problem of the states' debt burden had to be tackled, and that modifications to the fiscal adjustment programs would be necessary.

D. The Design and Intent of the Debt Restructuring and Fiscal Adjustment Programs

54. By the end of the third quarter of 1996 the federal government had developed a new framework to address the fiscal crisis in the states. It involved a comprehensive restructuring of state debt, including the securitized debt, so as to allow the states to meet their debt service obligations as well as to make the necessary adjustments to correct their fiscal imbalances on a lasting basis.

55. Of a total state debt of R$143 billion, the amount to be restructured equaled about R$75 billion as of December 1996, composed of securitized debt (R$41 billion), AROs (R$0.5 billion), debt owed to the Caixa Econômica Federal arising out of Voto 162 (R$2.5 billion), borrowing to finance the cleanup of state banks under PROES (R$3.5 billion),[19] and other debt (R$28 billion) including bank debt owed mainly to state-owned commercial banks and debt owed to suppliers (Table 2). Previously rescheduled debt was excluded from this new restructuring. São Paulo alone accounted for 58 percent of the restructured debt and, together with Rio de Janeiro, Minas Gerais, and Rio Grande do Sul accounted for 91 percent of the restructured debt (Figure 9). In September 1997, the federal government received authorization to issue R$103 billion in treasury securities, enough to take care of the debt restructuring of the states and to finance PROES.

56. In the new framework, these debts are to be consolidated, and the newly restructured debt is divided into two portions: one portion, the *conta gráfica*, which in most cases is equal

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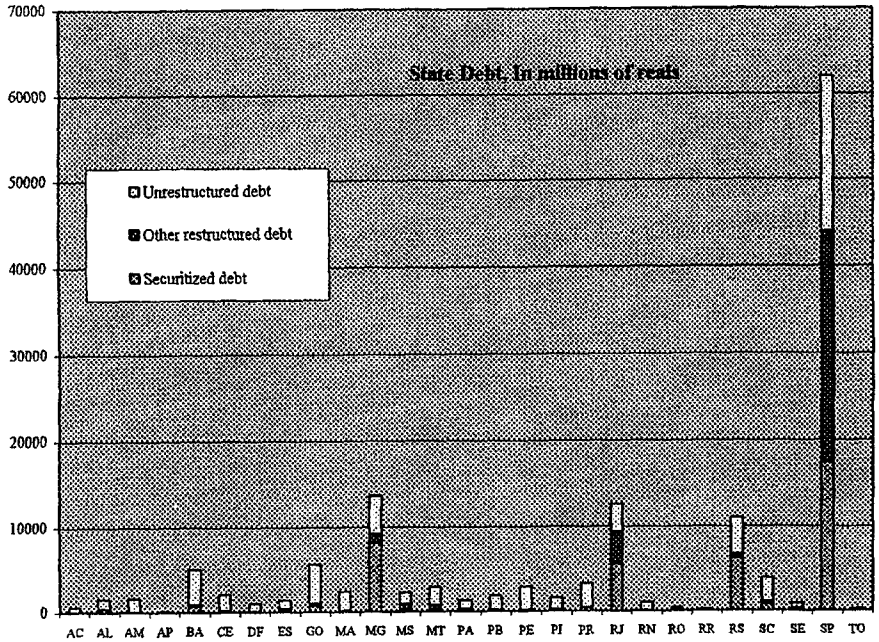
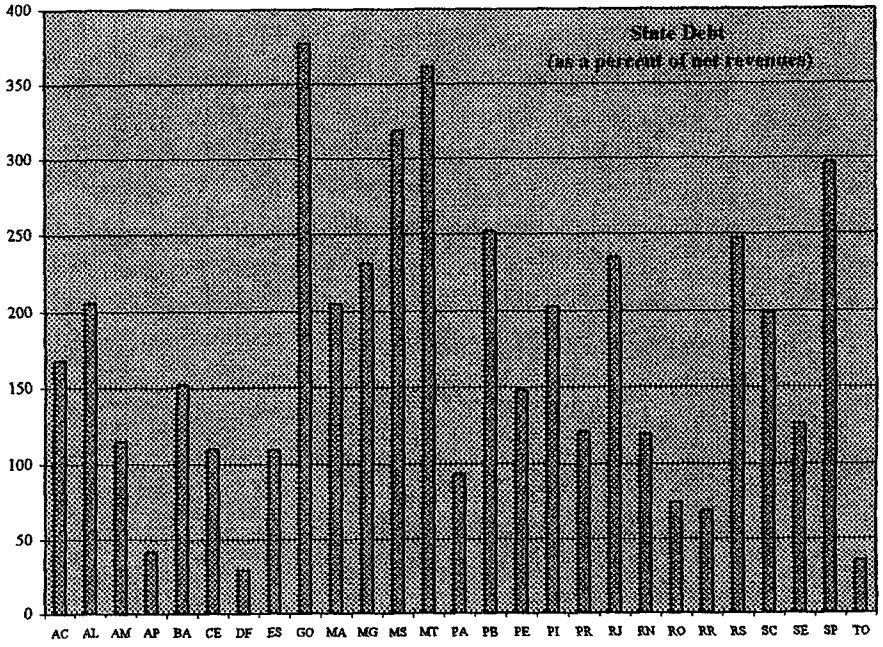
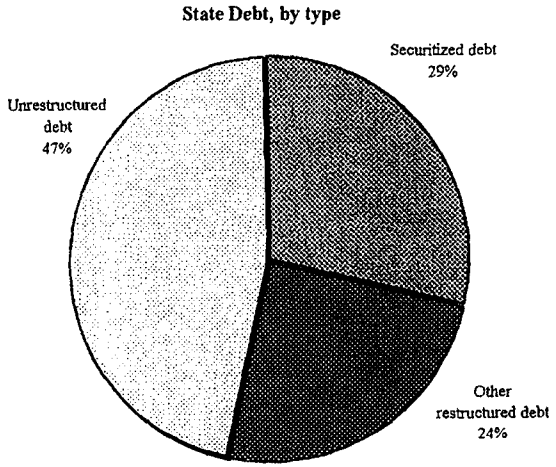
[18]For example, the states were required to adopt measures to ensure actuarial equilibrium in their state pension systems, establish comprehensive privatization programs, formulate and implement centralized monitoring systems for their state enterprises—all by the end of the first quarter of 1996.

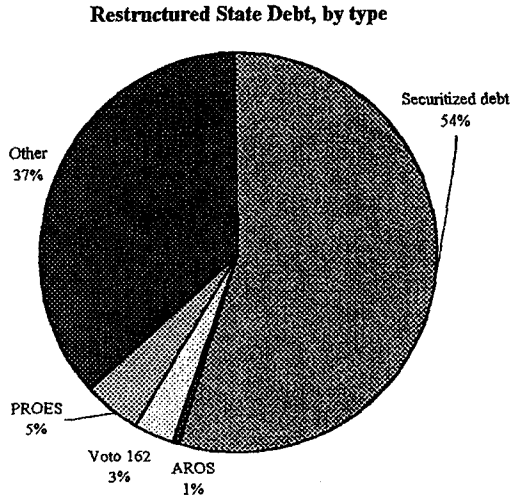
[19]PROES is the Program to Reduce State Involvement in the Banking Sector (Programa Incentivo à Redução do Setor Público Estadual na Atividade Bancária). Under this program the federal government will provide financing to states to clean up these banks or prepare them for privatization. It is described in more detail in the staff report for the 1996 Article IV consultation (EBS/97/11; January 30, 1997) and in Chapter V of this paper.

Figure 9. Brazil: Indicators of State Debt, 1996









Sources: Data provided by the Brazilian authorities; and Fund staff estimates.

to 20 percent of the restructured debt, has to be amortized by the end of 1998 using the revenue from the privatization of state assets; the remaining 80 percent is amortized over 15 to 30 years at an interest rate of 6 percent plus the rate of inflation as measured by the IGP-DI index. In most cases, the states are required to identify in a debt restructuring protocol (letter of intent) agreed with the federal government, those assets that are to be used to amortize the *conta gráfica.*[20] For each state a time path is set for the ratio of total debt to net revenue to fall to one (from an average value in 1996 of 2.2), an d new borrowing in any year is prohibited if it would cause the ratio to exceed the target for that year.

57. In designing the fiscal adjustment programs, the first objective is to ensure that any projected financing gap would be eliminated (Box 5). Since, for the most part, the capitalization of interest, the rollover of principal and new borrowing are prohibited, this means generating primary surpluses sufficient to cover debt service obligations (there will be a ceiling on debt service due on the newly restructured debt plus previously rescheduled debt of 11 to 15 percent of net revenues, with the excess being capitalized). At the same time the program has to be consistent with the time path for reducing the debt-revenue ratio. Finally, the fiscal adjustment program seeks to eliminate structural imbalances and improve the quality and efficiency of spending. For this reason, three common features of the fiscal adjustment programs being negotiated have been the introduction of new taxes earmarked for reducing the growing deficits in the state pension programs, measures to reduce payroll spending, and planned increases in investment spending.

58. The debt restructuring agreements involve both an up-front forgiveness of debt and an interest rate subsidy on the restructured debt. The debt forgiveness involves the states' securitized debt. In this case, the states' liability is to be computed by taking the outstanding stock at a specific cutoff date (e.g., March 31, 1996 in the case of São Paulo) and capitalizing all accrued interest up to the time of the signing of the contract, using an interest rate equal to 6 percent plus the IGP-DI inflation. As a result, the federal government is assuming the portion of the capitalized interest representing the difference between the overnight rate and the interest rate on the restructured debt, which was about R$6.2 billion, or 0.7 percent of GDP, by the end of 1997. In 1997 the interest rate subsidy would have amounted to some 10 ½ percentage points (given an average overnight rate of 24.6 percent in 1997), or some R$8 billion (1 percent of GDP) in annual accrued interest payments. In 1998 the interest rate subsidy will be even higher, at 17 percentage points, assuming an average overnight rate of 27 percent.

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[20]There have been a number of exceptions to this general framework. In the case of Rio Grande do Sul, for example, the state is required to amortize only R$1.2 billion, which amounts to just 17.8 percent of the restructured debt. In the case of Rio de Janeiro, the state claimed to have state assets whose value amounted to only 10 percent of its restructured debt. As a result, the state was assessed a "punitive" interest rate on its restructured debt of 7½ percent plus IGP-DI inflation.

Box 5. The Design of the Fiscal Adjustment Programs for 1998 and 1999

Three states, São Paulo, Ceará, and Mato Grosso have agreed on specific fiscal adjustment programs with the federal government. The process of calculating the fiscal targets, and consequently the required amount of fiscal adjustment, was done as follows:

1. The schedule of total debt service was calculated. This is equal to:

(a) the debt service of the newly rescheduled debt; plus

(b) the debt service on other debt—including previously rescheduled debt, external borrowing from international institutions, and debt to suppliers; plus

(c) the amortization of the *conta gráfica* in 1998.

2. A *current policies* fiscal projection of the primary balance was made, based upon agreed parameters, e.g., inflation, state GDP. Also, all sources of financing are tallied which, given the borrowing constraints imposed upon the states, equal the sum of privatization receipts and loans from the international financial institutions approved by the federal government. Where projected privatization receipts are in excess of that required to amortize the *conta gráfica*, the projected surplus is used either to reduce other debt (as in the case of São Paulo) or set aside as a reserve to capitalize a new state pension fund (as in the case of Ceará).

3. Given the projected primary balance and sources of financing, a financing gap is calculated. The federal government and the state then negotiate a fiscal adjustment program aimed at eliminating this gap. In all contracts signed so far, the states have pledged higher tax yields through improved tax administration, and introduced a new tax to help finance pension benefits. These measures were designed to generate enough revenues not only to close the various financing gaps but also to allow for sizable increases in investment (in São Paulo and Mato Grosso investment is projected to more than double from 1996 levels, while in Ceará, where the investment program had not been cut back in previous years, the increase is projected at 25 percent). In Mato Grosso, an important component of the fiscal adjustment program was an 8 percent reduction in the wage bill so as to comply with the Lei Camata, which requires the federal and state governments by 1998 to spend no more than 60 percent of their net revenues on personnel. For São Paulo and Ceará, which are on track to comply with this requirement, adjustment in personnel spending was not a significant aspect of their fiscal adjustment packages.

59. In exchange for this debt and debt service relief, the federal government is hoping to advance a number of important items in its policy agenda, not just that of returning the states to fiscal viability. The agreements also will serve to advance the federal government's policy

objectives in the areas of privatization and financial system reform. The federal government has pushed for the privatization of state electricity companies, the most valuable assets for most states, because this is the most expedient way of quickly reducing the states' stock of debt and easing their debt burden. These privatizations, along with the sale or closure of state-owned banks (which the federal government is also urging in the debt restructuring negotiations), also would improve the prospects for long-term fiscal performance by eliminating two important sources of inappropriate financing traditionally used by the states.

60. Getting the states to privatize their electricity companies would enhance the federal privatization program as well. For the most part, the states own the electricity distribution companies, while the federal government-owned Eletrobras is largely an electricity generation company. It was felt that privatizing electricity generation while the distribution part remained in the public sector (with the prospect of continued managerial inefficiency and lack of investment) would significantly dampen investor interest and lead to underpricing at the time of sale. Thus, apart from including privatization as a requirement in the debt restructuring agreements, the federal government, beginning in 1996, had sought to encourage the states to privatize their electricity companies by having the National Development Bank (BNDES) advance money to the states in exchange for claims on the assets of the electricity companies.

61. Apart from contributing to the fiscal reform of the states, getting the states to relinquish control of their banks is also an integral part of the federal government's policy of reforming the financial system. The process of preparing these banks for privatization is promoted in two ways. First, the replacement of loans to the states with federal securities will significantly strengthen the balance sheets of the state-owned banks, given that most of the nonperforming loans in the portfolios of these banks were credits to the states. Second, through the PROES program, the federal government pledges to provide finance up to 100 percent of the cost of preparing the banks for privatization, in a manner similar to that done for the private banks under the PROER program.

E. Performance and Assessment

62. The progress in concluding debt renegotiation and fiscal adjustment accords between the states and the federal government in 1997 has been somewhat disappointing. While 19 of the 22 states that signed protocols did so by early 1997, only 3 states, São Paulo, Mato Grosso, and Ceará had signed contracts with the federal government containing both debt restructuring and fiscal adjustment agreements as of end-1997 (even though all the protocols had originally envisaged final contracts being signed within 90 days). Moreover, so far only in the case of São Paulo (the largest state) has a contract been ratified by the senate (all contracts require senate approval). The delay in arriving at final agreements stems mainly from the difficult negotiations that the federal government has had with the larger states, Minas Gerais, Rio Grande do Sul, and Rio de Janeiro, over the appropriate amount of fiscal adjustment and the use of privatization receipts. Despite a willingness on the part of the federal government to agree to substantial increases in investment spending by the states (as illustrated in the cases of the three states that have signed agreements), the other three large states have been pressing to use excess privatization receipts to finance even larger increases

in project spending, implying less fiscal adjustment than the federal government has been willing to accept. In the meantime, up until September 1997, the states had not been paying any debt service on the debt to be renegotiated, having received a temporary reprieve as a reward for the quick ratification of the protocols by the state legislatures.

63. In recent months, seeing that the discussions had bogged down, with the states having little incentive to reach a final agreement, the federal government stepped up efforts to bring negotiations to a close. It issued a presidential decree (medida provisória) requiring the states to begin debt service payments in September 1997 in accordance with the conditions in the protocols.[21] Further, the federal government set a deadline of March 1998 for all states to sign debt renegotiation and fiscal adjustment contracts, failing which, the federal government would withdraw completely from negotiations. In November, as part of its fiscal package, the federal government also prohibited lending by federal financial institutions to states that had not signed debt renegotiation and fiscal adjustment contracts by end-January 1998. Also in November, the senate passed a resolution requiring the states to use at least 50 percent of their privatization revenues to reduce debt. It is not yet clear to what extent this resolution is enforceable.[22]

64. In December 1997, in accordance with a new medida provisória governing the restructuring of state debt, the federal government signed debt restructuring contracts with four of the smaller states, leaving the fiscal adjustment programs to be negotiated subsequently.[23] These four states are Rio Grande do Norte, Sergipe, Bahia, and Pernambuco. The federal government decided to go ahead with the debt restructuring agreements, albeit without accompanying fiscal adjustment programs, because these states were not viewed as having serious debt problems. While two of the states, Rio Grande do Norte and Pernambuco have payroll/revenue ratios of over 70 percent, the federal government decided that their situations were not critical enough to require a fiscal adjustment program to be in place at the same time as the debt restructuring. Given the difficulty in arriving at fiscal adjustment agreements with the larger states mentioned above, the decision by the federal government to sign debt restructuring contracts without fiscal adjustment agreements appears risky. Clearly,

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[21]As of end-1997, all states have been complying with this order.

[22]It is not clear whether the senate has the constitutional authority to tell states how they can use their privatization revenues. In December, the supreme court issued a temporary injunction against the implementation of the senate resolution. On the other hand, as has been mentioned earlier, the senate does have the constitutional authority to establish debt ceilings for the states. Thus, by lowering the debt ceiling of a particular state, the senate could indirectly force that state to use its privatization revenues to reduce debt. But, as has been mentioned earlier, the problem of controlling state debt has not been one of a lack of tools on the part of the senate, as much as an unwillingness to use them.

[23]The medida provisória allows debt restructuring contracts to be signed with the states, but requires that fiscal adjustment programs be negotiated within 90 to 120 days.

however, these states have nowhere near the political clout of Rio Grande do Sul, Minas Gerais, or Rio de Janeiro.[24]

65. While there are encouraging signs among the states in the area of fiscal reform, as a whole, the state governments appear to be the weakest link in the fiscal adjustment effort for 1998. The debt restructuring and fiscal adjustment agreements signed by a few states have put them on track for sustained fiscal viability. Moreover, São Paulo, even before these agreements, had shown a commitment to undertake fiscal adjustment on its own.[25] Meanwhile, Ceará and a few other states, most notably Bahia, have sustained records of prudent fiscal behavior, which allowed them to avoid the 1995–96 fiscal crisis.

66. For the most part, however, the states will have access to substantial privatization receipts in an election year, and the temptation to spend these funds will be high. This is especially so because during the past three years, the current administrations have been in severe financial straits, and forced to cut back sharply on project spending. Assuming that the states receive a 40–50 percent premium on the minimum prices for the companies that are scheduled to be privatized in 1998 (the average premium during the fourth quarter of 1997 was over 70 percent), the states as a whole could have increased spending potential of R$8.7 billion or 1 percent of GDP even if they satisfied the terms of the debt restructuring protocols (Figure 10).[26] If, in addition, the states were obligated to use 50 percent of their privatization receipts to reduce debt (if this would amount to more debt reduction than amortizing *conta gráfica*), the incremental discretionary spending power in 1998 instead would be R$7.6 billion, or 0.9 percent of GDP. As Figure 10 shows, under the assumptions of this exercise, the increased spending potential is concentrated in two states, São Paulo and Rio Grande do Sul. Rio de Janeiro, on the other hand, would need to generate substantial fiscal savings to comply with its protocol. The fact that São Paulo has a fiscal adjustment program is reassuring since the state's ability to use the projected large incremental spending power to worsen its fiscal balance would be constrained. This simply serves to underline, however, how crucial it is that the federal government redouble its efforts to negotiate fiscal adjustment agreements with those states without such programs as soon as possible.

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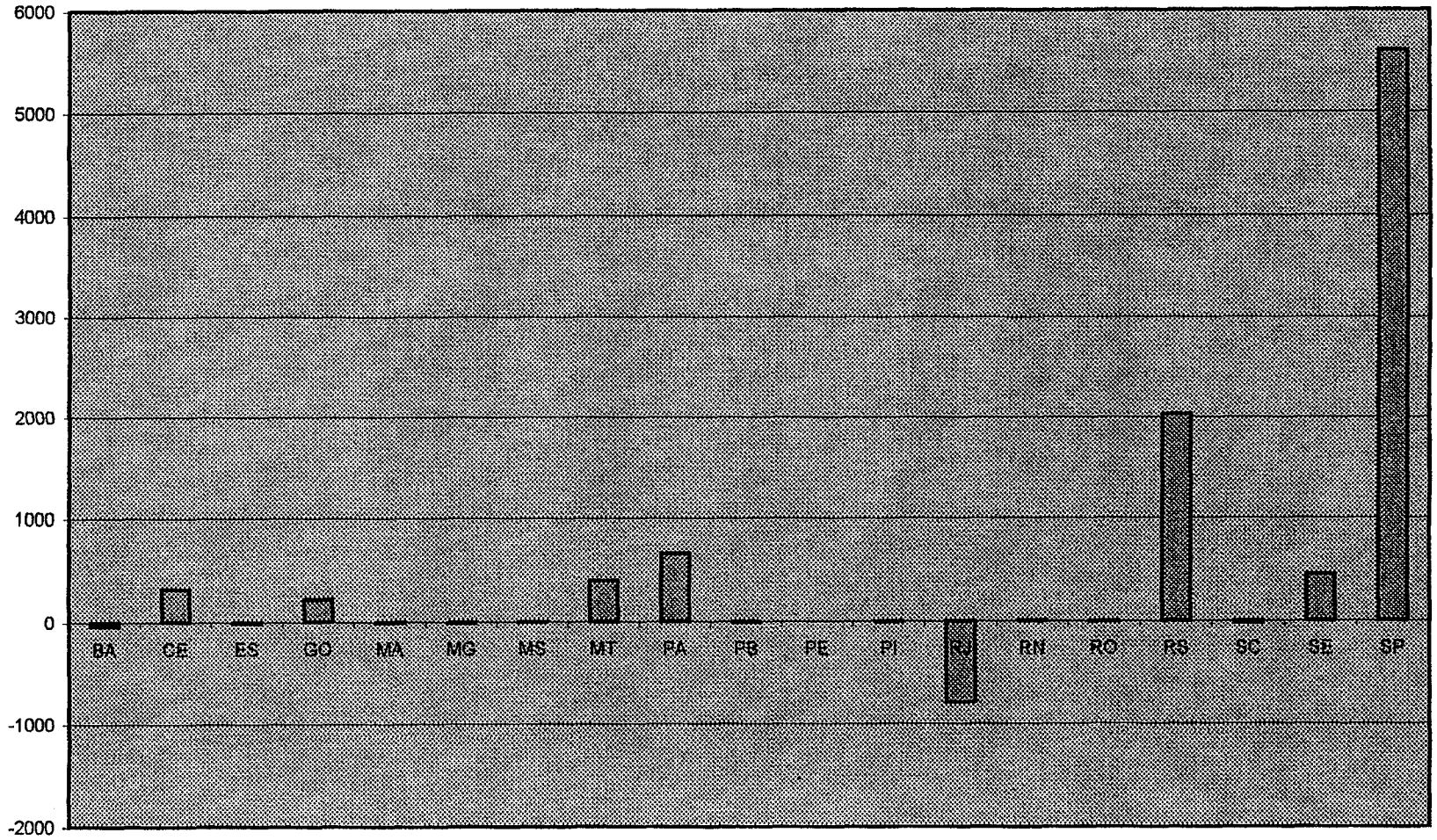
[24]The federal government is determined that it will only sign debt restructuring contracts with these states once fiscal adjustment programs have been agreed to.

[25]São Paulo dismissed 105,000 workers (11 percent of its active employees) during 1995 and 1996.

[26]Increased spending potential refers to the net new resources available to the states (i.e., privatization receipts and new loans from international financial institutions) after accounting for the new financial obligations assumed in 1998 (the debt service on the restructured debt and the amortization of the *conta gráfica*). It is assumed that the underlying trend of fiscal improvement continues for the states, so that it is reasonable to assume that new financial resources only need to be applied to new obligations, rather than also having to cover increasing financing gaps from a deteriorating underlying fiscal position.

Figure 10. Brazil: States' Increased Spending Potential Assuming Compliance with the Debt Restructuring Protocols, 1998 1/
(in millions of reais)



Sources: Data supplied by Brazilian authorities; and Fund staff estimates.

1/ Increased spending potential equals privatization revenues and other available financing less new debt service arising as a result of the debt restructuring protocols (in the case of Sao Paulo and Ceara, this includes provisioning for capitalization of new pension fund)

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Table 2. Brazil: State Fiscal Indicators, 1996 1/

	Total debt R$ millions	Debt to be restructured (R$ millions)			Debt to be forgiven	Debt/net revenue ratio (percent)	Primary balance percent of GDP	Payroll/net revenue ratio (percent)
		Securitized debt	Other	Total				
Acre (AC)	602	0	0	0	0	168	3.0	69
Alagoas (AL)	1,537	378	0	378	26	206	-4.5	106
Amazonas (AM)	1,571	0	0	0	0	115	2.8	49
Amapa (AP)	189	0	0	0	0	42	5.8	59
Bahia (BA)	4,976	691	128	819	47	152	-0.2	56
Ceara (CE)	2,056	92	0	92	6	110	0.2	51
Distrito Federal (DF)	992	0	0	0	0	29	-0.8	82
Espirito Santo (ES)	1,327	114	231	346	8	109	-2.5	85
Goias (GO)	5,503	656	237	893	45	377	-0.2	71
Maranhao (MA)	2,310	0	80	80	0	205	1.1	59
Minas Gerais (MG)	13,687	8,210	965	9,174	562	231	-1.2	75
Mato Grosso do Sul (MS)	2,160	256	589	845	17	318	-0.8	55
Mato Grosso (MT)	2,893	168	525	693	12	361	0.8	79
Para (PA)	1,285	0	217	217	0	94	-1.2	68
Paraiba (PB)	1,807	51	108	158	3	252	1.2	59
Pernambuco (PE)	2,894	0	123	123	0	148	-0.8	79
Piaui (PI)	1,506	0	162	162	0	203	0.5	69
Parana (PR)	3,275	365	0	365	25	121	-0.7	77
Rio de Janeiro (RJ)	12,622	5,554	3,758	9,312	380	235	-0.6	87
Rio Grande do Norte (RN)	958	0	0	0	0	119	-1.6	73
Rondonia (RO)	393	0	135	135	0	75	-0.9	65
Roraima (RR)	118	0	0	0	0	70	-1.8	33
Rio Grande do Sul (RS)	10,947	6,123	449	6,573	419	247	-1.0	87
Santa Catarina (SC)	3,881	769	220	988	53	198	-0.3	72
Sergipe (SE)	813	184	67	251	13	126	-0.3	68
Sao Paulo (SP)	62,061	17,419	26,439	43,858	1,192	297	0.2	66
Tocantins (TO)	191	0	0	0	0	35	-5.7	49
TOTAL	142,553	41,028	34,433	75,461	2,808	218	-0.4	71

Sources: Data provided by the Brazilian authorities; and Fund staff estimates.

1/ Preliminary data.

III. Foreign Direct Investment and Privatization [27]

A. Foreign Direct Investment, Investment Plans and Export Potential

67. Brazil was the eighteenth highest recipient of foreign direct investment in the world in 1995.[28] Given record inflows into Brazil in 1996 and 1997, Brazil will probably rank higher when information is available for all countries. Foreign direct investment financed almost half of the current account deficit in 1997 and, in view of the low level of domestic savings[29] and the relative shortage of domestic capital, a further increase in foreign direct investment is vital if Brazil is to achieve the efficiency gains necessary for a sustained recovery of exports and a reversal of the sharp increase in import penetration in recent years.

68. While the growth of inflows in the past three years has been dramatic compared with the relatively low levels over the past decade, the ratio of investment to GDP in real terms is still below the levels of the early 1970s (Figure 11). The recovery of inflows owes much to:

- the stabilization of the economy which improved the environment for foreign investment;
- the privatization process, according to central bank statistics, accounted for about one third of recent foreign direct investment in Brazil in 1997. Given the sheer size of the enterprises to be privatized and increasing foreign investor interest in the Brazilian market, inflows should continue at the same high level for the next few years.
- the liberalization of policies toward foreign investment since 1995; foreign direct investment in 1997 was over US$17 billion, more than half of the current account deficit.
- Investment incentives have included tax exemptions for capital goods and specific incentives for investments in less developed regions and for investments in export processing zones. Steps toward trade liberalization taken as part of the Mercosul agreement have increased the attractiveness of the region as a whole to foreign investors.

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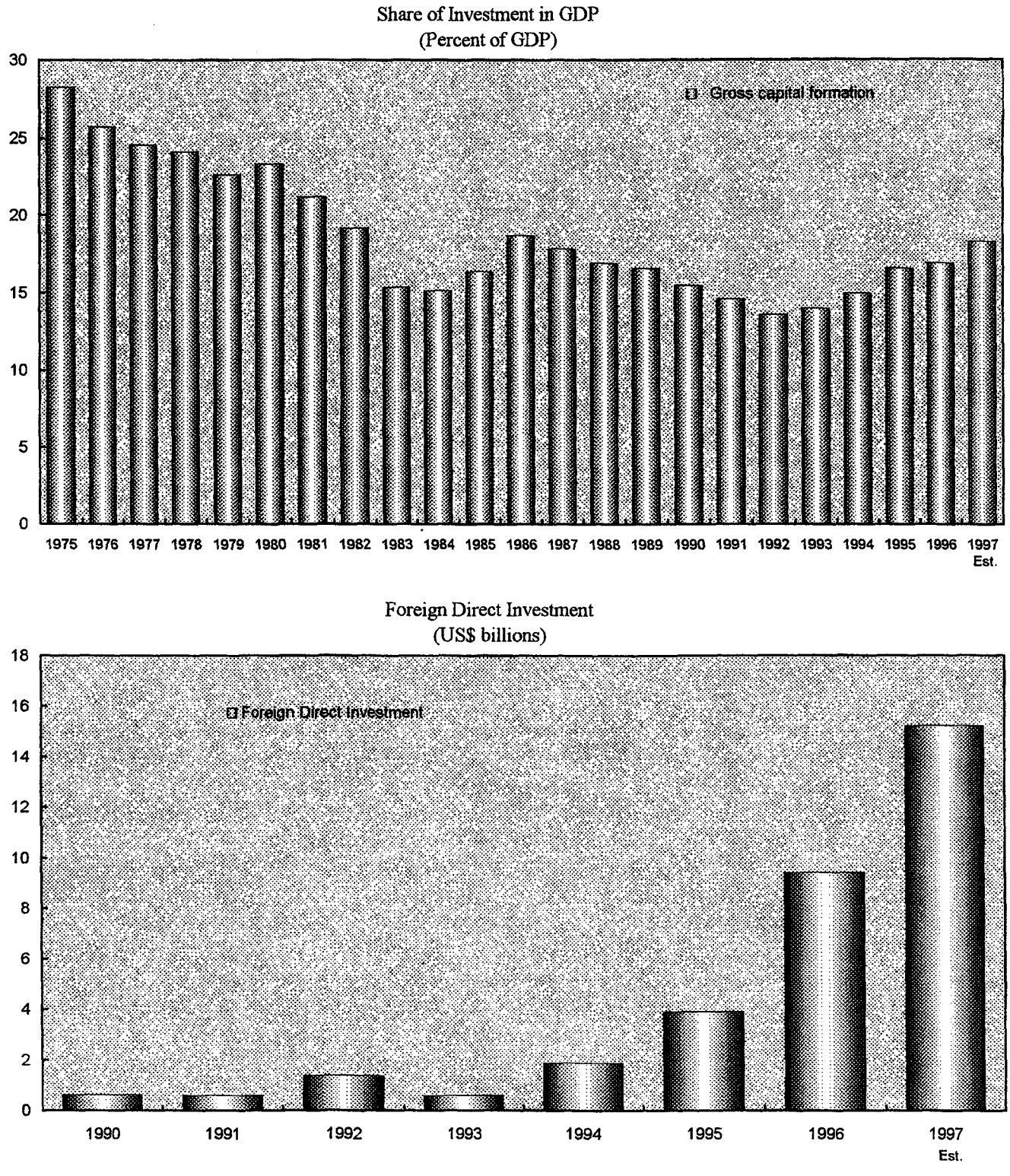
[27] Prepared by Graeme Justice.

[28] OECD, 1997.

[29] Brazil's domestic savings rate of 19 percent is similar to that of the rest of Latin America, but well below that for developing countries (28 percent in 1996).

Figure 11. Brazil: Investment, 1975-1997 (Est.)



Sources: IBGE; and Fund staff estimates

69. Since 1995 Brazil has been taking steps to improve the **legislative framework for private and foreign investment**, although relevant sectoral legislation has not been implemented in all cases particularly at the state level. There has been an important change in the Constitution to eliminate the distinction between Brazilian companies on the basis of resident and nonresident ownership which has allowed foreign participation in a number of areas previously reserved for domestic companies or the state (such as mining, petroleum, electricity, transportation, and telecommunications), although there are a few strategic sectors such as air transportation and cable television that are still reserved for domestic firms. The approval of a concessions law has set the framework for granting private sector concessions. Other significant policy initiatives include legislation to allow foreign capital remittances and increased intellectual property protection (see Appendix I).

70. The **Brazil in Action** program introduced in 1996, which outlines priority projects of the federal government, has targeted investment in infrastructure, in particular, highways, waterways and ports, and telecommunications. Relatively low levels of investment in these areas during the 1980s has raised the so-called *Brazil cost* due to lack of maintenance (transportation and other costs of doing business in Brazil).

71. Table 3 shows the **stock of foreign investment** in Brazil by country of origin for 1996. The data show that investment is fairly evenly distributed by region with North America accounting for 37 percent and Europe for 44 percent, with the United States the largest single investing country (33 percent). A small but rising share of foreign investment has come from neighboring countries, stimulated by the Mercosul agreement. Foreign investors participated in 69 percent of all mergers and takeovers in Brazil in 1997 compared with 25 percent in 1991, with the largest interest from North America.

72. While the registered stock of foreign investment in Brazil almost doubled from US$37 billion in 1991 to US$70 billion in 1996, a comparison with the stocks of foreign investment in relation to GDP in some other countries suggests that foreign investment stocks in Brazil remain low in relation to capital needs, particularly given the impact of low rates of investment in the 1980s. The stock of foreign investment averaged 17 percent of GDP between 1990 and 1997 (see Figure 11). This ratio is less than Chile (18 percent), higher than Mexico (15 percent), but only slightly more than half the 26 percent achieved by developing countries as a whole. According to an IFC study of corporate investment, a higher proportion of investment by large firms in developing countries in Asia, for example, is financed by either new equity issues or by long-term debt[30]. New share issues in East Asia are more than 20 times higher than in Brazil. In relation to GDP, net private capital flows in 1996 in Brazil (2 percent) remained below the average for Latin America (4.6 percent) or developing countries as a whole (4.5 percent).[31]

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[30] International Finance Corporation.

[31] World Bank, 1997.

73. While there is strong evidence that **foreign investment has helped to promote restructuring in the industrial sector**, the impact on exports and import penetration is less clear. A recent joint survey of total investment plans by the National Confederation of Industry (CNI) and Economic Commission for Latin America and the Caribbean (CEPAL)[32] reveals that, between 1992 and 1995, industrial investments were primarily directed at replacing equipment, reducing costs and removing production bottlenecks. However, the survey completed in December 1996, and based on a survey of the managers of 730 enterprises, also covers business plans in 1998/99 and here the results are more encouraging with the main focus of new investment plans concentrated on new products, expanded capacity and construction of new plant facilities.

74. The survey results are less encouraging from the point of view of export growth, indicating that investment has not been oriented to exports, but largely to the domestic market. Only 7 percent of the respondents indicated that investments in the period 1995/96 would increase exports (this figure improves to 18 percent for planned investments in 1998/99). In addition, 70 percent of respondents said that exports accounted for less than 20 percent of current production (the figure increases to 72 percent of respondents for planned production in 1998/99). The concentration of investment plans on the domestic market is perhaps not surprising. With a population of 160 million, Brazil is the fifth largest country and the tenth largest economy.[33] As a result, it has attracted many of the largest multinationals, particularly in the automobile sector, and foreign-owned firms have played a major role in the economy for many years.

75. Another survey of investment plans for the years 1995–2000 by the ministry of industry, commerce and tourism (MICT)[34] confirms these results, showing that investment has been concentrated on:

- the consumer durables sector (automobiles, electronics, and electro-domestic goods), with the majority of the projects oriented to the domestic market, stimulated by the rapid growth of domestic demand following the reduction of the inflation tax in 1994;

- basic products with low value added (such as basic metals, chemicals, cellulose and paper); and

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[32] National Confederation of Industry (CNI), Investments in Brazilian Industry, 1995/1999: Characteristics and Determinants, 1997.

[33]OECD, 1997.

[34]Ministry of industry, commerce and tourism, survey of investment intentions and decisions in Brazil: 1995–2000, 1996.

- in sectors benefitting from high tariff protection and subsidies, such as automobiles and textiles (Table 4). The import component of these activities also tends to be high.

In sum, the survey results do little to suggest that investment has improved export capacity, suggesting that much investment is inward looking and may have even increased import demand elasticities.[35] The survey results are biased, however, to the extent that recent investments in infrastructure due to the widening of the privatization program to cover services are not captured (these investments should help improve competitiveness, although they would also reduce costs for importing firms).

76. The **concentration of investment in areas benefitting from protection** is confirmed by a simple comparison of effective rates of protection with the stock of foreign direct investment for 1995 (Figure 12).[36] There appears to be a close correlation between foreign direct investment and protection for the sectors for which information is available. In the case of textiles and clothing, investment has been low despite high rates of protection. The data for chemicals is the exception and, according to the ministry of industry, commerce, and tourism, reflects high investment in the petrochemicals sector.

B. Privatization

77. Brazil's privatization and concessions program has been stepped up in recent years and has been an important factor in attracting new foreign investment. The objectives of the **National Privatization Program** (PND) launched in 1990 (besides reducing public sector debt and improving the balance of payments) were to:

- reduce the role of the state through the transfer of enterprises that could be more efficiently managed by the private sector;

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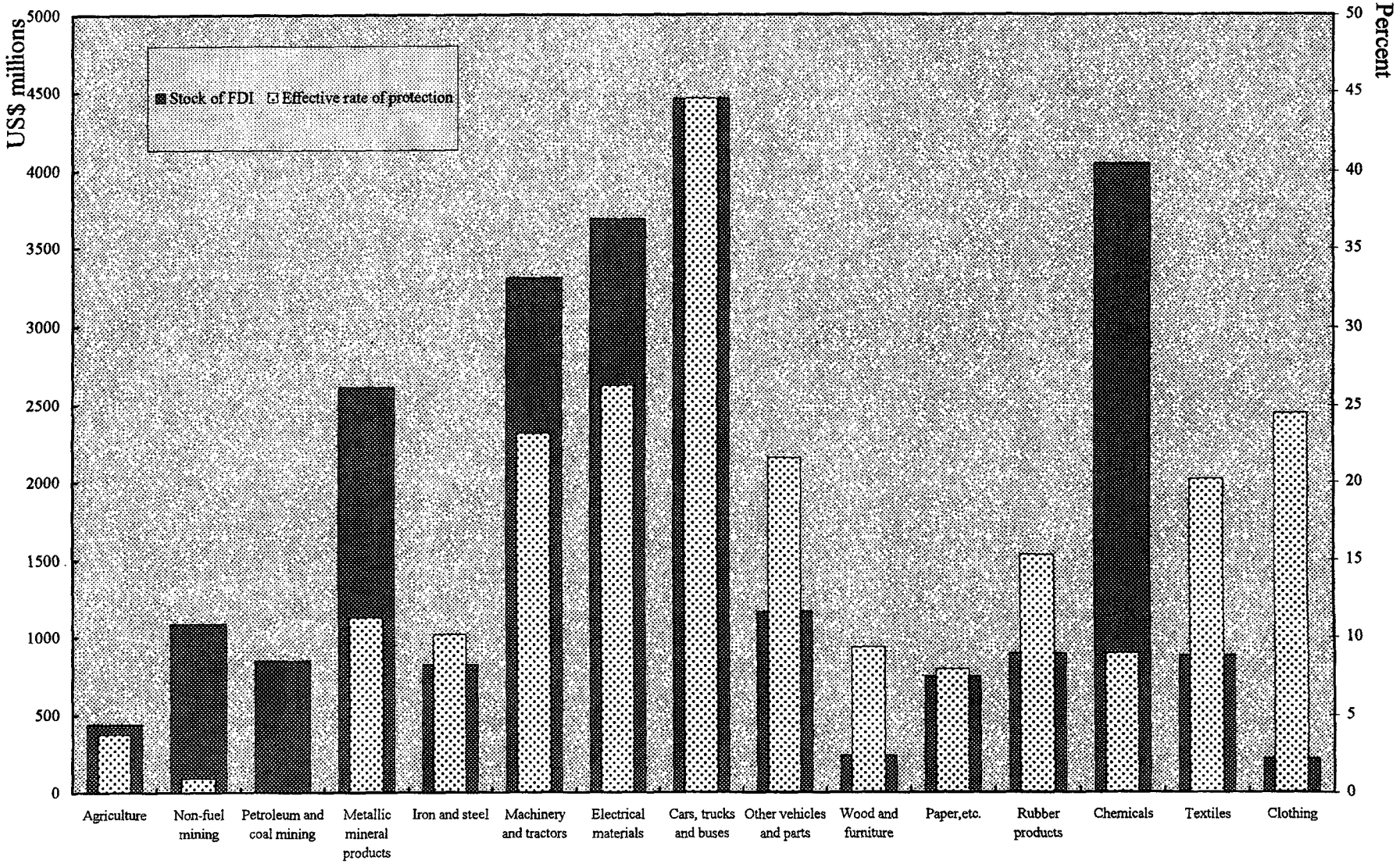
[35]The orientation of firms toward the domestic Brazilian market can be illustrated by a comparison of the operation of *General Motors* in Mexico and Brazil in 1993. Although the Mexican affiliate employs three times more than the Brazilian one, its exports are ten times as high as those from Brazil. Furthermore, the Mexican affiliate exported two-thirds of its output and the Brazilian affiliate only 7 percent.

[36] The latest data for foreign direct investment are for July 1995 (from the Central Bank of Brazil). This is compared with data on effective rates of protection for December 1994. There was a change in effective rates in early 1995 with effective rates of protection for the automobile regime increasing to 271 percent (effective rates in other sectors did not change substantially). However, the change in the effective rates of protection should not effect the results shown in Figure 4 significantly, especially as the changes would only effect investment with a lag.

Figure 12. Brazil: Effective Rate of Protection and Foreign Direct Investment, 1995



Source: Central Bank of Brazil; IPEA (Honorio Kume)

- facilitate investment in the modernization of domestic industry and infrastructure; and

- strengthen the domestic capital market through wider share ownership.

78. The institutional structure of the National Privatization Program at the federal level is shown in Table 5. Since January 1995, the National Privatization Council (CND) has coordinated the activities of the PND, replacing the Privatization Committee. The CND is chaired by the minister of planning and budget and is directly accountable to the president. Support for the execution of the program is provided by the ministries, including identification and preparation of enterprises to be privatized under the responsibility of the different ministries. There is provision for inspection and follow-up on privatization results by the federal audit council and privatization sub-committee of the lower chamber of congress with an independent follow-up by external auditors. The **National Economic and Social Development Bank** (BNDES) has been the government agency responsible for implementing the directives established by the **National Privatization Council**.

79. The main features of the privatization program have been:

- the sale of a controlling block of shares to a core group of private investors;

- no discrimination between domestic and foreign buyers, although in some cases nonresident participation in the overall capital of the enterprises may be limited (this does not prevent foreign buyers from gaining a controlling interest);

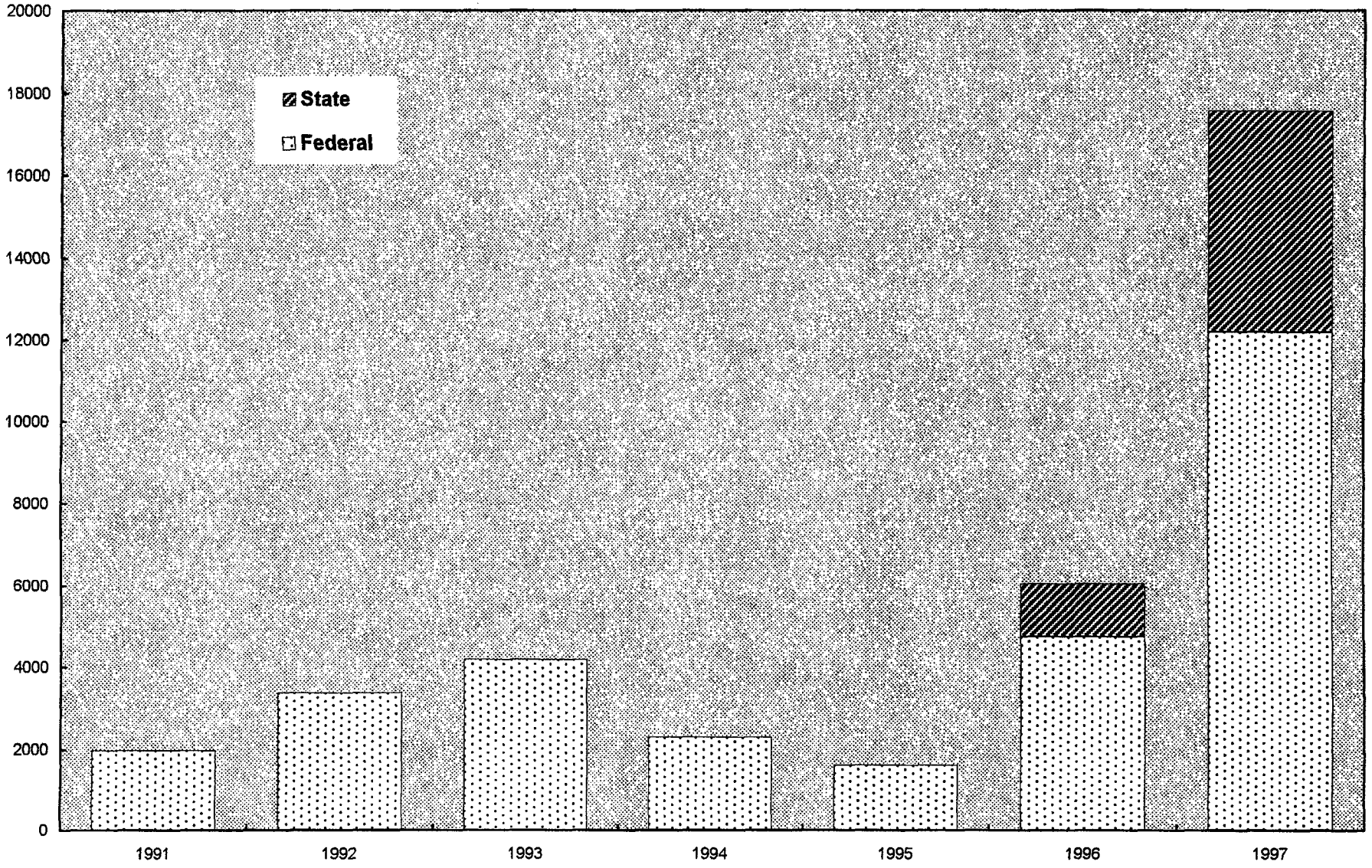
- sale by public tender (auction); and

- privatization proceeds at the federal level used largely to reduce public debt.

Brazil has avoided widespread public offers of enterprise shares, thus ensuring that controlling interest remains in the hands of a narrow group of investors (this is seen by BNDES as strengthening the management of the privatized enterprises). Privatization normally takes place through public auctions (this has accounted for 91 percent of total privatizations), open to foreign investors, with the final price being determined competitively by the market. A small percentage of total privatizations were by public offer (5 percent) and to employees (4 percent). Investors are allowed to use their holdings of certain type of public sector debt as payment.

80. Between 1991 and October 1997, the PND collected US$17.7 billion in revenues and transferred US$8.1 billion in debt to the private sector (Figure 13). This does not include concessions granted under Band B of the cellular telephone network of R$4.6 billion. In addition, state privatizations have totaled US$13.4 billion. The PND has privatized or sold minority participation in 55 companies, and transferred 6 railway and 4 telecommunication concessions. Despite the large number of companies that have been privatized, many of the largest public enterprises such as Telebras have yet to go through the process.

Figure 13: Brazil: Privatization Receipts, 1991-1997
(US$ millions)



81. The program concentrated initially on the **industrial sector**, mainly in the steel, petrochemical and fertilizer sectors. The privatization program was broadened in 1995 to include **infrastructure sectors** (telecommunications, electric power, transportation, sanitation and gas) as well as the financial sector. The power sector accounted for 23 percent of total privatized assets between 1991 and 1997, the steel sector accounted for 22 percent, telecommunications (18 percent), mining (12 percent), and petrochemicals (10 percent) (Figure 14).

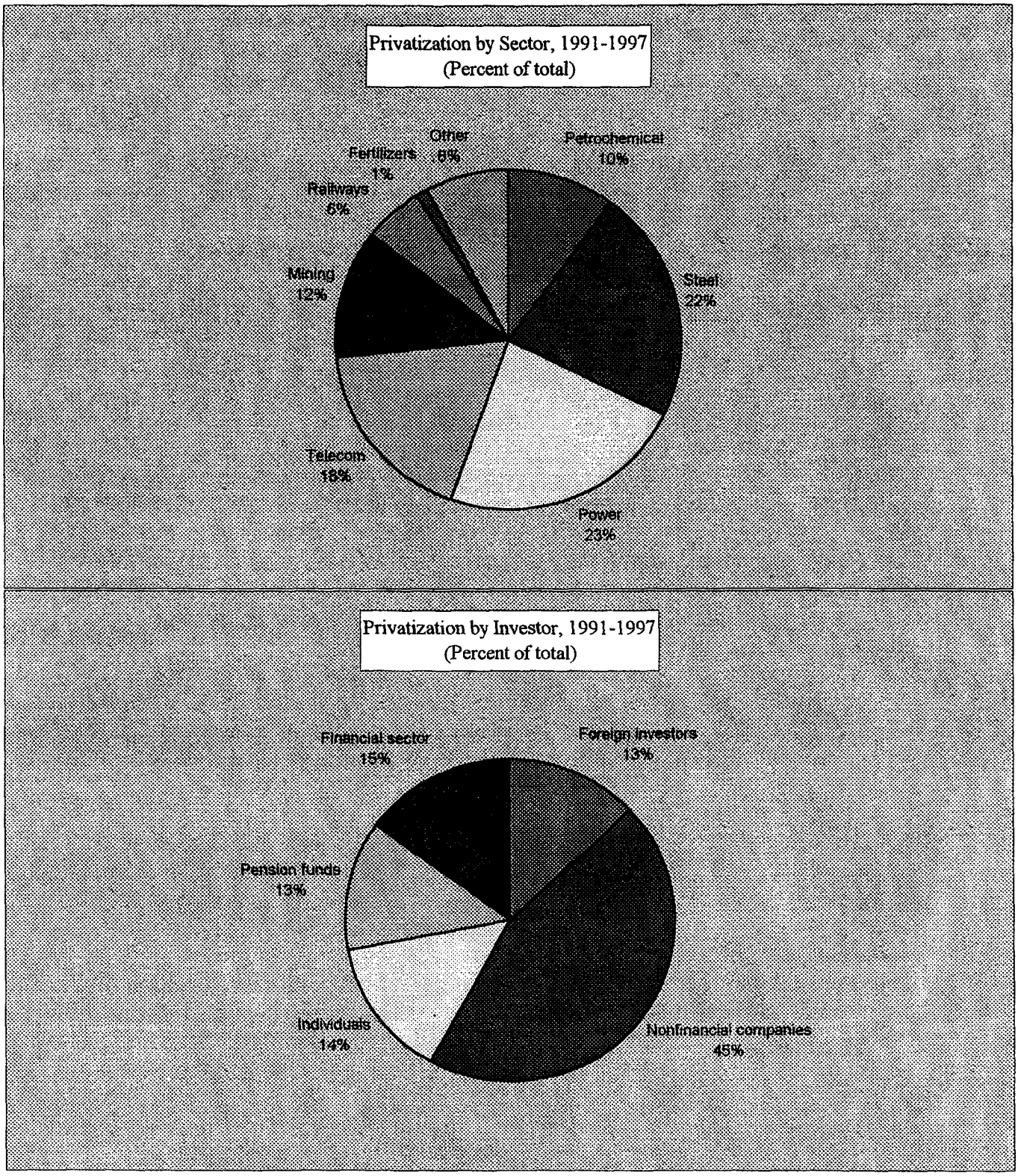
82. The largest privatization in 1996 occurred in the electricity sector with the sale of a majority control in *Light*, the electricity utility for Rio de Janeiro, and the sale of a 20 percent stake in the electricity distribution company for Rio, CERJ. Although progress in the **banking sector** was initially slower than expected, the sale of the state banks in Rio de Janeiro (Banerj) and Minas Gerais (Credireal), together with the expected sale of the state banks of São Paulo (Banespa) and Minas Gerais (BEMGE) in 1998, will complete the privatization of 80 percent of the state banking system in terms of assets. The largest privatization to date was the sale of a 42 percent stake of voting shares in Companhia Vale do Rio Doce (CVRD), the world's largest mining company. The sale of CVRD was important because of its symbolic value, and is likely to have marked a turning point in the privatization program.

83. **Investor interest** in the privatization program has been highest among nonfinancial sector companies which accounted for just under half of total privatizations between 1991 and 1997. Foreign investors accounted for 13 percent of total privatizations, banks and pension funds for 28 percent, and individuals 14 percent (see Figure 14). Between 1991 and 1995, foreign participation had only accounted for about 4 percent of total privatization proceeds. The lack of interest from foreign investors during this period was explained by the initial concentration of the program on traditional industrial sectors. With the shift to privatization of infrastructure in 1996, foreign participation has increased to 35 percent. The participation of foreign capital in the privatization process is expected to continue to increase with the improvement of the regulatory systems to facilitate the privatization of public services and with the extension of the privatization process to the states and municipalities.

84. Privatization and the sale of concessions by **states** accelerated in 1997 with the recent agreements to restructure state debt that include specific provisions for the sale of state assets. The states own a large number of public enterprises covering water, sewerage, gas, and electricity, besides controlling a large share of Brazil's highway and railway networks. In 1996, three state companies were privatized—CERJ (electricity), CRT (telecommunications) and Ferroeste (railway network). In the first 10 months of 1997 state privatizations accelerated to R$12 billion, with the privatization of a number of state gas and electricity utilities.

85. The acceleration of the privatization program at the state level has benefitted from a number of steps taken by the authorities to set the **regulatory framework** for the privatized services with the passage of telecommunications and oil deregulation laws in recent months. A National Agency for Telecommunications (Anatel) has been set up to oversee the new

Figure 14. Brazil: Privatization, 1991-1997



Sources: BNDES

telecommunications structures following the sale of telephone and cellular concessions. Other actions to set the framework for the operation of privatized services include the replacement of the national department of water and electric energy in the ministry of mining and energy by a national agency for electric energy to regulate concessions in the energy sector.

86. The government is expecting significant further progress in 1998, particularly in the privatization of services and banks. The privatization program in 1998 includes the privatization of the telecommunications giant Telebras, which would be the largest privatization in the world to date. BNDES has **estimated privatization revenues for the period 1998/99** of about R$70 billion (Table 6). The electricity sector including federal and state companies is expected to contribute about US$38 billion and the telecommunications sector about US$23 billion. These figures are similar to estimates of about US$80–90 billion by private financial institutions such as Citibank and Garantia (for the period 1998-2000). Projecting privatization proceeds is inherently speculative, particularly given the recent volatility in the Brazilian stock market. While proceeds could be limited by the market due to the difficulty of absorbing such a large amount of assets in a relatively short period, in practice, privatization proceeds have tended to be larger than expected. Market valuations based on the value of assets rather than economic potential can also be misleading. For example, the shares of Coelba fell sharply in the period immediately prior to privatization to a level that reflected more closely the present value of the enterprises.[37] So far there is little indication that the recent turmoil in financial markets has had an impact on privatization receipts, with the privatization sales immediately following the October events yielding high premiums.

87. Nevertheless, privatization proceeds will be an important factor in stabilizing net **public sector debt** (the federal government has repeatedly emphasized that it will use privatization proceeds for debt reduction) and should contribute significantly to financing the current account deficit (Citicorp estimate direct foreign investment will account for about 30–40 percent of the projected privatization revenues).[38]

88. According to a study conducted by the Institute of Applied Economic Research (IPEA) and BNDES,[39] the **efficiency of 31 enterprises privatized between 1991 and 1994** increased by 100 percent measured by the ratio of sales to employees compared with the period 1981 to 1989 and by 83 percent using indices of productivity. The profitability of the enterprises went from negative to positive and investment increased by more than five times. While these results are affected by the general improvement in economic conditions during this period, it is clear that the enterprises have undergone significant restructuring with the number of employees falling by almost a half. It is noticeable that these results were better for

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[37]Citibank, 1997.

[38]This estimate is lower than that of Garantia which expects that about 60 percent of privatization proceeds will come from foreign investment.

[39] Pinheiro, 1996.

those enterprises in which privatization resulted in a group of shareholders having a controlling stake in the privatized enterprises.

89. While this survey does not cover **the services sectors** privatized more recently, there is some evidence that privatization in the services sector is already bringing results. The state electricity company of Rio de Janeiro, *Light*, which was privatized in 1996 has reduced costs significantly with a 35 percent cut in the workforce and a 7 percent increase in real sales in the first four months of 1997 compared with the same period in 1996. The market valuation of the company has also increased to approximately US$4.7 billion compared with a sales price of US$3.7 billion in 1996 (which was considered overvalued at the time).

90. In conclusion, Brazil is becoming an increasingly important recipient of foreign direct investment after experiencing a significant decline in the mid-1980s. Initially, there was little foreign participation in Brazil's privatization program (because of its focus on the traditional industrial sectors) and much investment took place in the consumer durables sector concentrating on the internal market, particularly in areas protected by tariff barriers. More recently, Brazil has been taking important steps to liberalize its foreign investment regime with an improvement in the regulatory regime, and the shift in the focus of its privatization program to the infrastructure areas has increased the level of foreign interest. Foreign participation in these sectors will help meet the costs of improving Brazil's infrastructure which was heavily run-down in the 1980s and reduce the so-called *Brazil cost*. This is particularly important given Brazil's relatively low savings rates and low levels of investment compared with other developing countries.

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Table 3. Brazil: Foreign Investment and Reinvestment by Country of Origin

	Outstanding Stock at End-June 1996	
	US$ billions	Percent of total
North America	**21.4**	**36.8**
United States	19.1	32.9
Canada	2.3	4.0
Europe	**25.6**	**44.1**
European Union	25.1	43.2
Germany	7.1	12.2
United Kingdom	5.2	9.0
France	2.6	4.5
Italy	1.6	2.8
Other	8.6	14.8
Other	0.5	0.9
Asia	**5.0**	**8.6**
Japan	4.5	7.7
Other	0.5	0.9
Other countries	6.1	10.5
Total	**58.1**	**100.0**

Source: Central Bank of Brazil.

Table 4. Brazil: Sectorial Distribution of Investment Projects for the Period to 2000

Sector	Planned Investment (percent of total)
Basic products	**51.3**
Chemicals	19.3
Basic Metals	11.9
Cellulose and paper	11.5
Machinery and equipment	4.4
Non-metallic minerals	4.2
Tariff protected sectors	**19.8**
Vehicles	15.6
Textiles	4.2
Other	**28.9**
Foodstuff and beverages	17.1
Electronics and communications	3.2
Other	8.6
Total	**100.0**

Source: National Confederation of Industry (CNI).

Table 5. Brazil: Institutional Structure of the National Privatization Program (PND)

<table>
<tr><th>Support to the execution of the program</th><th>Authority</th><th>Inspection, control and follow-up</th></tr>
<tr><td>↓
Ministers responsible for the companies</td><td rowspan="3">↓
President of the Republic
↓
Privatization Council
↓</td><td>↓
Federal Audit Court

Privatization Sub-Committee of the Lower Chamber of Congress</td></tr>
<tr><td>Evaluation</td><td>Independent Follow-up</td></tr>
<tr><td rowspan="2">↓
Consultants chosen by public tender</td><td>Management</td><td rowspan="2">↓
External Auditors</td></tr>
<tr><td>↓
National Development Bank (BNDES)</td></tr>
</table>

Table 6. Brazil: Privatization Program, 1998/99

Sector	1998/99 (R$ billions)
Federal	**53.4**
Telecommunications	23.0
Mining	2.1
Electricity	22.0
Ports	0.1
Other	6.2
States	**16.5**
Electricity	15.5
Other	1.0
Total	**69.9**

Source: BNDES.

Investment–Related Measures Adopted to Attract Foreign Capital in Brazil

- During the 1990s the liberalization of the capital account in Brazil has concentrated primarily on direct and portfolio foreign investment.

- The liberalization includes changes based on three fundamental principles:

  – nondiscriminatory treatment in tax regulations

  – greater transparency

  – increased access to the market

- Regarding **nondiscriminatory treatment in tax regulations**, it was acknowledged that the tax burden on profit distributions to nonresidents was too high, which discouraged direct investment in Brazil. Several measures were taken to alleviate this problem, including:

  – elimination of the supplementary income tax of 40–60 percent on dividend remittances in excess of 12 percent of registered capital (tax revoked as from 1/1/92 by Law 8383/91);

  – elimination of the tax on net profits (revoked by Law 8383/91);

  – exemption from the income withholding tax on profits and dividends (starting 1/1/96, under Law 9249 of 12/26/95);

  – reduction of the rate of the income withholding tax on capital gains from 25 percent to 15 percent (starting on 1/1/96, under Law 9249 of 12/26/95);

  – possibility of payment of interest as remuneration of own capital (Law 9249/95);

  – reduction of the rate of the income withholding tax on royalty transfers from 25 percent to 15 percent (Provisional Measure 1559–9/97 of 1/18/97).

  – The National Institute of Industrial Property (INPI) used to be the object of frequent complaints about difficulties in making remittances for royalties and technical support between parent companies and subsidiaries. Law 8383/91 and recent INPI guidelines have corrected this problem.

- Important changes have been introduced to expedite and to **make more transparent the decision-making process** and so to reduce uncertainty for investors, such as:

- revocation of the temporary ban on dividend remittances before completion of the updating of the registration certificate at the central bank; investors may now obtain a special authorization to transfer profits by signing a liability statement (Circular Letter 2161 of 4/18/91);

- establishment of more consistent approval criteria for registration of investments in kind (Circular Letter 2165 of 5/13/91);

- dissemination of criteria concerning procedures for registration of foreign participation in capitalizations of profits and reserves (Circular Letter 2266 of 3/13/92);

- dissemination of registration criteria to be observed when restructuring or reducing the capital of companies that benefit from foreign investment (Circular Letter 2313 of 9/1/92);

- dissemination of the conditions for registration of foreign investment made by ceding patent and trademark rights to pay up capital (Circular Letter 2282 of 6/2/92).

- discriminatory treatment also followed from the central bank's use of nominal balance sheet figures to register reinvestment of profits. To solve this problem, which caused exchange losses and thereby discouraged investment, an important regulatory change was made to index profits up to the date of capitalization (Circular Letter 2266 of 3/13/92).

• Mindful of the importance of foreign investment to the modernization of the Brazilian economy and in order to encourage foreign capital inflows, the Brazilian government established new mechanisms to attract foreign funds, such as:

- direct investment in stock exchanges by foreign institutional investors (Annex IV to Resolution 1289/87, on 5/31/91);

- creation of the depositary receipts mechanism (Annex V to Resolution 1289/87, on 7/31/91);

- authorization and registration of foreign borrowing through issuance of convertible securities (on 7/16/92);

- investment in stock exchanges within the Mercosul area (on 11/13/92);

- foreign capital fixed yield funds (on 11/25/93);

- real estate investment funds (2/8/96);

- emerging company investment mutual funds (on 2/8/96).

- The measures taken by the central bank also include the establishment of electronic declaratory registration for portfolio investments as from 12/1/96 (Resolution 2337, Circular 2728 and Circular Letter 2702, all of 11/28/96).

• Beyond the progress made in the more operational rules on capital flows, amendments recently made to the Constitution of the Federative Republic of Brazil facilitated **the access to the market** by foreigners, including:

- Elimination of the restriction on concession of piped gas exploitation and distribution franchises solely to state enterprises (Fed. Const., Art. 25, par. 2);

- Elimination of the distinction between **Brazilian enterprises**—those which are established under Brazilian law and have main offices and administration in Brazil—and **Brazilian-capital Brazilian enterprises**—those whose effective control is permanently under the direct or indirect ownership of individuals domiciled and resident in Brazil or of entities under domestic public law—thus replacing the reference to preferential treatment for small domestic-capital enterprises with preferential treatment for small enterprises established under Brazilian law and having main offices and administration in Brazil (Fed. Const., Art. 170, IX and Art. 171).

- Modification of the requirement that only Brazilians and domestic-capital Brazilian enterprises be allowed to prospect for and explore mineral resources or exploit their potential; these activities may now be conducted solely by Brazilians and Brazilian enterprises established under Brazilian law and having main offices and administration in Brazil (Fed. Const., Art. 176, par. 1);

- End of the state telecommunications monopoly (Fed. Const., Art. 21, XI and XII, a).

- The Concessions Law, published on February 13, 1995, is yet another important advance. Its purpose is to provide the government with a legal instrument laying down general rules for the state's delegation of the provision of public services. Under this system, franchise holders invest for their own account and at their own risk and are remunerated by charging a tariff. Therefore, domestic and foreign private initiative will now be able to operate in the areas of electricity (generation, transmission, and distribution), telecommunications, transportation, road, port and airport construction, basic sanitation, and water supply.

- Moreover, the authorities have also recognized that Law 4131—which was enacted over 30 years ago, on 9/31/62, and remains in force as the basic regulation of foreign capital in Brazil—needs to be revised, so that it can be brought up to date and meet the demands of the evolving markets.

- In this regard, a draft law under consideration by the National Congress is based on the principle of equal and uniform treatment of foreign and domestic capital regardless of how it entered the country. It seeks to encourage foreign capital, favors long-term capital, and recognizes recent progress toward more flexible exchange rules and the worldwide trend to capital account liberalization. The draft law is innovative in that it regulates both the treatment of foreign capital in Brazil and the treatment of Brazilian capital invested abroad.

IV. The Transmission of Monetary Impulses in Brazil: Some Theoretical and Empirical Issues[40]

A. Introduction

91. There is a broad consensus that, at least in the short run, monetary policy actions have an impact on the behavior of real economic activity, namely on aggregate spending, production and employment. The monetary transmission mechanism has received a great deal of attention in the literature because for monetary policy to be effective, a central bank needs to have a clear understanding of the specific process and timing (including lags) by which monetary impulses are transmitted throughout the economy.

92. The monetary transmission mechanism can work through the channels of interest rates, the exchange rate, asset market prices (e.g., equity and real estate prices), and bank credit. In the early years of the debate about the monetary transmission mechanism the dominant view was that monetary policy operated mainly through the interest rate channel.[41] With increasing globalization over the last two decades, including a higher degree of international financial capital mobility, and the onset of flexible exchange rates, greater attention has been given to the role of exchange rates in the monetary transmission mechanism.[42] With international financial capital mobility, the exchange rate channel of monetary policy operates through the interest rate parity relationship.[43] At the same time, greater attention has been paid to asset market prices, such as stock prices and other financial asset prices (including the term structure of interest rates), as important channels of monetary

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[40]Prepared by Rogerio Zandamela.

[41]Among the possible channels of transmission of monetary policy, the interest rate channel is undoubtedly the one that has received the greatest attention in the economics literature, in large part because it is the key mechanism of transmission in the standard Keynesian model. A number of economists, including Taylor (1995), and Ramey (1993) have argued that there is a strong interest rate channel. In contrast, Bernanke and Gertler (1995) were unable to validate statistically the existence of a significant interest rate channel. Indeed, it was the inability of some empirical studies to validate the interest rate channel that stimulated the research for alternative transmission mechanisms of monetary policy.

[42]Recent analysis documenting the importance of the exchange rate channel includes Taylor (1993, 1995), Duguay (1994), and Thiessen (1995).

[43]As suggested by Mundell (1992) the interest rate parity relationship stipulates that the interest rate differential between two countries is equal to the rate of change in the bilateral expected exchange rates. If not, with capital mobility, funds will flow toward the country with a higher interest rate until equalization of expected returns is achieved.

transmission.[44] More recently, however, there has been a renewed interest in the monetary transmission mechanism, mainly because of a debate over the relative importance of bank credit in the process of monetary transmission.

93. The credit channel was suggested by Bernanke and Gertler (1995) and stresses the relative changes in macroeconomic variables (real and nominal) that result from the impact of central bank actions on the supply and demand of loans. However, as Bernanke and Gertler pointed out, the credit channel should not be viewed as a distinct and independent alternative to the traditional channels of monetary transmission such as interest rates, the exchange rate and other asset market prices, but rather a mechanism that includes a set of factors in the credit market that amplify and propagate the traditional channels of monetary transmission. In addition, the credit channel helps to explain the movements in real output that result from monetary impulses that alter the lending policy of financial institutions (including nonprice factors such as credit rationing) independently of movements in both interest rates and exchange rates. Accordingly, it is argued that the credit channel is well suited to explain the strength, timing and composition of the effects of monetary policy actions that are overlooked by the mainstream views of the transmission mechanism.

94. A general view from the studies of the monetary transmission mechanism is that, although there are close linkages between monetary policy actions and the behavior of the real economy, the precise nature and pattern of the relevant channels is difficult to pin down. Friedman and Schwartz (1963) pioneered the empirical analysis of the monetary transmission mechanism and presented evidence that there are close correlations between monetary aggregates and economic activity. Since then a number of empirical studies[45] have confirmed their finding that monetary impulses are eventually followed by movements in real output that may last for two or more years. Nevertheless, there is no clear consensus about the relative importance of the channels through which monetary impulses are transmitted onto changes in real output. This chapter draws on the recent literature to delineate the main features of the process of monetary transmission in Brazil.

95. The task of understanding the transmission of monetary policy in Brazil is more difficult than in stable economies of industrial countries because Brazil's economy has been undergoing deep structural and behavioral changes that have been associated with the ongoing process of macroeconomic stabilization under the *Real Plan*. Indeed, as stressed by Lopes (1997), when an economy moves from a period of high inflation to low inflation the

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[44]In Taylor (1993, 1995) the transmission mechanism operates through the exchange rate and two interest rates, short-term rates and long-term rates, unlike the traditional Keynesian model which has only one interest rate. In Meltzer (1995) the transmission mechanism focuses on a wide spectrum of asset market prices, beyond short-term rates, long-term rates and the exchange rate.

[45]Including Romer and Romer (1989), Bernanke and Blinder (1992) and Christiano, Eichenbaum and Evans (1994a, 1994b).

nature of the monetary transmission mechanism changes as monetary policy gradually regains its effectiveness. For several years prior to the introduction of the *Real Plan* in mid-1994, there was chronic high inflation in Brazil and this led to the adoption of widespread indexation of both financial and real variables as hedge for inflation. In such an economy, monetary policy for the most part loses its ability to affect the real economy. Economic stabilization under the *Real Plan*, however, brought about a gradual removal of indexation, a fact which has contributed to the establishment of a favorable environment for the restoration of the effectiveness of monetary policy.

96. This chapter tries to trace the impact of monetary policy actions that eventually leads to changes in the real and nominal aggregates. More concretely, the chapter investigates how aggregate demand and real output in Brazil respond to changes in interest rates, exchange rates, and other relevant financial market prices. It also explores the role of credit conditions in the monetary transmission mechanism. The remaining sections of the chapter are structured as follows. The next section analyses and discusses the mechanism of transmission of monetary impulses in Brazil, comparing the period under high inflation with the recent period of economic stabilization. In addition, the section illustrates graphically the principal linkages underlying the mechanism of monetary transmission in Brazil. A particular focus is given to the effects of interest rates, exchange rates, and credit factors on aggregate real output. The last section outlines the main conclusions of the chapter.

B. Outline of the Monetary Transmission Mechanism in Brazil

97. The present analysis adopts an eclectic view of the monetary transmission mechanism in the sense that it considers the transmission process to operate through the combination of interest rates, exchange rate, and credit factors channels as opposed to the mainstream approaches that emphasize one or two of the relevant channels. These channels in turn influence aggregate spending and production.

98. Fundamentally, the central bank exercises its influence on interest rates, exchange rates and credit conditions through its control of liquidity conditions in the money market. The instruments used by the central bank to control liquidity are open market operations, reserve requirements and the discount window. At present, the central bank conducts monetary policy essentially by setting on a monthly basis minimum (TBC) and maximum (TBAN) overnight **rates of interest** for its lending and borrowing operations in the money market.[46] In general, the overnight interest rate for transactions in the interbank market, the

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[46]The lending operations of the central bank at the minimum rate (TBC) are subject to limits that are dependent on the nature and amount of guarantees offered by the borrower. The TBAN is the rate that the central bank applies for financial assistance operations to banks that want to borrow amounts in excess of the limits applied on borrowing at the TBC.

SELIC rate[47] fluctuates between the TBC and the TBAN. The central bank exerts its direct influence on the SELIC rate by adjusting the amount of liquidity in the overnight interbank market. This induces financial institutions to bid more or less for overnight funds, thus pressing the SELIC rate to change up or down in order for the overnight interbank market to clear.[48] In particular, when central bank actions create a shortage of liquidity in the overnight interbank market then, the SELIC rate will rise to a new level as financial institutions scramble for funds while, when central bank actions cause an excess of liquidity in the interbank market, the SELIC rate will drop as financial institutions make efforts to find alternative placements for their excess balances. In summary, the central bank can adjust the amount of liquidity available to financial institutions to induce them to alter the SELIC rate to a level that the central bank deems desirable.

99. Movements in the overnight interbank interest rate trigger a series of portfolio shifts among market participants that in turn affect the term structure of interest rates. The specific pattern of interest rates beyond the overnight horizon depends heavily on market expectations of the future path of overnight interest rates, which in turn rely on the perception of the market about the sustainability of the monetary policy stance.[49] For example, suppose the SELIC rate rises in response to a central bank decision to tighten liquidity conditions to control incipient demand pressures in the economy. In such a situation, the reaction of longer term interest rates will depend largely on the amount of time market participants expects the new level of the SELIC rate to last. The longer the new level of the SELIC rate is expected to last the greater will be its impact on interest rates with maturities beyond overnight. Thus, if the market felt that the demand pressures were only of a brief duration, it would not expect the new level of the SELIC rate to remain for a long time, thus resulting in only a limited increase, if any, in the rest of interest rates along the yield curve. Accordingly, the longer the maturity of securities, the weaker will be the impact of an increase in the SELIC rate. But, if instead the market interpreted the increase in the SELIC rate as the beginning of a period of high levels of interest rates in response to demand pressures that are perceived as long lasting, then the impact of an increase in the SELIC rate on longer term interest rates would be more pronounced.

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[47]The SELIC rate is the relevant interest rate in the overnight interbank market only when public sector debt instruments are used as collateral and it is the most important reference rate in Brazil's economy. However, when private debt instruments are used as collateral, the relevant interest rate in the overnight interbank market is the interbank certificates of deposits rate ("overnight CDI").

[48]Of course, this implies that the overnight interbank market was initially in a position of equilibrium.

[49]Abstracting from other factors such as fiscal policy, monetary policy in major partner countries, and political events.

100. An increase in the nominal interest rate combined with sticky prices or sluggish price adjustment, implies a higher real interest rate, at least temporarily. Over time, however, as wages and good prices adjust, the real interest rate will converge to a new equilibrium level. Thus, the slower the adjustment of prices is, the greater will be the increase in real interest rates. A higher interest rate would in turn lead to a reduction in aggregate demand via lower levels of business fixed investment, residential housing investment, consumer durable outlays and inventory investment, therefore causing aggregate output to fall. Over time, these changes are propagated and magnified by the induced multiplier and accelerator effects.[50] This type of interest rate channel is characteristic of an economy that has achieved some degree of stability. In general, when an economy is suffering from high inflation, the interest rate channel is expected to be weak, in part because widespread indexation normally prevails. For this reason, we would expect the interest rate channel to be relatively weak prior to the introduction of the *Real Plan* in mid-1994, and to gradually regain its effectiveness in controlling spending as the economy stabilized successfully under the *Real Plan.*

101. In the case of the Brazilian economy, an informal analysis suggests that the interest rate channel was strong even during periods of high inflation. Real interest rates were generally high and extremely volatile during those periods, but as the economy stabilized after the *Real Plan* was introduced in 1994, they converged to low levels and their volatility declined sharply (Figure 15). There also would appear to be an inverse relation between real GDP with real interest rates with a quarter lag, both in the periods of high inflation and the recent period of stabilization under the *Real Plan*, although this would need to be confirmed by further empirical analysis (Figure 16).[51] [52] The apparent strength of the interest rate channel during high inflation may be an indication that despite the existence of widespread indexation of wages and financial prices before the *Real Plan*, there was some stickiness in wages and good prices that allowed the interest rate to be a channel of transmission of monetary policy. This

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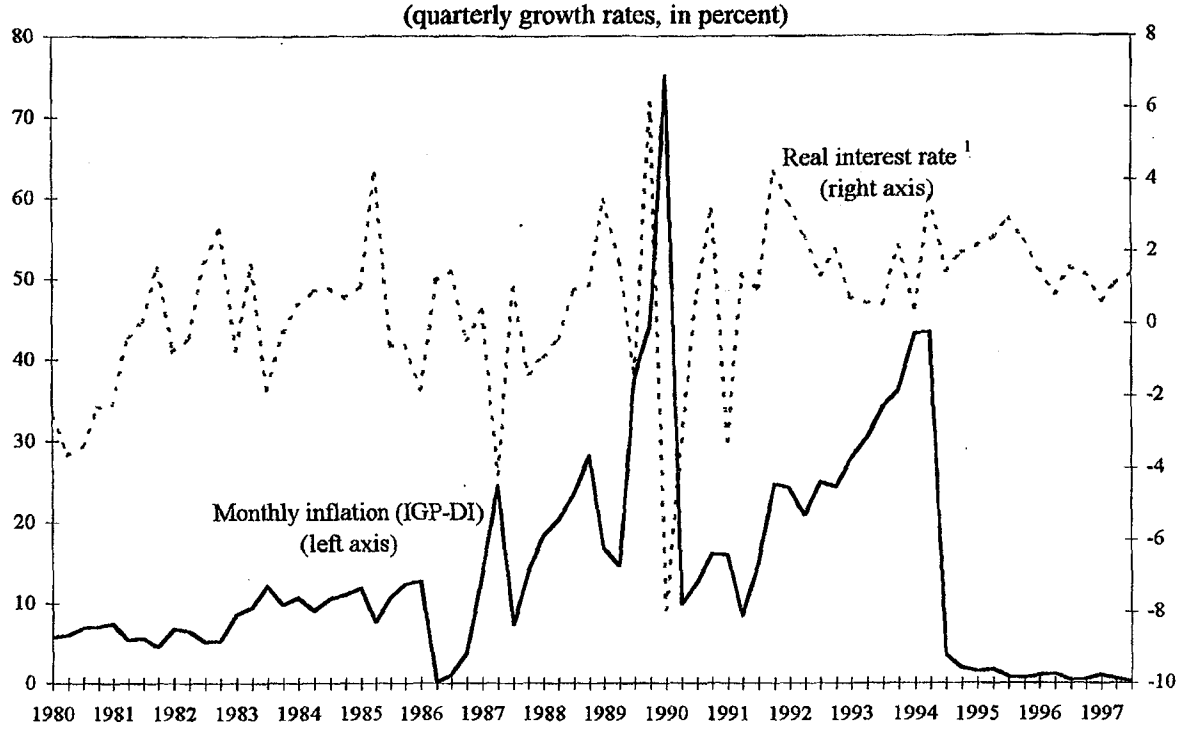
[50] There are a number of channels through which changes in interest rates affect aggregate demand and spending. These include a cost of capital effect (on consumer durables, investment in housing, business investment on plant and equipment, and inventory holdings); a wealth effect on household spending; a cash flow effect on firms and households (also referred to as a liquidity constraint effect); and an intertemporal substitution effect on consumer spending (the incentive to save rather than to spend). These effects are discussed in greater detail in Duguay (1994).

[51] Other lags were tried but were less significant.

[52] This result is also robust with the substitution of industrial production and output for real GDP. It was not possible to analyze the impact of monetary impulses on aggregate demand (and its components) because of unavailability of quarterly data. The existing quarterly (and monthly) series on aggregate demand only cover the period from January 1996. Prior to January 1996 there is only annual data, which is not suitable for this type of analysis.

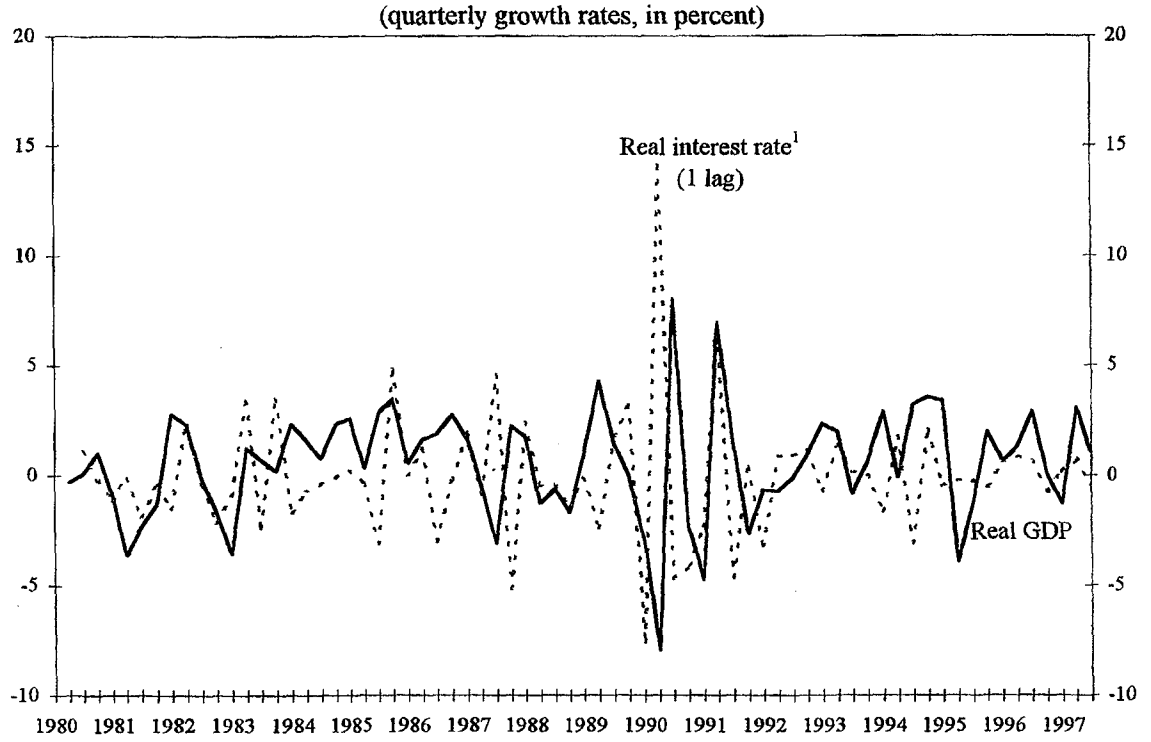
Figure 15. Brazil: Changes in the General Price Index (IGP-DI) and Real Interest Rates
(quarterly growth rates, in percent)



Source: Central Bank of Brazil.

[1] Monthly nominal interest rate (SELIC) adjusted to the general price index (IGP-DI).

Figure 16. Brazil: Growth in Real GDP and Changes in Interest Rates
(quarterly growth rates, in percent)



Source: Central Bank of Brazil.

[1] Monthly nominal interest rate (SELIC) adjusted to IGP-DI (sign reversed).

could be explained in large part by the backward nature of the indexation schemes in place during hyperinflation.

102. Since March 1995, the Central Bank of Brazil has exerted direct influence on the *exchange rate* through the establishment of an adjustable exchange rate band.[53] In practice, the central bank announces periodically a wide exchange rate band which is changed about once a year, and induces a monthly depreciation of the *real* versus the U.S. dollar by moving a miniband (within the wider band) which is established through buying and selling auctions in the foreign exchange market several times a month. At present, the ceiling of the wider band is about 9 percent higher than the floor, while the width of the miniband, is generally kept below 1 percent. Within the miniband, exchange rates are determined by participants in the interbank market.

103. If the market feels that the level of the SELIC rate is inadequate,[54] investors will be reluctant to hold *reais* at the current exchange rate. As a result they will be induced to channel their funds toward foreign currencies and other foreign-currency-denominated financial assets (with higher interest rates adjusted for expected exchange rate changes), thus putting pressure on the foreign exchange market. If the central bank is unwilling to meet the demand for foreign exchange and is reluctant to raise the SELIC rate further for fear of crowding out domestic investment, the exchange rate would come under pressure as investors move out of *reais* to avert or limit a potential loss from expected exchange rate movements. As soon as the exchange rate reaches the ceiling of the miniband, the central bank would be expected to change the miniband towards a more depreciated level.[55] The impact of a movement in the SELIC rate on the exchange rate is also largely a function of market expectations regarding the likely duration of the new level of the SELIC rate. The longer the

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[53]There are two legally recognized exchange rate markets in Brazil: the commercial or free market and the fluctuating or tourism market. The commercial market handles most financial and trade related transactions (about 85 percent of total turnover) and the fluctuating market covers transactions related to tourism and some nontrade related services. The band system applies to both exchange rates. Even without the formal introduction of the band system, the exchange rate had remained in a narrow band between October 1994 and February 1995, after being allowed to float during the first three months of the *Real Plan.*

[54]For example, this could be the case if the market felt that the SELIC rate adjusted by the expected depreciation in exchange rate was unattractive when compared with equivalent instruments in international markets.

[55]Evidently, the central bank could decide to move the miniband to a more depreciated level even much before the exchange rate reaches the ceiling of the miniband. Furthermore, the central bank could in theory decide to move the miniband to a more appreciated level even with the exchange rate under pressure. To sustain this situation, the central bank would need either to raise interest rates or be willing to supply reserves to the exchange market. In the contrary, a parallel market will emerge to fill the gap.

new level of the SELIC rate is expected to last, the stronger the effect will be on the exchange rate.

104. An immediate implication of this analysis is that when the central bank takes actions to influence interest rates it must also take into account the effects of its actions on exchange rates. Also, central bank actions to influence the exchange rate (by way of an autonomous change in the miniband) without the supporting demand management policies in place, may fail to achieve the desired results.

105. The mainstream views that link movements in **exchange rates to aggregate demand and economic activity** are straightforward. Exchange rate movements exert influence on aggregate demand and economic activity primarily by altering the competitiveness of domestic goods that are traded internationally. For example, a nominal depreciation of the *real* will raise the domestic price of tradables relative to the price of nontradables. To the extent that wages and prices are slow to adjust, a nominal depreciation of the *real* will result in a depreciation of the *real* in real terms. This will initiate a series of demand and supply responses that over time will result in higher exports and lower imports, hence bringing about an increase in economic activity. On the supply side, the relative increase in the prices of tradables, renders their production more profitable, thus inducing suppliers to produce more tradables.[56] As with the interest rate, the strength of the supply responses of tradables will depend largely on the expected sustainability of the real depreciation of the currency. In this way, if the more depreciated level of the currency is perceived as permanent, the supply responses are likely to be stronger. Otherwise suppliers will be reluctant to expand their productive capacity.

106. On the demand side, the increase in the relative prices of tradables will shift domestic demand away from tradables towards nontradables, thus entailing a reduction of imports and an increase in the demand for nontradables. In addition, the depreciation of the *real* could make domestic tradables cheaper in world markets, as the increased profitability in local currency could induce suppliers to lower their export prices in foreign currency to gain market share. Therefore, in general, a positive correlation is expected to exist between exchange rates and aggregate demand. In the case of Brazil, it is interesting to consider whether there is any modification of the exchange rate channel in the transition from high inflation to low inflation. A casual observation of the Brazilian economy also reveals that the exchange rate channel may have been an influence both in high inflation and in the recent period of economic stabilization (Figures 17 and 18). Indeed, the real exchange rate fluctuated widely during high inflation periods, despite some implicit pegging of the nominal exchange rate to international price differentials. Over time, the changes in the real exchange

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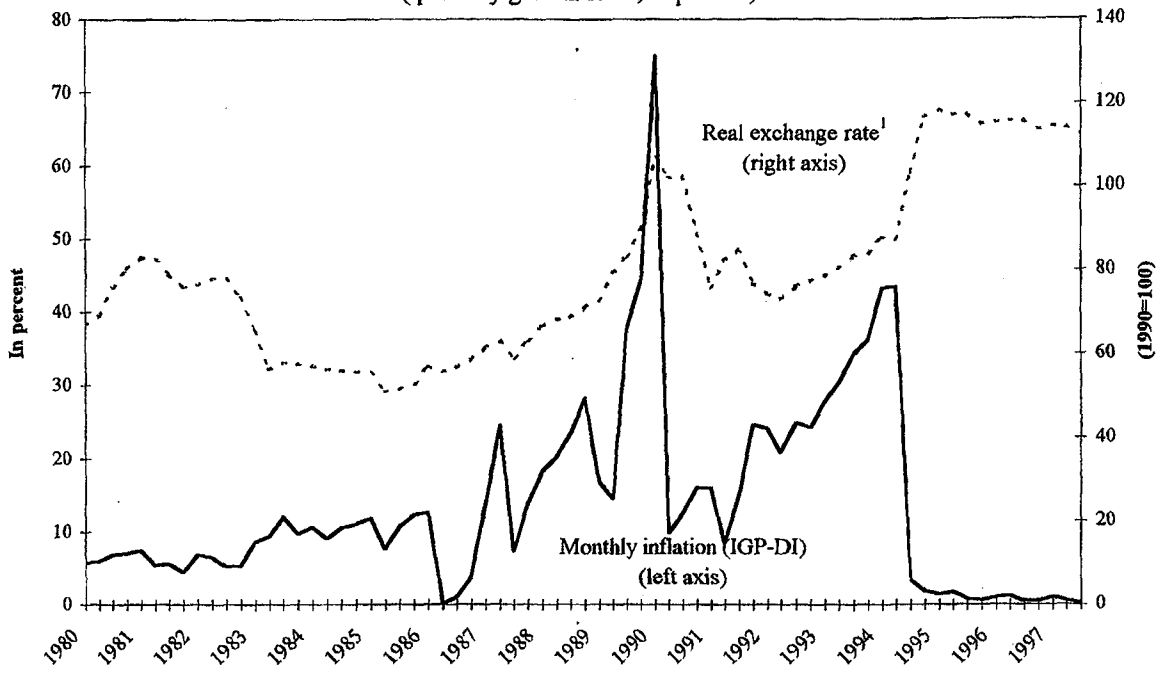
[56] In addition to the substitution effect, exchange rate movements in the short run have offsetting income effects, particularly through possible changes in the country's terms of trade. Accordingly, if a country exerts some influence on the price of its exports while being a price taker for its imports, then a depreciation of the currency could result initially in lower export receipts and higher import expenses. But over time the substitution effects are expected to prevail.

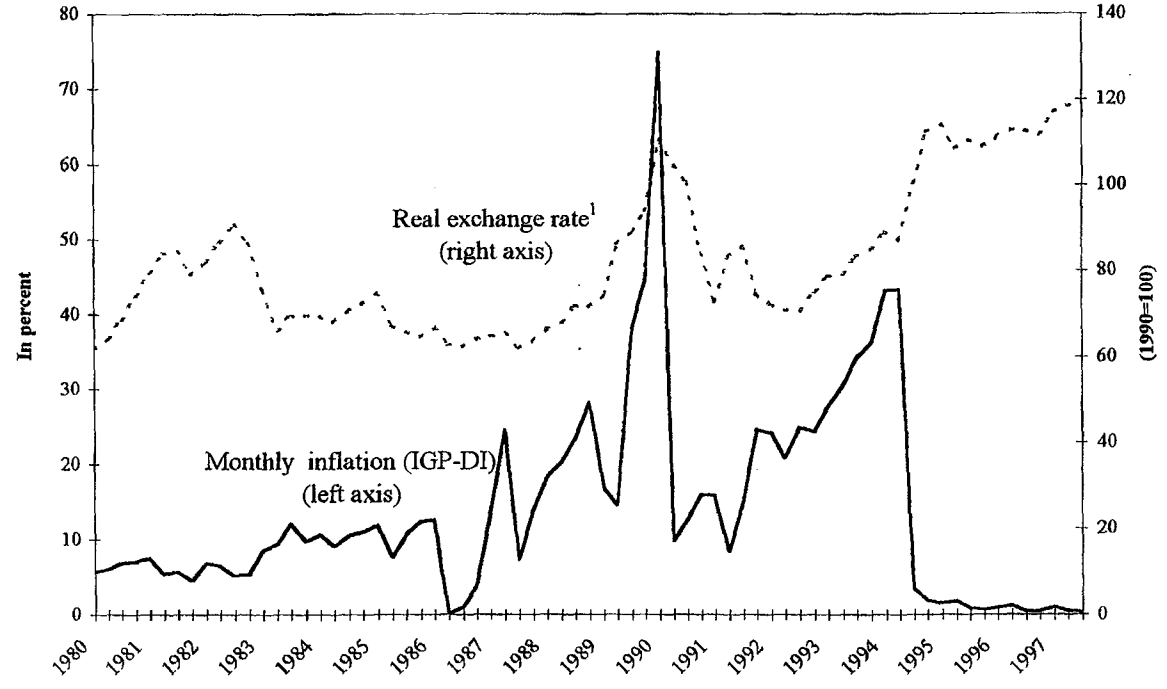
Figure 17. Brazil: Inflation and Real Exchange Rates
(quarterly growth rates, in percent)



Sources: Central Bank of Brazil and Information Notice System (IMF).

[1] Nominal exchange rate adjusted to domestic (IGP-DI) and U.S inflation.

Figure 18. Brazil: Inflation and Real Effective Exchange Rates



Sources: Central Bank of Brazil and Information Notice System (IMF).

[1] Nominal exchange rate ajusted to domestic (IGP-DI) and Brazil's major trading partners' inflation.

rate would appear to have influenced the performance of net exports, which in turn may have brought about changes in the level of economic activity. In particular, the real depreciation (appreciation) of the *real* would appear to be positively related to real GDP growth with a one quarter lag, although again this would require further empirical work to confirm (Figures 19 and 20). In the aftermath of the introduction of the *Real Plan*, the currency appreciated significantly in real terms, bringing about an adverse turnaround in the performance of net exports.[57] Therefore, it can be concluded that the effectiveness of the exchange rate channel was not modified significantly with the move of the Brazilian economy from periods of high inflation to low inflation.

107. The responses of the economy to central bank policy actions cannot be explained exclusively in terms of interest rate and exchange rate effects. As highlighted in recent literature, the **credit channel** helps to explain the reaction of the economy to changes in monetary policy that is not induced by changes in interest rates or exchange rates. Fundamentally, the credit channel is relevant when central bank actions lead to changes in the conditions of lending and borrowing that are uncorrelated with movements in interest rates or exchange rates. As suggested by Bernanke and Gertler (1989) central bank actions exert influence on the conditions of lending and borrowing in credit markets through their effects on the external finance premium of borrowers, defined as the wedge between the cost of external financing from resources other than the borrowers' (i.e., equity and/or debt issues) and the opportunity cost of internal financing (via retained earnings).[58] In particular, the external finance premium could be viewed broadly as the spread that financial institutions charge for borrowing and lending operations (Lopes, 1997). Therefore, changes in the external finance premium are expected to have a significant impact on real spending and real output, mainly by amplifying the responses of the economy to central bank actions. In general, the credit channel literature considers that central bank actions influence the external finance premium through two possible mechanisms: the bank lending channel and the balance sheet channel (also referred to as the net worth effect).

108. According to the **banking lending channel**, monetary policy influences the external finance premium by influencing the availability of bank loans relative to other forms of credit. When the central bank tightens monetary policy, banks are compelled to reduce their supply of loans. Those borrowers that are dependent on bank loans will respond to the reduction in bank loans by looking for alternative sources of credit, hence incurring additional costs that are likely to increase the external finance premium. The increase in the external finance premium is likely to have an adverse influence on aggregate spending and production. A key

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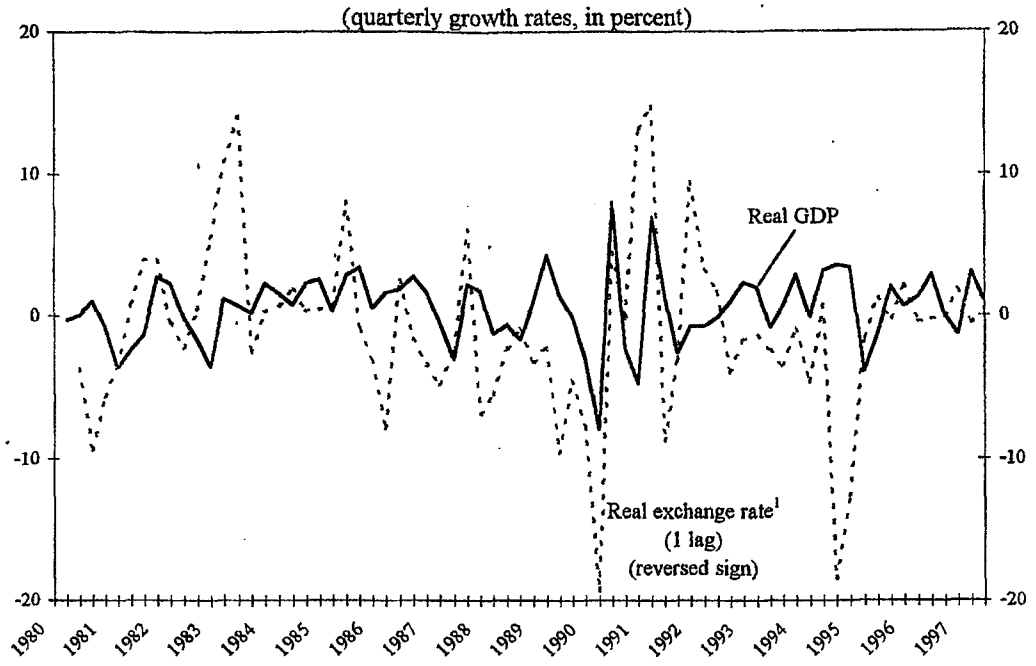
[57]This implies that the positive performance in economic activity during the *Real Plan* would have been much higher if fiscal policy had been stronger and the real exchange rate had not appreciated as much.

[58]This also can be interpreted to mean that firms view internal funds, bank loans, and other sources of credit as imperfect substitutes.

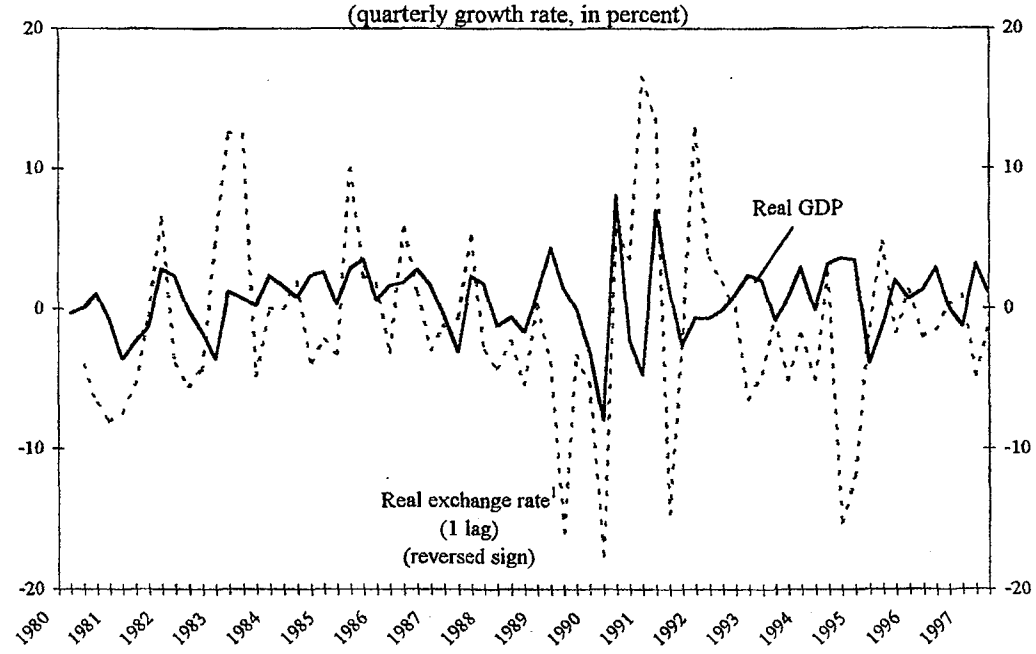
Figure 19. Brazil: Growth in Real GDP and Changes in Exchange Rates
(quarterly growth rates, in percent)



Source: Central Bank of Brazil and Information Notice System (IMF).

[1] Nominal exchange rate adjusted to domestic (IGP-DI) and U.S inflation.

Figure 20. Brazil: Growth in Real GDP and Changes in Effective Exchange Rates
(quarterly growth rate, in percent)



Sources: Central Bank of Brazil and Information Notice System (IMF).

[1] Nominal exchange rate adjusted to domestic (IGP-DI) and Brazil's major trading partners' inflation.

premise of the bank lending channel is that bank loans must be viewed as imperfect substitutes to other short-term credit both on the liability side of firms and the asset portfolio of banks. This implies that firms will not offset a reduction of bank loans by simply issuing new short-term debt and that banks will not neutralize the effects of a monetary tightening on their loan portfolio by simply cutting back their holdings of short-term credit.

109. During the period of high inflation in Brazil, bank credit was relatively low and, indeed, the main source of revenue for banks was the float. The size of bank revenues from the float was so large that banks practically refrained from engaging in credit operations, thus making them virtually immune to credit risk. In particular, for several years through end-March 1993 total financial system credit to the private sector was less than R$1 billion (about 5 percent of GDP) (Figure 21). As the economy stabilized under the *Real Plan*, revenues from the float virtually vanished and banks were compelled to turn to credit operations as the main source of business, and as a result they became vulnerable to credit risks.[59] In the process, there was a sharp consolidation of the banking system as many banks were unable to manage the transition to a low inflation environment. In Brazil, therefore, one would expect the bank lending channel to be practically irrelevant during high inflation, but to gradually gain importance as the economy stabilizes.

110. The **balance sheet channel of monetary policy** works by affecting the external finance premium through changes in the borrowers' financial position, often represented by their net worth.[60] In particular, the proponents of the balance sheet channel argue that monetary policy operates not only through interest rates and the exchange rate effects but also through the borrowers' financial position by altering the present values of their net cash flows and collateral.[61] In turn, changes in the borrowers' financial position are likely to influence the external finance premium facing borrowers, and thus their investment and other spending

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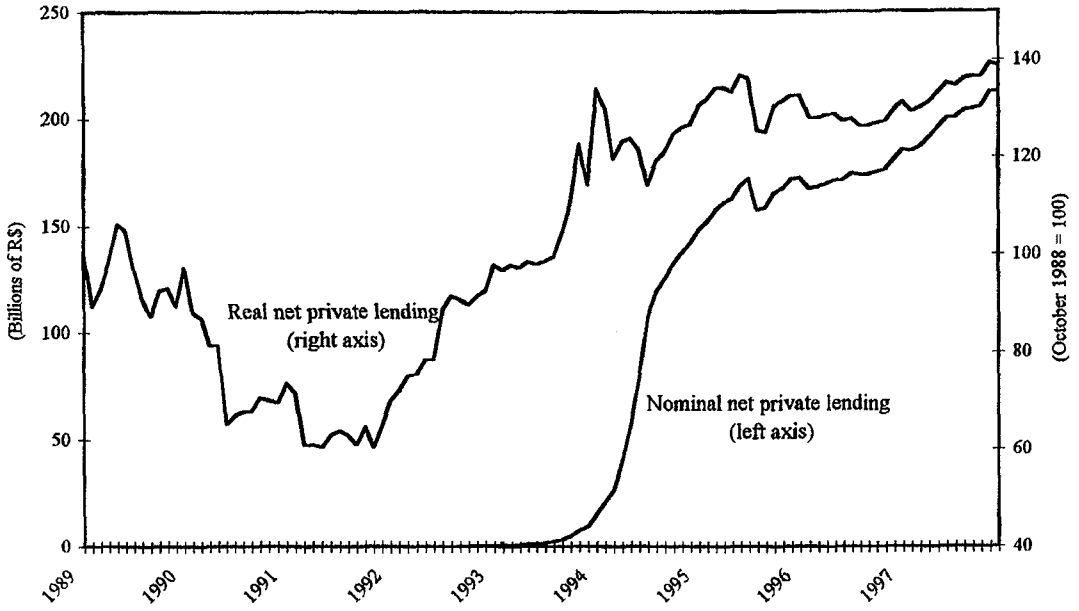
[59]By end-1997 total financial system credit to the private sector had risen to more than R$200 billion (about 25 percent of GDP). However, less than R$50 billion of the total financial system credit were in the form of holdings of federal securities.

[60]The lower the net worth of the borrowers is, the smaller the collateral for the loans and the higher the potential losses from adverse selection. When the net worth of borrowers falls, bank lending to finance investment will drop because it is more likely that lenders will not be paid back.

[61]Most of the research on the credit channel has focused on the impact of monetary impulses on spending decisions by business firms. However, as suggested by Bernanke and Gertler (1995), the credit channel is equally relevant for consumer spending, namely durables and housing purchases. In particular, it could operate either through changes in banks' desire to lend or through changes in consumers' desire to spend (liquidity or cash flow effects) in response to monetary impulses (e.g., Mishkin, 1995).

Figure 21. Brazil: Net Private Lending to the Private Sector



Source: Central Bank of Brazil.

decisions.[62] In particular, the lower the borrowers' net worth is, the higher the external finance premium is likely to be, hence entailing adverse effects on real spending and output.[63]

111. The response of the borrowers' net worth to central bank actions depends heavily on the duration of net cash flows and collateral derived from the borrowers' assets, which affect the present values of these flows. Indeed, the longer the duration of the stream of cash flows, the more sensitive the response of present values to changes in interest rates. Therefore, if borrowers (households and firms) have balance sheets where the duration (defined as average maturity) of assets exceeds the duration of liabilities, their net worth would be inversely related to interest rates. This is likely to be the case in Brazil where most households and firms are reported to be borrowing on a short-term basis. In addition, central bank actions have an impact on equity prices. For example, when the central bank tightens monetary policy, households and firms are likely to find themselves with a shortfall of money balances, leading them to sell stocks in order to restore asset market equilibrium. As a result stock prices are likely to fall, causing the value of loan collaterals to drop, hence raising the external finance premium and scaling down spending decisions.[64] Alternatively, stock prices could fall as a result of an increase in interest rates that is generally associated with a tighter monetary stance.

112. We also would expect the balance sheet channel to be weak during a high inflation environment because the duration of debt instruments, particularly nonindexed debt, is inversely linked to the level of inflation. Indeed, in the extreme case, the duration of debt instruments would asymptotically converge to zero as inflation rises toward high levels. In such a situation interest rate movements will have a very limited impact on equity prices, in turn resulting in only marginal effects on the net worth of households and firms. However, with the stabilization of the economy in recent years, the duration of debt has risen, leading in turn to a gradual restoration of the effectiveness of the balance sheet channel. In particular, in January 1994 the average maturity of all federal securities was about three months, (about

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[62]To the extent that changes in the net worth are correlated with interest rate movements, some of the effects of the balance sheet channel may be captured by the interest rate channel.

[63]The underlying insight is that a weaker financial position will induce borrowers to raise their potential conflict of interest with lenders either by providing less collateral for their loans or reducing their down payment.

[64]The impact of changes in equity prices on spending decisions can also be explained through Tobin's q theory of investment and wealth effects on consumption. According to Tobin (1969) q is the market value of firms expressed in terms of the replacement cost of capital. Following this theory, the transmission of monetary policy operates through its effects on the valuation of assets. Accordingly, lower equity prices entail a lower q, which in turn induces a drop in investment spending because for firms to acquire new plant and equipment a larger issue of equity is needed. The wealth effect on consumption stipulates that when equity prices fall, the level of financial wealth of consumers will drop, thus lowering consumption spending via a reduction of lifetime resources of consumers (Modigliani, 1971).

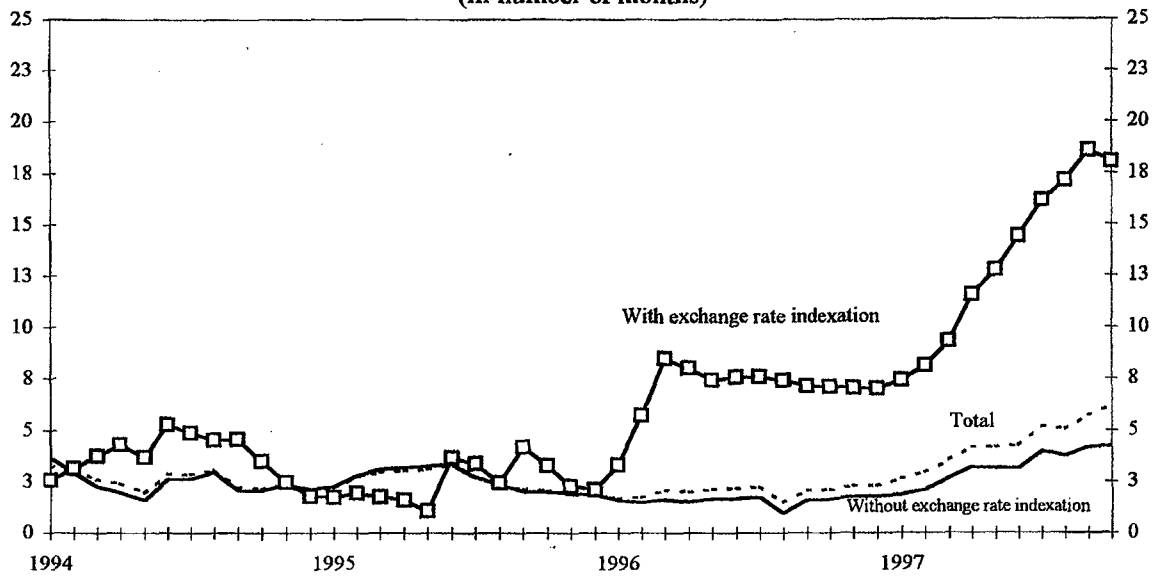
one week for nonindexed federal securities), but by end-October 1997 it had risen to about seven months, as inflation fell sharply under the *Real Plan* (Figures 22 and 23).

113. It is relatively more difficult to gauge the relative strength of the credit channel, in large part because it is difficult to distinguish conclusively the effects of the balance sheet channel from the effects of the bank lending channel, and for that matter from the effects of the Tobin's q theory of investment and the wealth effects on consumption. However, using stock prices as a proxy for the variables that illustrate the credit channel, it appears that the credit channel may have been a channel of monetary transmission in the Brazilian economy (Figures 24 and 25). It is more difficult to detect a positive correlation between equity prices and real GDP growth.

C. Conclusions

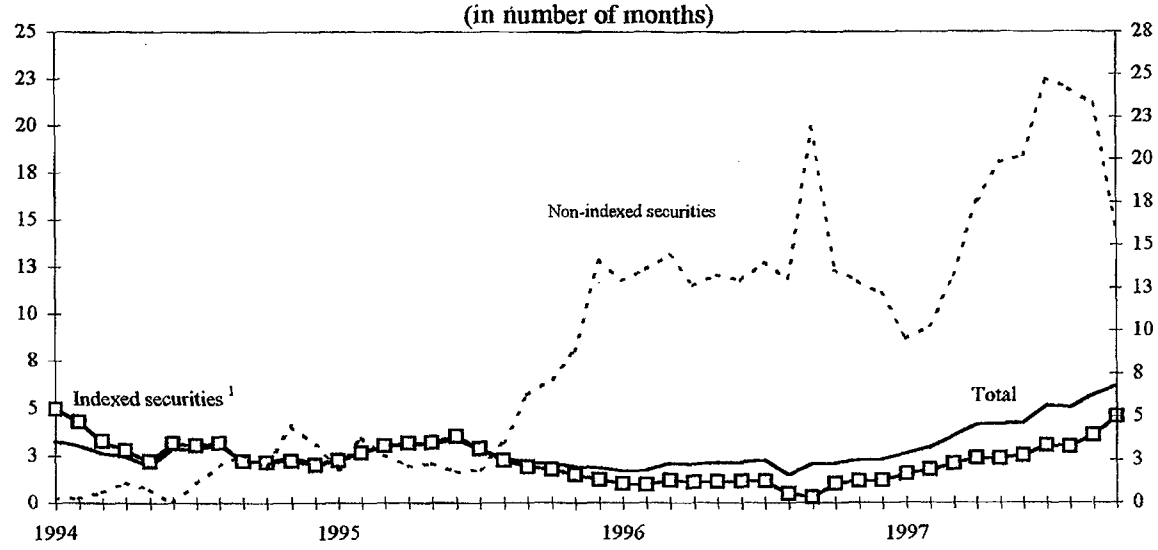
114. This chapter has analyzed the transmission mechanism of monetary policy in Brazil by focusing on how changes in interest rates, the exchange rate and conditions in credit markets, influence real output growth and other real economic variables. The graphical analysis carried out here suggests that interest rates, the exchange rate, and credit factors may have been channels for monetary transmission in Brazil. In contrast with expectations, interest rates and the exchange rate also would appear to have been channels of monetary transmission during high inflation periods. Evidently, these results should be interpreted as very preliminary and need to be subject to more robust econometric analysis. An analyses of monetary transmission also should be based on a closed model by including a central bank's reaction function describing how the central bank adjusts the interest rate in response to key developments in the economy, namely real GDP, inflation, and the exchange rate.

Figure 22. Brazil: Average Maturity of Federal Securities
(in number of months)



Source: Central Bank of Brazil.

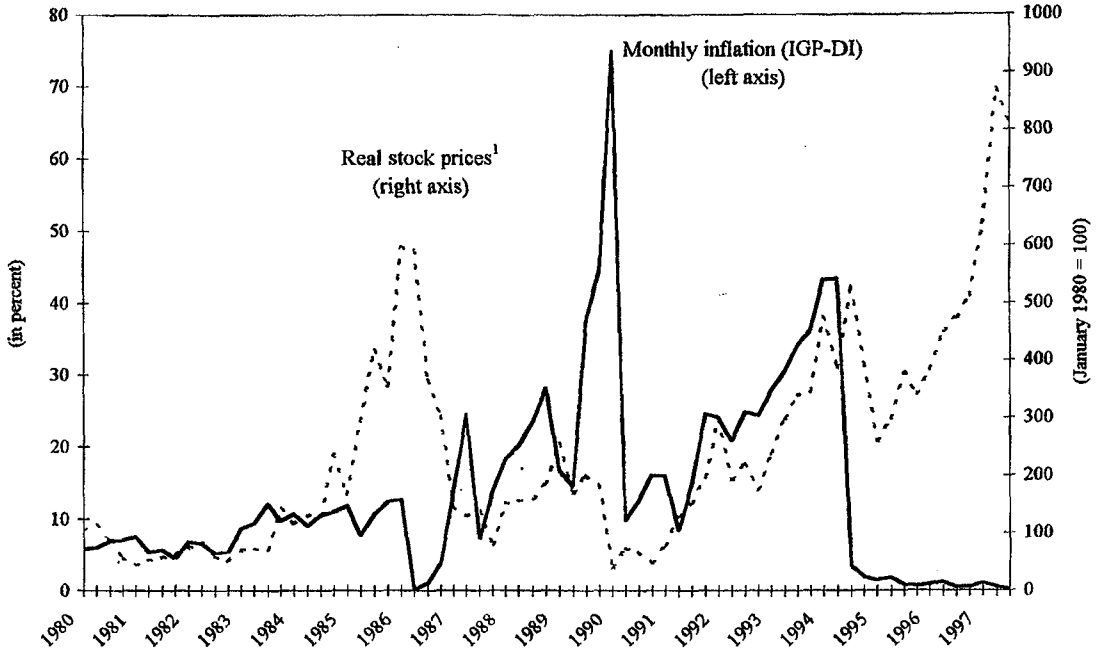
Figure 23. Brazil: Average Maturity of Federal Securities
(in number of months)



Source: Central Bank of Brazil.

[1] Includes federal securities indexed to the general price index (IGP-M), the reference interest rate (TR), the interbank interest rate (SELIC), the long-term interest rate (TJLP), and the exchange rate.

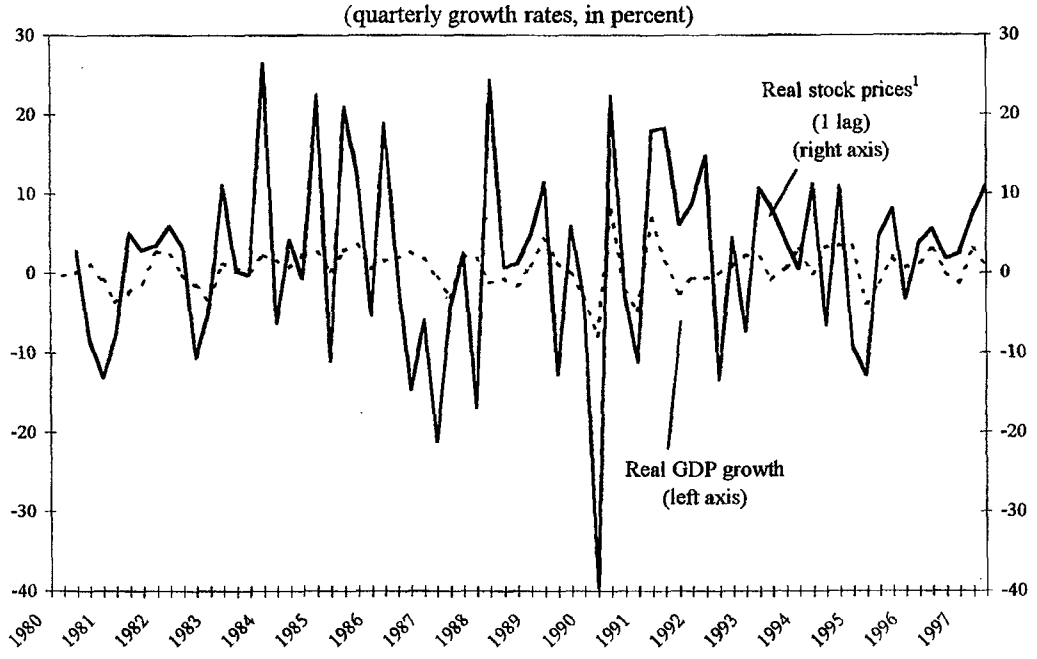
Figure 24. Brazil: Inflation (IGP-DI) and Changes in Real Stock Prices



Source: Central Bank of Brazil.

[1] Nominal stock prices of BOVESPA adjusted to IGP-DI.

Figure 25. Brazil: Growth in Real GDP and Changes in Stock Prices
(quarterly growth rates, in percent)



Source: Central Bank of Brazil.

[1] Nominal stock prices (BOVESPA) adjusted to IGP-DI.

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V. An Assessment of Risks in the Brazilian Financial System[65]

A. Introduction

115. This chapter analyses the Brazilian financial system which is the largest of the emerging market economies (with the exception of China) and by far the largest in Latin America.[66] Section B reviews the structure and recent evolution of the Brazilian financial system, with particular emphasis on the banking system. Section C presents a preliminary analysis of the performance of banks with majority domestic shareholders based on detailed financial statements since December 1994. In order to assess the resilience of the private banks to the sharp increase in interest rates in October 1997, the impact of a doubling of nonperforming loans on the financial conditions of individual banks in that group is simulated in Section D. Section E discusses the public sector banks (state banks and federal banks). Section F reviews valuation and disclosure practices, as well as the ways that market discipline takes place in Brazil. Section G looks at the supervisory framework and the role of the central bank, and Section H at the regulatory framework for banks' derivatives and foreign exchange activities.

B. Structure and Recent Evolution of the Financial System

116. The Brazilian financial system is primarily composed of a large banking sector, mutual investment funds that are mainly managed and administered by banks, pension funds, and insurance companies, most of which are owned by or associated with bank holding companies. In 1997, total assets of these main components of the financial system are estimated to have amounted to about R$800 billion, of which about 70 percent were accounted for by the banking system, 20 percent by mutual investment funds, and 10 percent by pension funds and insurance companies.[67] There are also investment banks, credit, financing and investment companies, and numerous smaller financial institutions such as securities dealers, brokerage firms, leasing companies, investment funds, credit cooperatives, mortgage companies, and real estate finance companies (Table 7). Most of these institutions also tend to be part of bank holding companies, and apart from the pension funds, insurance companies, and stock exchange houses, most fall under the supervision of the central bank, which is responsible for the supervision of over 3,000 financial institutions.

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[65]Prepared by Gabriel Sensenbrenner.

[66]The assets of Brazil's five largest banks were US$260 billion, compared to US$230 billion for Korea, US$220 billion for Taiwan Province of China, US$140 billion for Thailand, US$100 billion for Malaysia, and US$100 billion for Mexico (data as of end-1996). The unweighted capital asset ratios were as follows: 8 percent for Brazil (12 percent for the five largest private banks); 5 percent for Korea; 4 percent for Taiwan Province of China; 7 percent for Thailand; 6 percent for Malaysia; and 3 percent for Mexico.

[67]Staff estimates exclude the assets of investment banks and most categories of nonbank financial institutions, for which comprehensive data were not available.

117. The investment funds and insurance industries have experienced strong growth since 1994. The insurance industry grew by about two and a half times since the inception of the *Real Plan*, with total premiums of R$18 billion in 1997. Most of the growth is accounted for by the development of term life insurance and capitalization products. Several leading international insurance companies have entered the Brazilian market in 1997.

118. The number of investment funds has grown from 1,000 in 1994 to almost 3,000 in 1997, following reforms that were enacted in 1995 with a view to increasing the transparency and supervision of the funds' activities. Assets have grown from less than 2 percent of GDP in 1991 to almost 19 percent in 1997, or R$160 billion. At present, there exist about 30 different categories of investment funds, of which 25 are for residents and 5 for nonresidents. The central bank is in charge of the supervision of 17 types of fixed-income funds (funds with more than 51 percent of assets invested in fixed-income securities); Brazil's securities and exchange commission is in charge of the supervision of 13 types of equity funds.[68] Private pension funds had assets of R$70 billion in 1996.

119. The banking system is composed of a large private banking sector, several federal government-owned banks, including the two largest in the country, and the state banks. The structure of the Brazilian banking system as of mid-1997 is summarized in Table 8. Since the beginning of the *Real Plan*, the Brazilian banking system has undergone profound changes. As noted in Chapter IV, during the years of high inflation, the banks earned substantial profits from treasury operations (mainly arbitrage on interest rates and currencies) and from float on basic banking services (bill and tax collections).[69] Since the stabilization of the economy in the second half of 1994, the banks' profitability and capitalization have come to depend more on lending operations and fee income. The adjustment of the banking industry to the new low inflation environment was set back in 1995, when the central bank raised interest rates to cool domestic demand and protect the capital account, partly in response to the Mexican crisis. Higher interest rates in turn affected the debtors' ability to repay bank loans and financial intermediation costs increased sharply reflecting increased provisions for nonperforming loans. Table 9 shows the evolution of nonperforming loans in the system, by category of bank, for the period June 1994 to June 1997.

120. Following a peak in the reported delinquency rate of about 9 percent in August 1996, the banking system has generally been able to reduce the incidence of nonperforming loans to more manageable levels. Most banks were able to absorb the associated costs, because low levels of lending resulted in generally high capitalization ratios. However, there remains a fair

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[68]Nine types of these investment funds currently exist. The 60-day fixed income funds represent about 70 percent of assets (R$110 billion) and equity funds represent a further 10 percent (R$18 billion). Most of the assets invested in equity funds are invested in so-called "carteira livre", which are aggressive funds for which the managers are explicitly allowed to take substantial exposure to derivatives.

[69]Float income of the private banking system for the year ending in June 1994 was R$4.7 billion, and only R$0.1 billion for the year ending in June 1995.

amount of disparity in the situation of individual banks, in particular among the private banks with a majority domestic shareholding.

121. The recent evolution of the structure of the Brazilian banking system is summarized in Table 10. Three trends are apparent from the data that cover the period since 1994: the share of the private sector banks in total assets has increased from 36 to 38 percent; there is a movement toward greater concentration among private sector banks (the share of the five largest private banks in total private banking assets has increased from 58 to 63 percent); the share of foreign ownership has grown from 13 to 18 percent, up to June 1997 and to 21 percent in January 1998. Correspondingly, the share of publicly owned banking assets has declined from 51 to 44 percent, reflecting mainly the exit of two state-owned banks from the system and the operational limitations placed on a few other state-owned banks by the central bank.[70]

122. These trends, combined with the need to further reduce the incidence of nonperforming loans and with the supervisory pressures for adequate provisioning and capitalization, underscore the intensification of competitive pressures in the system. These pressures intensified during 1997 as may be seen in the sharp acceleration of mergers and acquisitions in the banking industry (Table 11). During the period June 1994 to December 1996, an estimated 7 percent of private banking assets changed ownership; in 1997 a further 20 percent of private banking assets changed ownership, most of which as a result of foreign entry. Overall, about 30 banks have changed ownership since the beginning of the *Real Plan*, of which 15 were taken over by foreign banks. The mergers and acquisitions should help reduce costs through the rationalization of operations.

123. Two other developments that took place in the second half of 1997 have been the entry of major American, British, and Swiss institutions into the investment banking business, and the entry of two leading Brazilian investment banks into the retail banking business. The larger foreign presence as well as the larger size of the top private domestic banks imply that competition will intensify for the second-tier retail banks.[71] It is expected that more second-tier banks will exit the market, look for strategic partners in order to achieve the critical mass needed to compete, or be forced into increasingly regional/specific business niches, such as consumer lending or lease financing.

124. The second-tier banks are also subject to increasing competitive pressures that have grown as a result of the greater integration of the Brazilian economy into the global financial

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[70]The size of the state banking system is somewhat under reported in the current data, because of the special treatment given to Banespa data until December 1997. Indeed, the most recent data communicated by the central bank on deposit shares indicate a somewhat opposite evolution. Private domestic banks have lost 5 percentage points of market share to foreign banks, federal banks, and state banks, reflecting the effect of the larger branch network of the federal and state banks during the recent period of remonetization of the economy.

[71]In the second half of 1997 alone, the central bank granted banking licenses to another eight foreign banks.

system. Prime Brazilian corporate borrowers have been increasingly able to bypass the domestic banks and deal directly with the large multinational banks that offer more attractive rates through better access to funding.[72] In addition, borrowing by nonfinancial corporations in international capital markets has increased sharply in the past two years. Corporations are also beginning to issue local currency debentures and commercial paper. Therefore, most domestic banks have been forced to turn to financing middle-market borrowers (and more recently consumers). The financial statements of the middle-market borrowers are typically succinct and frequently not audited, making credit assessment expensive and often incomplete, especially on the part of the large number of banks that were established in 1988–90 and that have not yet had to build risk-minimizing loan underwriting and monitoring systems. As a result, some banks tend to base their lending decisions on the quality and size of collateral, rather than on projections of borrowers' repayment capacity.

125. Some factors tend to mitigate this picture of increasing lending risks, at least for some segments of the banking system. In particular, it is estimated that the average debt of the Brazilian corporate sector is on the order of 30 percent of its equity, indicating that Brazilian corporations can, in general, offer attractive cofinancing terms. Moreover, it is estimated that for private sector banks one-fourth of the value of loans in default is recovered within the year, a further third within the following two years, and whatever else is recovered thereafter.[73] However, these figures represent averages that can mask sharp disparities across industries or regions and may inordinately affect certain banks whose lending portfolio is not reasonably diversified.[74]

C. Private Domestic Banks

126. In order to analyze the soundness of the private domestic banks and their resilience to macroeconomic shocks, this section presents a detailed analysis of the financial conditions of a large sample of these banks. It also includes a sensitivity analysis to quantify the impact on bank capital adequacy of a doubling of nonperforming loans that could result from a macroeconomic shock, such as the recent doubling of interest rates.

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[72]A recent survey of IBGE indicates that 53 percent of corporate revenue is generated by 5 percent of diversified companies operating mainly in the mining, oil, construction, and manufacturing sectors. One may assume that these are typically prime borrowers.

[73]These rates apply to the book value of loans as of the initial contracts. When a loan becomes delinquent, Brazilian private banks impose stiff penalties and late charges which, because they snowball, quickly force borrowers to negotiate, and are a means to avoid tortuous litigations.

[74]The level of loan sectorization in Brazil prevents an assessment of the risks inherent in sectoral loan concentration. Banks report sectorization according to seven categories: public sector, industry, commerce, other services, households, agriculture, other. Information on geographic concentration is also not readily available.

127. The analysis is based primarily on financial statements submitted by banks to the central bank covering about two-thirds of private bank assets. Although data are submitted monthly, the analysis uses mainly the half yearly returns, because it is a requirement that these be audited by external auditors. Whenever needed, these data are supplemented by other sources from the central bank or from the private sector. In general, results need to be interpreted with caution, since ultimately they depend on the quality of the underlying practices concerning loan classification that are being followed by individual banks. In particular, the simulation will be sensitive to the quality of the data on nonperforming loans in June 1997. Moreover, a number of domestic banks that exited the system prior to June 1996 (some of which were large) were not included in the sample provided by the central bank. However, in the data that were provided, the assets of such banks appear to have been added to the assets of the acquiring banks that were included in the sample. Without detailed data of the banks that exited the system during the sample period, it was generally not possible to make the comprehensive adjustments that would be required to ensure consistency of the historical, backward-looking analysis. However, the data do provide a good basis to conduct a forward-looking simulation exercise, as is done here, to measure the impact of a doubling of nonperforming loans on the capital adequacy of the private domestic banks.

128. Banks were grouped into four categories depending on the value of their capital adequacy ratio. Group A contains banks with capital adequacy ratios of less than 10 percent in any given period (the regulatory minimum in Brazil as of December 1997); group B contains banks with ratios between 10 and 12 percent; group C is for ratios between 12 and 16 percent; and group D, for ratios above 16 percent. The results, consisting of a set of standard indicators of bank performance, are presented in Table 12.

129. Based on the data, it is possible to highlight the main characteristics of the Brazilian private banks, mainly by comparing the performance of the reportedly highest capitalized groups (C and D) with the least capitalized groups (A and B).[75]

- Brazilian private domestic banks are generally well capitalized by international standards. About 75 percent of deposits throughout the period December 1994 to June 1997 were in banks with capital adequacy ratios in excess of 12 percent (group C and D). In June 1997, the weighted average capital adequacy ratio of those banks was 17.5 percent. However, this is partly the result of the high capitalization of the largest private banks, three of which are in group D. In general, the high level of capital in the Brazilian private banks may be explained by the relatively low level of their assets that carry 100 percent risk weight, with loans (which generally carry a 100 percent risk weight) still representing less than 50 percent of assets. Banks accumulated capital by means of profits generated during the years of high inflation. The relatively high levels of capital gives banks the possibility of expanding lending operations, especially to

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[75]It should be noted that the differences in capital adequacy between groups A and B, on one hand, and groups C and D on the other hand that are shown in Table 12 tend to be underestimated by the fact that, as noted above, some banks in difficulties (which would have been classified in groups A or B) were excluded from the sample.

market segments with higher profit margins such as consumer lending. Indeed, the drop in the capital adequacy ratio over the past year for banks in groups C and D is largely explained by the recent sharp increase in such lending.

- Brazilian private banks are generally profitable. The returns on average equity for banks in groups C and D were on the order of 13 to 15 percent throughout the period. The efficiency ratio was between 50 and 75 percent for those banks. Both measures compare well with values for major international banks. Group B banks were also able to maintain fairly high levels of return on average equity, on the order of 12 to 15 percent.[76] As of January 1998, only a few banks had released preliminary earnings data for the second half of 1997, and these showed earnings that were above those of previous periods.

- All groups have maintained high levels of provisions, in excess of 100 percent of non-performing loans, through most of the period and for most of the four groups. The phenomenon of overprovisioning is largely explained by the tax treatment of specific loan loss provisions. Only groups A and B banks sometimes had provisioning levels below 100 percent as the incidence of non-performing loans increased in 1995–96 and overwhelmed earnings.

- Excess provisions constitute hidden reserves that should be taken into account in the assessment of capital adequacy. To this effect, an indicator labeled "capital cushion" in Table 12 has been calculated by adjusting the ratio as computed by the central bank for the extent of overprovisioning. Overall, this adjustment improves reported capital adequacy by *adding* about 1 percentage point to the average capital adequacy ratio of the sample. As expected, the upward adjustment reflects the overprovisioning of banks in groups C and D. In general, weaker banks (which here are in groups A and B) will be reluctant to provision in order to improve the return on capital, and indeed, for group A banks, the adjustment is slightly downward. For group B banks, the difference between actual and adjusted ratio is, however, minimal. It is known that some of the banks which are exposed to a large construction and agrobusiness corporation, that began to restructure R$550 million of commercial bank loans in mid-1996, have not fully provisioned these risks (although loans have been appropriately reclassified). The

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[76]Earnings of some of the leading banks have been bolstered in 1996 by the realization of government-subsidized mortgage assets (FCVS), at some 40 percent of book value, that these banks had generally written off. These windfall profits are estimated to have amounted to R$1.5 billion, or about 35 percent of the earnings of the largest 50 banks in 1996. In addition to the realization of these hidden reserves, further pressure on bank returns comes from the tightening of the taxation of banking income since 1996. The tax rate on banks is 43 percent compared to 35 percent for nonfinancial entities, and income from affiliates abroad has been taxed at 25 percent since 1996.

impact of this reluctance to provision for capital adequacy will become fully apparent in the simulation exercise conducted below.[77]

- Under the assumption that banks which exited the system between December 1995 and March 1997 (the last one being Bamerindus) were in groups A and B, the level of assets (deposits) in weak banks declined from 47 percent (42 percent) of the sample's assets (deposits) in December 1995 (the beginning of the previous period of banking problems) to 32 percent (28 percent) in June 1997.[78]

130. A recent development that could be a source of concern is the net migration of about a dozen medium-sized banks representing about 24 percent of the sample's assets in June 1997 from groups C and D to groups A and B since December 1996.[79] Moreover, the average profitability of group A banks (about 11 percent of sample assets in June 1997) turned sharply negative in December 1996 and stayed negative in June 1997, reflecting recent large investment in systems and personnel, dependence on short-term interbank funding, and persistently high levels of nonperforming loans whose income cannot be recognized. The migration of banks to lower capital adequacy groups is partly explained by the mechanical impact of the growth of lending, on the capital adequacy ratio and indeed similar movements can be seen in group C and D banks, as mentioned already. Figure 26 shows the pattern of this migration between December 1996 and June 1997 for the largest 20 banks in the sample and the resulting clustering of medium-sized banks at lower levels of capital adequacy in June 1997.[80]

D. Simulation of the Impact of a Macroeconomic Shock on the Private Banks

131. In order to evaluate the resilience of the Brazilian financial system to a macroeconomic shock, it is appropriate to quantify the impact of a sharp deterioration of the quality of the

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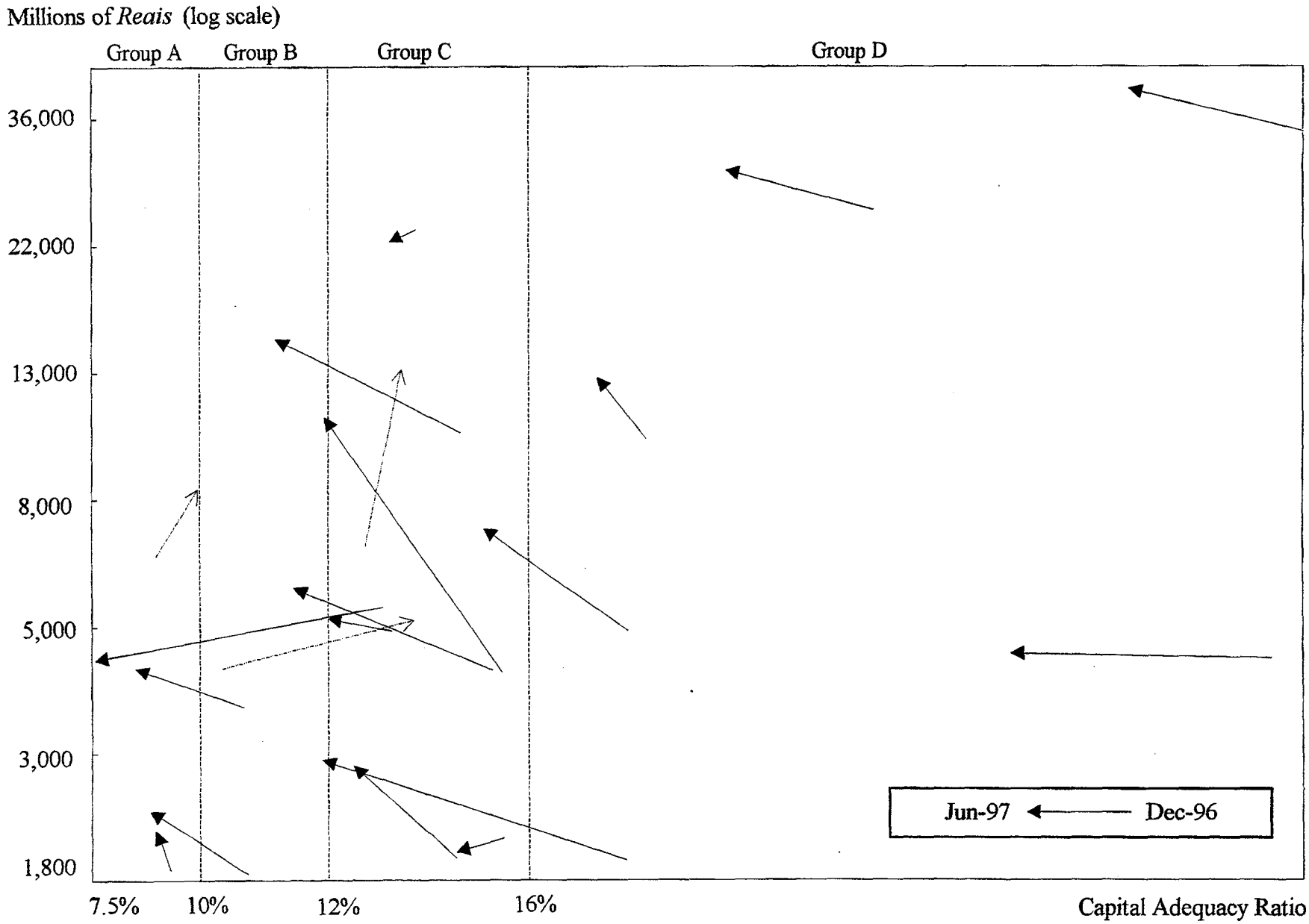
[77]The reluctance to classify loans as nonperforming, by "restructuring" them, cannot be assessed based on available data. Market participants are of the view that the practice has diminished in importance over the past two years. Evidence from medium-sized banks in groups A and B that have submitted to due diligence of one rating agency indicates that restructured loans represented on average 5 percent of the loan portfolio at the end of 1996.

[78]This adjustment is possible because the central bank provided information on the assets and deposits of banks that exited the system before June 1996.

[79]Data for December 1996 and June 1997 are not contaminated by sampling problems to the same extent as are data before December 1996. Of the group of medium-sized banks that moved (banks with more than R$1.4 billion in assets), two banks moved from group B to group A; two banks moved from group C to group A; six banks moved from group C to group B; and one bank moved from group D to group B.

[80]As a point of comparison, the aggregate capital adequacy ratio of the Mexican banking system (excluding 11 banks under intervention), declined from 10.2 percent in December 1993 to 9.8 percent in December 1994 according to the Comissão Nacional Bancária e de Valores.

Figure 26. Brazil: Private Domestic Banks: Total Assets and Capital Adequacy Ratio, December 1996-June 1997
(For the 20 largest private domestic banks)



Source: Central Bank.

loan portfolio of the private domestic banks. For this purpose, a simulation was conducted to measure the deterioration of capital adequacy that would result from a doubling of nonperforming loans (from the level existing in June 1997), such as could be brought about by a macroeconomic shock. Such an event would result in levels of loan delinquencies equivalent to about 150 percent of previous peak levels, except for group D banks, and would imply a significant shock to the system (Table 13). Previous peak levels were recorded in the first half of 1996 after the central bank increased interest rates sharply in March 1995.

132. The simulation work was based on three scenarios that are reported in Table 14. In scenario A, the actual capital adequacy ratio as calculated by the central bank is adjusted downward by the level of nonprovisioned nonperforming loans that existed in June 1997, with the result that 15 banks (12 percent of sample's assets) would have a capital adequacy ratio of less than 10 percent, the minimum required by the central bank by the end of 1997. In scenario B, the capital adequacy ratio is recalculated under the assumption of a doubling of nonperforming loans from the level of June 1997. Undercapitalized banks would then increase to 30. Under scenario C, a conservative estimate of profits for 1997 is factored into the calculation of capital adequacy: profits for the whole of 1997 are estimated to be half of the value obtained by extrapolating the trend of profits for the last semester of 1996 and the first seven months of 1997, and this value is added to supervisory capital for the purpose of calculating capital adequacy. Under scenario C, 23 banks (16 percent of assets) would be formally undercapitalized.[81]

133. However, each scenario must be further adjusted to take into account the exit of banks from the system since June 1997 (banks that became majority foreign owned since June 1997) and thus have the backing of head offices abroad. This is reported in the columns "Adjusted Scenario A," "Adjusted Scenario B," and "Adjusted Scenario C." Under adjusted Scenario C, the outcome is that a group of 18 banks representing 7 percent of the assets of the private domestic banks would be undercapitalized and would be candidates for corrective action by the supervisory authority. The three largest banks in this group had aggregate assets of R$8.8 billion (55 percent of that group or 4 percent of private banking assets), in June 1997 and were the fifteenth, eighteenth and nineteenth private banks in the sample in terms of asset size.

134. It is useful to compare the results of the simulation of such a shock to the financial system with the previous period of banking problems in 1995–96. This comparison, made in Table 15, shows that the value of assets (or deposits) in banks that may be considered undercapitalized following the shock is roughly one-third of what it was during the previous period of banking problems. There is an upward bias in this comparison, however, as the data for 1995–96 only include those banks that actually exited the system, and exclude banks whose owners decided to recapitalize, whereas the data for 1997–98 taken from the simulation assume that all undercapitalized banks exit the system. If adjustments could be made for this bias, less than 7 percent of private banking assets would be considered at risk under this

[81]No adjustment was made for loan recovery in any of the scenarios.

scenario and the R$16 billion of assets and R$4 billion of deposits should be interpreted as upper limits of a range of outcomes following the shock.

135. The extent of banking sector weaknesses also can be assessed by referring to the use of public funds for restructuring private banks during the previous period. Disbursements under the central bank's special facility for restructuring the private banking sector, PROER, amounted to R$21 billion for seven operations of financial assistance, for the period December 1995 to March 1997. If the proportion of PROER disbursements to assets that exited the system in 1995–96 is maintained in 1997–98 and assuming that no bank owners decide to recapitalize their bank and that the central bank decides to provide financial assistance to all 18 banks, R$10 billion may be taken as an upper limit of further PROER type operations, should the shock materialize to the extent assumed. The absorption of such liquidity would represent about 5 percent of outstanding federal government securities, compared to about 13 percent for the period 1995–96.

136. Disbursements under the deposit insurance fund that was created in 1996 amount so far to about R$3 billion, of which R$2.5 billion were used in the large restructuring operation of Bamerindus. The net present value of the fund is estimated by the central bank at between R$3.5 and R$5.5 billion, depending on the assumed long-term discount rate. Although only part of the deposits are covered by the deposit insurance fund, it is likely that the fund would be insufficient to cover further operations related to the exit from the system of R$4 billion worth of deposits, should a shock of this magnitude materialize.

137. In conclusion, the extent of weaknesses in the Brazilian private banking system appears to be appreciably smaller than two years ago. However, should the level of nonperforming loans increase significantly following a large macroeconomic shock as simulated here there would continue to exist up to 7 percent of assets that are in banks that may be considered weak. But if the order of magnitude of the problem is similar to the simulated one, the monetary impact of helping banks exit the system with the use of public funds should be relatively small.

E. Public Sector Banks

138. The segment of the banking industry consisting of the *state banks* (banks majority owned by state governments) is undergoing a process of reorganization, through privatization, conversion into development agencies, recapitalization or liquidation, as part of an explicit policy to reduce the role of the states in the banking sector.[82] As discussed in Chapter II, losses of the state banks will be covered by the state governments. Initially, losses will be financed by federal bonds and the states will compensate the federal government as part of the restructuring of the state debt currently being finalized. Most of the state debt is owed to the state banks.

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[82]This policy was formalized in Medida Provisória No. 1514-2 of October 2, 1996, reissued as 1590-15 on September 24, 1997. These established the mechanisms to effect the reduction of the importance of state banks in the banking system.

139. In the case of state banks being liquidated or converted into development agencies, remaining deposits in those banks will be transferred to the federal banks with the liquidity of the federal banks ensured by the issuance of the above-mentioned bonds by the federal government. In February 1997, a facility (PROES) was created at the central bank to provide bridge loans to the federal banks in this process; up to October 1997, PROES had disbursed R$854 million on account of the restructuring of Bemge, one of the two state banks of Minas Gerais.[83] Bemge, with assets of R$3 billion, is to be privatized in the first half of 1998 to be followed in the second half by the privatization of Banespa, the state bank of São Paulo; market participants in Brazil expect considerable interest in this privatization.[84] Banerj, the state bank of Rio de Janeiro with assets of R$8 billion, was privatized in July 1997. Of the remaining 23 state owned banks, the authorities have so far liquidated 2 (Alagoas and Amapá), and expect to be able to privatize another 6. When the exit policy is completed, the most important remaining state bank will be the savings and loans institution Nossa Caixa Nosso Banco of São Paulo. In June 1997, its assets of R$13 billion made it the country's eighth largest bank; as part of the restructuring agreement for the debt of the state government of São Paulo with the federal government that was approved by the senate in December 1997, Nossa Caixa will benefit from a swap of claims on the state government for negotiable federal securities worth R$7 billion.

140. The two large federally owned banks, Banco do Brasil (a commercial bank) and Caixa Econômica Federal (a savings and loans institution), have made good progress in restructuring their operations and restoring capital adequacy. These banks represent about 35 percent of Brazilian banking assets.

141. The new management in place at Banco do Brasil since 1995 has embarked on an ambitious program of investment in systems, skills, and new lines of business (insurance and capital markets), that will allow it, among other things, to publish its financial statements according to United States Generally Accepted Accounting Principles (GAAP) by 1998 and to strengthen its internal controls and procedures for risk management, especially in loan

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[83]The other, Credireal with assets of R$8 billion, was privatized in August 1997.

[84]Banespa reported assets of R$27 billion when it was taken over by the central bank in December 1994. In January 1998, following the general agreement between the federal government and the state government of São Paulo concerning the restructuring of the latter's debts, Banespa published its financial statements for 1995, 1996 and 1997. These indicate assets of R$49 billion at end-1995, R$63 billion at end-1996 and R$71 billion at end June 1997. Only about 6 percent of assets are claims on the private sector. As part of the debt restructuring agreement, Banespa will benefit from a swap of claims on the state government for federal negotiable securities worth R$63 billion. This swap will enable Banespa to restore its liquidity; up to October 1997 (latest available data), it had monthly outstanding TBAN financing (the central bank's last resort facility) of about R$2 billion.

approval and monitoring.[85] The associated implementation of new management principles, as well as the central bank's requirement to comply with a new capital adequacy standard by January 1995, forced the bank to write off losses in its lending portfolio (R$5 billion out of a portfolio of R$47 billion, with a further R$6 billion of rural sector loans being restructured under a securitization program that was financed by the federal government) and expense foreign exchange valuation losses (R$2.7 billion). The recapitalization of Banco do Brasil took place in June 1996 for an amount of R$8.3 billion and was underwritten mostly by the federal government through R$6.4 billion in federal securities that pay floating market rates and have maturities of up to 15 years.[86]

142. Banco do Brasil has a large stock of directed loans to the agricultural sector. At end 1996, the bank's rural lending represented 54 percent of its lending to the private sector (R$22 billion), 80 percent of which were concentrated to large farmers and agrobusinesses, and 6.4 percent of which were nonperforming, even though 27 percent of rural loans (mostly small value loans), had been restructured. Negotiations for restructuring the rest of the rural loan portfolio are continuing. The reported level of nonperforming loans in the remainder of the private sector credit portfolio stood at 19 percent.[87] However, provisions covered 113 percent of total nonperforming loans and were further increased to 138 percent at end June 1997.[88] After decreasing to 5.7 percent at end 1995, the bank's capital adequacy ratio stood at 11.1 percent at end-1996 following the recapitalization and declined somewhat to 9.6 percent in June 1997 as a result of a recent expansion in consumer lending.

143. Banco do Brasil further improved its net worth in March 1997 by R$2.6 billion, when the central bank allowed banks that sustained one time restructuring losses to gradually deduct such losses from future profits in order to meet well-defined future obligations, such as pension outlays or provisions on loan losses that result from differences between tax laws and accounting rules on the deductibility of specific provisions. Banco do Brasil, which sustained large losses in 1994 and 1995 (as a result of the more conservative provisioning of its rural lending and the recognition of the foreign exchange valuation losses), used a tax credit of R$11.3 billion in order to meet the large obligations of its pension fund (R$8.7 billion) and to

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[85]Most of the information on Banco do Brasil is taken from the June 9, 1997 investment prospectus for the placement of up to US$1 billion in global medium-term notes that will be listed in Luxembourg.

[86]In the operation, the government increased its voting and nonvoting stake from 29 percent to 73 percent. Other shareholders (Banco do Brasil's pension fund, BNDES, and private entities) subscribed the balance.

[87]The overall level of nonperforming loans disclosed in the investment prospectus was 14 percent at end 1996.

[88]Loan recovery has so far been minimal, less than 4 percent of loans in default, reflecting difficulties in collecting loans from the larger rural borrowers, since most small loans have been restructured in the context of the securitization program.

constitute new provisions on rural lending (R$2.6 billion). Banco do Brasil's liquidity appears to be well ensured by its large branch network.

144. The Caixa Econômica Federal (CEF) is Brazil's main savings and loan institution, with total assets roughly equivalent to those of Banco do Brasil. CEF had cash-flow problems in 1992, because of nonperforming loans to the states that were made under the Fundo de Garantia de Tempo de Serviço (FGTS).[89] As a result, CEF stopped making new housing or FGTS-funded loans until the end of 1996, while the state debt was rolled over by the federal government in 1994 under law No. 8727/94. Subsequently, CEF has been acquiring claims of state banks on those states that have signed debt rescheduling agreements with the federal government, the liquidity of which may be ensured by the central bank's PROES facility pending the formal exchange of those claims for federal negotiable securities. The total of state debt on CEF's books represented R$11 billion (16 percent of CEF's credits) at end June 1997; it is being serviced by the federal government. Since then, CEF has had a good liquidity position as a result of the stability of its funding from deposit accounts (56 percent of its liabilities) and from funding through FGTS (21 percent).

145. CEF's liquid assets (interbank placements and negotiable securities holdings) represented about 15 percent of assets in June 1997. CEF's nonliquid assets are mainly comprised of housing credits (36 percent of total assets), claims on state governments (11 percent), mortgages acquired under PROER (the program for restructuring private banks, 7 percent),[90] commercial loans (7 percent), and FGTS urban infrastructure loans (4 percent). About 15 percent of the housing credits and PROER mortgages are claims on the government on account of the mortgage guarantee fund (FCVS), a program to subsidize individual housing.[91]

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[89]For a full description of FGTS, see SM/97/44. FGTS is Brazil's unemployment and disability insurance fund. The fund is managed by CEF on behalf of FGTS' board and therefore its assets are not on the books of CEF. The investment policy of FGTS is to match the cash flow from its placements with expected redemptions. Long-term placements take the form of loans for urban renovation and for moderate income housing.

[90]The part of PROER assets which is nonperforming (83 percent) is being funded by a long-term line of credit from the central bank of R$5.7 billion.

[91]For a full description of FCVS, see SM/97/44. FCVS subsidies are at a floating rate and are a function of the difference between the lenders' actual cost of funds and the repayment capacity of the borrowers indexed on their income. Although the program instituted in 1967 was discontinued in 1990, the long tenor of mortgages (15 years) creates a potentially large future liability for the federal government. So far, FCVS obligations that have been verified (because the underlying mortgages have matured) amount to R$18 billion, of which CEF holds R$11 billion. The government's contingent liability could be as high as R$3 billion per year until 2008. However, the government has taken steps to reduce this exposure by: (i) offering incentives to homeowners to prepay FCVS mortgages; (ii) auditing FCVS claims to ensure compliance with requirements; (iii) acquiring FCVS claims at market value;

(continued...)

146. The reported incidence of nonperforming loans is low (less than 1 percent), reflecting the large share of individual housing loans in the portfolio and the more lenient classification requirements that apply to such loans (as noted earlier, only installments in arrears are classified). CEF management estimates that, if the principal of such loans had to be classified, nonperforming loans would only increase by R$1.2 billion (less than 2 percent of the loan portfolio). Because CEF is often the only bank for such borrowers, the cost of defaulting on a CEF mortgage is prohibitive in terms of access to banking services. Since 1996, CEF has been required to make general provisions against FGTS loans and is fully provisioning nonperforming loans in its commercial lending. As a result, provisions for credit risks represented 5.4 percent of the loan portfolio in June 1997 compared to 4.3 percent a year earlier. These figures reflect a conservative policy of overprovisioning compared to the level of nonperforming loans recorded on the books, which provides a cushion sufficient for absorbing a five fold increase in loan defaults.

147. The CEF's capital adequacy, under Brazilian standards, is estimated to have been 7.8 percent in June 1996, 8.2 percent in December 1996, and 7.5 percent in June 1997.[92] The recent deterioration may be attributed to the resumption of housing and urban development loans. In the case of CEF, the capital adequacy calculation is somewhat distorted by the high proportion of FCVS assets, which although they are claims on the federal government, carry a 100 percent weight under Brazilian standards of capital adequacy. If those assets carried a weight of zero percent, it is estimated that CEF's reported capital adequacy would have been 9 percent in June 1997.

148. The CEF plans to securitize its housing loans, as a means to originate new lending. CEF's intention is to focus on its comparative advantage in the origination of residential mortgages. The process of securitization will involve the standardization of the existing loan contracts, particularly stripping the FCVS component. CEF continues to buy back the housing loan portfolio that the private banks have originated under FCVS. This buy-back, combined with the securitization, enables the federal government to progressively recognize FCVS liabilities and correspondingly contain FCVS contingencies. At the end of the process, CEF will be the residual holder of FCVS claims, which it can afford to hold to maturity, because of its otherwise good cash flow.

149. The third largest federally owned bank, Banco Meridional, with assets of R$2.5 billion at end 1996, was privatized in November 1997. The other federally owned banks, Banco da Amazônia and Banco do Nordeste, had estimated assets of R$4 billion at end-1996.

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[91](...continued)
(iv) swapping FCVS claims for negotiable federal securities, thereby reducing the interest cost to the government; and (v) allowing the use of FCVS claims at face value as privatization money. CEF is in charge of implementing (i), (ii), and (iii) and its liquidity stands to benefit from (iv).

[92]Staff estimates based on data provided by CEF.

F. Valuation, Disclosure Practices, and Market Discipline[93]

150. The valuation and disclosure practices followed by the leading private Brazilian banks compare favorably with practices followed in the mature financial markets, such as the United States. The leading private domestic banks publish statements that are prepared both according to Brazilian GAAP and U.S. GAAP; the large publicly owned Banco do Brasil intends to do so in 1998, and rating agencies have noted the high quality of its recent disclosure practices.

151. With respect to the *consolidation* of operations in subsidiaries and affiliates, Brazilian accounting and consolidation rules for banks are more stringent, and Brazilian financial statements have a higher level of disclosure in that area than that required under U.S. GAAP, especially for companies whose shares are traded in stock exchanges. In general, shareholdings exceeding 25 percent in an affiliate have to be consolidated line by line. Although financial instruments are not necessarily *marked to market*, the leading banks in Brazil use mark to market valuation methods and departures from that principle by the second-tier banks is taken into account by banking counterparties and rating agencies in the form of higher funding costs, lower credit lines, and lower ratings. In addition, recent regulations require banks to disclose more information on securities holdings.[94]

152. The central bank gives banks some discretion in recognizing impaired loans. *Loan classification and provisioning* are generally triggered by payment arrears lasting more than 59 days, rather than by analysis of borrowers' ability to repay; in the case of export/import loans, classification is triggered after 29 days of the loan being overdue and 100 percent provisioning is required. The level of mandated provisioning depends on the existence and quality of collateral. In the case that classification as bad loans is mandated, all claims outstanding to the particular borrower must be classified as such (as indicated above, housing loans and loans to state governments are an exception to this rule).[95] The rules on income recognition appear appropriately strict.

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[93]Information on valuation and disclosure practices is based on investment prospectuses that have been prepared by the banks that issue notes on the international capital market.

[94]The secondary market for certain securities that were issued by state governments has not been as liquid as the market for federal securities, raising concerns as to the proper valuation of such holdings on bank books. Such concerns should be addressed in the context of the recent agreements between the state and the federal governments as these ensure that such securities have the same rating as federal securities.

[95]Comparative information on loan classification and provisioning requirements for the major Latin American countries, including Brazil, is contained in International Capital Markets, SM/97/190, pp. 206-207. The information shows that Brazil is the only country in the sample with a loan classification system that is still strictly based on payment incidents.

153. In practice, the leading banks interpret the supervisor's rules for loan classification and provisioning and for income recognition in the most conservative sense: loans that are classified as nonperforming are immediately provisioned at 100 percent.[96] Moreover, as indicated before, private Brazilian banks tend, with a few exceptions, to overprovision. Accordingly, it is not clear that changes in the loan classification system toward one based on the borrower's ability to repay would necessarily result in higher levels of provisions compared with the present system, as levels of provisions in such a new system tend to be more progressive (less stringent) than the norms followed by the leading Brazilian banks.[97]

154. Operations with *related parties* and the *concentration* of lending to borrowers under the same ultimate control are both regulated, but the level of disclosure and the scope of definition of related parties are not as comprehensive as in the United States. However, the leading banks disclose information in a manner broadly comparable to United States practice, as do the second-tier banks that have submitted to due diligence of the rating agencies. Aggregate information on the geographic concentration of risk and on meaningful sectoral risk is not readily available, a factor which tends to complicate peer group analysis. The full introduction of the *central de riscos* (see below) should correct this anomaly.

155. The leading banks disclose comprehensive information on interest rate and foreign exchange mismatches, off-balance sheet contingencies and operations in the derivatives market (see below).

156. Market discipline in Brazil may be seen in the extent of peer pressure, the development of rating agencies, and the strengthened role of external auditors after the well-known problems that emerged in the case of Banco Econômico and Banco Nacional in 1995. The intensification of competition with large scale entry of financial institutions of international reputation have brought about a considerable strengthening of peer pressure over the past two years, especially on the second-tier banks. Ongoing assessment by peers has become easier as the end of inflation has tended to force improvements in the transparency of accounts. The failures of the large banks mentioned above and the widespread problems of the state banks have pushed the banking system to strengthen the credit analysis of banking counterparties. Since then, most interbank operations, and these can be a sizable source of funding for second-tier banks, take the form of repos, and only prime banks have access to uncollateralized credit.

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[96]Overprovisioning is largely explained by the tax regime that applies to specific loan loss provisions. Because banks are not allowed to fully deduct such provisions from earnings for tax purposes, overprovisioning is a way of smoothing earnings across periods, thereby minimizing tax outlays, in some cases considerably.

[97]A loan classification system with typical provisioning ranges would be as follows: normal (general loan loss provision); watch (5 to 10 percent provisions); substandard (25 to 40 percent); doubtful (50 to 80 percent); loss (100 percent). Classification is generally determined by a determination on the borrower's probability of repaying the loan, augmented by data on payment arrears.

157. The international rating agencies are present in Brazil and financial groups with significant operations are routinely scrutinized. All financial institutions are required by the central bank to publish semi-annual financial statements that are audited by independent auditors, as well as submit to the central bank monthly unaudited financial statements. Listed institutions also have to publish the first and third quarterly statements. Many financial groups are increasingly tapping cheaper foreign funding (as permitted under the resolution 63 family for on-lending operations, and since 1992 under Annex V of Resolution 1289 for foreign listed depository receipts) and in this context have been exposed to the broader scrutiny of international capital markets.

158. Most auditing firms in Brazil are affiliated with the leading international auditing firms. Following episodes in which external auditors of international reputation issued unqualified opinions of impaired banks, the central bank strengthened the role of the external auditors in the appraisal of banks.[98] Audit work is now organized to complement the inspection rounds of the central bank; auditors must immediately report to the central bank any fact that would materially affect the financial condition of a bank, including any refusal to disclose needed information; external auditors may be held liable for not reporting such facts; a bank cannot retain the same external auditors for more than four consecutive audits (two years); the bank has to designate a member of its board of directors as the person directly responsible for ensuring the proper disclosure of financial information to the auditors and to the central bank.[99] However, in a recent case of a merger involving a second-tier bank, the external auditors were pressured by the central bank into giving unqualified opinions, in order to afford the central bank more time to find a buyer for that bank. This episode has adversely affected the work of some of the rating agencies, who rely on published information supplemented by due diligence.

G. Supervisory Framework

159. There are four bodies that supervise the Brazilian financial system: the central bank, the securities and exchange commission (CVM), the insurance industry superintendency (SUSEP), and the secretariat of complementary pensions (SPC). All report to the national monetary council (CMN), comprised of the president of the central bank, the minister of finance and the minister of budget and planning (see Table 7 for a summary of the respective supervisory responsibilities).

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[98]In one well-publicized episode of bank failure that involved large-scale fraud, a number of third parties, including the auditing firms, the rating agencies, a prominent U.S. investment bank, and the leading Brazilian banks, were each unable to detect the extent of the fraud.

[99]Medida Provisória No. 1334, March 13, 1996 and Resolution No. 2267 of the National Monetary Council, March 29, 1996, incorporated as Articles 3 and 9 of Law No. 9447/97, March 14, 1997.

160. The central bank's supervisory activities are discussed in detail below. It should be noted that, in addition to supervising the financial institutions listed in Table 7, the central bank regulates derivatives markets (exchanges and over the counter) that trade nonequity contracts, as well as the participation of foreign investors in all derivatives markets.

161. The CVM supervises all corporations that are listed on one of Brazil's stock exchanges, including the 16 banks (13 private and 3 majority owned by the public sector) that are listed. It regulates the issuance, trade and custody of all equity instruments in Brazil (stocks, debentures, subscription bonds, commercial paper, depository receipts, warrants, stock indices, and shares in equity mutual investment funds) and their derivatives. CVM is member of the International Organization of Securities Commissions (IOSCO) and of the Council of Securities Regulators of the Americas (COSRA).

162. The central bank's supervision of banks and financial groups has been considerably tightened over the past two years.[100] Between July 1994 and December 1997, the central bank intervened a total of 43 banks, of which 32 were private (31 of which were liquidated or are in liquidation proceedings), 7 were state banks, 2 were banks with foreign participation, and 1 was an investment bank. As a result, about 16 percent of the 271 banks that existed in the system in July 1994 were intervened. The central bank also intervened (mostly through liquidation) a further 64 nonbank financial institutions during this period.

163. A central bank report from 1996 indicates that since the creation of the central bank in 1964 about 80 percent of its interventions in financial institutions took place during the period following the implementation of *Real Plan*. The constitution of 1988 had allowed freer entry into the banking system and introduced the concept of universal banking, with the result that the number of banks almost doubled. Central bank supervision therefore had to deal with a much larger number of institutions, and financial data that were distorted by inflation. As float income came to an end with macroeconomic stabilization in 1994, the continued unsound management of certain banks (some of which had previously benefited from regulatory forbearance) resulted in their capital becoming inadequate after the central bank raised interest rates in March 1995. The legislation on bank intervention as it existed until 1995 (mainly the regime of special temporary administration of banks by the central bank) effectively did not allow for preventive intervention or corrective action to preserve the bank as a going concern, except through the nomination by the central bank of a temporary administrator whose decisions on restructuring or liquidation (such as selling assets) could be blocked in court by bank shareholders/directors.[101] As a result, preventive intervention was in practice only

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[100]The central bank participated in the elaboration of the Core Principles of the Basle Committee on Banking Supervision. It is also participating in the survey of compliance with the principles that the Basle Committee has initiated in January 1998.

[101]The regime of temporary special administration (administração especial temporária) was created in 1987, following a banking crisis. The central bank may also use two other regimes, which were created in 1974: the regime of liquidation (liquidação extrajudicial), in which

(continued...)

feasible in the case of state-owned banks; in such cases an understanding could generally be worked out by which the state governments would not challenge the decisions of the temporary administrator.[102]

164. In order to ensure the orderly exit of weak banks, the central bank created PROER in November 1995, a legal and financial mechanism to change the ownership of private sector banks.[103] Under the legal provisions of PROER, the central bank can formally ask the owners of weak institutions to recapitalize and restructure operations under a prompt corrective action procedure, or, if the owners' plan is rejected as inadequate, the central bank can intervene and formally dispossess the owners with a view to selling the bank or liquidating it. In addition, should the central bank be forced to intervene, the personal assets of any of the owners, directors or auditors that were involved with the bank during the previous 12 months are escrowed, pending a due diligence investigation of the financial condition and operations of the bank. Under the financial provisions of PROER, the central bank can quickly sell an intervened bank by finding new owners, as the take-over is facilitated by the use of public

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[101](...continued)
extrajudicial proceedings are used to liquidate banking assets immediately following the nomination of a liquidator; or the regime of formal intervention (intervenção), in which the bank is closed for restructuring by a central bank appointed administrator. Formal intervention can be used (and has been used in the cases of Nacional and Bamerindus) as an effective means of changing bank ownership, if the central bank administrator is replaced by a new management team mandated by new owners immediately following formal central bank intervention. However, the central bank does not consider it a credible enforcement tool, as long as new owners have not been identified, because protracted closure runs the risk of destroying much of a bank's franchise value.

[102]In the case of Banespa which was intervened in December 1994, the state governor of São Paulo nevertheless blocked through legal action the publication of financial statements until December 1997. The appointment of a new management of the bank by the central bank was, however, not effectively challenged.

[103]PROER was created by Medida Provisória No. 1179, November 3, 1995, as a policy framework for the resolution of private banks. The legal means for implementing PROER were enacted as Medida Provisória No. 1182, November 17, 1995. No.1182 has since been incorporated into Law No. 9447, of March 15, 1997. This law, in conjunction with the law of the central bank (1964), the law that established the regimes of extrajudicial liquidation and of intervention (1974), and the law that established the regime of temporary special administration (1987), may be used to assess Brazil's degree of compliance with Principles No. 1 and 22 of the Basle Core Principles, dealing with the preconditions for effective banking supervision and formal powers of supervisors. Other Brazilian legislation and regulations address the areas covered by the other Core Principles. However, the staff has not had the opportunity to conduct a thorough assessment of Brazil's compliance with the Core Principles.

funds to separate the "bad bank" from the "good bank."[104] In practice, the central bank intervenes once the new owners have been identified and the financing deal finalized.

165. The privately funded and mandatory deposit insurance scheme (Fundo Garantidor de Créditos) was extended to all deposits in 1996; in the last operation to date under PROER (the take-over of Bamerindus by HSBC), the deposit insurance fund provided guarantees for central bank lending to the bad bank part of the intervened bank. The main impact of PROER and the deposit insurance fund has been to convince the owners of private banks that the central bank will not hesitate to dispossess them if warranted and that it is willing to pay the price to do so (so far some R$21 billion or 2.8 percent of 1996 GDP). As a result, moral hazard appears to have been significantly reduced in the system. Furthermore, the authorities have allowed since 1996 100 percent foreign ownership of banks and one foreign bank has benefitted from large PROER assistance in its take-over of a Brazilian bank.[105] The policy of allowing large scale foreign entry, as well as the momentum generated by PROER may be viewed as turning points in Brazilian banking history and have resulted in the unprecedented number of mergers and acquisitions that were documented previously.

166. With these staff-intensive restructuring operations largely behind it, the central bank was able to devote increased resources to the thorough inspection of the small- and medium-sized private banks in 1997. The top five or six domestic private retail banks are viewed by the market as being on a sounder financial footing and are subject to the market discipline implicit in these banks' international exposure. The data on the reported capital adequacy of the large banks that were discussed in the section dealing with the private domestic banks support the central bank's strategy of monitoring them less intensively for the time being. Staffing constraints dictated that the inspections of small- and medium-sized banks be conducted in two rounds and these will be concluded by the beginning of 1998; some of these inspections involve examinations of foreign operations and, where allowed by host supervisors, these are conducted in joint teams with the host supervisors. Similarly, Brazilian bank inspectors participate as host supervisors in the on-site examination of foreign banking operations conducted by home supervisors.

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[104]In essence, the financial assistance that the central bank provides to the new owners of the good bank part (in the form of a liability on its books) is offset by an asset representing a claim on the bad bank part. By law, this claim must be collateralized, and this is achieved by discounting enough remaining (good) assets that are left in the bad bank as the financing deal is being structured.

[105]In November 1995, under Resolution No. 2212, the central bank also removed the requirement that the minimum capital of new foreign banks be double that of new domestic banks; instituted a minimum capital adequacy ratio of 32 percent for new banks; required that individuals or corporations filing to invest into banks have a minimum net worth of 220 percent of their intended investments; and further strengthened the licensing process by evaluating the net worth of the ultimate shareholders of new banks, instead of the net worth of proxy shareholders.

167. Since January 1995, the central bank has assessed bank capital adequacy on the basis of a Basle-type risk-weighted capital adequacy ratio.[106] In May 1997, the regulatory threshold for corrective action was increased from 8 percent capital adequacy to 10 percent, effective at the end of 1997; in November 1997, the ratio was further raised to 11 percent, effective by the end of 1998.[107] In Brazil, only tier 1 shareholders' equity, plus revaluation reserves, count toward meeting minimum supervisory capital requirement.[108] As a result, Brazil's current capital adequacy standard is equivalent to 13–15 percent under Basle rules, depending on the capital profile of the particular bank.[109] Brazil has also had in place capital requirements for the coverage of counterparty credit risks arising from the banks' derivatives activities; these have also been more stringent than recommended by Basle. However, Brazil does not yet have capital charges for market risks, including foreign exchange risk. In their monthly submissions of information to the central bank, banks are required to disclose the details of their derivative positions and submit their own calculation of the capital charge against the associated risks; this information has to be certified by a designated member of the board of directors of the institution.[110] The parameters on which these calculations are based, as well as the prices used to mark the positions to market, are set uniformly for all banks by the central bank (based on the data provided by Brazil's main commodities and futures exchange), instead of being left to the discretion of banks as is allowed under Basle.

168. The calculation of supervisory capital is adjusted for consolidation, in order to account for the effects of shareholdings in other financial or nonfinancial entities and cross-border ownership structures.[111] For shareholdings abroad that are consolidated in a bank's financial statements, if the central bank does not receive the authorization to inspect any of the entities in which these investments were made, 75 percent of the value of the assets that are consolidated were deducted from supervisory capital as of January 1, 1998, and 100 percent will be deducted from June 1, 1998.

169. Should a bank fail to meet the minimum capital requirement, the August 1994 regulation that established Brazil's capital adequacy standard also spells out the procedure for prompt corrective action. The bank's board has five days to comply with the central bank's notification to meet with the supervisory authority, at which point, the board is given two weeks to present a restructuring plan. If accepted by the central bank, the bank is given six months to meet the objectives of the restructuring plan, including the restoration of its capital.

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[106]Resolution No. 2099, August 17, 1994, as amended until December 1997.

[107]Resolution No. 2399, June 25, 1997; and Circular No. 2784, November 27, 1997.

[108]According to Annex 1 of Resolution No. 2099, universal banks are prohibited from issuing debentures, which would typically be counted in tier 2 supervisory capital under Basle.

[109]This order of magnitude is taken from information disclosures of a sample of leading banks.

[110]Circular No. 2583, June 21, 1995.

[111]Resolution No. 2302, July 25, 1996.

The implementation of the plan is monitored both directly by the central bank and by means of monthly reports that external auditors have to submit to the central bank. In particular, the bank is prohibited from distributing profits in excess of the 25 percent level mandated by Brazilian corporate laws; it is also prohibited from engaging in operations that would further weaken its capital adequacy. In the meantime, the capital deficiency must be covered for no more than 90 days by a blocked deposit of the bank owners at the central bank, as the bank owners make the necessary arrangements to pay in more capital.

170. The central bank started to put in place in 1997 a centralized credit risk assessment system (central de riscos (CR)).[112] As of December 31, 1997, the 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$50,000 and any collateral attached to such financing have to be reported monthly to the CR, loan by loan, classified by entity exercising ultimate economic control over the borrower; before December 31 financing operations were reported by borrower. In case a bank for the first time reports a loan of more than R$50,000 to an economic entity, then that bank's loans of less than R$50,000 to that entity also must be reported loan by loan. For bank financing operations of less than R$50,000, only the aggregate of such operations classified by entity exercising ultimate economic control must be reported. The central bank may disclose this information to other lenders in the system with the agreement of the borrower. The central bank intends to broaden the reporting requirements to include credit scoring (the leading banks already use scoring methods as a tool of credit risk analysis), and the separate identification of restructured loans. In this way, the central bank will be able to recognize discrepancies in the risk evaluation that different banks make of the same borrowers. Once the credit scoring information is available and streamlined, it will serve as the tool for reforming Brazil's loan classification system, permit the effective enforcement of such a system, and the better monitoring of banks' classification and provisioning practices.

171. The central bank formally launched on December 11, 1997 a program for the modernization of its supervision practices (programa de aperfeiçoamento dos instrumentos de atuação do Banco Central do Brasil ao sistema financeiro nacional—Proat). The broad objectives of the program are to strengthen the central bank's supervisory practices, upgrade the skills of its human resources, and evolve a strategic vision for the future of the financial system. The central bank expects that the program will permit a deeper understanding of the banks' lines of business, especially in the nonbank financial sector, and generally enhance its evaluation of the banks' internal procedures for the management of risks.[113] The program benefits from a

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[112]Resolution No. 2390, May 22, 1997.

[113]Almost all of Brazil's 3,000 mutual investment funds are managed and marketed by commercial and investment banks, and these activities are supervised by the central bank and the securities and exchange commission. On November 27, 1997, the national monetary council tightened the regulations of these funds. By Resolution No. 2451, banks have until

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technical assistance loan of US$20 million over three years that the Board of the World Bank approved in November 1997.

H. Derivatives and Foreign Exchange Activities

172. The Bolsa de Mercadorias e Futuros (BM&F) located in São Paulo has grown from being the seventh largest commodities and futures exchange in the world in 1993 to the fourth largest, after Chicago's two markets and London. BM&F's turnover of notional contract value increased 46 percent in 1996 to reach US$7 trillion, with about 500,000 contracts being negotiated daily. BM&F is by far the largest such exchange in Brazil. As is the case of exchanges in other countries, BM&F turnover has been concentrated in interest rate and currency derivatives (mainly futures and options on interest rate swaps). As explained below, BM&F maintains a policy of encouraging simple contracts, for which the risks borne by the counterparties can be easily monitored.

173. There are three interesting features of the Brazilian derivatives market (both exchange-traded and over the counter) that suggest a market characterized by reasonably low levels of risks compared to other developed markets around the world. First, over the counter (OTC) contracts in which a financial institution is either a counterparty or a broker have to be registered in one of two custodial systems (CETIP or BM&F); as a result, only transactions directly contracted between two nonfinancial entities are not registered. The practice in other countries is that OTC contracts, for which risks are typically larger than for exchange traded contracts, are not centrally registered, so that surveys of OTC markets are the only means of measuring their size and composition. Second, in the registration of the contracts, the financial institutions have to disclose the identity of the final clients, so that the custodial systems maintain the accounts of those parties (about 6,000 accounts at BM&F), rather than the accounts of the financial intermediaries, as is the practice in the custodial systems used by exchanges in most developed economies. Finally, if the parties to an OTC transaction register their contract with the custodial system of the BM&F, they can ask to benefit from the same guarantees that apply to BM&F's exchange-traded contracts, and BM&F will directly set and monitor limits on the final counterparties, rather than relying on the intermediaries to perform this analysis and enforce limits on their clients.

174. Data reported to the central bank by banks that operate in Brazil on their derivatives activities for September and October 1997 are presented in Table 16. These show that OTC

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[113](...continued)
March 31, 1998 to sell control of their asset management units. Furthermore, upper limits have been introduced on the value of the performance bonds and margin payments that equity funds and fixed-income funds of foreign investors post to exchanges as guarantees for the settlement of obligations arising from derivatives positions. For the most aggressive funds (defined as those with notional outstanding contracts in excess of three times net asset value), such values cannot exceed 50 percent of the net asset value of the fund, compared to 15 percent before (Circular No. 2785). Finally, fund managers have to inform investors that the funds are not covered by any deposit insurance guarantee (Circular No. 2786).

contracts in which banks are a counterparty were only two times larger than exchange-traded contracts, compared to six times larger in an April 1995 BIS survey of derivatives markets.[114] More importantly, contracts with guarantees accounted for some three-fourths of total outstanding notional value. As a result, the replacement cost (for contracts without guarantees), which provides a better perspective of the actual credit exposure, was less than 0.5 percent of the notional value, compared to 5 percent in the 1995 BIS survey.

175. In June 1997, the central bank introduced capital requirements for certain derivatives activities of banks. These requirements are to cover counterparty credit risks, but not yet market risks, related to derivatives. Counterparty credit risks arise from the probability that a counterparty, from which the bank expects payment in settlement of derivative contracts, defaults. Market risks related to derivatives arise from the probability that changes in market prices will result in losses to banks that have to make payments in settlement of derivatives contracts whose value is sensitive to those changes.[115] The Basle Committee on Banking Supervision introduced capital requirements on counterparty credit risks related to derivatives in 1995, and on market risks in 1996.[116]

176. The methodology adopted by Brazil results in higher capital requirements than under Basle. Table 16 presents estimates of the differences between the capital requirements under Basle and under Brazilian regulations. The replacement cost and the potential future exposure of the contracts (without guarantees) provide the basis for the capital charge to cover counterparty credit risk. Data for September and October 1997 suggest that the capital charge for counterparty credit risks in derivatives is about four times as large as required under the Basle capital accord, and that foreign banks' credit risks measured in this way are about four times larger than for domestic banks.

177. The central bank relies on the banks to set internal limits on foreign exchange risk and does not require banks to meet formal end-of-day limits on their foreign currency exposure or to set aside capital to cover such risks.[117] The verification of the adequacy of the banks'

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[114]See International Capital Markets Report—Background Material (SM/97/190), pp. 120–26, for the results of the BIS survey and other data on world derivatives markets.

[115]The main sources of market risks in banking are interest rate risk (resulting from the effects on earnings of maturity mismatch) and foreign exchange risk (resulting from the effects on earnings of currency mismatch).

[116]See Basle Committee: Amendments to Annex 3 of the Capital Accord (concerning certain off-balance sheet items), April 1995; Amendment to the Capital Accord to Incorporate Market Risks, January 1996.

[117]By end-1997, under the amendment issued in January 1996 to the Basle capital accord of 1988 to incorporate market risks, the internationally active banks of the G-10 countries have to provide capital (including a new category of tier 3 capital) to cover market risks, in

(continued...)

internal limits is part of the on-site examination process. There are a number of regulations on bank foreign exchange activities, which by and large do not prevent banks from taking or holding speculative positions against the domestic currency.

- the net of all foreign exchange operations involving the actual conversion of domestic currency into foreign currency or vice-versa cannot result in a position of more than US$5 million at the end of the day (long position) or a maximum of R$7.5 million (short position for large banks) without incurring penalties. These limits are very small compared to the capital of the majority of the banks. During normal times, the effect of these regulations is to create a high turnover on the foreign exchange market during the day and to ensure that the foreign exchange liquid reserves of the banking system are on the books of the central bank at the end of the day. Banks are allowed to continuously adjust their spot exposure by holding or taking positions in excess of the above limits, but they must deposit the excess at the central bank at a zero remuneration.

- off-balance sheet *derivatives* operations that give rise to foreign exchange exposure are subjected to a capital charge for *credit risk* that is stricter than Basle, as indicated in the above discussion of derivative risks. As concerns market risk, Brazilian banks are very active in providing forward cover (either through exchange-traded contracts or over the counter) to their clients that wish to hedge foreign currency exposures that arise from foreign-currency denominated loans given by Brazilian banks or from foreign-currency denominated notes issued on the international capital market. To hedge their own resulting short dollar position, Brazilian banks sell offsetting contracts in the market or purchase securities with foreign exchange guarantees issued by the government (NTN-D series) or by the central bank (NBC-E series). The extent of the demand for hedging operations on the part of the Brazilian corporate sector has grown sharply following heightened pressures on the exchange rate in July 1997 during the crisis in Thailand. Outstanding federal securities with foreign exchange guarantee increased in value from R$15 billion in July 1997 to R$38 billion in December 1997, a figure which may be compared to an estimate of foreign-currency denominated lending by Brazilian private domestic banks of R$15 billion in June 1997.[118]

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[117](...continued)
particular the risk of losses arising from movements in exchange rates.

[118]The level of lending denominated in foreign exchange was not separately reported in the financial statements provided by the central bank. An indirect estimate based on the available data on assets and liabilities explicitly identified as foreign exchange denominated in the financial statements indicates that about R$15 billion or 21 percent of lending (combining all maturities) is denominated in foreign exchange for the banks in the sample. Other banks, especially foreign-owned banks, also extend foreign-currency denominated loans. Foreign exchange funding of private domestic banks were in the order of 19 percent of total liabilities in June 1997, and on the order of 50 percent for foreign-owned banks.

- Off-balance sheet guarantees denominated in foreign exchange, regardless of whether they have been called or are likely to be recoverable, and regardless of the counter-party, are taken into account at 100 percent in the calculation of risk-weighted assets that are used to assess capital adequacy.

178. Information disclosed by the large banks in their investment prospectuses, as well as the inspections of small- and medium-sized private domestic banks that the central bank had completed by October 1997 suggest that the extent of currency mismatch in Brazil is minimal during normal times.

Table 7. Brazil: The Financial System and Summary Supervisory Responsibilities

Main category of financial institutions	Approximate number of institutions	Supervisory responsibilities			
		National Monetary Council			
		Central bank	CVM	SUSEP	SPC
Banks	250	x	x[1]		
Savings and loans institutions	2	x			
Credit unions	953	x			
Investment banks	23	x	x		
Development banks	6	x			
Credit, financing and investment companies	45	x			
Mortgage companies	20	x			
Savings associations	2	x			
Leasing companies	75	x			
Foreign exchange brokers	42	x			
Commodities and futures exchanges	2	x	x		
Stock exchanges	9		x		
Securities brokers	214	x	x		
Securities dealers	281	x	x		
Autonomous investment agencies	4	x	x		
Private pension funds	349			x	x
Investment funds	2,933	x	x		
Administrators of consortiums	450	x			
Custody system for public securities	1	x			
Custody system for private securities	1	x			
Stock exchange clearing houses	2		x		
Insurance companies	n/a			x	

Sources: Central bank; Securities and Exchange Commission (CVM); Superintendency of Private Insurance Industry (SUSEP); and Secretariat of Complementary Pensions (SPC); and Fund staff estimates.

[1] CVM supervises banks that are listed on Brazil's stock exchange, jointly with the central bank.

Table 8. Brazil: Summary Structure of the Brazilian Banking System

Type of Bank	Assets as of June 1997	Comment
Total System	Approximately 252 banks R$550 billion	Excluding 21 investment banks. As of June 1997, about 140 banks had assets of more than R$100 million, and about 75 banks had net worth of more than R$100 million. Shares for 13 private banks were listed on the São Paulo stock exchange; privately held shares in 3 public banks were also listed (Banco do Brasil, Banespa, Banerj).
Commercial Banks	Approximately 220 banks R$307 billion	Mostly universal banks (allowed since September 1988).
Federal Banks 2/	Banco do Brasil R$93 billion	A commercial bank and as the primary financial agent of the federal government, it administers lines of credit directed at the rural sector; it operates the national check clearing system.
	Caixa Econômica Federal R$95 billion	A savings and loans institution; it is the principal agent of the National Housing Finance System, and provides financing for housing and urban infrastructure projects.
	Banco Meridional, Banco da Amazônia and Banco do Nordeste R$5 billion	Regional institutions that are owned by the federal government. A bank previously owned by the federal government, Banco Meridional, was privatized in November 1997.
State Banks (states indicated in parentheses)	Twenty six banks, and one savings and loans institution, including Banespa (SP), Nossa Caixa Nosso Banco (SP), Bemge (MG) have assets of about R$50 billion 3/	Banerj (RJ) and Credireal (MG) were privatized in 1997. Banespa and Bemge are to be privatized in 1998. Nossa Caixa Nosso Banco is the most important state bank for which there are no privatization plans (its assets and deposits were about the eighth largest in the system in June 1997).

Sources: Central bank; and Fund staff estimates.

1/ Latest comprehensive data available from the central bank.

2/ In addition, the federal government development bank, BNDES, is primarily engaged in medium to long-term lending, either directly or through agent banks, and implements the government's privatization program by providing technical assistance on this area and through BNDESpar, which provides financing for privatization operations. The funding of BNDES is obtained mainly from Brazil's mandatory unemployment and disability insurance fund and from borrowing abroad. It does not take deposits from the public. There are also five state-owned development banks.

3/ Including the assets of Banespa as of the last available balance sheet before central bank intervention in December 1994. In January 1998, following the general agreement between the federal government and the state government of São Paulo concerning the restructuring of the latter's debts, Banespa published its financial statements for 1995, 1996 and 1997. These indicate assets of R$49 billion at end-1995, R$63 billion at end-1996 and R$71 billion at end June 1997.

Table 9. Brazil: Nonperforming Loans as a Proportion of Total Loans 1/

	Dec. 1994	Jun. 1995	Dec. 1995	Jun. 1996	Dec. 1996	Jun. 1997
Private domestic banks 2/	1.8	3.8	5.7	5.5	4.6	3.6
Banks with foreign participation	2.3	3.2	5.3	5.6	4.5	3.8
Foreign banks	3.1	5.1	5.6	4.6	4.5	4.1
Federal banks	6.5	9.1	9.1	12.9	10.4	8.7
State banks 3/	2.5	5.1	6.8	7.1	7.2	7.4
Total system 4/	4.6	4.8	7.9	8.2	6.6	6.3

Sources: Central bank; and Fund staff estimates.

1/ Nonperforming loans are defined as loans in arrears plus loans in liquidation, and may be taken as an approximate equivalent of loans that are substandard, doubtful, or loss.

2/ Estimated by Fund staff based on the balance sheet data of private banks with majority domestic ownership.

3/ Special classification rules apply to loans of state banks to state governments; only installments that have fallen due and have not been paid are classified as non-performing. Mortgage loans may also be classified in this manner; this affects mainly the federal government owned Caixa Econômica Federal.

4/ Central bank data, except estimated by Fund staff for December 1994 and June 1995.

Table 10. Brazil: Banking System Assets

(In billions of *reais*, unless otherwise indicated)

	December 1994	June 1997
Total banking system assets	**294**	**550**
Private banks (domestically owned) 1/	106	210
Foreign banks or banks with foreign participation	39	97
Federal banks	122	193
State banks	27	50
	(Percentage of total assets)	
Memorandum items:		
Private banks (domestically owned)	36	38
Foreign ownership 1/	13	18
Public sector	51	44
Total	100	100
Concentration among private sector banks 2/	58	63

Sources: Central bank; and Fund staff estimates.

1/ Private banks with more than 75 percent domestic ownership.
2/ Share of five largest private banks in total assets of private banking system.

Table 11. Brazil: Major Mergers and Acquisitions Among Brazil's Private Banks

(Number of banks)

	Dec. 1994-Dec. 1996	Fist half of 1997	Second half of 1997
Without the use of public funds	12	4	8
Of which			
Foreign	3	3	6
With the use of public funds (Proer)	6	1	0
Of which			
Foreign	0	1	0
Total	18	4	8
Memorandum items:			
(estimate based on the major deals)			
Assets of banks merged or acquired			
(in percent of private domestic bank assets)	7	8	12
Foreign ownership of private banking assets			
(in percent of total bank assets)	13	18	21

Sources: Central bank; rating agencies; press reports; and Fund staff estimates.

Note: Including in 1997 an acquisition by a foreign bank that was announced on January 5, 1998. Excluding the privatization of state-owned banking assets, which in 1997 amounted to about R$6 billion, or 3 percent of private banking assets.

Table 12. Brazil: Private Domestic Banks: Analysis of Bank Soundness 1/ December 1994-June 1997

(In percent, unless otherwise indicated)

		Dec. 1994 2/	Jun. 1995	Dec. 1995	Jun. 1996	Dec. 1996	Jun. 1997
Group A	Capital adequacy ratio less than 10 percent						
	Average ratio	10.2	9.1	9.0	6.7	8.5	8.6
	Number of banks	9	10	10	11	11	12
	Total assets (in millions of *reais*)	9,185	11,551	24,280	11,293	27,363	25,252
	Deposits/deposits of all four groups 3/	5.9	5.7	12.0	2.9	12.8	9.9
	Non-performing loans/total loans of group	2.4	3.9	6.8	5.0	6.9	6.5
	Loan loss provisions/ non-performing loans of group	108.3	120.6	66.5	101.8	94.1	94.2
	Capital cushion 4/	10.3	9.4	7.9	6.8	8.2	8.4
	Profitability - return on average equity	...	16.7	11.1	7.7	-9.1	-11.2
	Profitability - return on average assets	...	1.9	1.2	0.7	-0.7	-0.8
	Efficiency ratio 5/	73.6	59.7	72.1	66.7	108.8	65.6
Group B	Capital adequacy ratio between 10 and 12 percent						
	Average ratio	11.3	10.7	11.1	10.7	10.6	11.0
	Number of banks	9	10	9	12	8	14
	Total assets (in millions of *reais*)	34,579	41,823	24,631	49,905	9,548	51,204
	Deposits/deposits of all four groups 3/	31.6	30.8	14.1	24.0	4.7	18.2
	Non-performing loans/total loans of group	1.4	3.2	6.9	5.5	3.3	3.8
	Loan loss provisions/ non-performing loans of group	168.5	120.1	103.4	99.5	79.4	104.4
	Capital cushion 4/	11.8	11.0	11.2	10.7	10.2	11.1
	Profitability - return on average equity	...	12.8	14.2	12.6	11.0	15.7
	Profitability - return on average assets	...	1.2	1.3	1.1	0.9	1.1
	Efficiency ratio 5/	71.1	65.6	50.8	73.7	72.4	70.4
Group C	Capital adequacy ratio between 12 and 16 percent						
	Average ratio	13.7	13.4	12.8	13.8	13.2	12.8
	Number of banks	15	15	18	24	27	16
	Total assets (in millions of *reais*)	25,572	25,819	39,844	53,639	75,109	56,060
	Deposits/deposits of all four groups 3/	18.7	19.0	25.2	26.6	35.0	21.6
	Non-performing loans/total loans of group	1.8	3.6	3.7	3.6	3.9	2.9
	Loan loss provisions/ non-performing loans of group	140.3	125.6	159.0	157.5	135.3	159.0
	Capital cushion 4/	11.9	13.8	13.8	14.7	13.9	13.6
	Profitability - return on average equity	...	25.6	19.7	14.3	13.9	14.5
	Profitability - return on average assets	...	2.9	2.2	1.5	1.4	1.5
	Efficiency ratio 5/	62.6	49.7	62.9	67.5	73.7	69.6
Group D	Capital adequacy ratio greater than 16 percent						
	Average ratio	28.0	24.7	23.8	24.2	23.3	21.7
	Number of banks	67	65	65	56	57	56
	Total assets (in millions of *reais*)	46,823	61,770	73,729	92,459	97,389	104,552
	Deposits/deposits of all four groups 3/	43.8	44.5	48.7	46.6	47.5	50.3
	Non-performing loans/total loans of group	2.0	4.3	5.9	6.6	4.7	3.3
	Loan loss provisions/ non-performing loans of group	155.8	123.8	112.3	107.2	104.3	114.1
	Capital cushion 4/	28.8	25.3	24.2	24.5	23.4	21.9
	Profitability - return on average equity	...	13.7	11.7	13.4	15.6	14.4
	Profitability - return on average assets	...	2.6	2.1	2.1	2.2	2.1
	Efficiency ratio 5/	66.5	55.5	58.6	50.0	74.3	68.0

Table 12. Brazil: Private Domestic Banks: Analysis of Bank Soundness 1/ December 1994-June 1997

(In percent, unless otherwise indicated)

		Dec. 1994 2/	Jun. 1995	Dec. 1995	Jun. 1996	Dec. 1996	Jun. 1997
All Groups	**Memorandum items:**						
	Average capital adequacy ratio	16.7	16.2	16.3	16.2	16.5	15.9
	Total number of banks 6/	100	100	102	103	103	98
	Total assets (in millions of *reais*)	116,159	140,963	162,484	207,296	209,409	237,068
	Total deposits (in millions of *reais*)	49,162	55,858	67,106	63,899	68,214	70,041
	Total loans (in millions of *reais*)	48,646	55,975	57,635	59,823	69,473	70,330
	Public sector loans (in millions of *reais*)	1,252	2,253	2,544	2,359	2,465	1,967
	Private sector loans (in millions of *reais*)	47,394	53,722	55,091	57,464	67,008	68,363
	Non-performing loans/total loans 7/	1.8	3.8	5.7	5.5	4.6	3.6
	Loan loss provisions/ non-performing loans 7/	152.4	122.8	115.6	118.1	112.9	120.5
	Capital cushion 4/	18.6	17.7	17.2	17.6	17.4	16.2
	Assets of banks that entered (+) or exited (-) the system (net) 6/ (in millions of *reais*)	0	0	85	187	0	-19,079
	Deposits of banks that entered (+) or exited (-) the system (net) 6/ (in millions of *reais*)	0	0	45	114	0	-8,383
	Profitability - return on average equity	...	15.8	14.0	13.1	11.5	12.0
	Profitability - return on average assets	...	2.2	1.9	1.6	1.5	1.4
	Efficiency ratio 5/	67.6	57.8	60.5	61.1	78.5	68.7

Sources: Central bank; and Fund staff estimates.

1/ Banks with less than 50 percent foreign participation and with demand deposits in June 1997.

2/ Capital adequacy for December 1994 is estimated (before January 1995, banks were required not to exceed a 15/1 ratio of assets to supervisory capital). The standard was increased from 8 to 10 percent in May 1997, and to 11 percent in November 1997. The definition of supervisory capital consists of tier 1, plus revaluation reserves.

3/ Demand, savings, and time deposits of non-financial entities.

4/ Supervisory capital minus non-provisioned non-performing loans as a proportion of risk weighted assets.

5/ Defined as personnel plus administrative expenses as a proportion of banking income.

6/ Excluding banks that exited the system before December 1996. The estimated assets (deposits) of such banks are R$13.7 billion (R$5.4 billion). Banks that exited the system between June and December 1997 had estimated assets of R$30 billion and deposits of R$11 billion.

7/ Weighted average.

Table 13. Brazil: Incidence of Nonperforming Loans

(Share of non-performing loans in total loans, in percent)

	June 1997 Actual level	Simulated level	Previous peak level
Group A banks	6.5	13.0	6.9
Group B banks	3.8	7.6	6.9
Group C banks	2.9	5.8	3.9
Group D banks	3.3	6.6	6.6

Source: Table 12.

Table 14. Brazil: Potentially Undercapitalized Banks: Simulations Based on June 1997 Data

(In millions of *reais*, unless otherwise specified)

	Scenario A 1/	Adjusted Scenario A 2/	Scenario B 3/	Adjusted Scenario B 2/	Scenario C 4/	Adjusted Scenario C 2/
Capital adequacy ratio less than 8 percent						
Number of banks	4	3	16	13	14 5/	11
Assets	9,497	5,114	28,509	14,343	23,883	9,717
Deposits	3,178	1,498	8,633	3,931	7,275	2,573
Capital adequacy ratio between 8 and 10 percent						
Number of banks	11	10	14	12	9 6/	7
Assets	18,795	10,422	40,388	33,787	12,797	6,196
Deposits	4,809	2,515	8,839	6,456	3,980	1,597
Memorandum items:						
Total Number of Banks	15	13	30	25	23	18
Assets	28,292	15,536	68,897	48,130	36,680	15,913
As a proportion of total private domestic banking assets (in percent)	11.9	6.6	29.1	20.3	15.5	6.7
Deposits	7,987	4,013	17,472	10,387	11,255	4,170
As a proportion of total private domestic banking deposits (in percent)	11.4	5.7	24.9	14.8	16.1	6.0

Sources: Central bank; and Fund staff estimates.

1/ Capital adequacy ratio recalculated as supervisory capital, minus nonprovisioned nonperforming loans, as a proportion of risk weighted assets.

2/ Excluding banks that have exited the system since June 1997 and one bank with a reputable international bank as large minority shareholder.

3/ Capital adequacy ratio as under Scenario A, with the added assumption that the June 1997 level of nonperforming loans doubles and is fully subtracted from supervisory capital.

4/ Capital adequacy ratio as under Scenario B, with the added assumption that 1997 profits are fully used toward provisioning nonperforming loans. Profits for 1997 are estimated to be half of the value obtained by extrapolating the trend of profits for the last semester of 1996 and the first seven months of 1997.

5/ Weighted average capital adequacy of banks excluded between scenarios B and C: 8.2 percent

6/ Weighted average capital adequacy of banks excluded between scenarios B and C: 10.5 percent.

Table 15. Brazil: Extent of Banking Sector Weaknesses: Comparison of 1995-96 and 1997-98

(In billions of *reais*, unless otherwise specified)

	1995-96 1/ Actual	1997-98 2/ Simulated
Assets	34	16
As a proportion of private domestic banking assets (in percent)	20	7
As a proportion of federal securities outstanding (in percent)	22	7
Deposits	14	4
As a proportion of private domestic banking assets (in percent)	18	6

Sources: Central bank; and Fund staff estimates.

1/ Including all private domestic banks that exited the system between December 1995 and March 1997.
2/ Data from the last column of Table 14, assuming that none of the concerned bank owners would recapitalize their bank.

Table 16. Brazil: Derivatives Activities of Private Banks, as of End-September and End-October 1997

(In billions of *reais*)

	Domestic banks		Foreign banks		Total	
	September	October	September	October	September	October
Notional amounts of OTC contracts						
Without guarantees 1/	78	84	59	69	137	153
With guarantees	214	231	106	128	320	359
Brokerage 2/	4	4	1	1	5	5
Total	296	319	166	198	462	517
Notional amounts of exchange-traded contracts						
Nonbrokerage	118	109	84	96	202	205
Brokerage	26	14	6	8	32	22
Total	144	123	90	104	234	227
Counterparty credit risk 3/						
Replacement cost	0.4	0.8	0.2	0.8	0.6	1.6
Potential future exposure	1.3	1.4	1.2	1.9	2.5	3.3
Capital requirement 4/	0.25	0.30	0.21	0.38	0.46	0.69
Total capital	28	28	6	6	34	34
Ratio (in percent)	0.9	1.1	3.5	6.4	1.4	2.0
Memorandum items:						
Enhanced capital requirement 5/	0.3	0.4	0.3	0.5	0.6	0.8
Capital requirement under Basle 6/	0.07	0.09	0.06	0.11	0.12	0.20

Sources: Central bank; Commodities and Futures Exchange (BM&F); and Fund staff estimates.

1/ OTC contracts in which financial institutions are either counterparty or broker have to be registered in one of two custodial systems, CETIP or BM&F. Parties who register contracts in BM&F have the option of purchasing the same guarantee that applies to exchange-traded contracts.

2/ Contracts in which a financial institution acted as a broker.

3/ Only for OTC contracts without guarantees. All other contracts are excluded from capital requirements.

4/ Calculated as 10 percent of replacement cost plus 16 percent of potential future exposure (as of December 1997).

5/ Calculated as 11 percent of replacement cost plus 20 percent of potential future exposure (as of December 1998).

6/ Estimated as 50 percent of 8 percent of (replacement cost plus potential future exposure).

VI. Export Performance and Competitiveness of Brazilian Manufactured Goods[119]

A. Introduction and Summary

179. Since 1992, Brazil's external current account has deteriorated significantly. The current account balance moved from a surplus equivalent to 1.6 percent of GDP in 1992 to a deficit of 4.3 percent of GDP in 1997 despite an important improvement in the terms of trade. This has been due largely to a deterioration in the trade balance of manufactured goods, from a surplus of 2.3 percent of GDP in 1992 to a deficit of 1.9 percent of GDP in 1996.[120] While this drastic swing is partly explained by a rapid growth of domestic demand and trade liberalization, it also reflects a significant deterioration in the competitiveness of Brazil's manufactured goods. This deterioration is of concern especially in view of the fact that already in the 1980s Brazil was losing export market shares, and the large trade surpluses observed in those years were more a reflection of import compression than of sharp export growth. The opening up of the Brazilian economy in recent years underscores the need to secure a steady improvement in export performance, if the external current account is not to become a serious constraint on sustained economic growth in the years ahead.

180. The chapter is organized as follows.[121] An overview of Brazil's total export performance over the past three decades is presented in Section B. Changes in Brazil's export market shares in key trading partners destinations during 1985–96 are also examined in this section. Section C focuses on manufactured exports and examines the performance of several competitiveness indicators based on manufacturing trade data over the period 1985–96. Section D analyzes the evolution of price, cost, and nonprice competitiveness indicators over the same period. The final section offers some remarks on the outlook for manufactured exports.

181. The main results from the study can be summarized as follows:

- An analysis of trade flows since the early 1980s suggests that the deterioration in manufactured goods trade balance evident in recent years had already begun in the

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[119]Prepared by Ugo Fasano.

[120]Between 1980 and 1993 the trade surplus averaged almost 4 percent of GDP reaching a peak of over 6 percent of GDP in 1984 and 1988.

[121]The main source of data for this study is the Trade Analysis and Report System (TARS), which is a trade database collected and maintained by the United Nations Statistical Office (UNSO). Exports are measured f.o.b. and imports c.i.f. The help of the STA country assistance team in obtaining the TARS data is acknowledged.

mid-1980s, as a result of a weak export performance, which led to a sharp decline in Brazil's export market shares during the past decade, except to its Mercosul partners.

- An analysis of indicators of competitiveness based on relative prices and costs shows wide fluctuations in the competitiveness of Brazil's manufactured exports during the 1980s and the early 1990s reflecting the reliance on the exchange rate as a nominal anchor during various heterodox stabilization programs. The real appreciation of the domestic currency was also strong in the immediate aftermath of the introduction of the *Real* Plan in mid-1994, partly as a result of a sharp increase in net capital inflows. However, since 1996 there has been some improvement in competitiveness measured in terms of relative unit labor costs.

- The deterioration in competitiveness, has also contributed to a significant increase in import penetration (together with the reduction in import protection during the 1990s).

B. Brazil's Export Performance and Market Shares

182. **Brazil's export performance has experienced wide fluctuations over the past three decades.** Brazil's share in world exports increased from less than 1 percent in the mid-1960s to a peak of 1.4 percent in 1984. However, by mid-1990s, Brazil's total export share had declined back to less than 1 percent of world exports (and to 3.2 percent of developing country exports from 5.3 percent in 1984), while Mexico replaced Brazil as the leading exporter in the Western Hemisphere region. Brazil recorded one of the lowest levels of total exports in 1996, in per capita terms (as measured by the total labor force), among emerging markets (Figure 27).

183. It is useful to divide Brazil's export performance over the past three decades (from the mid-1960s through the mid-1990s) into five sub-periods:

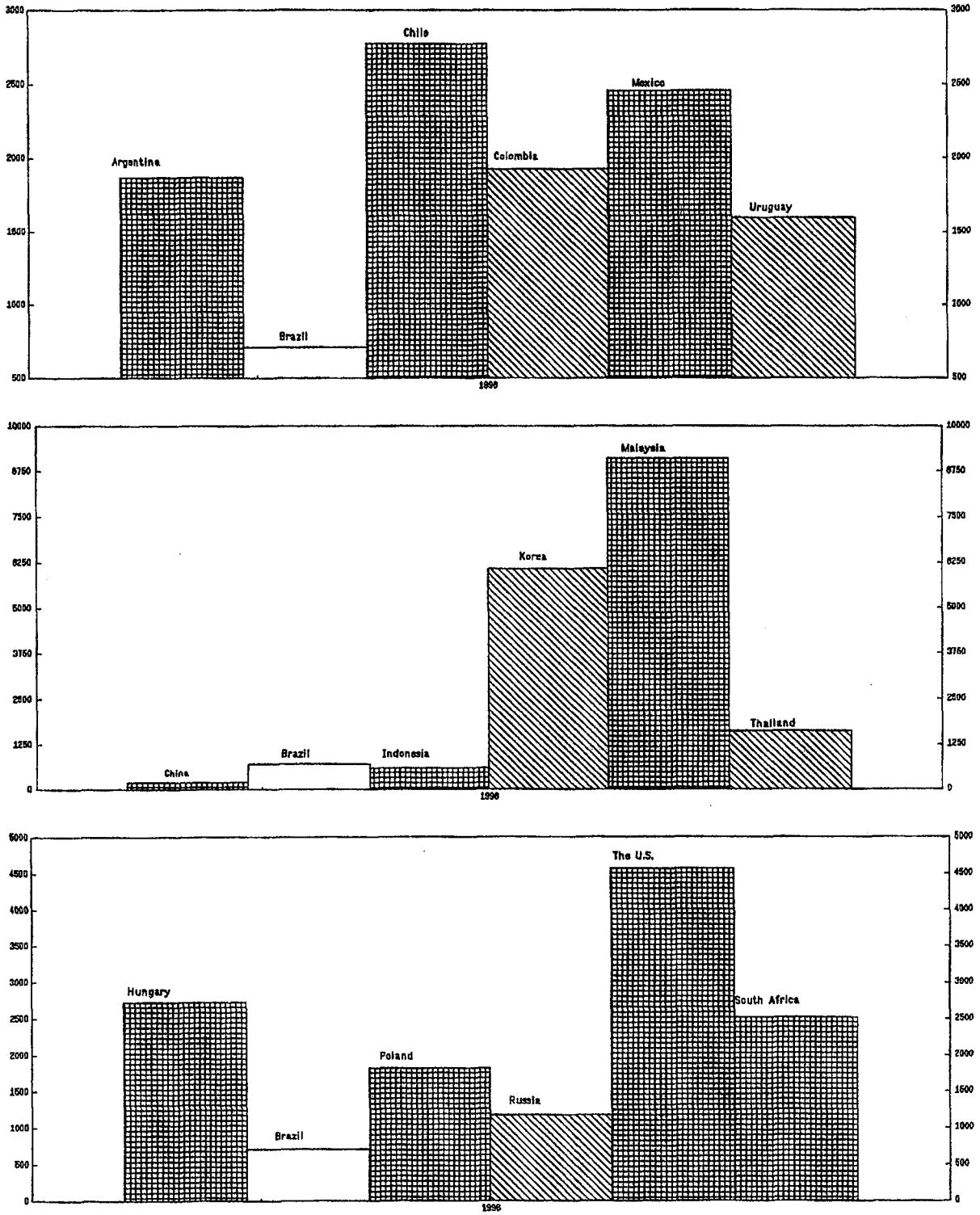
- In the **first sub-period** (from the mid-1960s to the first international oil price shock in 1973), **Brazil's export performance was remarkable** and partially reflected a policy of maintaining a competitive exchange rate.[122] Its share in world exports (in nominal terms) increased steadily from about 0.8 percent in the mid-1960s to 1.1 percent by 1973 or from 4.2 percent of developing countries exports to 5.9 percent as a percentage over the same period (Table 17). In addition, in the early 1970s, Brazil replaced Venezuela as the leading exporting country in Latin America. Much of this

[122]The exchange rate market was unified in 1964 and a crawling peg system was introduced in 1968, according to which the exchange rate was periodically devalued, in small amounts, following the difference between inflation at home and abroad.

FIGURE 27

Total Exports of Goods Per Capita, 1996 1/

(In U.S. Dollars)



Source: World Economic Outlook database.

1/ Total exports of goods divided by total labor force.

improvement in export performance was a reflection of a rapid growth in manufactured exports, which as a proportion of total exports rose from about 6 percent in

- 1965 to almost 20 percent in 1973 (Table 18). In real terms, manufactured exports grew, on average, by 30 percent per year during 1968–73, more than double the growth rate of total exports (14 percent).

- During the **second sub-period** (covering the years from 1974 through 1979) **the rise in Brazil's share of world exports came to a halt** mainly because of two factors: a sharp deterioration in the terms of trade due to the effects of the two international petroleum price shocks, and the replacement of the aggressive export promotion strategy of the previous period with an import substitution policy, particularly in the capital and intermediate goods sectors, bolstered by a sharp increase in tariffs and nontariff barriers. The annual average growth rate of total exports, in volume terms, declined to 4.5 percent (about 1/3 the rate in the preceding sub-period), and that of manufactured exports to 16 percent (half the rate in the preceding sub-period).

- During the **third sub-period**, covering the first half of the 1980s, Brazil's export performance improved significantly; its share of world trade rose from 0.9 percent in 1979 to about 1.4 percent in 1984–85. The growth of export volume accelerated, on average, to almost 11 percent per year. However, much of the improvement in export performance took place after 1982. The authorities aggressively used the exchange rate policy together with export subsidies to encourage a rapid export expansion after the international debt crisis unfolded. The objective was to generate trade surpluses by improving price competitiveness in order to service the foreign debt. Total exports volume grew, on average, by 17 percent a year in 1983–84, and the rate of growth of manufactured exports increased sharply to over 25 percent a year. In addition, the import substitution policy and restrictions were extended to curtail imports further. As a result, the external current account deficit was practically eliminated by 1984. However, this important improvement in the external accounts turned out to be temporary as the accelerating inflation made more difficult to translate nominal devaluations into gains in price competitiveness.

- In the **fourth sub-period** (from 1985 to 1993), **Brazil's total exports performed poorly** with its share of world exports declining back to less than 1 percent by 1990. Much of this sub-period was characterized by the adoption of heterodox stabilization plans, designed to control a rising rate of inflation.[123] These plans used the exchange rate as a nominal anchor to reduce inflation. Consequently, the real exchange rate experienced wide fluctuations, and there was a sharp appreciation of the currency over the period as a whole. Manufactured exports declined in volume terms by almost 1 percent a year on average during 1985–90. A temporary recovery in export volume

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[123]The cruzado plan was adopted in February 1986, the Bresser plan in July 1987, the summer plan in January 1989, and the Collor administration plans in 1990–91.

growth took place after the local currency depreciated significantly in 1990. Despite the weak export performance during much of the period, the external current account balance was often in surplus, because the growth of import volume remained stagnant. The Brazilian economy became even more closed during this period, with total imports declining from about 8 percent of GDP in 1983 to less than 4 percent in 1990 and total exports from almost 12 percent of GDP to 7 percent over the same period.

- During the **fifth sub-period** (from 1994 to the first half of 1997), **Brazil's export performance experienced a further deterioration**. At the onset of the *Real* Plan, the floating of the currency combined with rising (net) capital inflows, resulted in an initial nominal and real appreciation, which, in turn, accelerated the deterioration in competitiveness observed since 1992. Brazil's share of world exports declined, from 1.0 percent in 1993–94 to 0.9 percent by 1996 as exports declined in volume terms. As a percentage of developing countries' exports, Brazil's share dropped to around 3 percent by 1996, the lowest level in the past two decades. In addition, for the first time in two decades, Brazil's total exports grew in 1994–96 at a lower rate than those of other countries in the Western Hemisphere. As imports soared during this sub-period, the external current account balance, which had posted a surplus equivalent to 1.6 percent of GDP in 1992, deteriorated rapidly, reaching a deficit of 3.3 percent of GDP in 1996 and 4.3 in 1997.

- **More recently, beginning in mid-1997 there has been a rebound in export growth.**[124] The adoption of an adjustable exchange rate band system since 1995 has brought about a gradual nominal depreciation against the U.S. dollar, which in conjunction with price and cost moderation, strong productivity growth and various structural measures to support and facilitate exports, has led to some improvement in competitiveness.

184. **Over the past three decades, both the product composition and trade direction of Brazil's exports have experienced considerable changes**. The proportion of manufactured goods in total exports rose from about 6 percent in 1965 to almost 60 percent by 1996.[125] Up until the late 1970s the increase in exports of manufactured goods was led by goods with high value added (SITC 7–8), but since 1980 the increase in the share of manufactured goods in total exports was largely driven by exports of basic manufactured

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[124]Due to data limitation, this chapter analyzes mostly the period up through June 1997. For a general discussion of export rebound in the second half of 1997, see the Staff Report for the 1997 Article IV consultation (EBS/98/12).

[125]Manufactured exports and imports include the Standard International Trade Classifications (SITC) categories: 5 (chemicals), 6 (basic manufactures), 7 (mechanical and transport equipment), and 8 (miscellaneous manufactured goods).

goods (SITC 5–6). However, the proportion of manufactured exports in total exports has declined in the more recent years as primary exports have expanded rapidly.

185. As far as the direction of trade and product composition is concerned, Brazil's exports to developing countries are generally more capital-intensive than exports to industrialized countries. For instance, labor-intensive manufactured goods generally account for about 60 percent of Brazil's manufactured exports to the United States. In contrast, these same goods only account for about half of Brazil's manufactured exports to Argentina.

186. An important development during the past decade has been the decline in the importance of the United States as one of Brazil's major markets for manufactured exports (Table 19). About 34 percent of Brazil's manufactured exports went to the U.S. market in 1985, declining to 25 percent by 1996. This drop was initially offset by an increase in the share of manufactured exports to European countries and Japan, while the share of manufactured exports to Latin American countries remained relatively stable. However, since the early 1990s, the shares of manufactured exports to most industrialized countries have declined, whereas those to Mercosul countries (Argentina, Paraguay, and Uruguay) have soared.[126] Brazil's manufactured exports to these countries rose from 5.8 percent of total manufactured exports in 1990 to almost 23 percent in 1996. This development was mostly accounted for by a sharp rise in exports to Argentina, which has become the second most important market for Brazilian manufactured exports after the United States. With the exception of Mexico, the share of manufactured exports to other Latin American countries increased slightly between 1990 and 1996. In contrast, the share of Brazil's manufactured exports to its main trading partners in Asia and Europe has declined significantly during the 1990s. As a result, by 1996, about 60 percent of Brazil's manufactured exports went to the U.S. and Latin American markets.

C. Trade Balance Performance of Brazil's Manufactured Goods

187. In this section, several indicators of competitiveness based in manufacturing on trade flow data are examined. First, trade balances, in value and volume terms, for various categories of manufactured goods at one-digit SITC level are analyzed. Second, trade ratios of exports to imports, in value and volume terms, and relative export performance indicators, are also discussed. These measures permit the examination of trends in trade performance over time.

188. After nine years of consecutive surpluses averaging over US$6 billion a year, Brazil's **nominal trade balance on manufactured goods** recorded a surplus of only US$800 million by 1994 and large deficits in the following years (Table 20). The opening up of the Brazilian economy which began in the late 1980s, contributed to this deterioration; the average tariff

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[126]Mercosul was officially established in March 1991 with the signature of the Asuncion Treaty, by Argentina, Brazil, Paraguay, and Uruguay. A customs union has been in operation since January 1995.

rate on imports of consumer durable goods fell from 92 percent in 1987 to 53 percent by 1989.

189. By 1996, almost all categories of manufactured goods showed large nominal trade deficits, with only iron, steel, and nonferrous metals continuing to record large surpluses. Overall, this performance suggests a widespread decline in the competitiveness of Brazilian manufacturing. The authorities have attempted to reverse these trends by providing fiscal incentives, export financing facilities, and other measures to reduce the so-called *Brazil cost* and enhance the competitiveness of manufacturing sector.[127] It will take some time for the impact of these measures to be fully felt. Other steps have also been taken which have had a more immediate impact, such as the adoption of an automobile regime, increases in import tariffs, and the reduction in short-term financing of imports. Although these latter measures may contribute to reducing the trade deficit in the short run (the trade deficit of motor vehicles declined from US$2.9 billion in 1995 to US$0.5 billion in 1996 but deteriorated again in 1997), over the longer run they have substantial efficiency costs and are unlikely to improve the external accounts in a sustained way.

190. The deterioration of the **trade deficit of manufactured goods in real terms** (US$22 billion) during 1993–96, was more severe than the corresponding deterioration in the nominal balance (US$21 billion) as there was an estimated improvement of over 12 percent in U.S. dollars terms in Brazil's terms of trade for manufactured goods[128] (Table 21).

191. The analysis of real trade balances for individual SITC categories shows quite different results from the analysis of nominal trade balances. For instance, in the case of basic manufactures, the real trade balance deteriorated roughly the same as the nominal balance, implying that price movements were relatively neutral in 1994–96. In the case of machinery and transport equipment, while the nominal balance improved slightly in 1996, the real balance continued to deteriorate, implying that Brazil export prices rose relative to import prices. This could be the result that Brazil's exporters have more influence over prices of machinery and transport equipment which are less homogeneous products than basic manufactures.

192. A rising trade deficit (or surplus) does not necessarily indicate a worsening (or an improvement) in competitiveness because this measurement is affected by the growth of trade value terms. To eliminate the influences of both changes in the terms of trade and the expansion of the volume of trade, the real normalized trade balance (RNTB) was used,

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[127]For details of the measures taken see "Measures to Reduce the Brazil Cost", Ministry of Finance, Secretariat of Economic Policy, Brasilia, April 1997. See also, "Ações Setoriais para o Aumento de Competitividade da Indústria Brasileira", Documento Base, Ministério da Indústria, do Comércio e do Turismo, Secretaria de Política Industrial, 1997.

[128]Consistent price deflators for the components of exports and imports of manufactured goods were not available under the SITC classification of goods followed in this study. Thus, these results should be interpreted with caution.

defined as the real trade balance as a proportion of total real trade. The RNTB indicator shows that total manufactured goods trade surplus attained a peak of 34 percent of total trade in 1988, declining thereafter and turning by 1996 into a deficit equivalent to 21 percent of total trade (Table 22). Thus, contrary to the nominal and real trade balance indicators, the RNTB indicates that the deterioration in trade performance had already begun in 1988 rather than in 1994.

193. **Indicators of Brazil's relative export performance (i.e., the growth of Brazilian exports relative to the growth of destination markets) also suggest that the performance of manufactured trade had already begun to deteriorate in 1988** (Table 23 and Figure 28).[129] Export performance worsened even in periods in which export market growth was improving, particularly in the case of machinery and transport equipment during 1989–92 and other manufactured goods during 1988–92. This deteriorating trend has been reversed since 1994 only in the case of machinery and transport equipment. **The ratios of exports to imports showed a similar deterioration in trade performance from 1985 to 1995** (see Tables 20 and 21, and Figure 29) although the rate of deterioration showed some signs of slowing in 1996.[130] However, it is difficult to attribute the latter to an improvement in competitiveness as, in the second half of 1995, the authorities had imposed higher tariffs and quotas on electronic products, footwear, toys, and textiles.

D. Developments in Price, Cost, and Nonprice Competitiveness Factors

194. The various indicators of trade performance point to a trend deterioration of the trade balance in manufactured goods in evidence since the mid-1980s which suggests that Brazil's competitiveness deteriorated during that period. This section specifically analyzes price and cost indicators of competitiveness.

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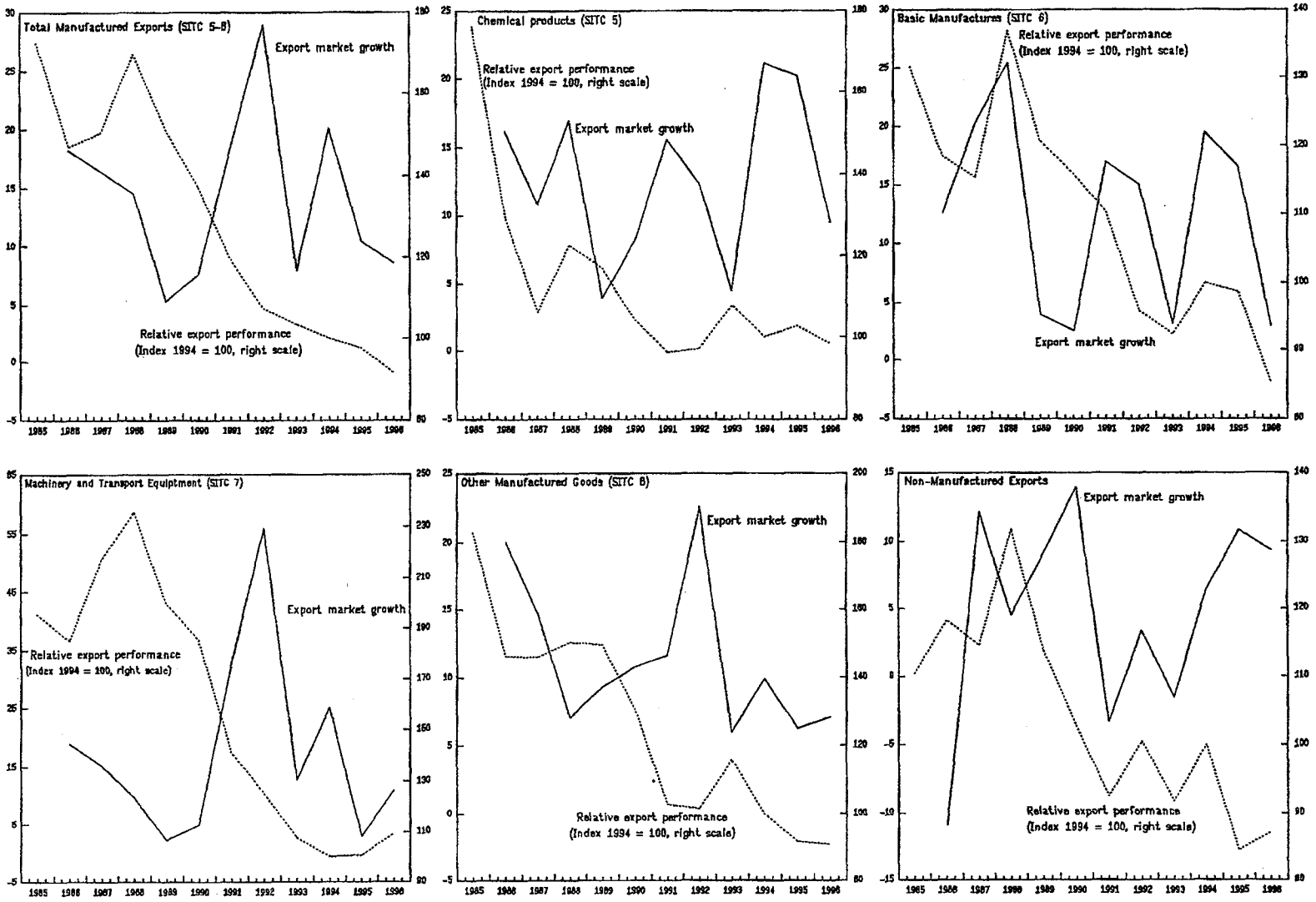
[129]The relative export performance index is calculated as the ratio of the rate of growth of Brazil's manufactured exports to the rate of growth of its export market. The latter is defined as a weighted average of the rate of growth of manufactured imports, in nominal terms, of Brazil's main partner countries (the United States, Argentina, the Netherlands, Germany, and Japan).

[130]Deflators for total exports and manufactured exports used were published by Fundação Centro de Estudos do Comércio Exterior (Funcex), see Guimarães (1997).

FIGURE 28

BRAZIL

Export Market Growth and Relative Export Performance, 1985-96

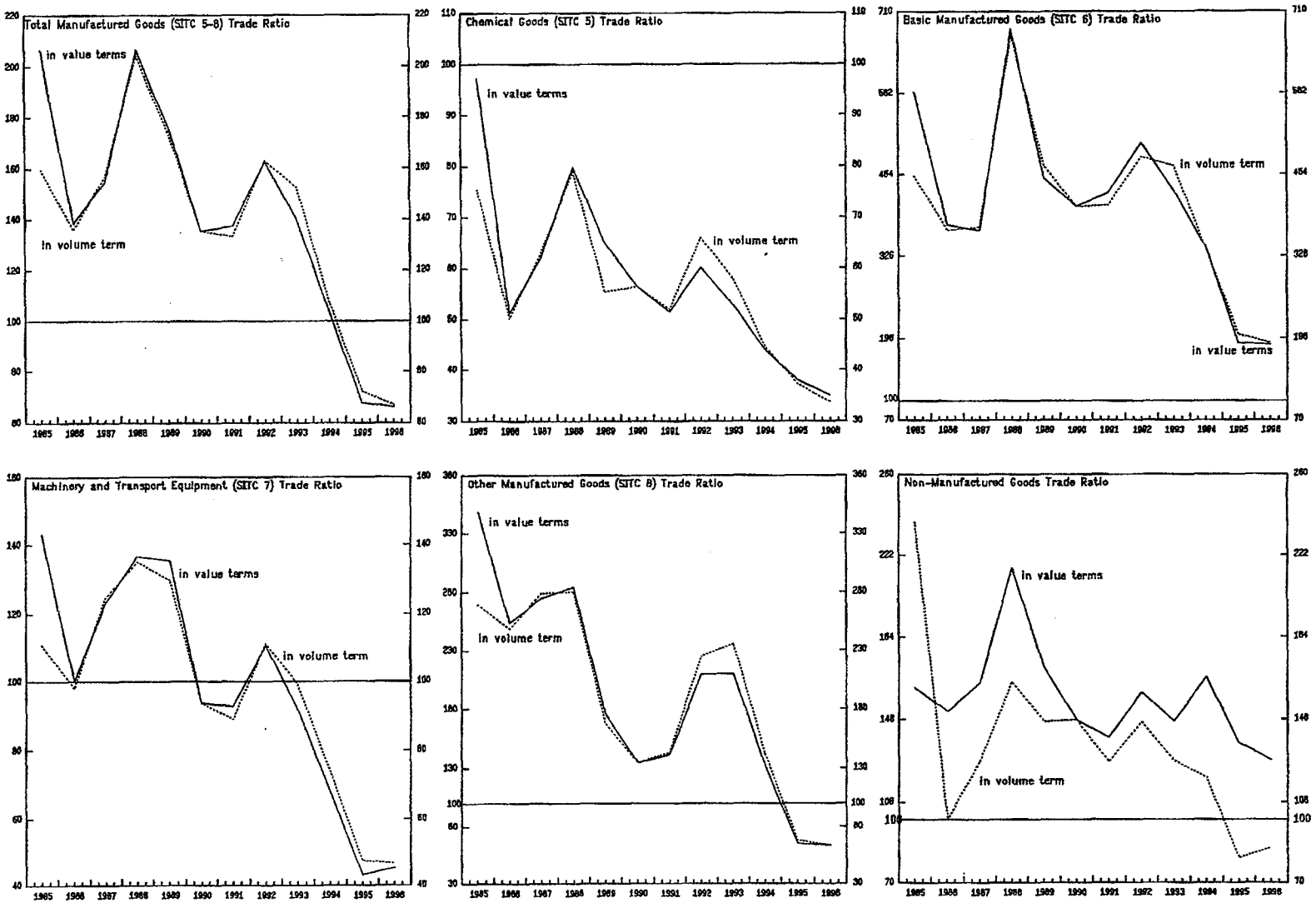


Source: Table 11.

FIGURE 29

BRAZIL

Trade Ratios of Manufactured Exports, 1985-96 1/



Sources: Tables 8 and 9.

1/ The trade ratio is defined as exports over imports.

195. **The price competitiveness[131] of Brazil's manufactured exports has fluctuated widely since the late 1970s, with a clear deterioration taking place since 1992** (Figure 30). After a discrete devaluation of the local currency in December 1979, the real effective CPI-based exchange rate appreciated sharply (by about 60 percent) through 1981, as the authorities interrupted temporarily the policy of periodic minidevaluations which had prevailed since 1968. In early 1983, in the aftermath of the second oil shock and the international debt crisis, a new nominal exchange rate correction was implemented, together with the decision to maintain a competitive exchange rate.[132] The second half of the 1980s was characterized by a trend deterioration in the real exchange rate because of the adoption of heterodox stabilization programs in which the exchange rate often was used as a nominal anchor, and prices were subjected to periodic freezes and/or controls. By end-1980s, the currency had appreciated by 65 percent in real effective terms and the volume of manufactured exports had declined almost 20 percent.

196. A new stabilization and adjustment program was adopted in March 1990 under the Collor administration, including a free-market exchange rate regime and a trade reform, in response to the deepening crisis. In the following months, the *real* depreciated steadily in real effective terms, reaching by January 1991—on the onset of a second phase in President Collor's economic program—its lowest level since 1979. However, a new cycle of real exchange appreciation started in mid-1992. From that time to when the *real* was introduced on July 1, 1994, the currency appreciated by 25 percent in real effective terms. Subsequently, the currency appreciated another 20 percent in real terms, between July 1994 and February 1995. In early March 1995, the authorities adopted the adjustable exchange rate band system after having permitted a nominal depreciation of almost 5 percent vis-à-vis the U.S. dollar in previous trading days. During the rest of 1995 and in 1996, the currency depreciated somewhat in real effective terms, but experienced a renewed appreciation in 1997, mainly due to the sharp appreciation of the U.S. dollar vis-à-vis the currencies of other industrialized countries. By October 1997, Brazil's CPI-based real effective exchange rate vis-à-vis key

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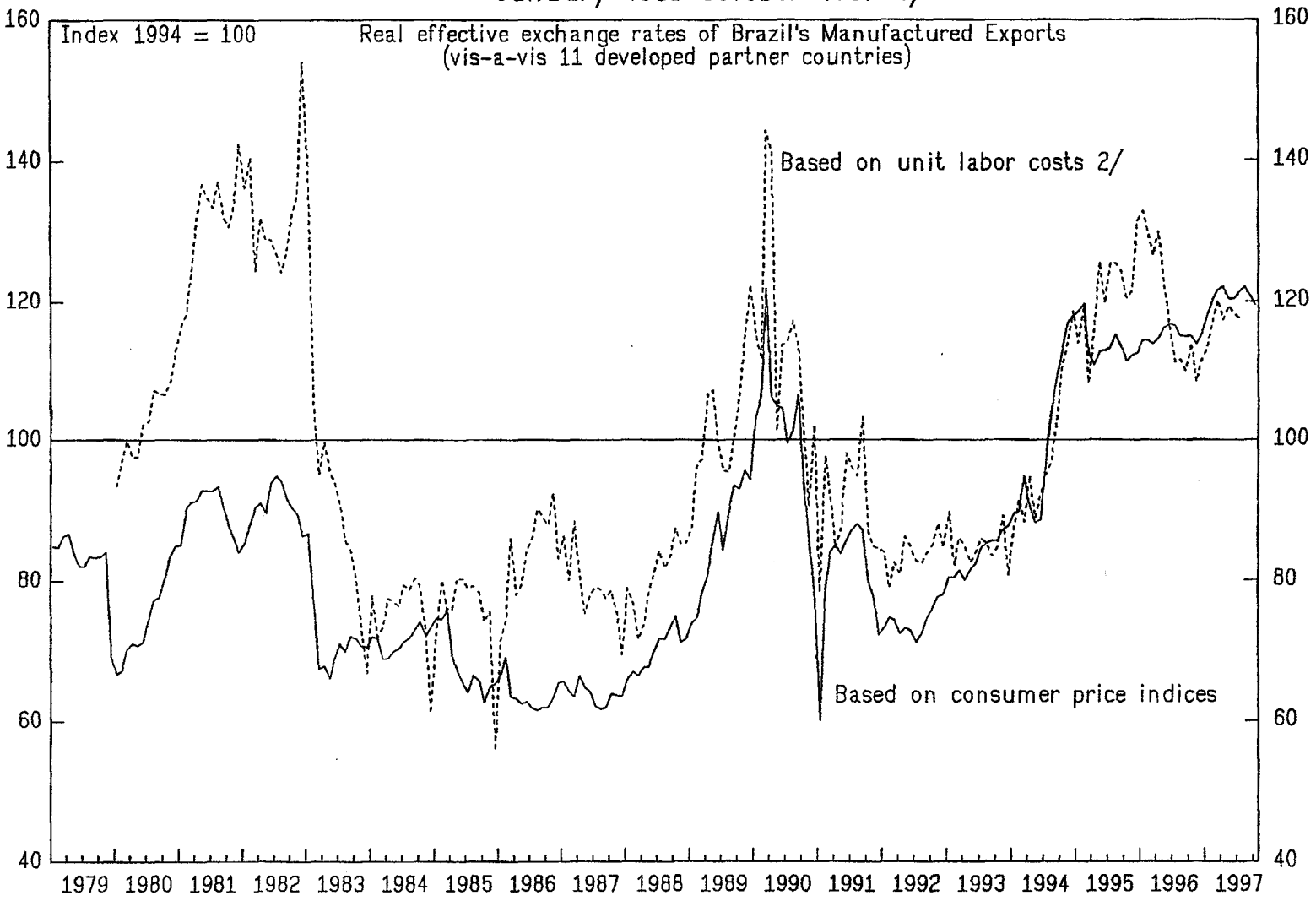
[131]A real effective exchange rate index for Brazil vis-à-vis 11 developed trading partners was calculated on the basis of consumer price indices. Only those partners for which there was information on both consumer prices (CPI) and unit labor costs (ULC) were chosen in order to facilitate a subsequent comparison with a real effective exchange rate index calculated on the basis of ULC. The weights used in this index were the average trade shares of these countries in Brazil's total trade in manufactured goods in the period 1993–95. An increase of the real exchange rate indicates an appreciation.

[132]Changes in international price competitiveness during the second half of the 1980s, should be interpreted with caution because the presence of widespread price controls at that time may have introduced distortions in the indicators.

FIGURE 30

BRAZIL

Real Effective Exchange Rates of Manufactured Exports, January 1985-October 1997 1/



Sources: Information Notice System (IMF), Boletim de Dados (Depart. de Economia, PUC); and staff estimates.

1/ A rising index indicates a real appreciation.
2/ Actual data for unitlabor cost of Brazil through end-June, 1997.

developed countries showed an appreciation of about 20 percent from a 1994 base period.[133] It is interesting to note that, in general, a real effective exchange rate index based on seasonally adjusted relative unit labor costs in manufacturing followed a similar path to that exhibited by the real CPI-based effective exchange rate index during much of the 1980s and 1990 (see Figure 30).

197. Brazil's bilateral competitiveness with respect to different major trading partners has differed markedly over time. For instance, with respect to the United States, Brazil's price competitiveness deteriorated steadily during the second half of the 1980s (Figure 31). Thus, it is not surprising to see the sharp decline in the share of manufactured exports to the United States that has been observed since then. The important gain in price competitiveness vis-à-vis the U.S. dollar that was experienced during the 1980s by Asian manufactured exports, which are important competitors of Brazilian products in the U.S. market, might have contributed to the decline of Brazilian manufactured exports to the U.S. market (Figure 32).

198. Brazil's price competitiveness started to deteriorate with respect to European currencies and the yen toward the end of the 1980s. After the sharp improvement in Brazil's price competitiveness in 1990–92, the trend in the following years has been a continuous deterioration against Europe and Japan. While there has been an improvement with respect to the United States as a result of the adoption of the adjustable exchange rate band system since 1995, this policy has not avoided an appreciation of the local currency with respect to other currencies because the U.S. dollar has appreciated significantly against European currencies and the yen. In fact, while the bilateral indicators show that, by October 1997, the *real* had appreciated, in real terms, by about 15 percent vis-à-vis the U.S. dollar from the 1994 base period, the appreciation with respect to some European currencies had been above 20 percent and that vis-à-vis the yen about 40 percent.

199. Brazil's price competitiveness with respect to some key trade partners in Latin America was subject to sharp fluctuations through much of the 1980s and early 1990s (Figure 33). The gain in price competitiveness that took place with respect to Argentina and Uruguay in 1990–94, was clearly reversed at the onset of the *Real* Plan, but the real exchange rate vis-à-vis these countries has remained relatively stable thereafter. Important gains in price competitiveness have taken place with respect to Chile, Mexico, and Venezuela since 1995. These bilateral indices show that by October 1997, the *real* had appreciated, in real terms, by less than 10 percent vis-à-vis many of these countries from the 1994 base period. Not surprisingly, manufactured exports have been mainly growing to Latin American countries in the 1990s.

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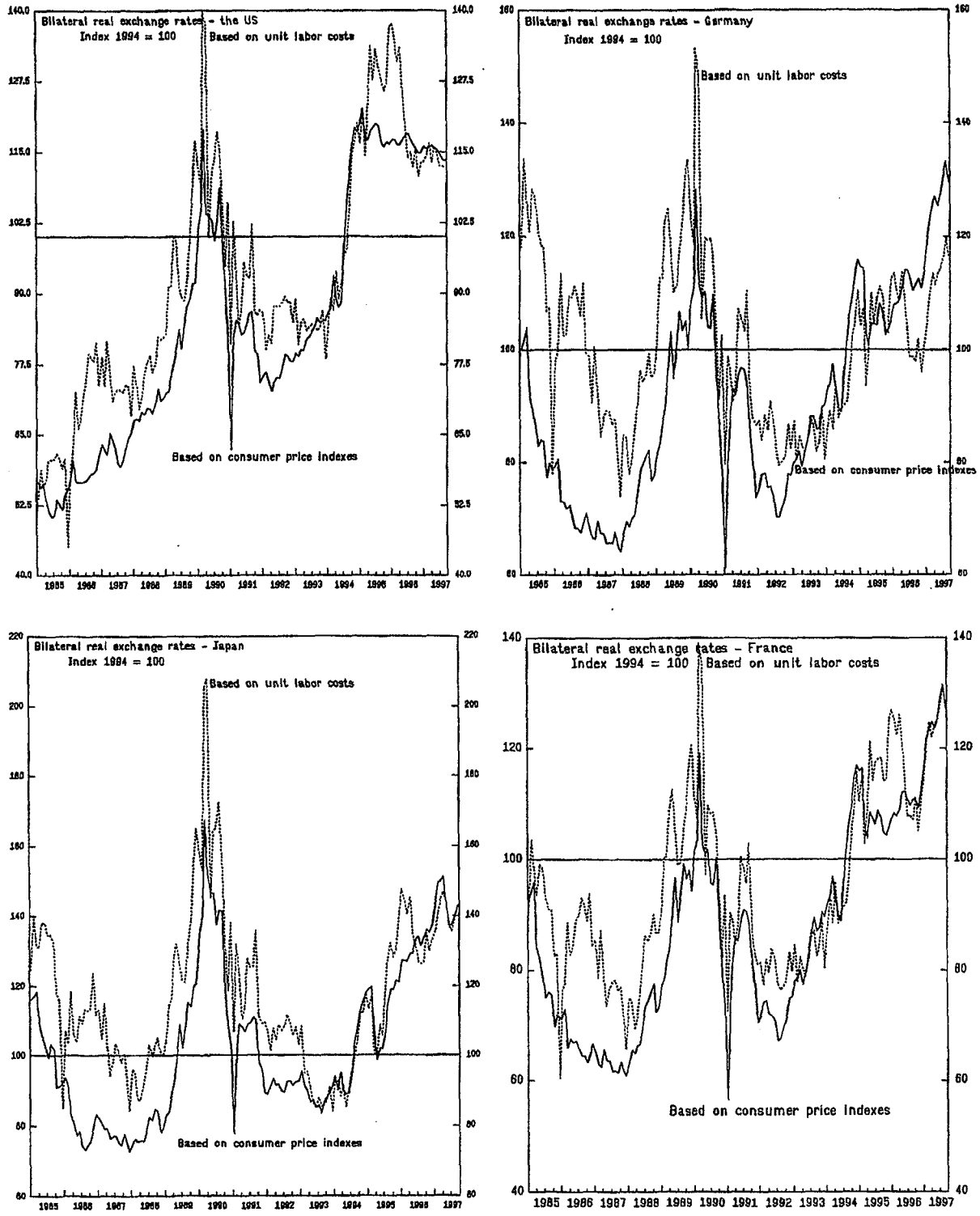
[133]The traditional CPI-based real effective exchange rates calculated by the Fund's Information Notice System vis-à-vis 20 developed and developing countries also showed a real appreciation of the *real* of about 20 percent by October 1997.

FIGURE 31

BRAZIL

Real Exchange Rates vis-a-vis Selected Developed Countries, January 1985-October 1997 1/.



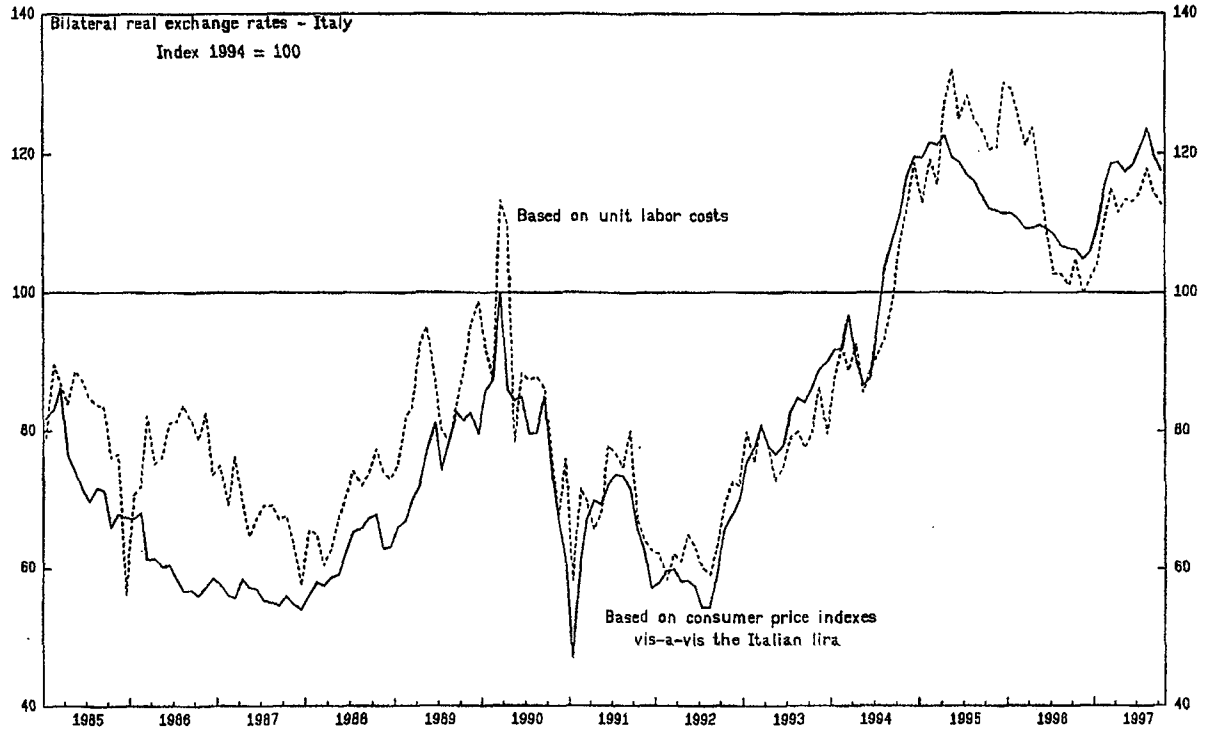
Sources: IMF, Research Department; and staff estimates.

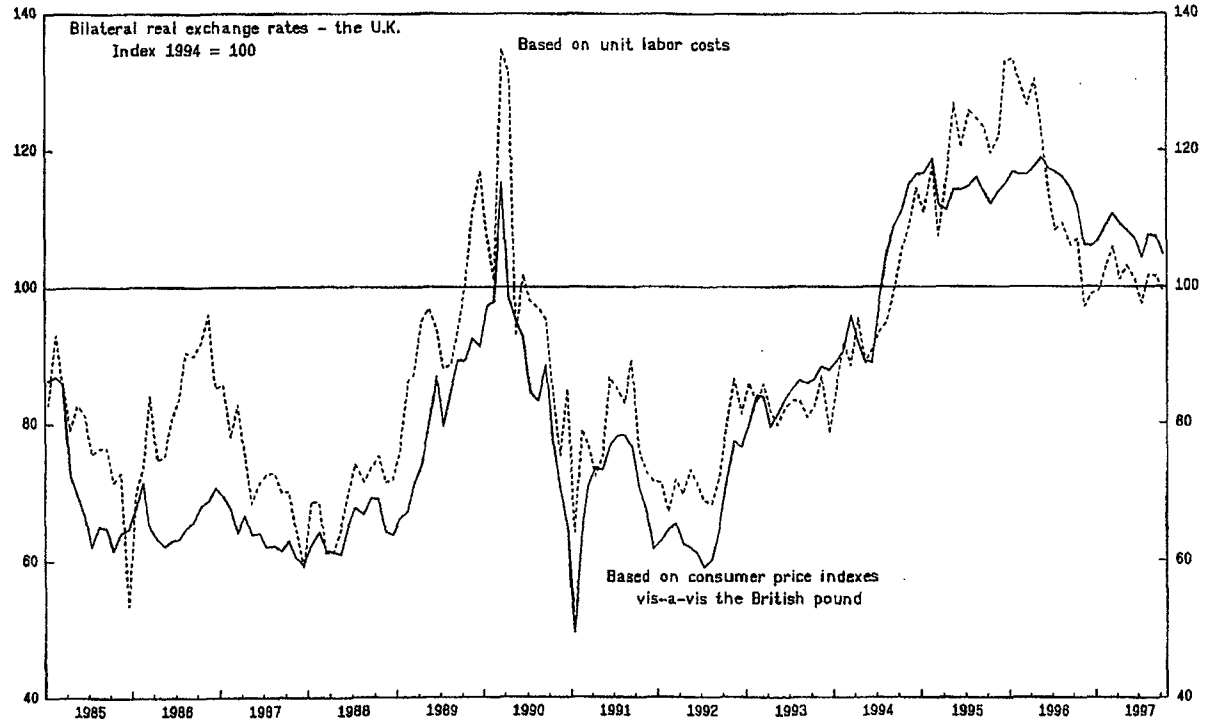
1/ A rise in the index indicates real appreciation.

FIGURE 31 (contd.)

BRAZIL

Real Exchange Rates vis-a-vis Selected Developed Countries, January 1985-October 1997 1/





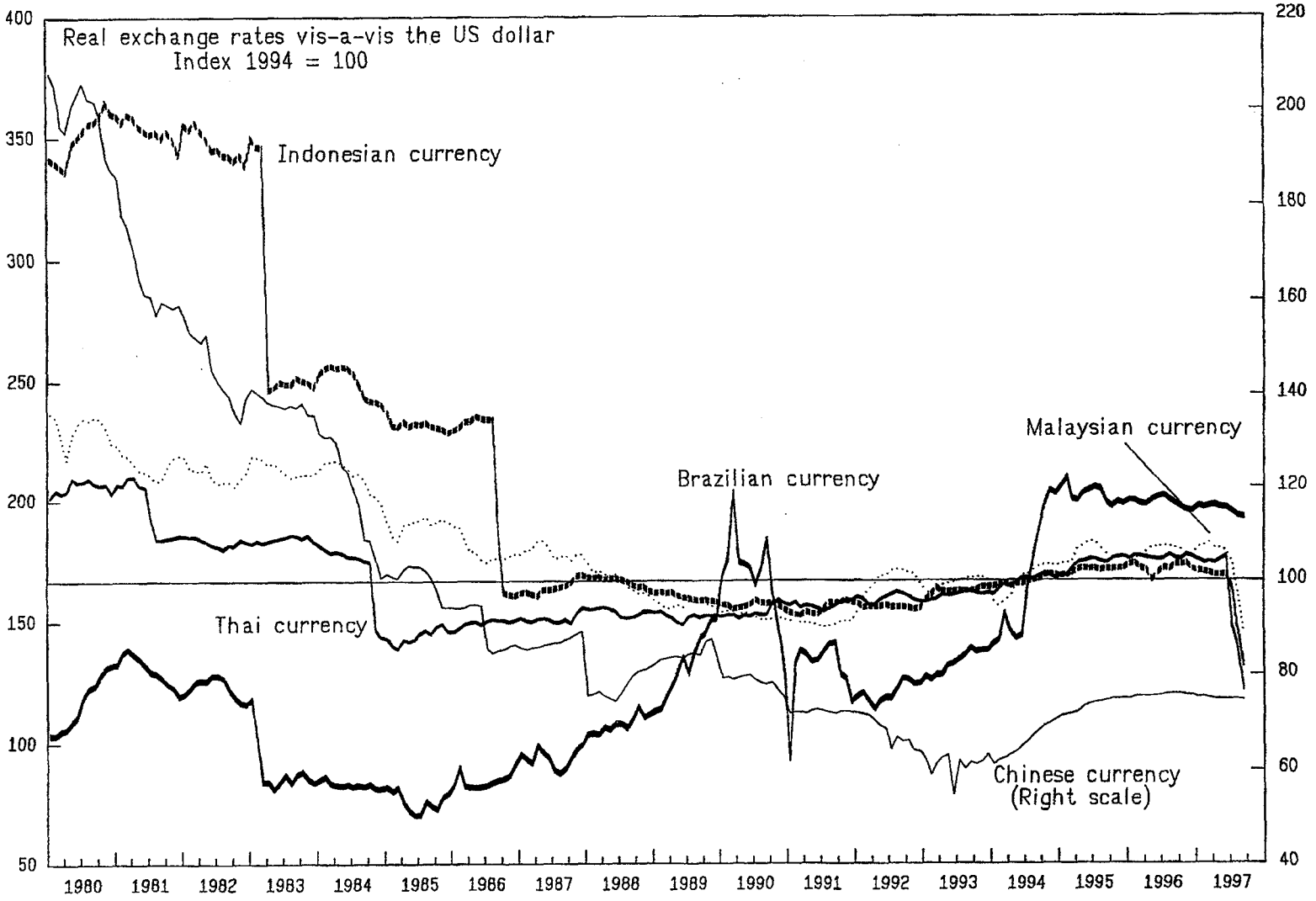
Sources: IMF, Research Department; and staff estimates.

1/ A rise indicates real appreciation.

FIGURE 32

BRAZIL AND SELECTED ASIAN COUNTRIES

Real Dollar Exchange Rates CPI-Based, January 1980-September 1997 1/



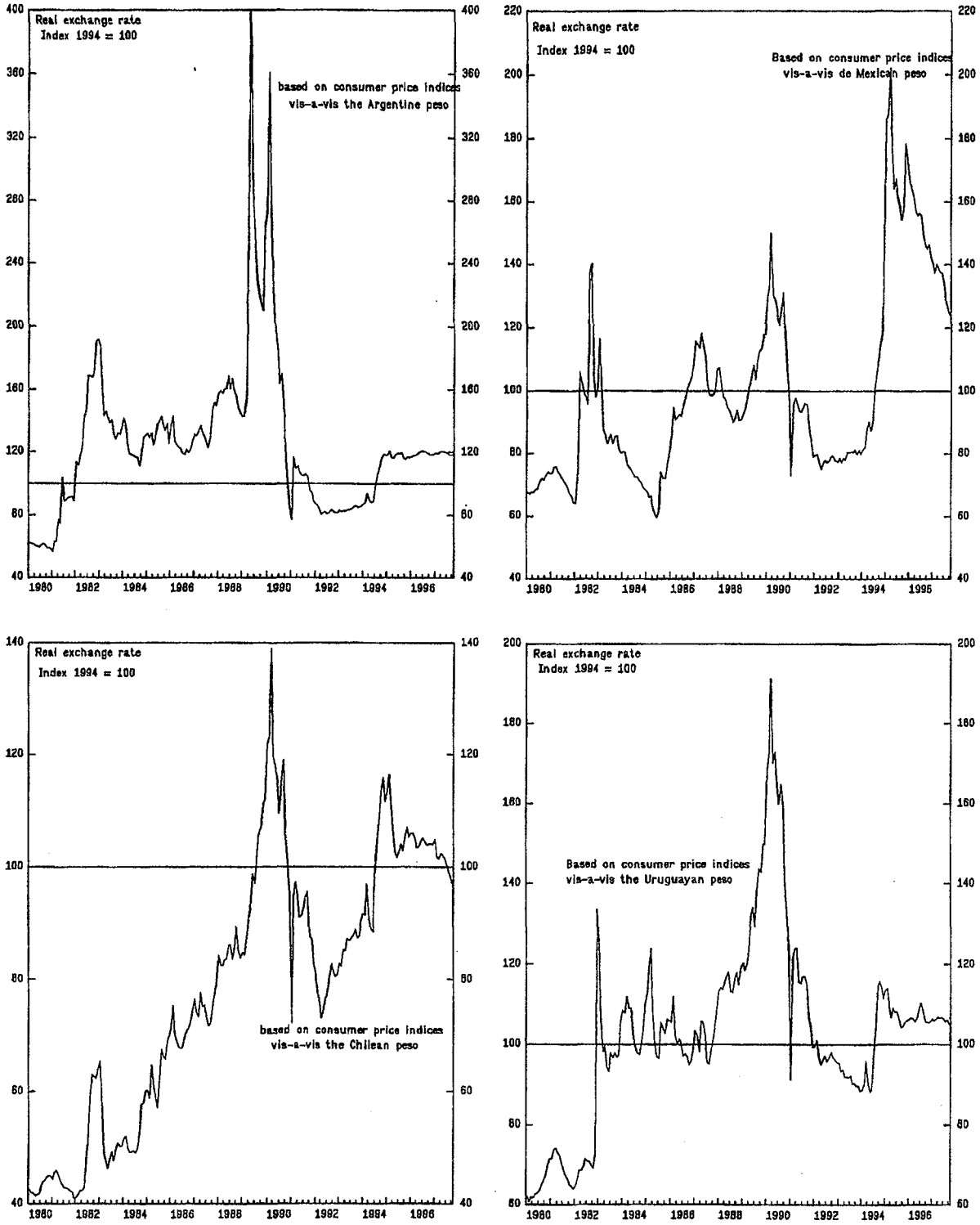
Source: Information Notice System (IMF).

1/ An increase in the index indicates real appreciation.

FIGURE 33

BRAZIL

Real Exchange Rates vis-a-vis Selected Latin American Countries, January 1980 - October 1997 1/



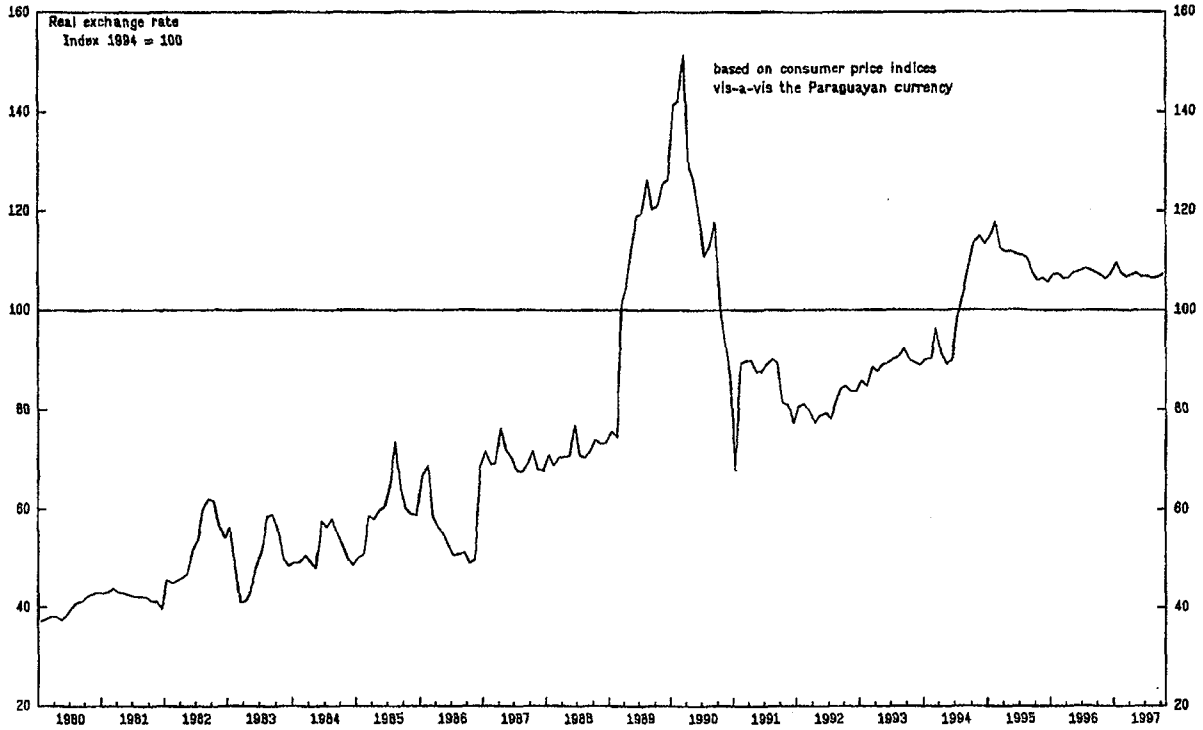
Source: Information Notice System (IMF).

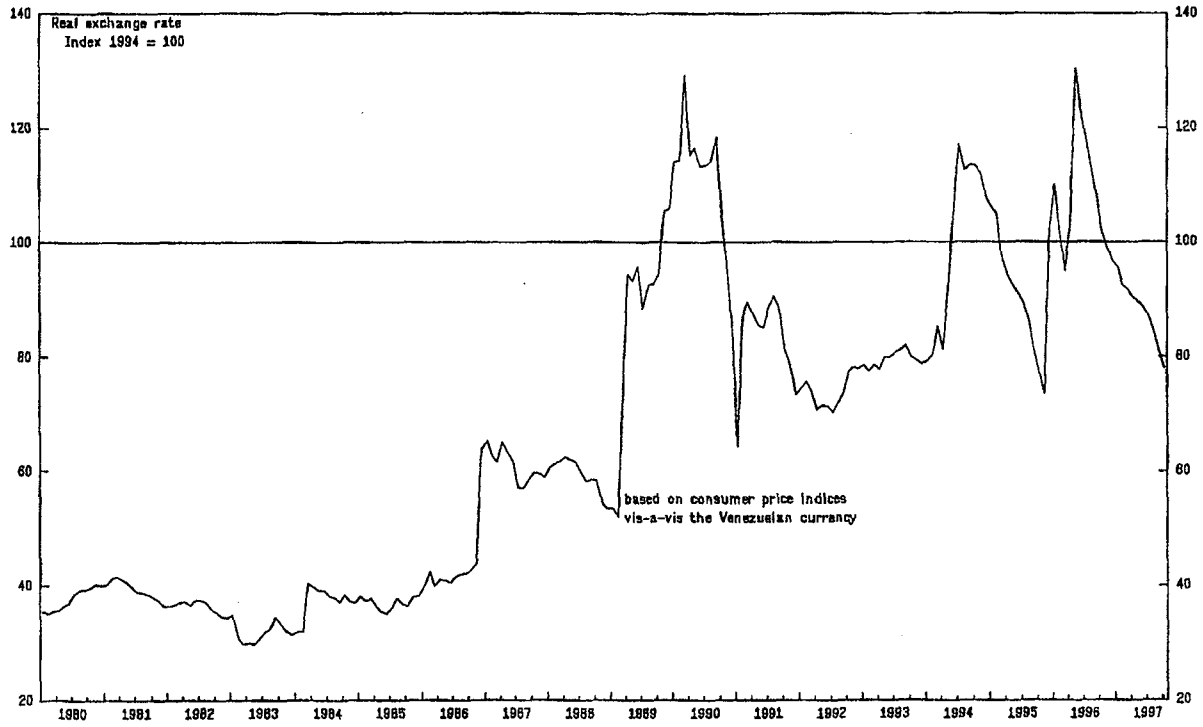
1/ An increase in the index indicates real appreciation.

FIGURE 33 (contd.)

BRAZIL

Real Exchange Rates vis-a-vis Selected Latin American Countries, January 1980 - October 1997 1/





Source: Information Notice System (IMF).

1/ An increase in the index indicates real appreciation.

200. In contrast, Brazil's price competitiveness with respect to Asian countries other than Japan has shown a sharp deterioration, particularly since the second half of the 1980s and, most recently, in the second half of 1997 (Figure 34). By October 1997, the *real* had appreciated by over 40 percent (from its average 1994 level) against the currencies of most of these countries, with the exception of China.

201. **A comparison of the movements of an index of relative prices[134] of Brazil's manufactured exports and the cost-based competitiveness indicator gives an indication of the profitability of Brazilian manufactures versus its competitors** (Figure 35). This comparison shows a divergent movement in prices and costs, probably related to Brazil's direction of trade. During the second half of the 1980s, in which Brazilian manufactured exports expanded toward developed countries, mainly Europe and Japan, the relative movement in prices and costs suggested a profit squeeze. This points to strong competition from other countries in these markets, which made any attempt to increase export prices short-lived. The exchange rate adjustment that took place in 1990 provided a correction to this short-term disequilibrium between prices and costs. In the early 1990s, despite a sharp decline in relative costs brought about by the nominal correction of the exchange rate, export prices did not decline by the same extent, implying that exporters used the exchange rate adjustment to rebuild their profit margins.

202. **Movements in the degree of import penetration and export orientation of Brazil's manufacturing can also shed some light about changes in Brazil's competitiveness.**[135] Table 24 shows that significant import penetration occurred in all Brazilian manufacturing industries from the onset of the trade liberalization process initiated in 1988–89 through 1995. However, while the increase in the import share was substantial in some industries, like machinery and equipment, imports still accounted by 1995 for only about 16 percent the domestic market consumption for the sectors under consideration.[136] This upward trend in import penetration could reflect the opening of the Brazilian economy to foreign trade, rather than an erosion in Brazil's competitiveness position as, at the same time, many industries also increased their export market shares. It is interesting, however, to note that the import penetration measure rose on average 23 percent a year during 1990–95. By

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[134] Prices of Brazil's manufactured exports, expressed in U.S. dollars (taken from Guimarães (1997)), relative to the international prices of manufactured exports (taken from the World Economic Outlook database).

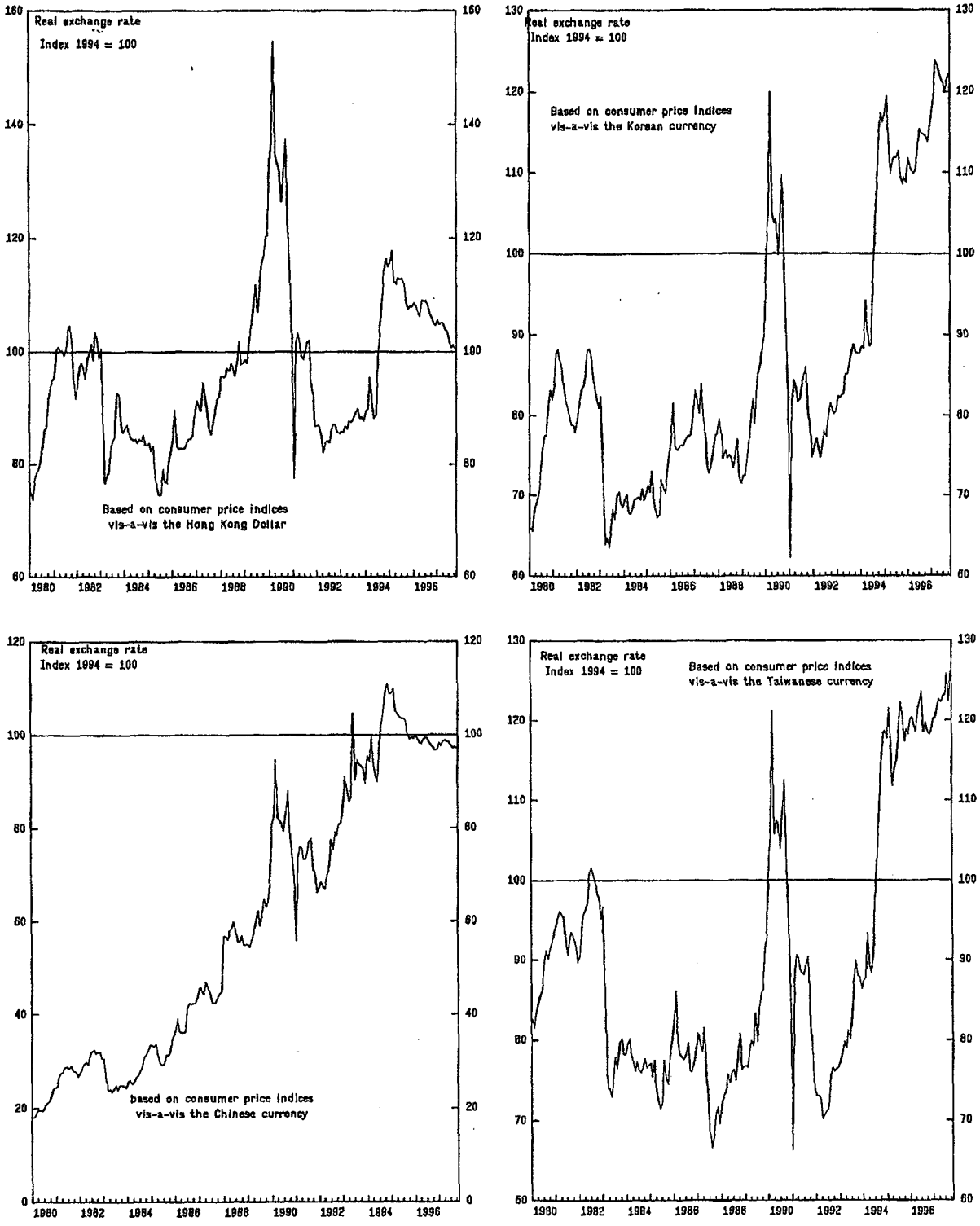
[135]Import penetration is a measure of the share of the domestic market (defined as domestic production less exports plus imports), satisfied by imports. Export orientation is defined as the ratio of exports to domestic production.

[136]The total import penetration coefficient jumped to almost 18 percent in the first half of 1997, according to preliminary information provided in Moreira (1997).

FIGURE 34

BRAZIL

Real Exchange Rates vis-a-vis Selected Asian Countries, January 1980 - October 1997 1/



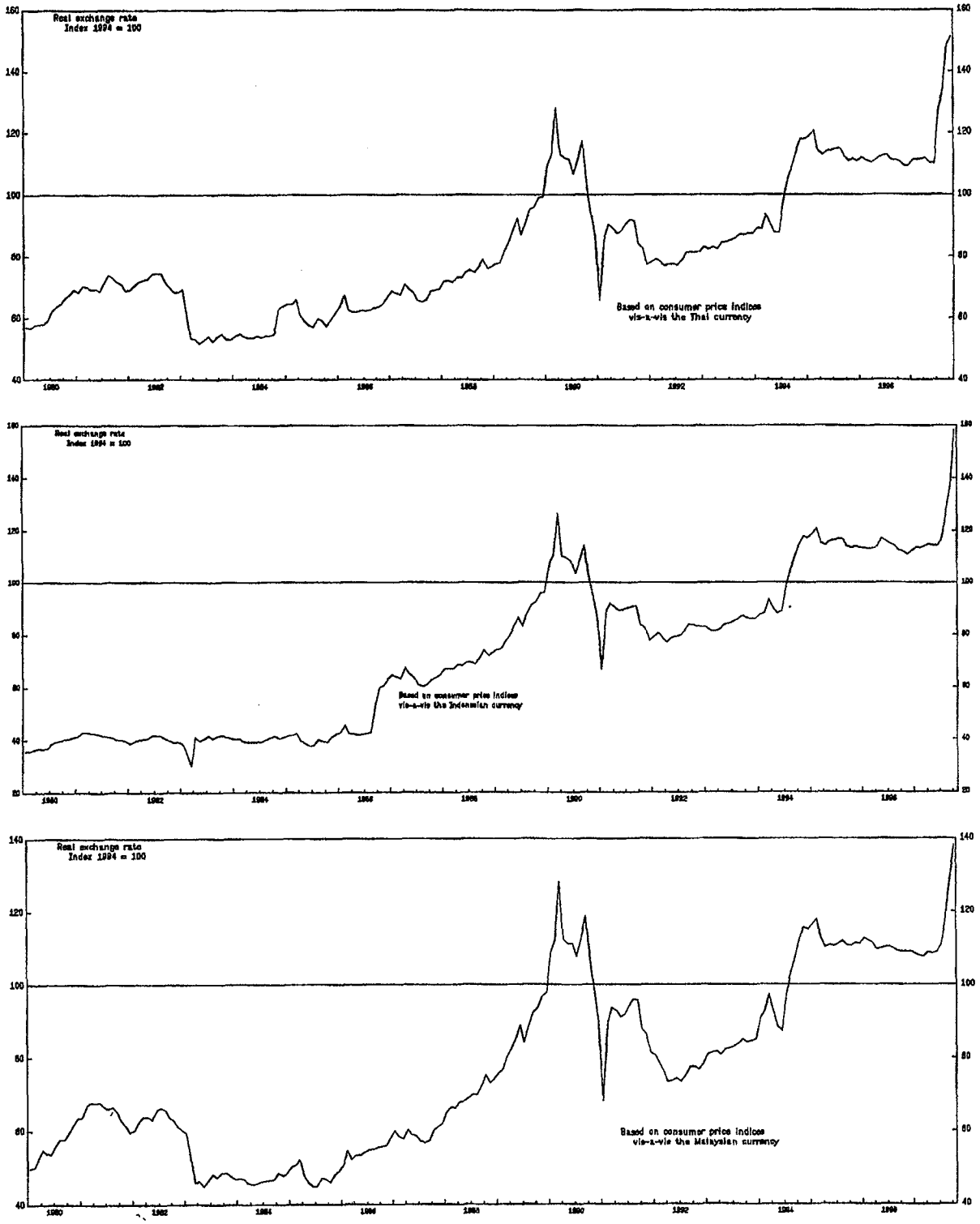
Source: Information Notice System (IMF).

1/ An increase in the index indicates real appreciation.

FIGURE 34 (contd.)

BRAZIL

Real Exchange Rates vis-a-vis Selected Asian Countries, January 1980 - October 1997 1/



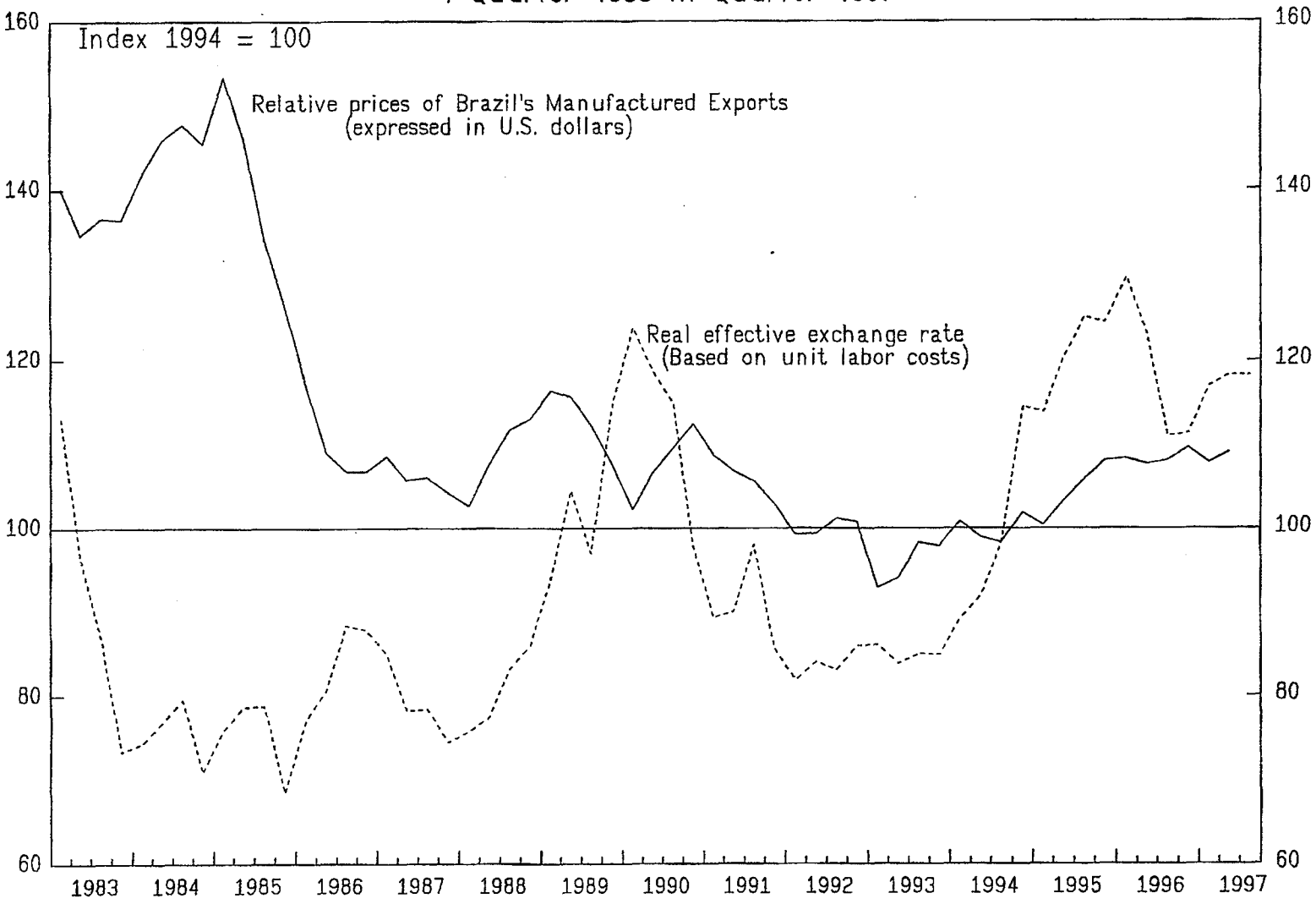
Source: Information Notice System (IMF).

1/ An increase in the index indicates real appreciation.

FIGURE 35

BRAZIL

Relative Prices of Manufactured Exports and Real Effective Exchange Rates, I Quarter 1983-III Quarter 1997



Source: Staff estimates based on Funcex and WEO database.

contrast, the export orientation measure rose only 6.8 percent a year over the same period and much of this increase took place in the early 1990s; since 1993, the export orientation indicator of total manufacturing has remained constant at around 15 percent of domestic production (Table 25).

203. A country's exports performance, particularly of manufactured goods, depends not only on price and cost competitiveness but also on **nonprice competitiveness factors** such as technological innovation, investment in physical and human capital, and services-related factors. As Agenor (1997) has pointed out, "nonprice competitiveness is also related to production potential, which is itself positively correlated with investment and the capacity to innovate. A low rate of capital accumulation in manufacturing may create conditions for lower growth in productive capacity, and may also lead to losses in price competitiveness, if lack of flexibility of the production structure leads to higher labor costs." In this context, if Brazil imports relatively more capital goods, i.e., technology, than its competitors and assuming that it uses technology at least as efficiently, then one could expect Brazil to increase its competitiveness with respect to these other countries over time. This is so because technological progress and better ways to organize production are embodied in capital equipment. Thus, nonprice competitiveness factors may be particularly important over the longer run to improve a country's market share.

204. Given the lack of data on nonprice competitiveness, the procedure adopted here is to use an indicator based on the movements in the share of imported capital goods (as measured by category SITC 7) in Brazil's total imports, compared with those of a group of 12 competitor countries and with weights based on each country share in Brazil's total imports of capital goods in 1996. Bilateral indices show the relative movements in the share of imported capital goods in Brazil's total imports with respect to those of each individual country. An increase in the indices indicates an improvement in nonprice competitiveness of Brazil vis-à-vis the group of countries or each country.

205. Brazil's nonprice competitiveness, proxied by this general index, deteriorated significantly in 1980–84 (about 28 percent) as the Brazilian economy remained one of most closed in the world (Figure 36). Following an initial sharp improvement in 1985–86, nonprice competitiveness showed no clear trend until the trade liberalization program was initiated in 1988.[137] During much of the 1990s, the index suggests an improvement in Brazil's nonprice competitiveness. Notwithstanding this general improvement, some bilateral indices showed declines, most notably with respect to Mexico (11 percent) and Korea (4 percent).

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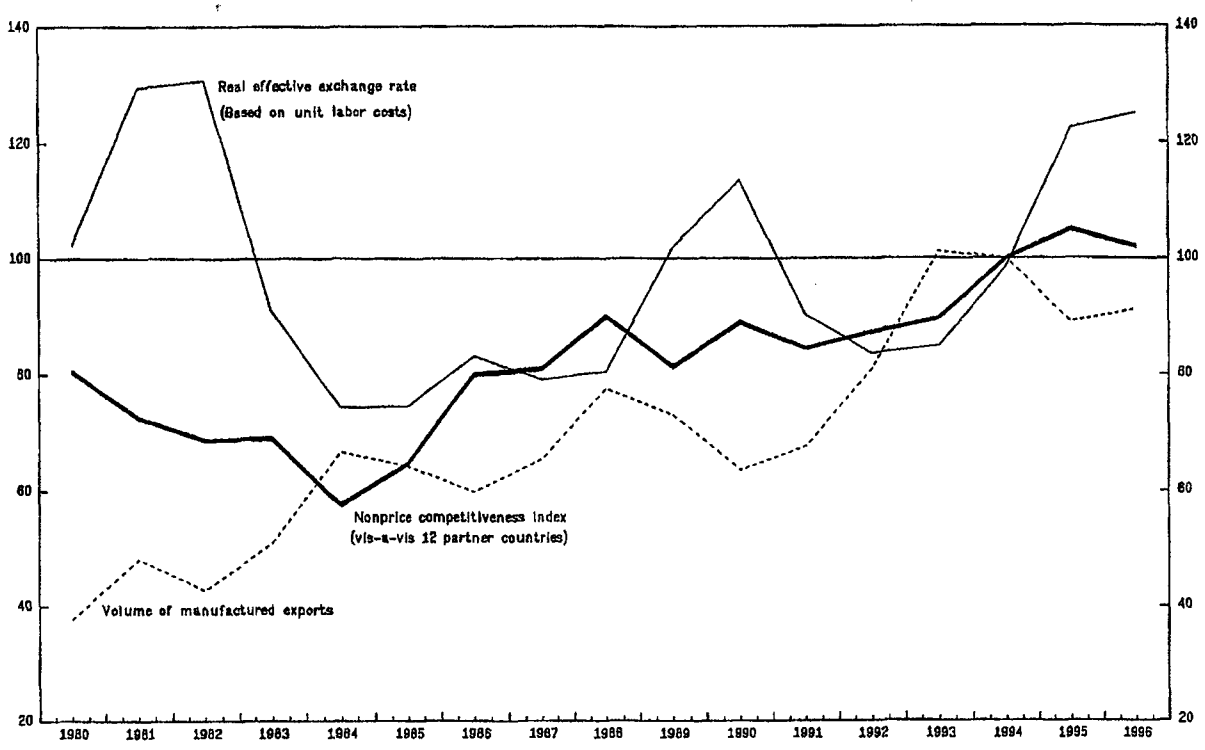
[137]A reduction in import tariffs had already started in 1988 but a pre-announced schedule of tariff reductions only began in 1990. The average import tariff for all goods declined from 51 percent in 1987 to 35.5 percent by 1989 and further to 12.5 percent by 1995. However, the import tariff of capital goods has declined at a lower pace, from 50.7 percent to 40.7 percent and to about 20 percent over the same period.

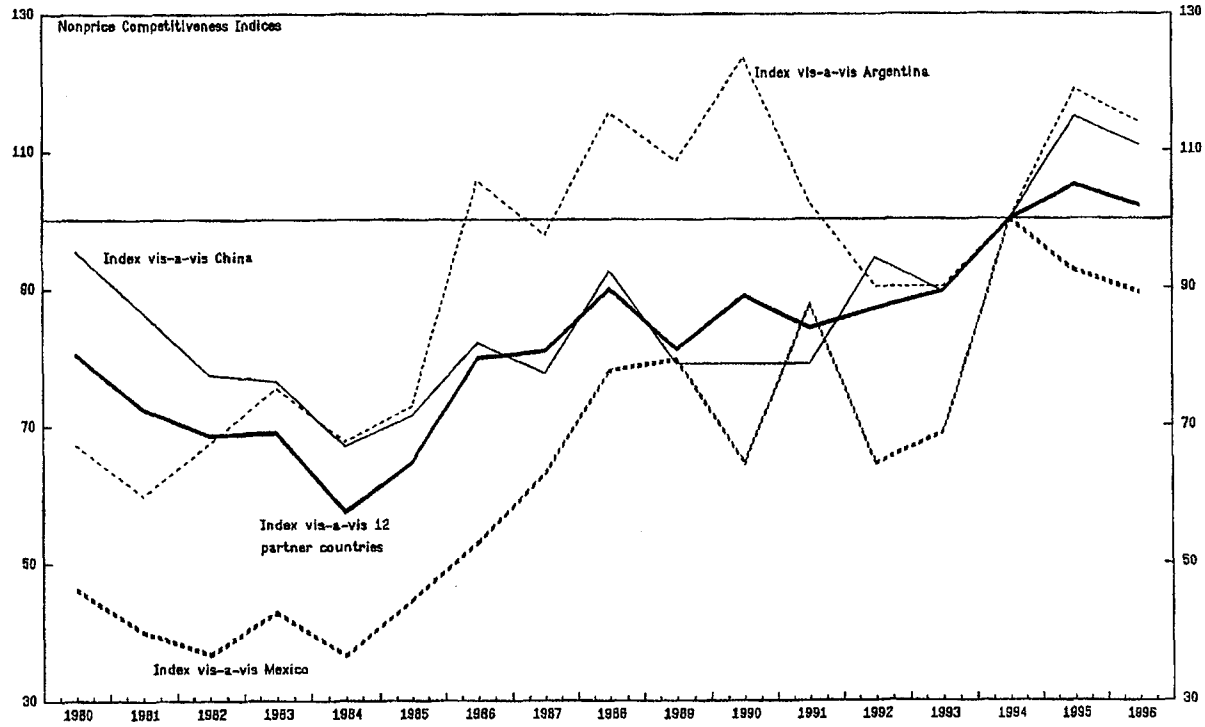
FIGURE 36

BRAZIL

Nonprice Competitiveness Indicators, 1980-96 1/

(Index 1994 = 100)





Source: Table 14.

1/ A rise in the index indicates an improvement in nonprice competitiveness.

206. It is interesting to note that the ULC-based and nonprice competitiveness indices often moved in opposite directions during the 1980s. This may suggest that the failure to open up the economy offset, at least in part, the positive effect of a decline in labor costs. This is probably why the rapid export growth of the early 1980s could not be sustained once the policy of maintaining a competitive exchange rate was abandoned. In volume terms, Brazil's exports of manufactured goods remained practically stagnant in 1985–90. In contrast, it is not surprising that rapidly expanding imports of capital goods and a policy of avoiding an appreciation of the real exchange rate in the first half of the 1980s, positioned key competitors of Brazil, particularly in Asia, advantageously in the world market during the rest of the decade. By contrast, in 1990–93, both indicators moved in the same direction, the volume of Brazilian manufactured exports boomed, expanding by 59 percent. Both indices started to move in different directions in 1994–96 and export volume growth began to deteriorate at the same time. As a result, one could conclude that price and nonprice competitiveness factors complement each over the longer run. Thus, local producers might not be willing to engage in a process of modernization (i.e., higher capital goods imports) if it is not supported at the same time by adequate relative prices.

E. Conclusions and Outlook

207. The wide fluctuations in the competitiveness of Brazil's manufactured exports during the 1980s and first half of the 1990s contributed to significant losses in market shares, particularly in developed countries. Brazil's manufactured exports, *in volume terms*, recorded only a modest increase during the second half of the 1980s, and after a marked but short-lived improvement in the early 1990s, declined through 1996. For the rebound of manufacturing exports observed in the second half of 1997 to be sustained, it is important that ongoing efforts to improve competitiveness prove to be effective. The current policy of gradual depreciation vis-à-vis the U.S. dollar, at a rate in excess of the inflation differential, does not necessarily ensure a real effective depreciation of the *real*, especially in view of the recent sharp depreciation of several Asian currencies. The latter is likely to affect negatively Brazilian manufactured exports, particularly to third markets (about 15 percent of the U.S. imports of manufactured goods are accounted for by Asian countries that have recently experienced a sharp depreciation of their currencies). For this reason, exchange rate policy needs to be kept under review.

208. With few exceptions, manufactured exports have been performing relatively poorly for a long time. This indicates that there is a need for a broadly based policy rather than a micro approach to enhance the competitiveness of Brazilian exports. Measures adopted to protect certain sectors such as cars, electronic products, and other consumer goods, and to restrict short-term import financing will not result in a lasting improvement. There is also a need to further reduce the average level of import protection to promote efficiency gains and the modernization of industry. This is especially important in some sectors (like automobiles) which still remain highly protected in Brazil. Measures taken to address a number of institutional and economic obstacles to export growth, including the elimination of taxes on exports, the creation of an export credit insurance, the expansion of export financing programs, deregulation, and privatizations are steps in the right direction.

209. An expansion and modernization of the capital stock and a strong growth of labor productivity in manufacturing are also important to sustain export growth in the manufacturing sector. However, investment in export oriented industries is unlikely to take place unless export profitability is sustained over the longer run. In this context, the future performance of Brazilian relative unit labor cost would continue to play a key role in improving the competitiveness and profitability of Brazilian exports of manufactured goods. In addition, Brazil needs to raise its savings rate, improve its educational system, and deepen the trade liberalization process in order to raise its productivity and foster a sectoral allocation of investment toward tradable goods.

210. Increasing competition from lower wage countries will require Brazil to move into higher quality, higher value added manufactured exports. However, the lack of qualified workers could hinder this process.[138] The proportion of the population with secondary and tertiary education in Brazil is quite low.

211. In the longer run, the rising concentration of Brazilian manufactured export in Latin American countries, could make the Brazilian export performance excessively dependent on a region which is still relatively vulnerable to external shocks. Thus, it is important that Brazil diversify its export destination and regain shares in the relatively more stable industrial markets.

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[138]Information obtained from the World Bank database indicates that only 43 percent of Brazilian children attended secondary school in 1992 compared to 91 percent in Korea, 77 percent in the Philippines, 72 percent in Argentina, and 58 percent in Mexico. Only 11.5 percent of school age population attended universities or other tertiary education institutions in Brazil in 1993 compared to 48.2 percent in Korea, 26.2 percent in the Philippines, 40.5 percent in Argentina, and 13.8 percent in Mexico.

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Table 17. Brazil: Total Exports of Selected Countries and Regions, 1970-96

	1970	1975	1980	1984	1985	1990	1994	1995	1996
				(Index 1970 = 100)					
Total trade									
World	100.00	276.97	631.81	604.48	607.11	1,101.47	1,351.75	1,613.19	1,681.03
Of which									
Exports of manufactured goods	100.00	255.99	566.95	579.70	597.57	1,248.54	1,641.58	1,951.51	2,049.08
Developing countries	100.00	380.78	990.55	863.43	823.95	1,392.84	1,964.32	2,351.26	2,507.31
Asia	100.00	291.95	768.22	870.85	832.78	1,616.91	2,914.26	3,589.53	3,725.35
Western Hemisphere	100.00	246.93	625.28	669.55	632.02	851.42	1,070.10	1,297.48	1,440.70
Newly industrialized Asian countries	100.00	344.36	1,182.23	1,703.10	1,746.88	4,241.61	6,939.83	8,405.38	8,789.95
Argentina	100.00	167.02	452.40	403.67	418.42	615.67	789.45	1,044.90	1,168.82
Brazil	100.00	316.54	737.35	987.96	938.01	1,149.82	1,594.16	1,702.55	1,720.27
China	100.00	333.25	816.85	1,070.08	1,123.94	2,306.20	4,591.04	5,734.71	5,692.46
Mexico	100.00	223.06	1,253.71	1,955.69	1,750.96	2,456.33	3,266.71	4,313.18	5,288.76
				(In percent)					
Export shares in total world trade									
Brazil	0.88	1.01	1.03	1.44	1.37	0.92	1.04	0.93	0.90
China	0.72	0.87	0.93	1.28	1.34	1.51	2.45	2.57	2.45
Mexico	0.40	0.32	0.79	1.30	1.15	0.89	0.97	1.07	1.26
Exports shares in world manufactured exports									
Brazil	0.16	0.46	0.72	1.09	1.04	0.77	0.83	0.74	0.71
Exports shares in developing countries total trade									
Argentina	3.42	1.50	1.56	1.60	1.73	1.51	1.37	1.52	1.59
Brazil	4.65	3.86	3.46	5.32	5.29	3.84	3.77	3.37	3.19
China	3.80	3.33	3.14	4.71	5.19	6.30	8.89	9.27	8.63
Mexico	2.11	1.23	2.67	4.77	4.48	3.71	3.50	3.86	4.44
Exports shares in Western Hemisphere total trade									
Argentina	13.34	9.02	9.65	8.04	8.83	9.64	9.84	10.74	10.82
Brazil	18.16	23.27	21.41	26.79	26.94	24.52	27.05	23.82	21.68
Mexico	8.22	7.43	16.49	24.02	22.78	23.72	25.10	27.34	30.19
				(In billions of U.S. dollars)					
Total exports									
Argentina	2.01	3.35	9.08	8.10	8.40	12.35	15.84	20.97	23.45
Brazil	2.73	8.65	20.14	26.99	25.62	31.41	43.55	46.51	46.99
China	2.23	7.44	18.25	23.91	25.11	51.52	102.56	128.11	127.17
Mexico	1.24	2.76	15.51	24.20	21.66	30.39	40.42	53.36	65.43

Source: IMF, World Economic Outlook database.

Table 18. Brazil: Composition of Manufactured Exports, 1965–96

(In percent)

Year	Chemicals SITC 5 1/	Basic Manufacture SITC 6 1/	Machinery and Transport Equipment SITC 7 1/	Other Manufactured Goods SITC 8 1/	Total Manufactured Goods SITC 5-8 2/	Non-manufactured Exports 2/
1965	0.0	0.0	0.0	0.0	6.3	93.8
1971	20.0	40.0	20.0	20.0	17.2	82.8
1975	9.1	31.8	40.9	18.2	25.6	74.4
1980	9.2	34.2	44.7	11.8	38.2	61.8
1985	13.0	40.0	33.9	13.0	45.6	54.4
1990	11.2	45.5	32.6	10.7	57.4	42.6
1994	10.3	42.3	35.2	12.3	58.8	41.2
1995	11.7	44.0	33.1	11.3	58.1	41.9
1996	11.9	41.9	35.2	11.1	57.7	42.3

Sources: Trade Analysis and Reporting System (United Nations Statistiscal Office); and Fundacao Centro de Estudos do Comercio Exterior (Funcex) database.

1/ As a percentage of total manufactured exports (SITC 5–8).
2/ As a percentage of total exports.

Table 19. Brazil: Direction of Brazil's Manufactured Exports, 1985–96

(In percent of total exports)

	1985	1990	1994	1995	Prel. 1996
Total manufactured exports	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Main trading partners in Latin America	**14.1**	**14.4**	**31.9**	**31.3**	**34.1**
Argentina	3.2	2.6	13.9	13.0	16.6
Bolivia	1.3	1.0	1.7	1.8	1.8
Chile	1.5	2.6	3.6	4.1	3.6
Colombia	0.8	0.8	1.4	1.6	1.5
Mexico	1.6	2.4	3.8	1.6	2.2
Paraguay	2.1	1.8	3.2	3.6	3.8
Peru	0.7	0.8	1.3	1.6	1.0
Uruguay	0.9	1.4	2.1	2.4	2.2
Venezuela	2.0	1.1	0.9	1.5	1.4
Main trading partners in Europe	**15.1**	**21.3**	**13.9**	**15.7**	**14.8**
Germany	3.4	4.7	3.8	4.3	3.5
Francia	1.2	1.6	1.2	1.5	1.5
Italy	4.7	5.1	2.8	3.1	2.5
Netherlands	3.1	5.1	2.1	2.6	3.2
Portugal	0.3	0.9	0.7	0.8	0.7
Spain	0.6	1.0	0.7	0.9	1.0
United Kingdom	1.7	2.9	2.4	2.6	2.4
Main trading partners in Asia	**12.7**	**15.4**	**12.2**	**14.2**	**12.9**
Japan	3.1	6.4	4.5	5.9	5.4
China	6.4	0.9	0.9	1.2	1.0
Hong Kong	0.7	1.1	1.1	1.0	1.0
India	0.8	0.8	0.5	0.3	0.4
Indonesia	0.3	0.5	0.5	0.6	0.5
Korea	0.4	1.8	1.5	1.7	1.5
Malaysia	0.1	1.0	0.7	0.7	0.6
Philippines	0.1	0.5	0.6	0.7	0.4
Singapore	0.4	1.2	1.0	1.0	1.0
Thailand	0.4	1.2	1.0	1.1	1.2
Canada	**1.7**	**1.9**	**1.3**	**1.2**	**1.2**
United States	**34.0**	**28.6**	**26.1**	**24.8**	**25.1**
Other countries	**22.4**	**18.3**	**14.6**	**12.9**	**11.9**
Memorandum items:					
Exports to main trading partners in Latin America					
Excluding Mercosul, Bolivia and Chile	5.1	5.1	7.5	6.3	6.1
Mercosul	6.2	5.8	19.2	19.0	22.5
Including Bolivia and Chile	9.0	9.4	24.4	25.0	27.9
Asia					
Excluding Japan	9.6	9.0	7.7	8.2	7.5
Brazil's manufactured exports (SITC5-8) in billions of U.S. dollars	11.7	17.8	25.4	26.6	27.0

Source: Trade Analysis and Reporting System (United Nations).

Table 20. Brazil: Manufacturing Nominal Trade Balances, and Trade Ratios by SITC Commodity Groupings, 1985-96 1/

(In thousands of U.S. dollars)

SITC Commodity Grouping	1985	1990	1991	1992	1993	1994	1995	Prel. 1996
Total manufactured goods balance (SITC 5-8)	**6,049**	**4,644**	**5,145**	**8,510**	**6,908**	**759**	**-12,718**	**-13,806**
Trade ratio (in percent)	206.55	135.40	137.48	162.58	139.81	103.08	67.62	66.19
Chemicals (SITC 5)	-45	-1,536	-1,863	-1,439	-2,128	-3,332	-5,090	-5,870
Trade ratio (in percent)	97.37	56.31	51.37	60.14	52.80	43.98	37.86	34.99
Manufactured goods (SITC 6)	3,815	6,076	6,856	7,814	7,896	7,553	5,556	5,296
Trade ratio (in percent)	583.50	403.89	424.57	503.04	428.64	338.34	190.28	188.21
Manufactured goods (SITC 6, excluding 67 and 68)	1,516	1,762	1,897	2,738	2,921	2,741	888	793
Trade ratio (in percent)	474.85	239.10	234.53	320.60	273.05	218.11	119.17	116.97
Iron, steel and nonferrous metals (SITC 67, 68)	2,299	4,314	4,959	5,076	4,974	4,812	4,668	4,503
Trade ratio (in percent)	697.69	688.89	806.27	827.55	796.36	667.19	406.68	438.70
Machinery and transport equipment (SITC 7)	1,176	-384	-460	705	-700	-4,220	-11,606	-11,473
Trade ratio (in percent)	143.18	93.81	92.69	110.47	92.01	67.92	43.13	45.35
Machinery and transport equipment (excluding vehicles)	110	-1,512	-1,385	-1,108	-1,682	-4,012	-8,672	-10,905
Trade ratio (in percent)	104.41	73.75	75.49	81.01	75.94	59.97	41.64	37.82
Road motor vehicles (SITC 781-785)	1,066	1,129	925	1,813	982	-208	-2,934	-569
Trade ratio (in percent)	587.78	362.14	244.72	300.53	155.36	93.35	47.12	73.41
Other manufacured goods (SITC 8)	1,103	487	612	1,430	1,841	759	-1,578	-1,758
Trade ratio (in percent)	347.93	134.51	141.02	209.00	209.76	131.87	65.16	63.43
Memorandum items:								
Total trade balance	11,310	8,940	8,634	13,618	11,391	7,850	-7,590	-9,376
Trade ratio (in percent)	178.93	139.81	137.58	160.96	141.74	122.11	85.87	83.59
Non-manufactured trade balance	5,261	4,296	3,490	5,108	4,483	7,091	5,128	4,430
Trade ratio (in percent)	160.80	145.99	137.72	158.44	145.13	165.34	135.47	127.20
Capital goods imports/total imports (in percent)	19.01	27.57	27.38	30.16	32.12	37.05	37.98	36.75

Source: Staff estimates based on data provided by Trade Analysis and Reporting System (United Nations); and Funcex database.

1/ Imports c.i.f., and exports f.o.b. Trade ratios are defined as expots over imports in percentage terms.

Table 21. Brazil: Manufacturing Real Trade Balances, and Trade Ratios by SITC Commodity Groupings, 1985-96 1/

(In thousands of U.S. dollars at 1990 prices)

SITC Commodity Grouping	1985	1990	1991	1992	1993	1994	1995	Prel. 1996
Total manufactured goods balance (SITC 5-8)	5,362	4,644	4,916	9,015	9,300	1,416	-10,549	-13,001
Exports, f.o.b.	14,334	17,759	18,698	22,192	27,134	25,990	24,663	24,777
Imports, c.i.f.	8,972	13,116	13,781	13,178	17,834	24,574	35,212	37,778
Trade ratio (in percent)	159.76	135.40	135.67	168.41	152.15	105.76	70.04	65.59
Chemicals (SITC 5)	-671	-1,536	-1,875	-1,239	-2,026	-3,067	-4,363	-5,465
Exports, f.o.b.	2,046	1,980	1,972	2,259	2,608	2,862	2,978	2,888
Imports, c.i.f.	2,717	3,515	3,846	3,498	4,634	5,929	7,342	8,354
Trade ratio (in percent)	75.31	56.31	51.26	64.57	56.27	48.27	40.57	34.58
Manufactured goods (SITC 6)	4,381	6,076	6,984	8,485	9,141	7,704	4,791	4,517
Exports, f.o.b.	5,628	8,075	9,105	10,364	11,610	10,863	10,307	10,071
Imports, c.i.f.	1,247	1,999	2,121	1,879	2,469	3,159	5,516	5,554
Trade ratio (in percent)	451.31	403.89	429.31	551.61	470.22	343.89	186.86	181.33
Machinery and transport equipment (SITC 7)	463	-384	-726	368	13	-4,249	-9,830	-10,507
Exports, f.o.b.	4,768	5,808	5,590	6,898	9,020	8,864	8,464	8,916
Imports, c.i.f.	4,305	6,191	6,316	6,530	9,007	13,113	18,294	19,423
Trade ratio (in percent)	110.75	93.81	88.51	105.64	100.14	67.60	46.27	45.90
Other manufactured goods (SITC 8)	1,189	487	533	1,401	2,172	1,028	-1,147	-1,546
Exports, f.o.b.	1,892	1,897	2,031	2,672	3,896	3,401	2,913	2,901
Imports, c.i.f.	703	1,410	1,498	1,271	1,724	2,373	4,060	4,448
Trade ratio (in percent)	269.11	134.51	135.57	210.19	226.03	143.33	71.75	65.24
Memorandum items:								
Total trade balance	11,783	8,940	6,914	12,063	8,671	4,408	-9,492	-10,355
Exports, f.o.b.	27,206	31,397	31,624	36,589	39,783	44,334	45,701	48,132
Imports, c.i.f.	15,423	22,458	24,710	24,526	31,111	39,925	55,193	58,487
Trade ratio (in percent)	176.40	139.81	127.98	149.18	127.87	111.04	82.80	82.30
Non-manufacturing trade balance	6,421	4,296	1,998	3,048	-628	2,992	1,057	2,646
Exports, f.o.b.	12,871	13,638	12,927	14,397	12,649	18,343	21,038	23,355
Imports, c.i.f.	6,450	9,342	10,929	11,348	13,277	15,351	19,981	20,709
Trade ratio (in percent)	199.55	145.99	118.28	126.86	95.27	119.49	105.29	112.78
Terms of trade of manufactured goods								
Changes in percent	0.00	-4.62	-1.41	-5.64	-4.34	4.39	3.53	3.78

Sources: Trade Analysis and Reportng System (United Nations); Funcex; and IMF Research Department.

1/ Trade ratio is defined as exports/imports.

Table 22. Brazil: Real Normalized Trade Balance of Manufactured Goods, 1985-96 1/

(In percent)

Commodity	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	Prel. 1996
Total manufactured goods (SITC 5-8)	23.01	15.19	22.08	34.22	24.06	15.04	15.14	25.49	20.68	2.80	-17.62	-20.78
Chemicals (SITC 5)	-14.08	-33.15	-22.77	-11.82	-28.61	-27.95	-32.22	-21.53	-27.98	-34.89	-42.28	-48.61
Manufactured goods (SITC 6)	63.72	57.21	57.56	74.14	58.55	60.31	62.21	69.31	64.93	54.94	30.28	28.91
Machinery and tansport equipment (SITC 7)	5.10	-0.94	11.04	14.95	17.16	-3.20	-6.09	2.74	0.07	-19.33	-36.74	-37.08
Other manufacured goods (SITC 8)	45.82	42.67	47.22	47.48	25.57	14.72	15.10	35.52	38.66	17.81	-16.45	-21.04
Memorandum items:												
Total trade balance	27.64	7.47	15.31	30.24	24.26	16.60	12.27	19.74	12.23	5.23	-9.41	-9.71
Nonmanufacturing trade balance	33.23	-2.21	6.96	24.33	24.56	18.69	8.37	11.84	-2.42	8.88	2.58	6.00

Sources: Trade Analysis and Reporting System (United Nations); Funcex; and Fund staff estimates.

1/ The real normalized trade balance (RNTB) is a measure of the trade surplus or deficit in volume terms as a proportion of total trade in volume terms.

Table 23. Brazil: Export Market Growth and Relative Export Performance of Manufacturing for Brazil by SITC Commodity Groupings, 1985-96

Commodity	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	Prel. 1996
Total manufactured goods (SITC 5-8)												
Index of relative export performance 1/	172.54	147.35	150.56	169.82	151.48	137.28	119.35	107.49	103.63	100.00	97.61	91.57
Export market growth 2/	0.00	18.22	16.43	14.50	5.31	7.60	18.47	28.89	7.94	20.06	10.45	8.56
Chemicals (SITC 5)												
Index of relative export performance 1/	176.41	129.27	106.45	122.68	117.03	104.36	96.32	97.13	108.17	100.00	102.74	98.45
Export market growth 2/	0.00	16.15	10.79	16.91	3.96	8.08	15.59	12.28	4.51	21.12	20.17	9.47
Manufactured goods (SITC 6)												
Index of relative export performance 1/	131.57	118.57	115.42	136.95	120.78	115.88	110.28	95.93	92.32	100.00	98.70	85.18
Export market growth 2/	0.00	12.62	20.24	25.44	3.96	2.47	17.00	15.02	3.09	19.49	16.57	2.90
Machinery and transport equipment (SITC 7)												
Index of relative export performance 1/	195.61	185.28	217.25	235.37	199.70	185.37	141.49	125.63	107.61	100.00	100.51	109.21
Export market growth 2/	0.00	18.92	15.30	9.86	2.31	4.98	32.31	55.90	12.84	25.05	2.95	10.91
Other manufacured goods (SITC 8)												
Index of relative export performance 1/	182.93	146.25	146.09	150.43	149.58	130.45	102.78	101.58	115.96	100.00	84.47	77.77
Export market growth 2/	0.00	20.05	14.70	7.01	9.31	10.79	11.60	22.53	5.95	9.87	6.24	7.07
Total trade												
Index of relative export performance 1/	155.90	142.20	140.54	157.29	138.71	125.59	109.03	105.83	100.00	100.00	91.57	90.29
Export market growth 2/	0.00	8.53	15.19	10.52	6.68	10.31	10.99	19.05	3.62	16.48	11.71	7.29
Non-manufacturing trade												
Index of relative export performance 1/	110.49	118.34	114.68	131.81	113.74	102.63	92.49	100.54	91.81	100.00	84.43	87.16
Export market growth 2/	0.00	-9.30	12.26	2.51	9.21	13.77	-1.34	5.69	-1.60	7.83	11.38	9.03

Source: Staff estimates based on data provided by Trade Analysis and Reporting System (United Nations).

1/ An increase in the index indicates that a country's exports grew faster than its import markets, and that, thus, is registering a gain in market shares.

2/ Brazil's export market growth is a weighted average of imports (in nominal terms) of the SITC categories under consideration of the five main destination markets of Brazil (Argentina, Germany, Japan, the Netherlands, and the United States). These countries account for about 50 percent of total Brazil's exports.

Table 24. Brazil: Import Penetration Ratios: Imports/Apparent Consumption, 1989/95

(In percent)

Sector of Origin	1989	1995
01 - Machinery, equipment, and plant, including parts and accessories	12.8	45.9
02 - Electronic and communications equipment and devices	10.5	45.5
03 - Manufacture of other vehicles	18.6	26.1
04 - Resins, fibers, and elastomers	6.3	25.5
05 - Manure, fertilizers, and soil-building products	7.9	25.5
06 - Nonferrous metallurgy	7.9	24.5
07 - Conductors and other electrical equipment, other than for vehicles	8.4	23.6
08 - Chemical substances (non-petrochemical and noncarbochemical)	15.1	22.5
09 - Vehicle engines and parts	5.5	21.2
10 - Spinning and weaving of artifical or synthetic fibers	0.8	18.8
11 - Rubber industry	4.6	18.4
12 - Glass and articles made of glass	3.9	16.3
13 - Automobiles, light trucks, trucks, and buses	0.0	16.2
14 - Equipment for the production and distribution of electric power	7.8	15.8
15 - Tractors and highway equipment, including parts and accessories	1.7	15.4
16 - TV and radio receiving sets and sound equipment	4.9	15.0
17 - Processing, spinning, and weaving of natural fibers	3.6	14.5
18 - Miscellaneous chemical products	5.6	12.9
19 - Basic and intermediate petrochemistry	4.0	12.1
20 - Other textile industries	0.9	10.3
21 - Canned fruits and vegetables, including juices and condiments	2.2	10.0
22 - Pharmaceutical industry	6.6	9.8
23 - Paper, cardboard, and paper products	1.4	9.6
24 - Other food industries	2.2	9.2
25 - Plastic laminates	0.2	8.4
26 - Electrical devices and equipment, including household appliances and office machines	3.6	7.8
27 - Refrigeration and processing of milk and dairy products	4.4	7.6
28 - Cellulose and wood pulp	3.8	6.4
29 - Iron metallurgy	1.9	6.0
30 - Footwear	0.4	5.8
31 - Plastic products	0.5	5.6
32 - Wood industry	0.9	5.5
33 - Other nonmetal mining products	1.7	5.1
34 - Beverage industry	3.2	4.9
35 - Other metallurgical products	1.4	4.9
36 - Perfume, soap, and candle industry	1.5	4.6
37 - Tobacco industry	0.1	1.6
38 - Cement and clinker	0.2	1.2
39 - Concrete, cement, and fibrocement parts and structures	0.1	0.9
Total	4.6	15.5

Source: Moreira and Correa (1996).

Table 25. Brazil: Export Penetration Ratios: Imports/Apparent Consumption, 1989/95

(In percent)

Sector of Origin	1989	1995
01 - Wood industry	11.0	48.8
02 - Nonferrous metallurgy	20.2	39.2
03 - Cellulose and wood pulp	29.4	38.1
04 - Canned fruits and vegetables, including juices and condiments	32.9	34.8
05 - Tractors and highway equipment, including parts and accessories	18.9	33.7
06 - Iron metallurgy	16.5	32.0
07 - Footwear	24.2	30.5
08 - Vehicle engines and parts	13.8	23.2
09 - Machinery, equipment, and plant, including parts and accessories	7.5	19.7
10 - Manufacture of other vehicles	23.7	17.2
11 - Rubber industry	6.4	16.2
12 - Other textile industries	6.4	16.0
13 - Equipment for the production and distribution of electric power	6.0	15.1
14 - Resins, fibers, and elastomers	8.6	15.0
15 - Tobacco industry	1.9	14.3
16 - Paper, cardboard, and paper products	3.1	13.4
17 - Conductors and other electrical equipment, other than for vehicles	6.1	13. 4
18 - Processing, spinning, and weaving of natural fibers	8.3	10.9
19 - Basic and intermediate petrochemistry	8.1	10.4
20 - Electrical devices and equipment, including household appliances and office machines	8.7	10.3
21 - Other nonmetal mining products	4.0	9.5
22 - Glass and articles made of glass	5.0	9.4
23 - Chemical substances (nonpetrochemical and noncarbochemical	7.6	9.1
24 - Miscellaneous chemical products	3.9	8.6
25 - Electronic and communications equipment and devices	3.7	7.3
26 - TV and radio receiving sets and sound equipment	9.1	7.0
27 - Automobiles, light trucks, trucks, and buses	8.0	6.2
28 - Other metallurgical products	3.8	5.9
29 - Other food industries	2.7	4.5
30 - Spinning and weaving of artifical or synthetic fibers	2.1	3.4
31 - Manure, fertilizers, and soil-building products	1.0	3.2
32 - Perfume, soap, and candle industry	1.3	2.9
33 - Plastic products	0.7	2.0
34 - Pharmaceutical industry	1.7	1.8
35 - Plastic laminates	0.1	1.7
36 - Beverage industry	0.8	1.6
37 - Concrete, cement, and fibrocement parts and structures	0.5	1.1
38 - Cement and clinker	0.3	0.4
39 - Refrigeration and processing of milk and dairy products	0.0	0.1
Total	10.1	14.9

Source: Moreira and Correa (1996).

VII. The Post-*Real* Plan Developments of Tradables and Nontradables Prices and the External Current Account[139]

A. Introduction and Summary

212. As with other countries following macroeconomic stabilization, Brazil experienced a strong real appreciation of the currency after the introduction of the *Real Plan*, accompanied by a consumption and investment boom and a worsening external current account position. Traditional models of the real effects of macroeconomic stabilization attribute these effects to the fact that economic stabilization induces a higher rate of growth of productivity in the tradable than in the nontradable sector which results in an appreciation of the real exchange rate as measured by the ratio of the price of nontradable to that of tradables (the Balassa-Samuelson effect). Such interpretations have led some observers to infer that the appreciation of the currency is sustainable in that the associated improvements in productivity will eventually lead to an improvement in exports and reverse the current account deterioration (as well as the real currency appreciation).

213. In the case of Brazil, changes in the composition of the growth of domestic demand, owing to the decline in public sector savings since 1994, also may have been an important factor explaining the appreciation of the real exchange rate (this is because a high proportion of government expenditure is on nontradables). The increase in demand will boost real incomes in the nontradable sector and, in the absence of productivity improvement, put downward pressure on profits and employment. Thus, while the real currency appreciation may be associated with both productivity gains in the more dynamic sectors it could also be associated, at the same time, with loss of competitiveness in other sectors of the economy, with less optimistic predictions for the sustainability of the current account. The subsequent slowdown in the rate of appreciation of the real exchange rate in 1997 may therefore have been influenced as much by the improvement in the public sector accounts and reduction of demand pressures as by gains in competitiveness.

214. Section B discusses the experience of the real exchange rate as measured by the ratio of the price of nontradable to that of tradables, as well as consumption and investment trends. Section C analyzes the supply side influences on the real exchange rate and Section D the impact of demand on real exchange rates and competitiveness. The final section summarizes the conclusion of the chapter.

B. Real Exchange Appreciation, Consumption, and Investment

215. The stabilization of the economy, following the introduction of the *Real Plan*, was associated with a strong appreciation of the real exchange rate, as measured by the ratio of

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[139]Prepared by Graeme Justice.

nontradable to tradable prices,[140] despite the general convergence of prices in the economy (Figure 37). This result is in line with the evidence of other price and cost competitiveness indicators discussed in Chapter VI. This evidence has raised concerns that the economy is losing competitiveness and, combined with a growing current account deficit, has been associated with pressures in the exchange market (see Chapter 1). Recent indications in 1997 that the rate of appreciation of the *real* may be beginning to slow, together with some pick-up in the rate of growth of exports, have therefore been welcomed as a sign that the measures taken to improve the competitiveness of the economy are beginning to take effect.

216. Strong real appreciation of the currency, together with strong consumption and investment growth, has been seen in many countries in Latin America following macro-economic stabilization and more recently in the Baltics, Russia and other former Soviet Union countries.[141] As illustrated in Figure 38, Brazil was no exception, with **a surge in consumption** after the introduction of the *Real Plan* in mid-1994 **reflecting the reduction in the inflation tax, the relaxation of liquidity constraints and increased access to credit brought about by financial liberalization**. The boom in private consumption is illustrated by monthly data on retail sales for São Paulo which surged after mid-1994, before declining in the second half of 1995 when credit controls were imposed. The marked increase in consumption was accompanied by a pick-up in investment, although the strong growth in investment activity appears to have been driven mainly by structural factors (privatization and financial liberalization) and actually started before the *Real Plan* took effect. The strong growth of domestic demand has spilled over into the external sector with imports of consumer durables and nondurable goods rising particularly rapidly (imports of automobiles increased more than five-fold from the first half of 1994 to the first half of 1997), contributing to a deterioration of the current account.

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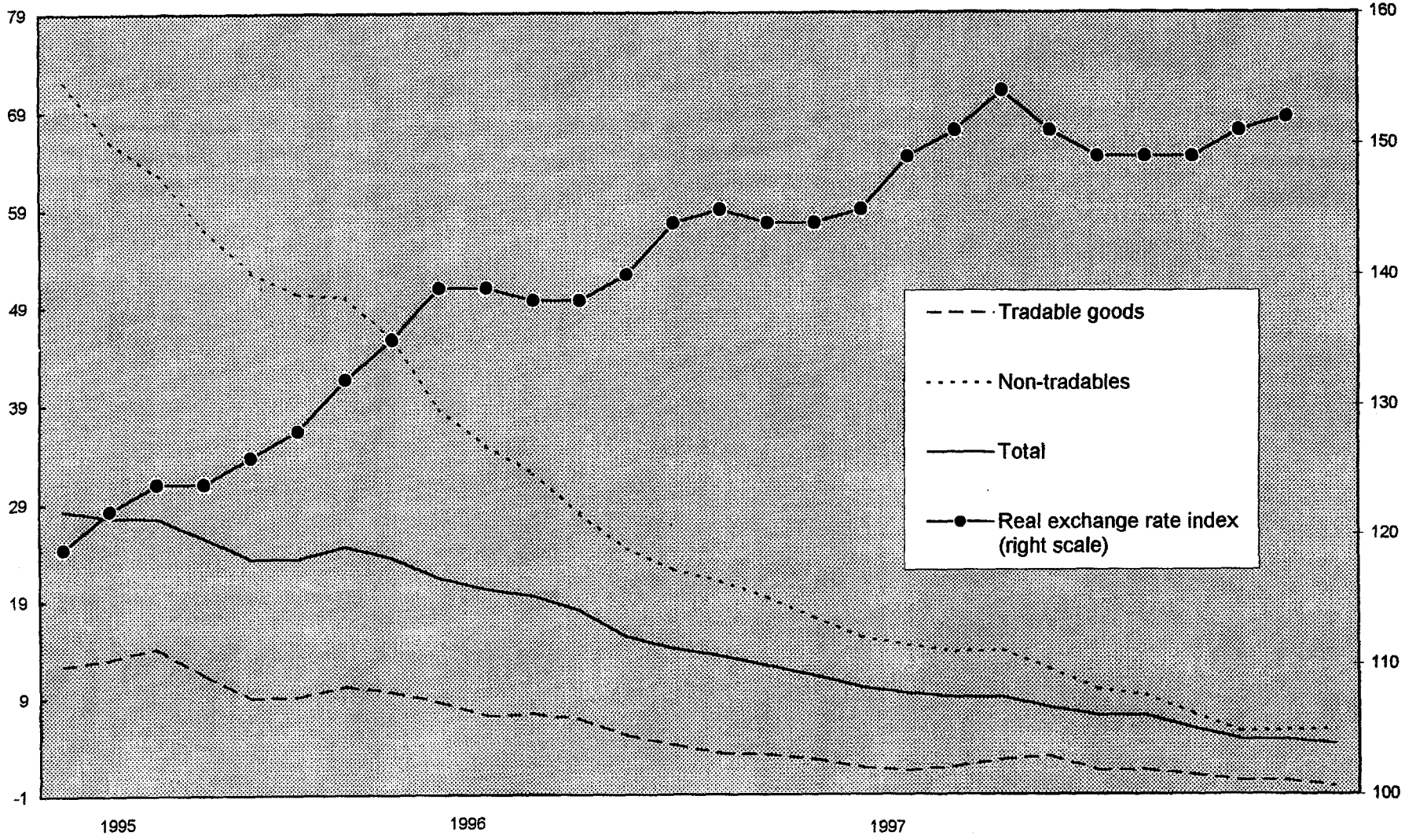
[140]Defined as the ratio of nontradable prices to tradable prices in the consumer price index (IPC-FIPE).

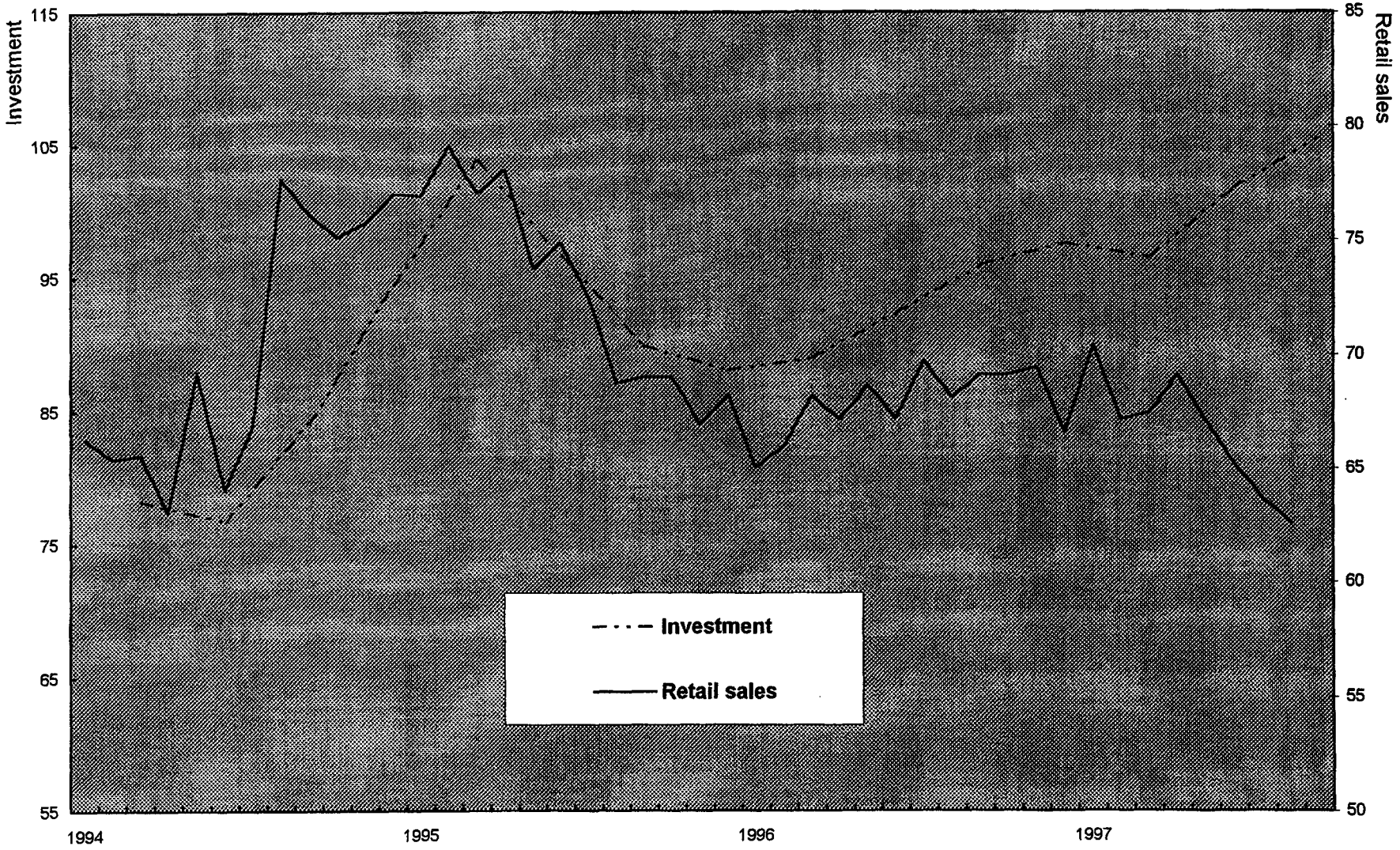
[141] Pioneered by the works of Calvo (1986) and others (Reinhart and Vegh, 1993) the impact of stabilization programs on the real exchange rate has been formalized using models in which inflation acts as a tax on consumption. In these models, the sharp reduction in the inflation tax due to the stabilization of prices after the introduction of the *Real Plan*, would have resulted in a substitution by consumers of current for future consumption, causing the subsequent increase in aggregate demand and a deficit on the current account. While initially depending on "lack of credibility" in the stabilization plans to explain the consumption boom, subsequent models (Halpern and Wyplosz, 1995) have shown that inflation can act as a tax on domestic market transactions and generates a wedge between the rate of return on domestic capital and foreign assets. This wedge causes the domestic capital stock to be a negative function of the rate of inflation. A reduction in inflation therefore causes an investment and consumption boom causing a deterioration in the trade balance and an increase in the relative price of nontradables (that is, real appreciation).

Figure 37. Brazil: Tradable and Non-Tradable Prices, July 1995-September 1997
(12-month percentage changes , unless otherwise specified)



Sources: Brazilian authorities, and Fund staff estimates.

Figure 38. Brazil: Consumption and Investment, 1994-1997
(Indices 1991=100)



Source: Central Bank of Brazil, and Fund staff estimates.

217. An assessment of the **effect of economic stabilization on the real exchange rate** in Brazil is complicated by other structural changes that have been taking place in the economy. Since 1990, Brazil has made substantial progress in the areas of trade liberalization, privatization and financial and investment deregulation, all of which have had a significant impact on the pattern of consumption, investment, and the balance of payments. At the same time, the decline in public sector savings has also influenced domestic demand and the external current account position. If, as conventional models of the impact of macroeconomic stabilization on the real exchange rate predict, the appreciation of the *real* is associated with **productivity growth and the restructuring of the economy**, this would be expected to result, eventually, in stronger export performance and the stabilization of the external current account. If, on the other hand, the appreciation of the *real* is mainly a reflection of **disequilibrium in the public sector accounts and/or loss of competitiveness**, either the rate of growth of demand would have to be reduced and/or the exchange rate would need to adjust to restore the external current account.

218. In this chapter we attempt to assess the **relative importance of these influences on the real exchange rate** drawing on the recent literature on the real effects of stabilization programs. It is shown that the appreciation of the real exchange rate since the introduction of the *Real Plan* is a reflection of both of the effects mentioned, with supply and demand effects acting together to influence the appreciation of the real exchange rate. Indeed, the empirical evidence presented suggests that demand factors, largely due to the widening public sector deficit, have had a major influence on the appreciation of the real exchange rate in the short-run (and the recent slowdown in the appreciation of the *real* possibly having as much to do with the improvement in the public sector accounts as with productivity gains). This is in line with expectations as structural change is usually a slow process, and factor productivity gains in the traded goods sector are only likely to have a positive effect on the real exchange rate over a couple of years or so. This is so because the productivity gains in the traded goods sector leads to wage and price increases in the nontraded goods sector and to an appreciation of the real exchange rate measured by the relative price of nontradable goods.

C. Supply-Side Influences on the Real Exchange Rate

219. Most of the initial models of stabilization programs concentrated on supply-side effects (and differential productivity growth) to explain the **effects of stabilization programs on the real exchange rate**. While differing in their explanation of the initial consumption boom following stabilization,[142] the majority of these models rely on the **Balassa-Samuelson effect** to explain the impact on the appreciation of the real exchange rate. That is, the appreciation of the real exchange rate, in economies undergoing adjustment, is due largely to **differential productivity growth rates in the tradable and nontradable sectors**. With the reduction of inflation, consumption will initially increase in response to higher current and/or expected real incomes, and part of the increase will spillover to the demand for nontradables. Because productivity growth in the nontradable goods sector is lower than in the tradable sector

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[142] See previous footnote.

(which, in the case of Brazil, has benefited from the opening up of the economy), the relative price of nontradables must rise to bring about the required increase in investment and output in the nontradables sector (that is, the real exchange rate will appreciate). The increase in consumption and investment initially exceeds the productive capacity of the economy so the country runs a current account deficit in anticipation of higher future output levels. Once the new investment takes place and output increases, the economy adjusts to a new current account equilibrium. The stylized path of the real exchange rate, consumption, investment, and the current account following economic stabilization under this scenario is shown in Figure 39.

220. The Balassa-Samuelson effect has been formalized in a number of models that show how faster productivity growth in the tradable than the nontradable sector leads, via wage equalization, to a decline in the relative price of tradables. In this presentation we use the model developed by Gregorio et al (1994).

Consider the following production functions for the two sectors:

$$Y_T = \theta_T L_T^{\alpha T} K_T^{1-\alpha T} \quad (1)$$

and

$$Y_N = \theta_N L_N^{\alpha N} K_N^{1-\alpha N} \quad (2)$$

where the subscripts T and N denote tradable and nontradable goods, Y denotes output, L labor input, θ productivity, and K capital. Under perfect competition prices in each sector are derived by duality as

$$P_T = (1/\theta_T) W^{\alpha T} R^{1-\alpha T} \alpha_T^{\alpha T} (1-\alpha_T)^{-(1-\alpha T)} \quad (3)$$

and

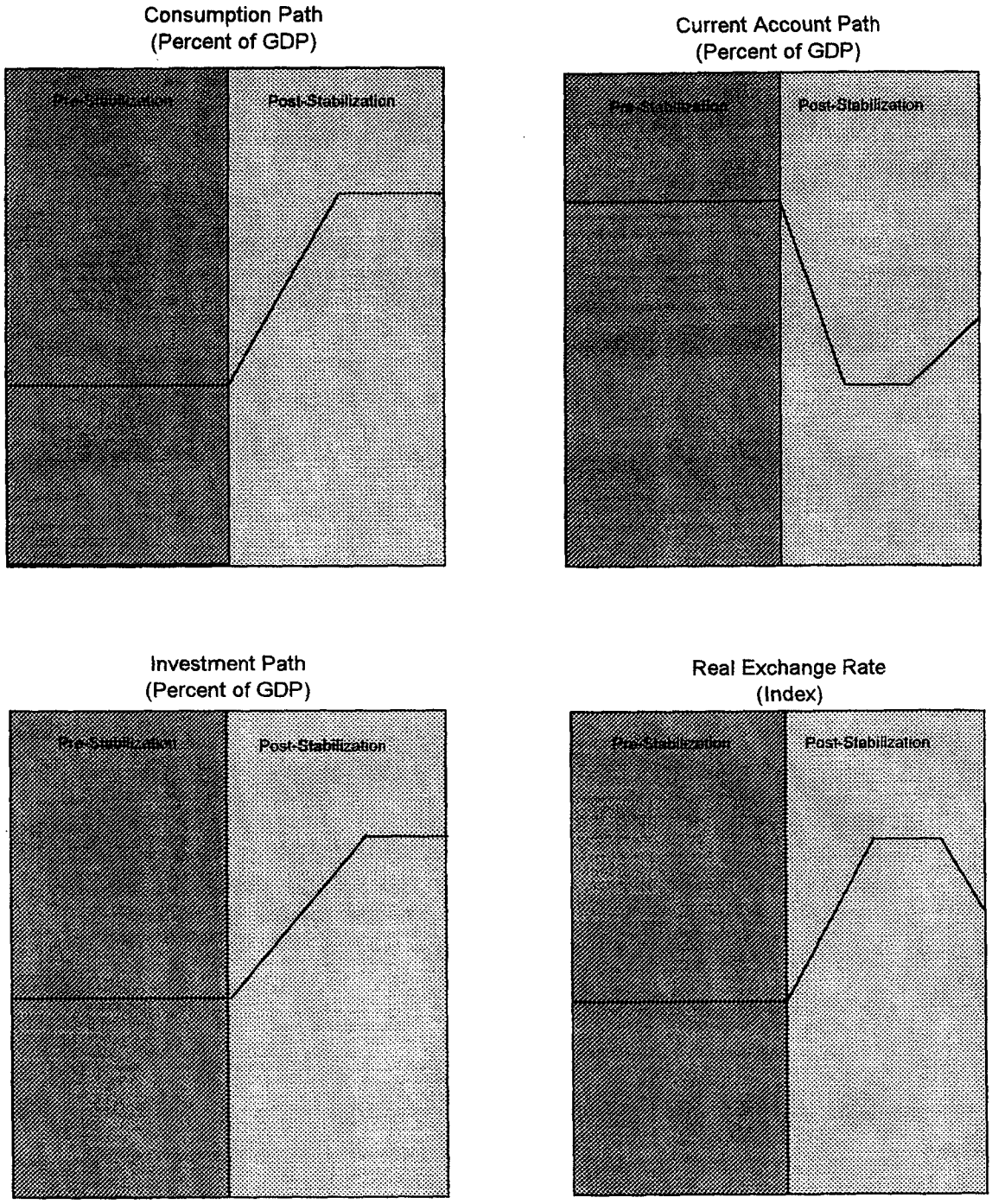
$$P_N = (1/\theta_N) W^{\alpha N} R^{1-\alpha N} \alpha_N^{\alpha N} (1-\alpha_N)^{-(1-\alpha N)} \quad (4)$$

where W is the unit cost of labor and R the rate of return on capital. Consider the case of a small open economy with perfect capital mobility, and expressing all prices in terms of tradable goods (P_T is the numeraire). Defining P as the relative price of nontradable goods and log differentiating the expressions for prices it can be shown that

$$\hat{P} = \hat{\theta}_T - \hat{\theta}_N + (\alpha_N - \alpha_T)\hat{W} \quad (5)$$

where the $\hat{}$ denotes the rate of change.

Figure 39. Brazil: Expected Adjustment Path After Economic Stabilization



Sources: Fund staff projection.

221. Given R and P_T, equation (3) uniquely determines wages. Given both W and R, equation (4) then determines the price of nontradables, that is the relative price is determined exclusively by technological conditions and, given the assumptions, is independent of demand conditions (that is, the supply curve is flat). Substituting equation (3) into equation (5) yields an expression for the relative price of nontradable goods

$$\hat{P}=(\alpha_N/\alpha_T)\hat{\theta}_T-\hat{\theta}_N \qquad (6)$$

The intuition for a positive link between faster productivity growth in the tradable goods sector and the relative price for nontradables given by equation (6) is straightforward. An increase in tradable goods productivity (θ_T) is matched by a real wage increase which keeps the marginal cost of tradables constant, but increases the marginal cost of nontradables.

222. One of the restrictive assumptions of these models, which we relax in the next section, is that the supply curve is flat (this is illustrated in Figure 40 where the flat supply curve is denoted by S1). That is, the real exchange rate is *independent of demand conditions* so that inflation will **accelerate if the authorities attempt to depreciate the real exchange rate** (Calvo et al, 1995). This would undermine attempts to achieve a real depreciation or improvement in competitiveness through a nominal depreciation of the currency as in countries attempting real exchange rate targeting. These models also suggest that the appreciation in the exchange rate is not incompatible with an improvement in competitiveness measured on the basis of relative unit labor costs or relative profitability.[143]

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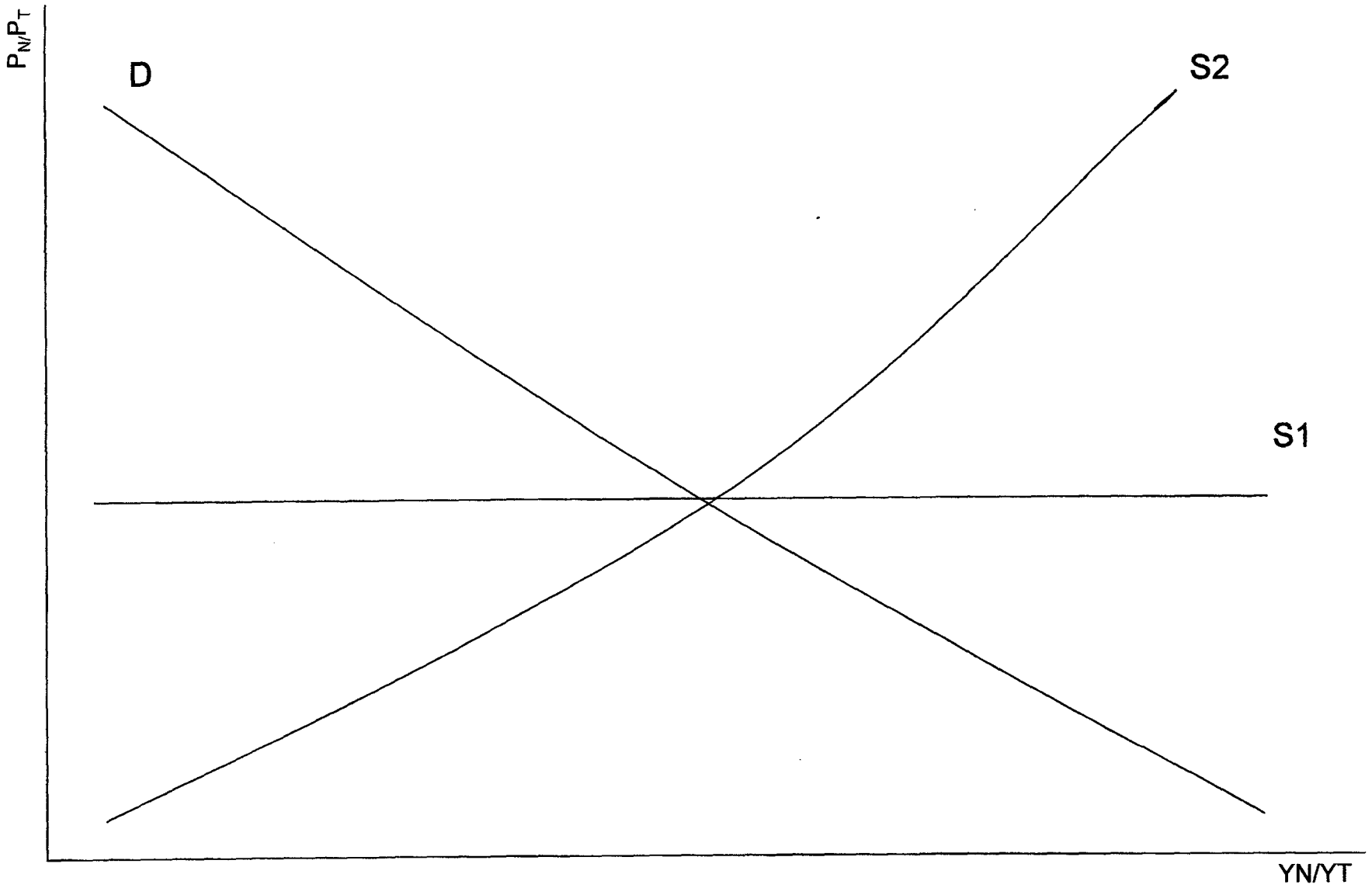
[143] Micossi and Milesi-Ferretti, 1994 show that:

$$R^v = R^{ulc}+a\,(H^T-H^N)-a^*(H^T-H^N)$$

where R^v is the real exchange rate based on prices, R^{ulc} is the real exchange rate based on unit labor costs, H is labor productivity, * denotes a foreign variable, and T and N refer to the traded and nontraded sectors respectively. That is, if the differential in labor productivity between the tradable and nontradable sectors is higher at home than abroad, the real exchange rate index based on price indicators will appreciate relative to that based on unit labor costs.

Figure 40. Brazil: Equilibrium Relative Price and Production of Nontradable



D. Impact of Demand on Real Exchange Rates and Competitiveness

223. While most models of real exchange rate appreciation have relied on supply side effects to explain the impact of macroeconomic stabilization on the real exchange rate as illustrated in the model above, **the impact of demand shocks on the real exchange rate** has been stressed in several recent studies of real exchange rate appreciation. In particular, an increasing share of government expenditure (particularly on the wage bill) which tilts demand toward nontradables can also result in an appreciation of the real exchange rate (see De Gregorio, Giovanni, and Wolf). In Brazil, most of the deterioration of the current account since 1994 has been associated with a decline in public sector savings suggesting that demand side effects may have had a role in explaining the appreciation of the exchange rate (Figure 41). The impact of government expenditure on the relative demand for nontradables would have both direct and indirect effects. The government directly produces a range of nontradable commodities, ranging from health care to public safety. In addition, the financing of increased expenditures reduces disposable private income. If the overall decline in private sector spending on nontradables falls short of the increase in government expenditure on nontradables, the net effect of an increased public sector share may be a **shift in relative production and consumption toward the nontradables sector.**[144]

224. The direct impact of demand effects on the real exchange rate is illustrated in the model below (Gregorio et al, 1994) which shows that an increase in demand can result in an increase in the share of nontradables in consumption due to the differing income elasticities of demand in the tradable and nontradable sectors. To analyze the demand side of the economy, we consider the case of a representative consumer maximizing the present discounted value of

$$U(C_N, C_T) = C_n^{\beta}(C_T - C_S)^{1-\beta} \qquad (7)$$

where C_N and C_T denote the consumption of nontradables and tradable goods, respectively. The parameter C_S represents the subsistence level of consumption of tradable goods yielding a less than unitary demand elasticity for tradable goods. The consumer is assumed to maximize utility (7) subject to a budget constraint (expressed in terms of the tradable good)

$$I = C_T + P.C_N + P.G \qquad (8)$$

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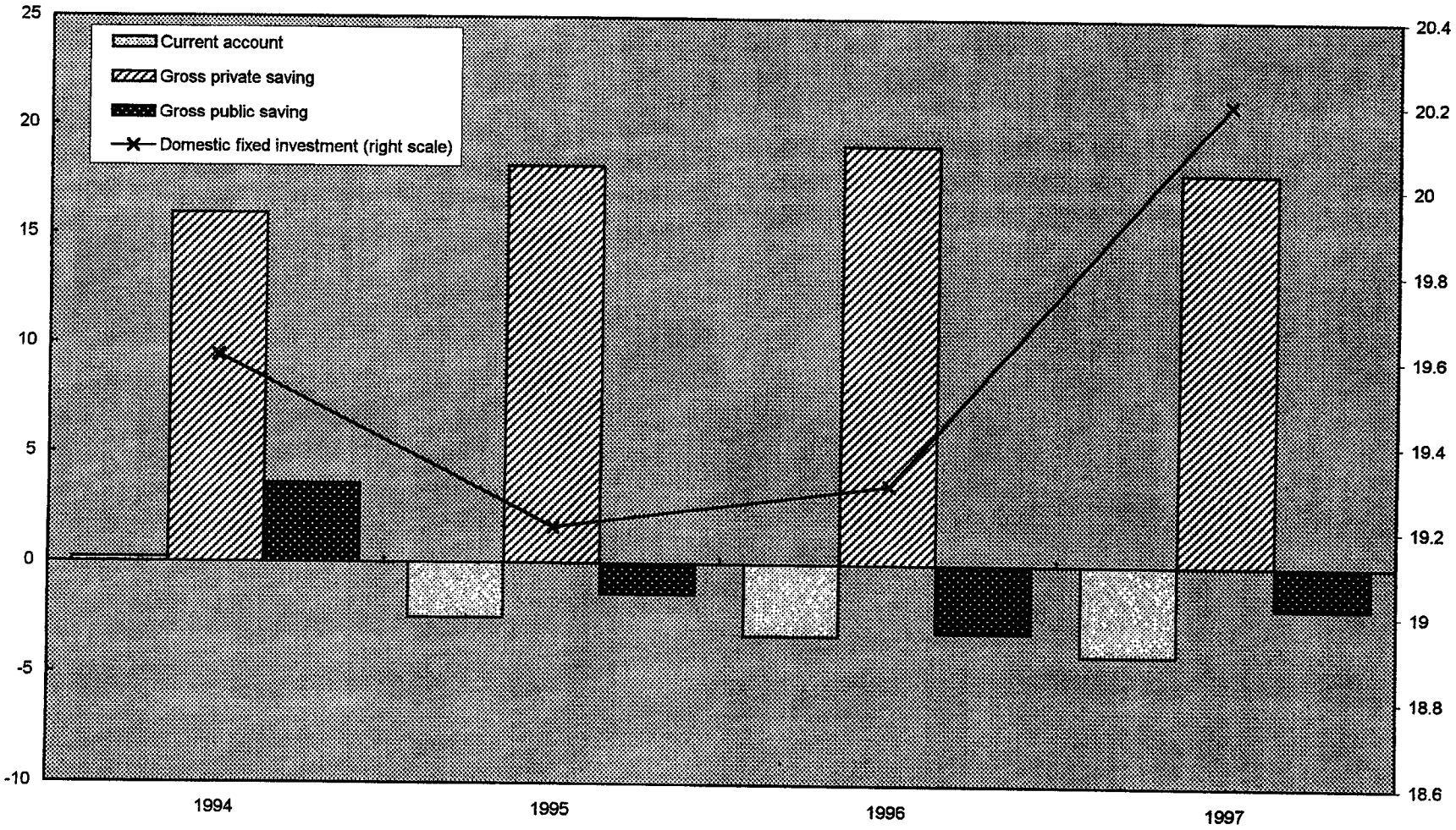
[144]Structural factors in Brazil such as inflexible labor markets, as reflected by the growth of the informal labor market and public corporations which until recently have dominated important sectors and limited competition (in sectors such as public utilities and telecommunications), may also have tended to reduce price flexibility and responsiveness to deflationary policies in the nontraded goods sector.

Figure 41. Brazil: Saving and Investment, 1994-1997
(Percent of GDP)



Sources: Brazilian authorities, and Fund staff estimates.

where I is total income, and G is total government expenditure, falling entirely on nontradable goods[145].

The corresponding demand functions are given by

$$C_T = \beta C_S + (-\beta)(I-P.G) \qquad (9)$$

and

$$C_N = (\beta/P).[I-P.G-C_S] \qquad (10)$$

These equations show that, where the subsistence level of consumption of tradables is positive, the income elasticity of demand for tradables falls short of unity while that for nontradables exceeds unity. Thus, an increase in income will result in an increase in the consumption share of nontradables.

225. The share of public consumption in GDP is shown in Figure 42. In addition to the direct effects of higher public sector expenditure on the relative price of nontradables, an increase in aggregate demand resulting from the public sector deficit will have different effects on the tradable and nontradable sectors. In the case of tradables, as the price is determined by external conditions, the adjustment is through an increase in production or higher imports. On the other hand, nontradable prices would increase resulting in an appreciation of the exchange rate. As the nontradable sector is in general labor intensive, the increase in demand results in an increase in real wages and consequently, in the absence of an increase in productivity, on downward pressure on profits and investment in the economy. In the short run, if prices are rigid, there will be unemployment associated with an overvalued exchange rate and a worsening of the current account balance. Thus, it may well be that **real exchange rate appreciation is a sign of both productivity gains in some sectors and loss of competitiveness in others**. That is, the real appreciation may reflect in one sense increased competitiveness in the dynamic sector of the economy and, at the same time, it may also correspond to pressures from the more inefficient sectors of the economy, reflecting structural adjustments in the economy following macroeconomic stabilization.

226. The appreciation of the real exchange rate may therefore be a reflection both of productivity gains in the tradable sector and of increasing demand. The trends in the real exchange rate, relative productivity growth and central government primary balance are shown in Figure 43. The relationship between the relative price of nontradables and the share of nontradables (proxied by services) in GDP is shown in Figure 44. There was a sharp increase in the share of services in GDP following the initial sharp appreciation of the real exchange rate, suggesting that demand pressures were initially important. Since 1995, however, the share of services has fallen suggesting that the sector may have come under pressure due to erosion of profits as costs increased.

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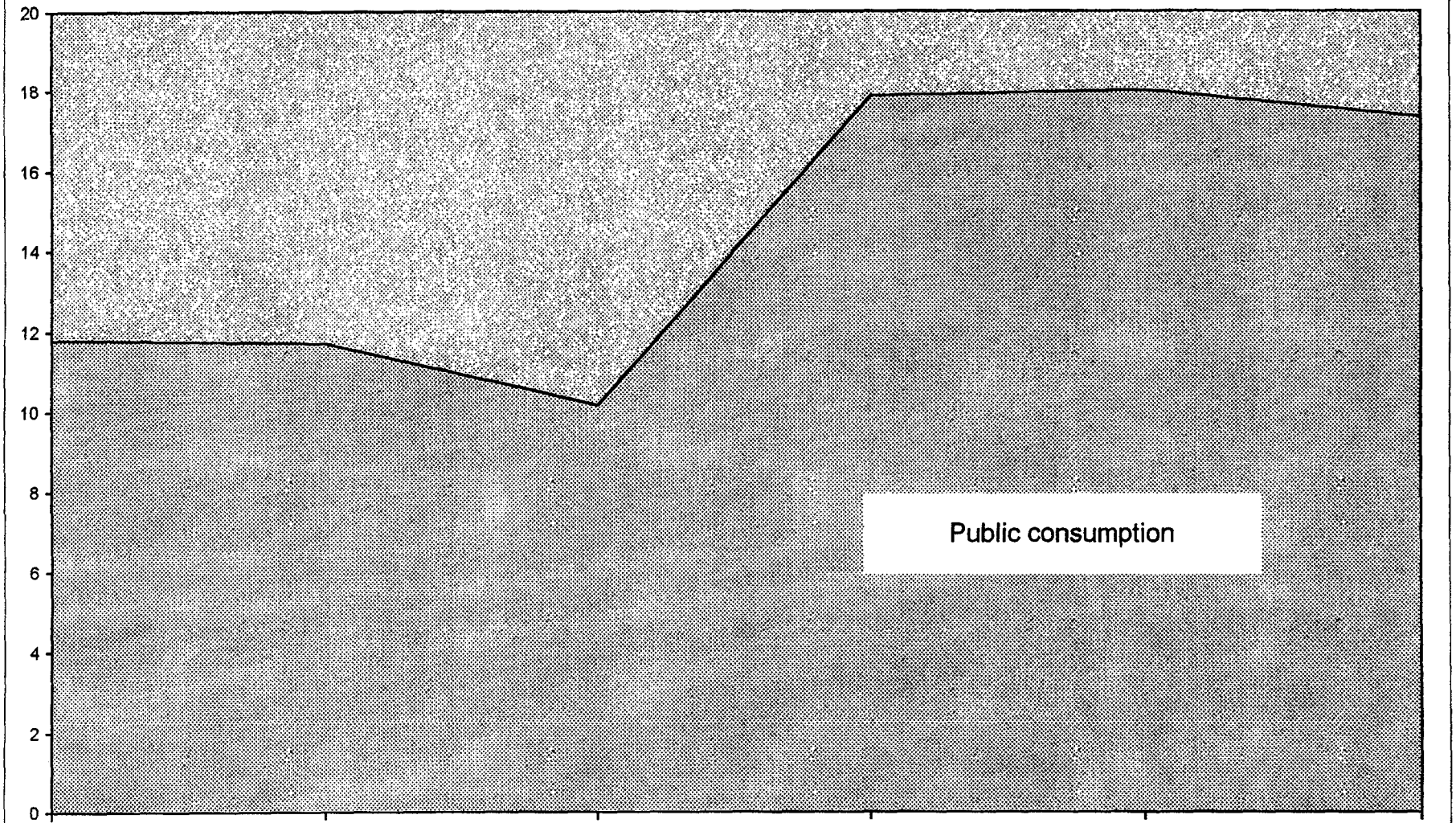
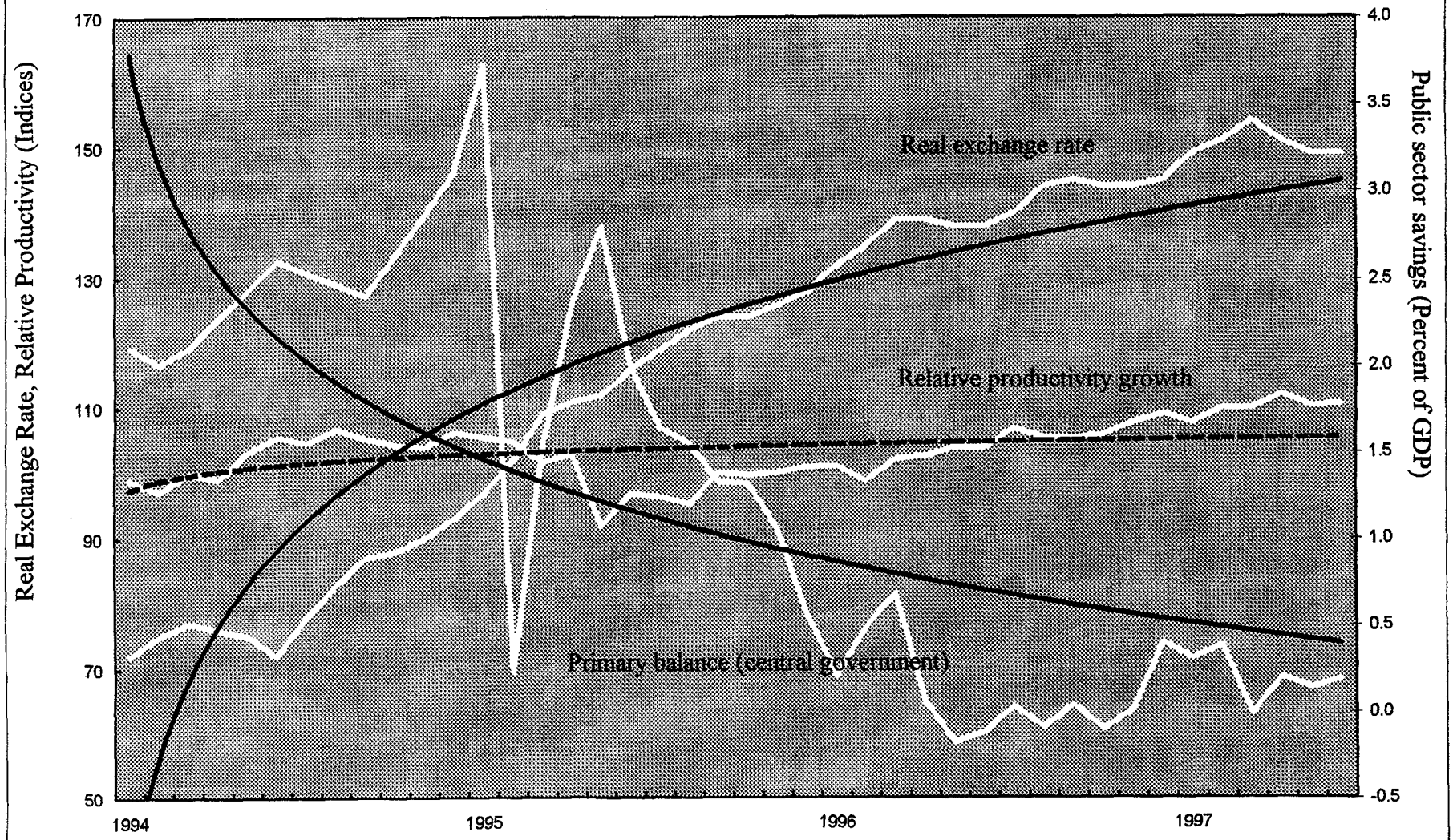
[145] That is, G is total government expenditure and financed through lump sum taxation.

Figure 42. Brazil: Share of Public Consumption in GDP
(Percent of GDP, constant prices)



Source: IBGE, and Fund staff estimates.

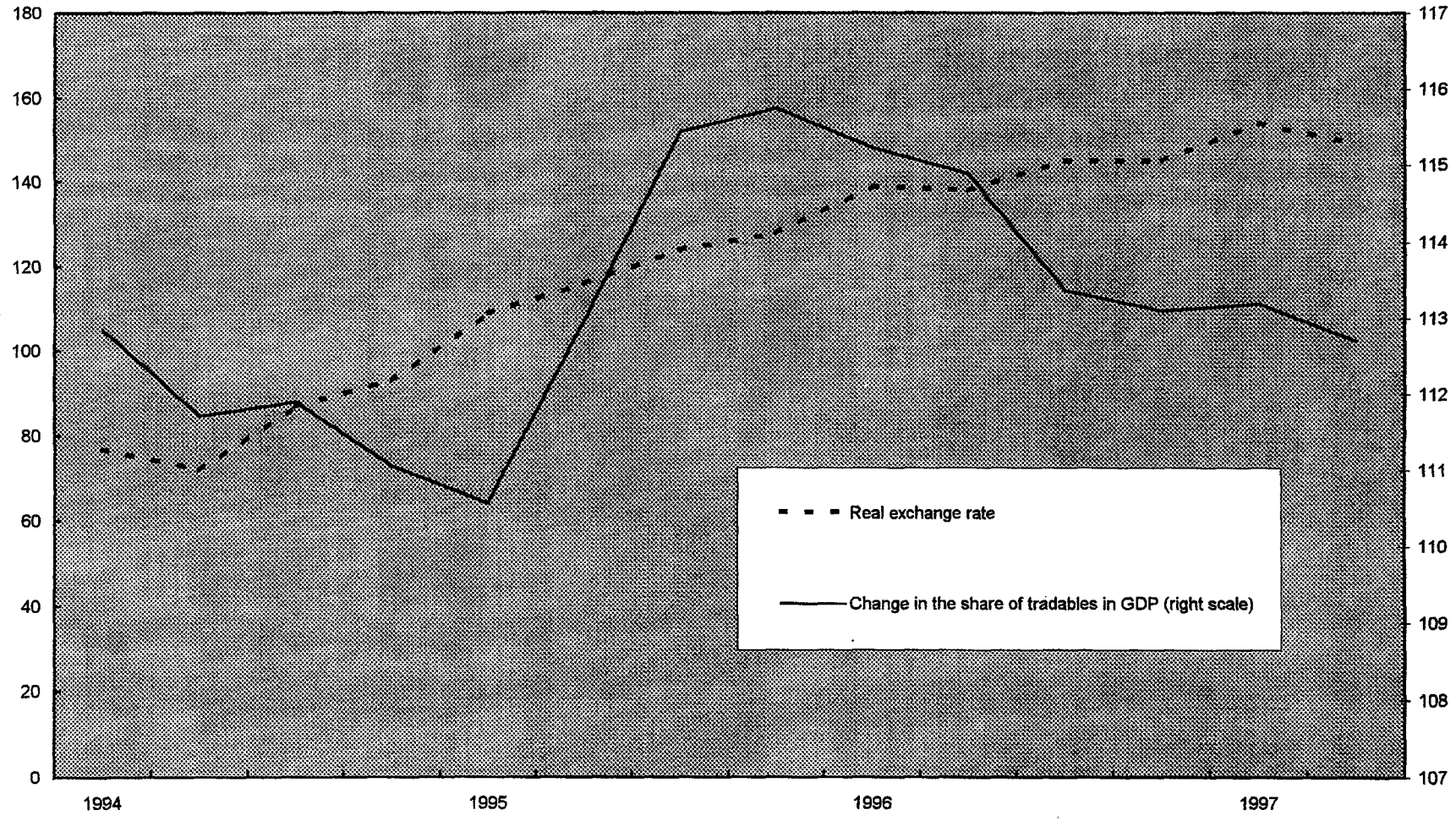
Figure 43. Brazil: Trends in the Real Exchange Rate, Relative Productivity, and Primary Balance [1]



Source: Fund staff estimates.

1/ Primary balance of the central government (accumulated in previous 12 months).

Figure 44. Brazil: Changes in the Share and Relative Price of Nontradables, 1994-1997
(Indices)



Sources: Brazilian authorities, and Fund staff estimates.

227. Preliminary empirical estimates of the impact of relative productivity growth as well as a proxy for public sector demand pressures (central government primary balance) on the real exchange rate were unable to confirm that the appreciation of the real exchange rate reflects relative factor productivity growth. On the other hand, the results suggested a rather more prominent role for demand side effects than indicated by the literature on real exchange rate appreciation. The coefficient on the central government demand proxy had the expected sign and was statistically significant. These results must be treated with caution, however, given the short sample period used and the difficulty of measuring productivity growth in the tradable and nontradable sectors. However, the results strongly suggest that the importance of demand effects should not be underestimated in explaining the appreciation of the real exchange rate in Brazil.

E. Conclusion

228. The above analysis suggests that it is dangerous to ignore the effects that the demand side has had on the appreciation of the real exchange rate. The main difficulty with explanations of exchange rate appreciation that rely exclusively on productivity changes to explain relative price movements (the Balassa-Samuelson effect) is that they ignore the fact that virtually any variable that has real effects will affect the real exchange rate. The equilibrium exchange rate level in very general terms is that which attains internal and external equilibrium. Internal equilibrium means that the nontraded goods market clears. External equilibrium is attained when current account balances are compatible with sustained capital flows. Relying on the Balassa-Samuelson effect to explain the real appreciation of the exchange rate may also lead to rather optimistic predictions relating to the sustainability of current account deficits and rigid conclusions regarding the exchange rate policy (that is, a depreciation of the exchange rate will have immediate implications for inflation in these models). We have shown that the demand effects have also been important in explaining the appreciation of the exchange rate, with implications for the conduct of both demand management and exchange rate policies. As demand conditions are likely to have been an important determinant of the equilibrium exchange rate (the supply curve does not appear to be flat), this would suggest that a mix of demand and exchange rate policies, as adopted by the Brazilian authorities, would be an appropriate response to address the current account deficit.

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Table 26. Brazil: Macroeconomic Flows and Balances

	1993	1994	1995	1996	Est. 1997
	(In percent of GDP)				
Total domestic expenditure	**97.8**	**98.9**	**101.3**	**101.8**	**102.3**
Consumption	**78.5**	**79.2**	**82.1**	**82.5**	**82.2**
General government	16.3	16.0	16.8	16.9	16.0
Private sector and public enterprises	62.3	63.3	65.3	65.6	66.1
Investment	**19.2**	**19.6**	**19.2**	**19.3**	**20.2**
General government	3.4	2.8	2.4	2.4	2.5
Private sector and public enterprises	15.8	16.9	16.9	16.9	17.6
Total domestic saving	**19.2**	**19.6**	**19.2**	**19.3**	**20.2**
Gross national saving 1/	19.0	19.4	16.7	16.0	16.0
Use of external saving	0.2	0.2	2.5	3.3	4.2

Sources: Brazilian Institute of Geography and Statistics (IBGE); and Fund staff estimates.

1/ Includes changes in stocks.

Table 27. Brazil: GDP and Real GDP per Capita

	GDP in current reais	GDP in millions of 1996 reais	Real GDP per capita in 1995 reais	Implicit GDP deflator percent change	Population (millions)	Real GDP annual percent changes			
						Agriculture and livestock	Industry	Services	Total
1986	1,273.7	624,855.0	464050%	14920%	13465300%	-800%	1170%	810%	750%
1987	4,037.8	646,912.4	471280%	20620%	13726800%	1500%	100%	310%	350%
1988	29,375.6	646,524.3	462400%	62800%	13981900%	80%	-260%	230%	-10%
1989	425,595.3	666,954.3	468670%	130440%	14230700%	280%	290%	350%	320%
1990	10,973,241.2	637,941.9	440800%	259560%	14472400%	-370%	-820%	-80%	-430%
1991	57,389,192.2	640,110.9	435230%	42120%	14707400%	280%	-180%	160%	30%
1992	619,492,855.7	634,862.0	425060%	98840%	14935800%	540%	-380%	0%	-80%
1993	14,116,169,616.8	661,462.7	436400%	208700%	15157200%	-100%	690%	350%	420%
1994	360,919,362,028.9	701,084.4	456060%	231230%	15372600%	930%	700%	420%	600%
1995	658,141,237,155.9	731,090.8	469180%	7490%	15582200%	510%	210%	600%	430%
1996	752,877,271,040.1	752,877.3	476890%	1110%	15787200%	310%	250%	340%	300%

Source: Brazilian Institute of Geography and Statistics (IBGE).

Table 28. Brazil: National Accounts at Current Prices

(In millions of *reais*)

	1993	1994	1995	1996	Est. 1997
Consumption expenditure	11,088	286,028	540,236	620,890	690,451
General government	2,296	57,666	110,483	127,350	134,677
Private sector 1/	8,792	228,362	429,753	493,540	555,774
Gross fixed capital formation	2,714	70,877	126,644	145,444	169,413
General government	479	9,959	15,516	17,994	21,093
Private sector and public enterprises	2,236	60,918	111,128	127,450	148,320
Total domestic expenditure	13,802	356,905	666,879	766,334	859,863
Net exports of goods and nonfactor services	314	4,014	-8,738	-13,456	-19,512
Exports	1,378	30,087	46,311	52,280	61,015
Imports	1,064	26,073	55,049	65,736	80,527
GDP at market prices	14,116	360,919	658,141	752,877	840,351
Net factor payments abroad	-393	-6,765	-11,192	-13,957	-17,949
GNP at market prices	14,510	367,684	669,333	766,834	858,300
Net unrequited transfers received from abroad	54	2,588	3,974	2,899	2,300
Gross national income at market prices	14,564	370,272	673,307	769,733	860,600

Source: Brazilian Institute of Geography and Statistics (IBGE); and Fund staff estimates.

1/ Includes changes in stocks.

Table 29. Brazil: National Accounts at Constant Prices

(In 1980 millions of *reais*)

	1993	1994	1995	1996	Est. 1997
Consumption expenditure 1/	4,389.5	4,773.5	5,328.8	5,532.6	5,827.0
Percent change	5.6	8.7	11.6	3.8	5.3
Gross fixed capital formation	794.2	893.5	1,014.4	1,065.1	1,192.9
Percent change	7.2	12.5	13.5	5.0	12.0
Total domestic expenditure	5,183.6	5,667.0	6,343.2	6,597.7	7,020.0
Percent change	5.8	9.3	11.9	4.0	6.4
Net exports of goods and nonfactor services	339.7	187.2	-240.7	-317.7	-513.8
Percent change	-1.2	-2.8	-7.3	-1.3	-3.1
Exports	1075.6	1076.5	1028.6	1083.7	1172.1
Percent change	13.1	0.1	-4.4	5.4	8.2
Imports	735.8	889.2	1269.3	1401.4	1686
Percent change	34.4	20.9	42.7	10.4	20.3
GDP at market prices	5,523.4	5,854.2	6,102.5	6,280.0	6,506.1
Percent change	4.2	6.0	4.2	2.9	3.6
Net factor payments abroad	-153.9	-109.7	-103.8	-116.4	-139.0
GNP at market prices	5,369.5	5,744.5	5,998.7	6,163.6	6,367.2
Percent change	3.9	7.0	4.4	2.7	3.3

Sources: Brazilian Institute of Geography and Statistics (IBGE); and Fund staff estimates.

1/ Includes changes in stocks.

Table 30. Brazil: Industrial Production

(Annual percentage change)

	1993	1994	1995	1996	1997 1/
Total	7.5	7.6	1.8	1.6	4.8
Mineral extraction	0.6	4.7	3.3	9.7	9.2
Manufacturing industry	8.1	7.8	1.7	1.0	4.4
Nonmetallic minerals	4.9	3.1	4.1	6.3	8.1
Metallurgy	7.7	10.2	-1.8	1.0	6.7
Machinery	17.4	21.1	-4.5	-12.8	5.8
Electrical and communications equipment	14.2	19.0	14.6	4.7	1.5
Transportation equipment	20.8	13.4	4.1	-0.5	10.9
Wood	6.8	-2.6	-3.4	2.1	2.9
Furniture	20.4	1.2	6.2	13.7	1.6
Paper and cardboard	4.8	2.8	0.4	2.9	3.2
Rubber	9.3	4.0	-0.3	-0.7	3.0
Leather and hides	10.5	-4.3	-16.7	-2.1	0.2
Chemicals	4.3	6.6	-0.5	5.0	7.6
Pharmaceuticals	12.4	-2.5	18.1	-8.6	11.6
Perfumes, soaps and candles	4.4	2.5	5.3	4.1	2.9
Plastics	7.7	4.1	9.7	11.1	3.8
Textiles	-0.5	3.8	-5.8	-5.8	-4.0
Clothing, footwear and cloth goods	10.6	-2.1	-6.9	-3.0	-7.4
Food products	0.5	2.2	7.7	5.3	-0.8
Beverages	8.7	10.4	17.2	-3.3	-0.2
Tobacco	4.4	-14.8	-5.1	12.5	27.3
Memorandum items:					
Capital goods	9.6	18.7	0.3	-14.1	3.8
Intermediate goods	5.5	6.5	0.2	2.8	6.0
Consumer goods	10.2	4.4	6.2	5.2	1.7
Durable	29.1	15.1	14.5	11.2	7.8
Semidurable and nondurable	6.7	1.9	4.2	3.5	-0.1

Source: Brazilian Institute of Geography and Statistics (IBGE).

1/ Production in the January-August 1997 period compared to that of the same period of the previous year.

Table 31. Brazil: Retail Sales in the São Paulo Metropolitan Area

(Seasonally Adjusted)

(1988 = 100)

	General Commerce	Consumer Goods 1/	Durable Goods	Semi-durables	Non-durables	Automobile	Construction Materials
1993	79.8	71.9	62.3	64.1	87.2	125.5	59.7
1994	91.9	84.8	85.3	74.5	94.3	138.9	61.7
1995	95.4	93.6	98.6	92.6	99.8	123.5	58.9
1996	88.9	91.0	97.3	84.1	96.3	103.3	50.7
1997 (Jan-Aug)	86.3	85.9	87.9	78.0	94.9	108.1	49.9
1994							
January	86.6	78.7	70.3	72.0	92.0	132.1	65.1
February	85.8	77.1	67.1	70.8	93.1	134.8	59.4
March	85.7	78.0	70.6	67.2	92.7	136.9	59.2
April	81.7	74.1	71.4	63.5	84.2	128.9	56.5
May	90.7	79.7	77.1	64.0	94.2	160.9	59.8
June	83.5	73.0	65.4	63.3	89.2	140.3	57.4
July	88.0	80.0	78.0	69.2	91.6	139.7	53.9
August	101.9	91.9	102.6	79.3	95.4	156.4	63.7
September	99.9	97.5	108.9	86.7	98.9	136.2	66.2
October	98.4	94.9	103.1	84.8	99.1	132.7	68.1
November	99.3	95.2	101.3	85.9	100.5	133.8	64.7
December	101.6	98.0	107.2	87.2	100.7	134.5	66.6
1995							
January	100.8	99.3	110.0	94.5	101.6	131.4	67.3
February	103.6	100.2	111.0	98.4	103.2	139.0	63.3
March	100.6	97.6	107.8	96.6	102.0	132.6	65.7
April	101.8	99.9	107.2	97.5	104.0	131.9	64.8
May	96.0	95.8	101.1	96.5	101.7	117.2	61.3
June	97.4	94.7	99.5	93.1	101.6	135.6	58.0
July	95.2	92.1	95.5	88.9	99.5	127.3	57.6
August	90.7	88.7	88.8	91.1	98.6	116.4	55.2
September	90.7	90.3	89.5	90.3	98.6	114.4	55.2
October	90.6	87.8	90.5	86.8	95.8	129.8	53.7
November	87.9	87.6	90.1	86.0	94.9	106.0	53.2
December	89.4	89.4	92.2	91.3	95.8	100.6	52.3
1996							
January	85.0	89.6	92.1	88.7	96.8	84.8	51.2
February	86.1	88.7	94.9	81.3	94.5	98.5	50.5
March	88.7	92.3	103.5	83.6	95.8	99.1	51.3
April	87.0	90.4	96.9	83.4	96.6	97.6	50.5
May	88.9	90.8	96.8	83.2	95.9	102.6	49.4
June	87.7	90.4	96.7	81.4	95.6	100.3	51.0
July	92.1	93.9	100.6	88.8	98.3	105.5	50.0
August	90.3	92.1	98.5	84.0	96.6	106.3	49.9
September	91.1	91.9	101.3	83.4	94.7	113.9	50.6
October	91.0	92.2	97.3	85.5	97.2	111.0	50.1
November	91.1	92.4	97.0	84.1	97.9	108.0	52.9
December	87.2	87.3	91.7	82.0	95.6	112.1	50.9
1997							
January	92.0	88.9	94.5	78.0	94.2	120.0	51.8
February	87.5	87.6	94.0	77.3	93.2	108.0	51.6
March	87.6	88.2	89.7	83.1	99.4	108.3	48.9
April	89.6	86.8	90.5	83.7	93.1	116.8	54.4
May	86.8	87.6	90.4	78.2	95.5	107.2	48.9
June	84.6	84.5	84.6	78.7	96.0	107.3	49.3
July	81.2	81.7	78.4	75.2	94.0	99.6	45.6
August	81.4	82.2	81.4	70.1	93.5	97.3	48.9

Source: State of Sao Paulo Commerce Federation.

1/ Includes durable, semidurable and nondurable goods.

Table 32. Brazil: Price Statistics

(Monthly percentage change)

	General Price Index (IGP-DI)	Wholesale Price Index (IPA-DI)	Construction Cost Index (INCC)	Consumer Price Index (INPC)
1992				
December	23.70	23.78	18.84	25.60
1993				
December	36.22	35.72	32.99	37.73
1994				
January	42.19	41.28	45.93	41.32
February	42.41	43.23	39.14	40.57
March	44.83	43.65	55.71	43.08
April	42.46	40.20	45.60	42.86
May	40.95	38.47	45.60	42.73
June	46.58	45.50	44.74	48.24
July	5.47	4.41	3.58	7.75
August	3.34	4.40	0.14	1.85
September	1.55	1.79	0.38	1.40
October	2.55	2.71	1.32	2.82
November	2.47	2.18	2.36	2.96
December	0.57	0.17	1.32	1.70
1995				
January	1.36	0.87	3.50	1.44
February	1.15	0.58	2.09	1.01
March	1.81	1.08	3.30	1.62
April	2.30	1.99	2.30	2.49
May	0.40	-2.03	8.77	2.10
June	2.62	1.55	3.12	2.18
July	2.24	2.24	1.09	2.46
August	1.29	1.73	0.62	1.02
September	-1.08	-2.42	0.67	1.17
October	0.23	-0.14	0.86	0.63
November	1.33	1.49	0.73	1.51
December	0.27	-0.61	0.86	1.65
1996				
January	1.79	1.31	1.52	1.46
February	0.76	0.47	0.11	0.71
March	0.22	-0.07	0.98	0.29
April	0.70	0.41	0.25	0.93
May	1.68	1.34	2.16	1.28
June	1.22	0.94	1.54	1.33
July	1.09	1.38	0.75	1.20
August	0.00	-0.05	0.23	0.50
September	0.13	0.41	0.22	0.02
October	0.22	0.24	0.26	0.38
November	0.28	0.24	0.58	0.34
December	0.88	1.21	0.59	0.33
1997				
January	1.58	1.67	0.32	0.81
February	0.42	0.34	0.48	0.45
March	1.16	1.59	0.73	0.68
April	0.59	0.53	0.23	0.60
May	0.30	0.14	0.86	0.11
June	0.70	0.24	1.11	0.35
July	0.09	-0.09	0.51	0.18
August	-0.04	-0.15	1.18	-0.03
September	0.59	0.92	0.27	...

Sources: Brazilian Institute of Geography and Statistics (IBGE); and Getulio Vargas Foundation.

Table 33. Brazil: Consumer Price Index

(IPC-FIPE) 1/

(Monthly percentage change)

	General	Food	Expenses	Personal Housing	Transportation	Clothing	Health Care	Education
1992								
December	25.29	25.14	27.02	21.32	27.80	29.19	21.75	25.69
1993								
December	38.52	42.08	43.60	32.97	35.93	31.03	37.04	37.74
1994								
January	40.30	43.01	36.13	35.97	42.52	39.33	44.21	53.16
February	38.19	39.10	38.40	38.67	36.96	31.93	43.32	39.49
March	41.94	47.11	39.31	41.77	41.04	27.91	42.11	47.08
April	46.22	44.40	48.41	47.34	47.26	47.72	42.71	43.53
May	45.10	37.59	47.04	45.16	46.78	69.32	45.19	44.11
June	50.75	53.69	48.01	49.28	49.43	54.73	48.51	45.08
July	6.95	8.77	7.77	5.33	9.97	2.07	7.95	1.48
August	1.95	2.74	-0.27	3.71	0.51	0.60	1.54	-0.57
September	0.82	-0.27	-0.76	3.88	0.77	-1.82	0.99	-0.07
October	3.17	6.39	0.49	4.28	0.19	-0.54	1.15	0.19
November	3.02	4.75	0.87	3.80	-0.14	4.25	1.81	0.69
December	1.25	0.10	1.08	4.02	-0.13	-1.02	2.17	1.10
1995								
January	0.80	-0.82	1.53	2.71	-0.24	-0.41	3.53	1.54
February	1.32	0.59	2.29	3.23	-0.30	-1.38	2.75	0.96
March	1.92	0.74	1.02	4.11	0.14	-2.32	2.56	14.87
April	2.64	0.81	3.62	3.29	0.90	6.31	2.75	7.48
May	1.97	-1.33	2.03	3.83	0.57	8.06	2.45	6.84
June	2.66	-0.07	1.30	4.52	4.59	3.67	5.51	4.49
July	3.72	2.29	3.63	5.74	5.74	-1.29	6.19	3.51
August	1.43	1.31	2.49	4.11	-0.12	-5.46	2.28	1.08
September	0.74	-0.27	1.27	2.39	0.24	-0.48	0.61	0.46
October	1.48	0.64	2.47	1.84	3.34	-0.31	1.29	0.58
November	1.17	2.12	1.09	1.62	-0.02	-0.99	0.45	0.62
December	1.21	0.32	0.41	3.78	0.59	-1.80	2.88	0.57
1996								
January	1.82	1.76	0.18	2.67	-0.56	-1.18	2.77	16.24
February	0.40	-0.16	0.77	2.16	0.61	-4.89	0.92	2.56
March	0.23	-0.22	-0.21	2.31	0.16	-6.08	1.20	4.71
April	1.62	0.66	0.90	1.18	4.66	4.39	0.43	-0.02
May	1.34	0.05	1.67	1.11	0.30	7.96	1.90	0.64
June	1.41	0.34	0.71	1.25	5.42	1.25	1.35	0.56
July	1.31	1.08	-0.06	1.38	4.37	-1.60	4.39	0.11
August	0.34	-0.29	0.36	2.11	-0.27	-2.26	1.53	-0.25
September	0.07	-0.43	0.63	1.12	0.13	-2.30	0.59	-0.27
October	0.58	0.64	-0.04	0.62	1.14	0.73	0.32	-0.13
November	0.34	0.11	0.04	0.56	0.25	1.28	0.00	0.09
December	0.17	-1.41	0.50	0.44	2.40	0.33	1.40	0.75
1997								
January	1.23	1.51	1.34	0.33	2.75	-2.71	1.20	8.83
February	0.01	0.76	0.10	0.43	-0.22	-3.63	0.25	-0.18
March	0.21	1.59	-0.15	0.40	-0.05	-4.34	0.38	0.22
April	0.64	-0.37	-0.10	0.47	-0.07	7.70	1.04	0.21
May	0.55	-1.37	-0.41	1.96	0.02	5.30	1.22	0.12
June	1.42	0.93	-0.12	1.90	2.89	2.69	0.94	0.01
July	0.11	-0.28	-0.13	0.75	1.20	-1.75	0.50	-0.13
August	-0.76	-1.42	0.28	0.53	-0.30	-5.44	0.82	-0.33
September	0.01	-0.02	0.73	0.36	-0.22	-1.97	0.49	0.18

Source: Brazilian authorities.

1/ Consumer price index of São Paulo.

Table 34. Brazil: Public Sector Prices and Tariffs

(Average 1991=100) 1/

			Petroleum Products				
	Electricity	Telecommu-nication	Gasoline	Diesel	Natural Gas	Alcohol	Mail
1991							
December	110.69	99.74	95.96	103.02	95.71	98.03	94.52
1992							
December	106.57	97.31	83.67	131.38	86.54	86.24	83.81
1993							
December	125.68	111.78	83.27	135.63	119.26	152.09	101.58
1994							
January	123.04	107.44	79.97	130.30	116.50	146.03	97.84
February	119.63	98.19	76.44	124.29	104.51	139.46	94.02
March	118.81	93.93	72.07	117.14	97.51	131.48	94.29
April	117.77	86.79	72.56	117.95	92.77	132.38	85.82
May	103.48	86.84	69.93	115.47	83.85	126.85	79.94
June	101.71	85.67	68.01	113.37	80.98	122.92	77.43
July	115.68	97.16	80.37	133.77	90.42	145.14	88.06
August	111.95	94.02	77.77	129.44	87.50	140.45	85.22
September	110.24	92.58	76.59	127.47	86.16	138.30	83.92
October	107.50	90.28	73.26	124.30	76.67	132.22	81.83
November	104.90	87.27	71.29	121.30	73.76	128.65	79.86
December	104.31	86.77	70.89	120.61	73.74	127.92	79.41
1995							
January	102.91	85.61	69.77	118.76	72.35	125.95	78.34
February	101.74	84.63	68.98	117.41	71.53	124.52	77.45
March	99.93	83.13	67.75	115.32	70.26	122.30	76.07
April	97.68	81.26	66.23	112.73	68.68	119.55	74.36
May	97.30	80.94	65.94	112.22	68.41	119.02	74.07
June	94.81	78.87	64.21	109.25	70.21	115.86	72.18
July	92.73	77.14	62.80	106.85	73.89	113.33	70.59
August	91.55	76.16	62.00	105.49	72.95	111.88	69.69
September	92.56	76.99	63.00	107.26	73.74	113.67	70.46
October	92.34	76.82	64.92	111.05	73.57	117.07	108.25
November	97.47	77.72	64.07	109.59	72.61	115.53	124.67
December	108.65	98.63	63.89	109.30	72.41	115.22	124.34
1996							
January	117.42	98.34	62.77	107.38	71.14	113.20	122.15
February	119.91	97.34	62.13	106.28	70.41	112.04	120.91
March	119.65	97.12	61.99	106.05	70.26	111.80	120.64
April	118.82	96.45	70.24	105.31	69.77	127.73	119.80
May	116.85	94.85	69.37	103.57	68.62	126.18	117.82
June	115.44	93.71	68.54	102.32	67.79	124.66	116.40
July	114.20	92.70	67.80	101.22	67.06	123.32	115.15
August	114.20	92.70	67.80	101.22	72.87	123.31	115.14
September	114.06	92.58	67.71	101.09	73.64	123.15	115.00
October	113.81	92.37	67.56	100.86	73.48	122.89	114.74
November	113.48	92.11	67.37	100.58	73.27	122.54	114.42
December	112.49	91.31	70.22	103.89	72.63	133.81	113.42
1997							
January	110.74	89.89	73.23	107.29	71.50	146.48	111.66
February	110.28	89.51	72.92	106.84	71.20	145.87	111.19
March	109.01	88.49	72.09	105.61	70.38	144.20	109.92
April	116.62	87.97	71.66	104.99	69.97	143.35	109.27
May	116.27	90.45	71.45	104.68	69.76	142.92	108.94
June	115.46	89.82	70.95	103.95	69.28	141.93	108.19
July	115.36	89.74	70.89	103.86	69.22	141.80	129.47
August	115.40	89.77	70.92	103.90	69.24	141.86	129.52

Source: Central Bank of Brazil.

1/ Deflated by the IGP-DI price index.

Table 35. Brazil: National Unemployment Rate

	1992	1993	1994	1995	1996	1997
January	4.9	6.0	5.5	4.4	5.3	5.1
February	6.4	5.8	5.4	4.3	5.7	5.6
March	6.2	5.9	5.9	4.4	6.4	6.0
April	5.9	6.1	5.4	4.4	6.0	5.8
May	6.5	5.4	5.2	4.5	5.9	6.0
June	6.2	5.0	5.4	4.6	5.9	6.1
July	5.8	5.2	5.5	4.8	5.6	6.0
August	5.9	5.3	5.5	4.9	5.6	6.0
September	5.7	5.1	5.1	5.2	5.2	...
October	5.8	4.9	4.5	5.1	5.1	...
November	5.8	4.7	4.0	4.7	4.6	...
December	4.5	4.4	3.4	4.4	3.8	...

Source: Brazilian Institute of Geography and Statistics (IBGE).

Table 36. Brazil: Employment and Real Wages in Industry in São Paulo

	(Average 1989 = 100)		(Monthly Percent Change)		(Annual Percentage Change)	
	Employment	Average real wage	Employment	Average real wage	Employment	Average real wage
1990 December	93.8	87.7	-2.2	-3.1	-8.2	-26.1
1991 December	88.7	95.8	-1.1	-0.5	-5.4	9.2
1992 December	81.5	109.5	-0.8	-2.5	-8.1	14.3
1993 December	80.4	114.6	-0.5	-1.7	-1.4	4.6
1994						
January	80.2	107.6	-0.2	-6.1	-1.3	3.6
February	80.0	107.7	-0.2	0.1	-1.6	4.8
March	79.6	117.6	-0.5	9.2	-2.2	5.8
April	79.4	121.8	-0.4	3.6	-2.7	11.5
May	79.3	123.2	-0.1	1.1	-3.0	12.4
June	79.2	120.4	-0.1	-2.3	-3.2	12.5
July	79.1	113.0	-0.1	-6.1	-3.4	3.1
August	78.8	115.3	-0.4	2.0	-3.5	7.9
September	78.9	116.4	0.1	1.0	-3.0	11.4
October	79.4	117.4	0.6	0.9	-2.2	10.7
November	79.5	127.6	0.2	8.7	-1.5	9.5
December	79.5	130.8	0.0	2.5	-1.1	14.1
1995						
January	79.9	126.3	0.5	-3.4	-0.4	17.4
February	80.4	124.5	0.6	-1.4	0.5	15.6
March	80.7	128.6	0.4	3.3	1.3	9.3
April	80.8	130.8	0.1	1.7	1.8	7.3
May	80.6	132.0	-0.2	1.0	1.7	7.2
June	80.0	129.5	-0.7	-1.9	1.1	7.6
July	79.2	126.2	-1.1	-2.6	0.1	11.6
August	77.2	127.4	-2.5	1.0	-2.1	10.5
September	76.1	122.8	-1.4	-3.6	-3.5	5.5
October	75.3	124.5	-1.1	1.4	-5.1	6.1
November	74.8	133.5	-0.6	7.2	-6.0	4.7
December	74.0	137.0	-1.1	2.7	-7.0	4.8
1996						
January	73.4	134.1	-0.8	-2.2	-8.2	6.1
February	72.7	134.3	-0.9	0.2	-9.6	7.9
March	72.5	135.0	-0.3	0.5	-10.1	5.1
April	72.2	135.7	-0.4	0.5	-10.6	3.8
May	72.0	135.3	-0.4	-0.3	-10.7	2.5
June	71.7	133.1	-0.4	-1.6	-10.4	2.8
July	71.5	133.6	-0.3	0.4	-9.7	5.9
August	70.9	135.1	-0.8	1.1	-8.1	6.0
September	70.6	134.8	-0.4	-0.2	-7.2	9.8
October	70.4	136.1	-0.3	1.0	-6.4	9.4
November	70.2	138.6	-0.4	1.8	-6.2	3.8
December	69.6	141.0	-0.8	1.8	-5.9	2.9
1997						
January	69.5	140.4	-0.1	-0.4	-5.3	4.8
February	69.5	138.5	0.0	-1.4	-4.4	3.1
March	69.4	140.8	-0.1	1.7	-4.3	4.2
April	69.3	142.2	-0.1	1.0	-4.1	4.8
May	69.2	145.5	-0.1	2.3	-3.8	7.5
June	69.1	141.5	-0.1	-2.8	-3.6	6.3
July	68.7	142.1	-0.6	0.4	-3.9	6.3
August	68.5	143.3	-0.4	0.9	-3.5	6.1

Source: Central Bank of Brazil.

Table 37. Brazil: Minimum Wage Statistics

	Nominal (R$ per month)	Real index (1986=100) 1/	Percentage change in real terms 2/
Annual averages			
1991	0.0	70.2	10.4
1992	0.1	65.2	-7.1
1993	2.4	71.9	10.3
1994	47.7	65.6	-8.8
1995	91.3	73.5	13.1
1996	108.0	75.5	2.7
Quarterly averages			
1992			
I	0.0	68.5	3.5
II	0.1	68.6	-3.1
III	0.1	65.6	-15.5
IV	0.2	57.9	-12.3
1993			
I	0.5	75.4	10.1
II	1.0	70.0	2.0
III	2.4	72.2	10.1
IV	5.6	69.8	20.7
1994			
I	15.2	70.3	-6.8
II	39.2	59.4	-15.1
III	66.5	65.7	-9.0
IV	70.0	64.6	-7.5
1995			
I	70.0	66.0	-6.0
II	90.0	74.4	25.3
III	100.0	78.4	19.3
IV	100.0	75.2	16.5
1996			
I	100.0	72.6	9.9
II	108.0	76.3	2.5
III	112.0	76.9	-1.8
IV	112.0	76.3	1.4
1997			
I	112.0	75.0	3.4
II	117.3	77.5	1.6

Source: Central Bank of Brazil.

1/ In constant average prices of 1986, deflated by the National Consumer Price Index (INPC).
2/ With respect to the corresponding period of the preceding year.

Table 38. Brazil: Nominal, Operational, and Primary Balances of the Nonfinancial Public Sector 1/2/

(In percent of GDP)

	1992	1993	1994	1995	1996	October 3/ 1996	October 3/ 1997
Total borrowing requiremen	**44.2**	**58.1**	**44.2**	**7.1**	**6.1**	**7.0**	**5.1**
Federal government 4/	14.9	20.4	16.8	2.3	2.6	3.1	2.5
States and municipalities	16.4	24.5	19.0	3.5	2.8	3.1	2.2
Public enterprises	12.9	13.3	8.5	1.3	0.6	0.8	0.4
Monetary correction	42.0	58.4	44.8	2.3	2.2	2.1	2.0
Operational balance (deficit	**-2.2**	**0.3**	**0.5**	**-4.8**	**-3.9**	**-4.9**	**-3.1**
Federal government	-0.8	0.0	1.6	-1.6	-1.7	-2.3	-1.6
States and municipalities	-0.8	0.3	-1.0	-2.3	-1.9	-2.2	-1.4
Public enterprises	-0.6	0.0	-0.1	-0.8	-0.3	-0.5	-0.2
Interest payments (net) 5/	**4.4**	**2.3**	**3.8**	**5.1**	**3.8**	**4.1**	**3.2**
Federal government	2.2	1.4	1.5	2.2	2.1	2.2	1.5
States and municipalities	1.0	0.3	1.5	2.1	1.3	1.4	1.3
Public enterprises	1.2	0.7	0.9	0.8	0.4	0.4	0.4
Primary balance (deficit -)	**2.3**	**2.6**	**4.3**	**0.3**	**-0.1**	**-0.9**	**0.1**
Federal government	1.3	1.4	3.1	0.6	0.4	-0.1	0.0
States and municipalities	0.4	0.6	0.5	-0.2	-0.6	-0.7	-0.1
Public enterprises	0.7	0.7	0.8	-0.1	0.1	0.0	0.2

Sources: Central Bank of Brazil; ministry of finance; and Fund staff estimates.

1/ Figures from 1992 to 1994 have been adjusted to eliminate the end-of-period bias.
2/ Excludes revenues from privatization.
3/ Numbers denote values for the 12 months ended October of the specified year.
4/ Includes central administration, central bank, decentralized agencies and social security system.
5/ Interest payments on external debt plus the real portion of interest payments on domestic debt.

Table 39. Brazil: Summary Operations of the Public Sector 1/

(In percent of GDP)

	1992	1993	1994	1995	1996
Nonfinancial revenue	**29.7**	**30.2**	**33.2**	**32.9**	**33.1**
Tax revenue	19.2	21.7	24.2	24.3	24.5
Direct taxes	3.5	4.1	3.8	4.2	4.1
VAT-IPI	2.2	2.3	2.1	2.0	2.0
VAT-ICM	6.7	6.0	6.8	7.2	7.5
IOF	0.6	0.7	0.8	0.5	0.4
IPMF	0.0	0.1	1.0	0.0	0.0
CPMF	...	...	...	...	...
Trade taxes	0.4	0.4	0.5	0.7	0.6
Earmarked social taxes	2.9	3.2	4.1	4.1	4.2
Social security contributions	4.6	5.0	5.3	4.9	5.4
Other tax revenue	1.4	1.7	2.1	2.2	2.3
Minus: public enterprise taxes	-3.0	-2.0	-2.2	-1.8	-2.0
Nontax revenue	10.4	8.5	9.0	8.7	8.6
Value added SEST enterprises	7.2	5.3	5.3	4.2	4.7
Sales	13.9	8.3	8.7	7.0	7.8
Minus: purchases	-6.7	-3.1	-3.4	-2.8	-3.1
Other revenue SEST enterprises	1.0	0.9	1.3	0.9	1.2
Other	2.2	2.3	2.4	3.6	2.7
Nonfinancial expenditure	**27.4**	**28.1**	**28.9**	**32.6**	**33.2**
Current expenditure	24.7	24.9	22.2	25.6	26.2
Gross wages	12.6	13.2	12.7	13.6	13.9
Transfers	8.1	7.2	5.1	5.9	6.4
Pension benefits	4.8	4.0	4.7	4.9	5.5
Subsidies, grants, BNDES	3.3	3.2	0.5	0.9	0.9
Other current	4.0	4.5	4.3	6.1	5.9
Capital expenditure	5.4	5.2	4.6	4.1	4.4
Investment	5.1	4.5	4.2	3.8	3.9
Other	0.4	0.7	0.4	0.3	0.5
Primary deficit state and municipal enterprises	0.7	0.4	0.9	0.5	0.6
Float and adjustment	-3.4	-2.4	1.2	2.4	2.0
Of which					
FAT adjustment	-0.6	0.3	-0.4	-0.5	-0.3
Adjustment and float	-2.8	-2.7	1.5	3.0	2.3
Primary balance (deficit -) 2/	**2.3**	**2.6**	**4.3**	**0.3**	**-0.1**
Federal government	1.3	1.4	3.0	0.6	0.4
State and municipal governments	0.4	0.6	0.5	-0.2	-0.6
Public sector enterprises	0.7	0.7	0.8	-0.1	0.1
Net financial expenditure 3/	**4.5**	**2.4**	**3.8**	**5.1**	**3.8**
Domestic	3.2	1.1	3.1	4.6	3.3
Foreign	1.3	1.3	0.7	0.5	0.5
Operational balance (deficit -)	**-2.2**	**0.3**	**0.6**	**-4.8**	**-3.9**
Federal government	-0.8	0.0	1.6	-1.6	-1.7
State and municipal governments	-0.8	0.2	-1.0	-2.3	-1.9
Public sector enterprises	-0.6	0.0	-0.1	-0.8	-0.3
PSBR	44.2	58.1	44.2	7.1	6.1

Sources: Central Bank of Brazil; ministry of finance; and Fund staff estimates.

1/ Comprises federal government (including the operational result of the central bank), state and municipal governments, and public sector enterprises. Figures from 1992 to 1994 have been adjusted to eliminate the end-of-period effect.

2/ Excludes proceeds from privatization.

3/ Comprises interest payments on external debt, plus the real component of interest payments on domestic debt.

Table 40. Brazil: General Government 1/

	1992	1993	1994	1995	1996
Nonfinancial revenue	**24.4**	**25.9**	**28.8**	**29.6**	**29.2**
Tax revenue	**22.2**	**23.6**	**26.4**	**26.0**	**26.5**
Direct taxes	3.5	4.1	3.8	4.2	4.1
Value-added taxes	8.9	8.3	8.9	9.2	9.5
Social security taxes	4.6	5.0	5.3	4.9	5.4
Trade taxes	0.4	0.4	0.5	0.7	0.6
Other tax revenue	4.9	5.8	8.0	6.9	6.9
Nontax revenue	**2.2**	**2.3**	**2.4**	**3.6**	**2.7**
Nonfinancial expenditure	**22.7**	**24.0**	**25.3**	**29.2**	**29.4**
Current expenditure	**23.0**	**23.4**	**24.0**	**26.7**	**27.4**
Gross wages	10.3	11.0	11.0	12.2	12.5
Transfers	5.5	4.8	5.3	6.2	6.6
Pension benefits	4.8	4.0	4.7	4.9	5.5
Subsidies and grants	0.7	0.8	0.6	1.2	1.1
Other current	7.3	7.6	7.7	8.3	8.3
Capital expenditure	**3.0**	**3.5**	**2.9**	**2.7**	**2.4**
Float and statistical adjustment	**-3.3**	**-2.9**	**-1.6**	**-0.2**	**-0.4**
Primary balance (deficit -)	**1.7**	**2.0**	**3.5**	**0.4**	**-0.2**
Real net interest payments 2/	**3.3**	**1.7**	**2.9**	**4.3**	**3.4**
Operational balance (deficit -)	**-1.6**	**0.2**	**0.6**	**-3.9**	**-3.5**
Public sector borrowing requirement	**31.3**	**44.8**	**35.8**	**5.8**	**5.4**

Sources: Central Bank of Brazil; ministry of finance; and Fund staff estimates.

1/ Comprises federal government (including the operational result of the central bank), and state and municipal governments.

2/ Comprises interest payments on external debt, plus the real component of interest payments on domestic debt.

Table 41. Brazil: Federal Government Operations 1/

(In percent of GDP)

	1992	1993	1994	1995	1996
Revenue 2/	**14.8**	**16.5**	**18.6**	**19.2**	**19.4**
Taxes	**14.4**	**16.1**	**17.9**	**17.0**	**17.2**
Direct	3.5	4.1	3.8	4.2	4.1
Individual	2.4	2.9	2.6	2.8	2.4
Corporate	1.1	1.3	1.2	1.5	1.8
Indirect	2.8	3.1	3.8	2.5	2.4
IPI	2.2	2.3	2.1	2.0	2.0
IOF	0.6	0.7	0.8	0.5	0.4
IPMF	0.0	0.1	1.0	0.0	0.0
Taxes on trade	0.4	0.4	0.5	0.7	0.6
Earmarked social taxes	2.9	3.2	4.1	4.1	4.2
Social security contributions	4.6	5.0	5.3	4.9	5.4
Other taxes	0.2	0.2	0.4	0.4	0.5
Nontax revenues	0.4	0.4	0.7	2.2	2.2
Expenditure	**13.5**	**15.0**	**15.6**	**18.6**	**19.0**
Current expenditure	**14.1**	**14.3**	**15.9**	**18.6**	**18.6**
Gross wages	3.8	4.2	5.1	5.2	5.1
Social security benefits	4.8	4.0	4.7	4.9	5.5
Transfers	3.9	4.0	3.9	4.2	4.2
States and Municipalities transfers.	3.3	3.3	3.4	3.2	3.3
Regional funds	0.2	0.2	0.2	0.3	0.2
Public enterprises	0.0	0.0	0.0	0.0	0.0
BNDES, regional funds	0.4	0.4	0.3	0.6	0.7
Subsidies and grants	0.1	0.1	0.1	0.3	0.2
Other current expenditure	1.5	2.0	2.1	4.0	3.6
Capital expenditure	**1.0**	**1.4**	**1.0**	**0.8**	**0.8**
Direct	0.9	1.4	1.0	0.8	0.8
Investment	0.6	1.0	0.8	0.7	0.7
Other capital expenditure	0.2	0.4	0.3	0.1	0.1
Capital transfers to public enterprises	0.1	0.0	0.0	0.0	0.0
Float and adjustment	-1.6	-0.7	-1.3	-0.7	-0.4
Of which					
FAT adjustment	-0.6	-0.3	-0.4	-0.5	-0.3
Float	-0.9	-0.4	-0.9	-0.2	-0.1
Primary balance (deficit -)	**1.3**	**1.4**	**3.0**	**0.6**	**0.4**
Net interest payments 3/	**2.1**	**1.4**	**1.5**	**2.2**	**2.1**
Operational balance (deficit -)	**-0.8**	**0.0**	**1.6**	**-1.6**	**-1.7**
Nominal balance (deficit -)	**-14.9**	**-20.4**	**-16.8**	**-2.3**	**-2.6**

Sources: Central Bank of Brazil; ministry of finance; and Fund staff estimates.

1/ Includes the central administration, social security system, and central bank.

2/ Excludes proceeds from privatization.

3/ Comprises interest payments on external debt, plus the real component of interest payments on the domestic debt.

Table 42. Brazil: State and Municipal Governments

	1992	1993	1994	1995	1996
Revenue	**12.9**	**12.8**	**13.6**	**13.6**	**13.0**
Tax revenue	7.9	7.6	8.5	9.0	9.3
VAT ICM	6.7	6.0	6.8	7.2	7.5
Other	1.2	1.5	1.7	1.8	1.8
Nontax revenue	1.7	1.9	1.7	1.4	0.5
Transfers	3.3	3.3	3.4	3.2	3.3
Expenditure	**12.5**	**12.2**	**13.1**	**13.8**	**13.6**
Current expenditure	12.2	12.4	11.5	11.4	12.1
Gross wages	6.5	6.8	5.9	7.0	7.4
Materials and supplies	2.5	2.5	2.3	2.1	2.3
Other current expenditures	2.6	2.5	3.4	2.3	2.4
Capital expenditure	2.1	2.1	1.9	1.9	1.6
Float and adjustment	-1.8	-2.2	-0.3	0.6	0.0
Primary Balance (deficit -)	**0.4**	**0.6**	**0.5**	**-0.2**	**-0.6**
Net real interest payments 1/	**1.1**	**0.3**	**1.4**	**2.1**	**1.3**
Operational balance (deficit -)	**-0.8**	**0.2**	**-1.0**	**-2.3**	**-1.9**
Nominal balance (deficit -)	**-16.4**	**-24.5**	**-19.0**	**-3.5**	**-2.8**

Sources: Central Bank of Brazil; ministry of finance; and Fund staff estimates.

1/ Comprises interest payments on external debt, plus the real component of interest payments on the domestic debt.

Table 43. Brazil: Nonfinancial Public Sector Enterprises

(In percent of GDP)

	1992	1993	1994	1995	1996
		I. Federal Enterprises			
Revenue	**15.1**	**9.3**	**9.9**	**7.9**	**9.0**
Sales of goods and services 1/	13.9	8.3	8.7	7.0	7.8
Transfer receipts	0.1	0.0	0.0	0.0	0.0
Current	0.0	0.0	0.0	0.0	0.0
Capital	0.1	0.0	0.0	0.0	0.0
Other	1.0	0.9	1.3	0.9	1.2
Expenditure	**13.7**	**8.4**	**8.2**	**7.5**	**8.3**
Current expenditure	11.5	6.7	7.2	6.0	6.5
Gross wages	1.8	1.7	1.7	1.4	1.4
Materials and supplies 1/	2.7	1.8	2.0	1.5	1.9
Services	1.1	0.8	0.9	0.8	0.8
Taxes	3.0	2.0	2.2	1.8	2.0
Other 1/	2.9	0.5	0.5	0.5	0.4
Capital expenditure	2.5	1.8	1.7	1.5	2.0
Investment	2.3	1.4	1.6	1.3	1.6
Other	0.1	0.3	0.1	0.2	0.4
Float	-0.2	-0.1	-0.8	0.0	-0.2
Primary (deficit -)	**1.3**	**0.9**	**1.8**	**0.4**	**0.7**
		II. Local Enterprises			
Primary (deficit -)	**-0.7**	**-0.4**	**-0.9**	**-0.5**	**-0.6**
		III. Total			
Primary (deficit -)	**0.7**	**0.7**	**0.8**	**-0.1**	**0.1**
Net interest payments 2/	**1.3**	**0.6**	**0.9**	**0.8**	**0.4**
Operational (deficit -)	**-0.6**	**0.0**	**-0.1**	**-0.8**	**-0.3**
Nominal balance (deficit -)	**-12.9**	**-13.3**	**-8.4**	**-1.3**	**-0.6**

Sources: Central Bank of Brazil; ministry of finance; ministry of planning and budget; and Fund staff estimates.

1/ Figures for 1993 have been adjusted for inter-enterprise accounting transactions in the electricity sector.

2/ Comprises interest payments on external debt plus the real component of interest payments on domestic debt.

Table 44. Brazil: Federal Treasury Cash Operations

	1992	1993	1994	1995	1996	January-October 1996	January-October 1997
			(In millions of *reais*)				
Cash revenue	**70.0**	**1,667.0**	**48,180.0**	**86,294.0**	**97,132.0**	**78,236.0**	**93,582.0**
Cash expenditures 1/	**71.0**	**1,978.0**	**46,810.0**	**90,256.0**	**106,257.0**	**84,336.0**	**97,614.9**
Earmarked	25.0	590.0	12,534.0	24,586.0	27,187.0	21,643.0	26,223.0
Transfers of earmarked receipts	8.0	186.0	3,481.0	6,266.0	6,357.0	4,605.0	5,703.0
State and local government participation of funds	17.0	404.0	9,053.0	18,320.0	20,830.0	17,038.0	20,520.0
Non-earmarked	43.0	1,334.0	32,307.0	62,227.0	76,707.0	60,714.0	69,412.9
Wages	23.0	588.0	17,935.0	35,497.0	40,505.0	32,237.0	34,909.0
Interest 2/	12.0	368.0	5,466.0	11,739.0	15,992.0	13,709.0	14,712.9
Other	8.0	378.0	8,906.0	14,991.0	20,216.0	14,768.0	19,791.0
Net lending	3.0	54.0	1,969.0	3,443.0	2,288.0	1,979.0	1,979.0
Cash surplus or deficit (-)	**-1.0**	**-311.0**	**1,370.0**	**-3,962.0**	**-9,125.0**	**-6,100.0**	**-4,032.9**
			(As a percent of revenue)				
Cash expenditures 1/	**101.4**	**118.7**	**97.2**	**104.6**	**109.4**	**107.8**	**104.3**
Earmarked	35.7	35.4	26.0	28.5	28.0	27.7	28.0
Transfers of earmarked receipts	11.4	11.2	7.2	7.3	6.5	5.9	6.1
State and local government participation funds	24.3	24.2	18.8	21.2	0.0 21.4	0.0 21.8	0.0 21.9
Non-earmarked	61.4	80.0	67.1	72.1	79.0	77.6	74.2
Wages	32.9	35.3	37.2	41.1	41.7	41.2	37.3
Interest 2/	17.1	22.1	11.3	13.6	16.5	17.5	15.7
Other	11.4	22.7	18.5	17.4	20.8	18.9	21.1
Net lending	4.3	3.2	4.1	4.0	2.4	2.5	2.1
			(As percent of GDP)				
Cash revenue	**11.3**	**11.8**	**13.3**	**13.1**	**12.9**	**12.5**	**13.4**
Cash expenditures 1/	**11.5**	**14.0**	**13.0**	**13.7**	**14.1**	**13.5**	**14.0**
Earmarked	4.0	4.2	3.5	3.7	3.6	3.5	3.7
Transfers of earmarked receipts	1.3	1.3	1.0	1.0	0.8	0.7	0.8
State and local government participation of funds	2.7	2.9	2.5	2.8	2.8	2.7	2.9
Non-earmarked	6.9	9.5	9.0	9.5	10.2	9.7	9.9
Wages	3.7	4.2	5.0	5.4	5.4	5.2	5.0
Interest 2/	1.9	2.6	1.5	1.8	2.1	2.2	2.1
Other	1.3	2.7	2.5	2.3	2.7	2.4	2.8
Net lending	0.5	0.4	0.5	0.5	0.3	0.3	0.3
Cash surplus or deficit (-)	**-0.2**	**-2.2**	**0.4**	**-0.6**	**-1.2**	**-1.0**	**-0.6**
Memorandum item:							
GDP (R$ million)	619.5	14,116.2	360,919.4	658,141.2	753,053.0	625,880.0	699,619.0

Sources: Ministry of finance; and Fund staff estimates.

1/ Excluding amortization.

2/ Includes gross interest payments on federal government bonded debt and other domestic and external debt.

Table 45. Brazil: Net Domestic Debt of the Public Sector 1/

(In percent of GDP, end-of-period stocks)

	1992	1993	1994	1995	1996	Oct. 1997
Total	**19.0**	**18.6**	**20.0**	**24.5**	**30.4**	**29.6**
By instrument						
Bonded debt	12.7	12.8	15.5	20.7	28.5	31.1
Bank debt 2/	6.0	5.1	5.8	7.1	7.4	7.1
Other (net)	0.3	0.7	-1.3	-3.4	-5.5	-8.6
By debtors						
Federal government 3/	0.8	2.0	6.1	9.6	14.8	15.1
Securities 4/	9.2	9.2	11.1	15.3	22.1	24.4
Other	-8.4	-7.1	-4.9	-5.7	-7.3	-9.3
States and municipalities	8.4	8.2	9.0	10.1	11.5	12.3
Securities	3.4	3.7	4.4	5.4	6.4	6.7
Other	5.0	4.6	4.6	4.7	5.2	5.6
Public enterprises	9.7	8.3	4.8	4.8	4.0	2.2

Source: Central Bank of Brazil.

1/ Gross domestic debt minus domestic financial assets.
2/ Includes blocked assets held at the central bank during 1991-92.
3/ Defined to include the federal government and the central bank.
4/ Includes only the bonded federal debt outside the central bank from 1991 until 1996.

Table 46. Brazil: Federal Government Bonded Debt Outstanding 1/

	1992	1993	1994	1995	1996	Oct. 1997
	(In millions of *reais*, end-of-period stocks)					
Total federal government bonded d	**537**	**12,710**	**85,755**	**133,942**	**197,880**	**230,911**
Issued by the treasury	442	11,633	59,302	84,596	114,775	143,409
Treasury financing bills (LFT)	34	188	7,771	18,460	0	0
Treasury obligations (OTN)	0	0	0	0	0	0
Treasury bills (LTN)	0	240	519	19,588	49,101	81,077
Treasury bonds (BTN)	0	5	41	50	54	57
Special treasury bonds (BTNE)	0	11,199	0	0	0	0
Treasury notes (NTN)	321	0	50,972	46,498	65,620	62,275
Special treasury bills (BTNE)	86	0	0	0	0	0
Issued by the central bank	96	1,077	26,453	49,346	83,105	87,502
Treasury securities held by the central bank	373	7,722	23,973	25,456	21,669	21,122
Federal government bonded debt held by the public	164	4,988	61,782	108,486	176,211	209,788
	(As a percent of total federal government bonded debt)					
Issued by the treasury	82.2	91.5	69.2	63.2	58.0	62.1
Issued by the central bank	17.8	8.5	30.8	36.8	42.0	37.9
Held by the central bank	69.5	60.8	28.0	19.0	11.0	9.1
Held by the public	30.5	39.2	72.0	81.0	89.0	90.9
	(Percent of GDP)					
Issued by the treasury	24.9	21.4	10.9	12.2	14.7	16.9
Issued by the central bank	5.4	2.0	4.9	7.1	10.6	10.3
Held by the central bank	21.0	14.2	4.4	3.7	2.8	2.5
Held by the public	9.2	9.2	11.3	15.6	22.5	24.7
Memorandum item:						
GDP 2/	1,776	54,249	545,290	696,223	782,469	847,683

Sources: Central Bank of Brazil; and Fund staff estimates.

1/ Federal government is defined here as the treasury plus the central bank.
2/ Adjusted for the end-of-period effect.

Table 47. Brazil: Outstanding Domestic Bonded Debt of the State and Municipal Governments

	1992	1993	1994	1995	1996	Oct. 1997
	(In millions of *reais*, end-of-period stocks)					
Total outstanding	**61**	**1,991**	**24,916**	**39,512**	**51,720**	**60,689**
State governments	56	1,792	22,299	34,396	45,149	52,998
Minas Gerais	12	360	4,506	6,882	8,773	10,293
Rio de Janeiro	8	249	3,072	4,656	5,935	6,963
Rio Grande do Sul	9	265	3,336	5,133	6,543	7,685
São Paulo	23	759	9,550	14,603	18,723	21,981
Others	5	159	1,835	3,122	5,175	6,076
Municipal governments	**4**	**199**	**2,617**	**5,116**	**6,571**	**7,691**
Rio de Janeiro	1	60	763	1,165	1,338	1,563
São Paulo	3	139	1,854	3,951	5,021	5,887
Others	0	0	0	0	212	241
	(As a percent of total state and municipal government bonded debt)					
State governments	**93.1**	**90.0**	**89.5**	**87.1**	**87.3**	**87.3**
Minas Gerais	19.3	18.1	18.1	17.4	17.0	17.0
Rio de Janeiro	13.9	12.5	12.3	11.8	11.5	11.5
Rio Grande do Sul	14.4	13.3	13.4	13.0	12.7	12.7
São Paulo	38.0	38.1	38.3	37.0	36.2	36.2
Others	7.6	8.0	7.4	7.9	10.0	10.0
Municipal governments	**6.9**	**10.0**	**10.5**	**12.9**	**12.7**	**12.7**
Rio de Janeiro	2.0	3.0	3.1	2.9	2.6	2.6
São Paulo	5.0	7.0	7.4	10.0	9.7	9.7
Others	0.0	0.0	0.0	0.0	0.4	0.4
	(Percent of GDP)					
Total outstanding	**3.4**	**3.7**	**4.6**	**5.7**	**6.6**	**7.2**
State governments	**3.2**	**3.3**	**4.1**	**4.9**	**5.8**	**6.3**
Minas Gerais	0.7	0.7	0.8	1.0	1.1	1.2
Rio de Janeiro	0.5	0.5	0.6	0.7	0.8	0.8
Rio Grande do Sul	0.5	0.5	0.6	0.7	0.8	0.9
São Paulo	1.3	1.4	1.8	2.1	2.4	2.6
Others	0.3	0.3	0.3	0.4	0.7	0.7
Municipal governments	**0.2**	**0.4**	**0.5**	**0.7**	**0.8**	**0.9**
Rio de Janeiro	0.1	0.1	0.1	0.2	0.2	0.2
São Paulo	0.2	0.3	0.3	0.6	0.6	0.7
Others	0.0	0.0	0.0	0.0	0.0	0.0
Memorandum item:						
GDP 1/	1,776	54,249	545,290	696,212	782,469	847,683

Source: Central Bank of Brazil.

1/ Adjusted for the end-of-period effect.

Table 48. Brazil: Monetary Aggregates

(In millions of *reais*, end-of-period)

	Base money	M-1	FIF FRF-CP DER 1/	Savings and time deposits 2/	M-2	Public sector Securities 3/	M-4
1993							
Jan.	23.1	33.2	95.9	336.0	465.1	179.9	645.0
Feb.	28.0	45.0	126.4	413.8	585.1	224.3	809.4
Mar.	34.1	51.1	152.0	534.0	737.1	299.7	1,036.8
Apr.	42.7	68.0	177.3	691.7	936.9	385.3	1,322.3
May	53.6	85.6	205.5	905.0	1,196.2	496.9	1,693.1
Jun.	64.0	107.3	257.3	1,198.6	1,563.3	659.4	2,222.7
Jul.	88.1	144.0	330.9	1,591.6	2,066.5	917.5	2,984.0
Aug.	110.4	180.3	405.6	2,162.0	2,747.9	1,289.6	4,037.5
Sept.	139.0	229.8	534.3	2,873.3	3,637.4	1,696.1	5,333.5
Oct.	203.4	312.9	715.8	3,981.9	5,010.5	2,450.6	7,461.1
Nov.	286.8	475.2	973.6	5,512.9	6,961.6	3,462.2	10,423.8
Dec.	516.7	750.3	1,299.2	8,115.7	10,165.2	4,667.0	14,832.2
1994							
Jan.	567.9	847.8	1,734.7	11,389.6	13,972.1	7,294.8	21,267.0
Feb.	774.0	1,228.1	2,485.5	15,961.1	19,674.7	10,389.0	30,063.7
Mar.	1,035.0	1,657.7	3,436.4	22,820.8	27,914.9	15,085.3	43,000.1
Apr.	1,562.0	2,487.7	4,817.9	32,010.1	39,315.7	21,445.1	60,760.8
May	2,284.0	3,664.6	23,009.0	49,526.0	76,199.6	31,733.0	107,932.6
Jun.	3,177.0	6,458.0	10,509.0	71,145.0	88,112.0	47,541.0	135,653.0
Jul.	7,533.0	9,567.0	11,847.0	81,911.0	103,325.0	47,558.0	150,883.0
Aug.	9,414.0	11,748.0	12,247.0	86,619.0	110,614.0	46,474.0	157,088.0
Sept.	12,789.0	14,217.0	12,554.0	88,879.0	115,650.0	41,484.0	157,134.0
Oct.	12,999.0	14,902.0	12,780.0	94,977.0	122,659.0	41,358.0	164,017.0
Nov.	13,256.0	16,073.0	12,667.0	99,441.0	128,181.0	40,234.0	168,415.0
Dec.	17,685.0	21,056.0	12,791.0	102,599.0	136,446.0	36,975.0	173,421.0
1995							
Jan.	16,737.0	16,541.0	15,780.0	113,334.0	145,655.0	34,413.0	180,068.0
Feb.	15,821.0	18,380.0	16,480.0	116,004.0	150.864.0	35,545.0	186,409.0
Mar.	15,582.0	15,714.0	16,556.0	120,144.0	152,414.0	34,394.0	186,808.0
Apr.	13,828.0	15,763.0	16,437.0	121,721.0	153,921.0	35,302.0	189,223.0
May	13,812.0	14,792.0	16,635.0	123,281.0	154,708.0	36,709.0	191,417.0
Jun.	13,943.0	16,117.0	16,900.0	125,761.0	158,778.0	39,407.0	198,185.0
Jul.	15,034.0	16,352.0	17,660.0	130,102.0	164,114.0	46,238.0	210,352.0
Aug.	15,614.0	16,258.0	18,456.0	134,182.0	168,896.0	52,657.0	221,553.0
Sept.	13,454.0	17,440.0	15,047.0	137,752.0	170,239.0	57,720.0	227,959.0
Oct.	15,352.0	18,068.0	11,573.0	140,508.0	170,149.0	61,885.0	232,034.0
Nov.	15,559.0	20,041.0	13,549.0	141,145.0	174,735.0	65,187.0	239,922.0
Dec.	21,682.0	26,060.0	13,200.0	143,459.0	182,719.0	65,463.0	248,182.0

Table 48. Brazil: Monetary Aggregates

(In millions of *reais*, end-of-period)

	Base money	M-1	FIF FRF-CP DER 1/	Savings and time deposits 2/	M-2	Public sector Securities 3/	M-4
1996							
Jan.	22,434.0	21,477.0	14,958.0	145,505.0	181,940.0	70,271.0	252,211.0
Feb.	17,007.0	21,123.0	15,785.0	146,367.0	183,275.0	75,281.0	258,556.0
Mar.	16,186.0	21,022.0	16,071.0	147,052.0	184,145.0	79,216.0	263,361.0
Apr.	15,002.0	21,039.0	16,543.0	145,892.0	183,474.0	83,176.0	266,650.0
May	16,272.0	21,115.0	16,921.0	145,868.0	183,904.0	90,371.0	274,275.0
Jun.	16,807.0	22,035.0	17,534.0	146,974.0	185,643.0	93,075.0	278,718.0
Jul.	18,748.0	21,278.0	18,082.0	145,519.0	184,879.0	99,314.0	284,193.0
Aug.	15,687.0	21,603.0	18,889.0	145,903.0	186,395.0	101,996.0	288,391.0
Sept.	20,638.0	23,228.0	19,385.0	148,551.0	191,164.0	104,308.0	295,472.0
Oct.	15,565.0	21,790.0	19,743.0	152,901.0	194,434.0	107,359.0	301,793.0
Nov.	15,676.0	22,891.0	21,505.0	155,151.0	199,547.0	111,312.0	310,859.0
Dec.	19,796.0	28,020.0	22,832.0	155,453.0	206,305.0	114,048.0	320,353.0
1997							
Jan.	23,860.0	30,739.0	14,271.0	152,544.0	197,554.0	126,076.0	323,630.0
Feb.	20,285.0	33,208.0	10,115.0	153,231.0	196,554.0	131,818.0	328,372.0
Mar.	22,324.0	33,963.0	8,318.0	155,485.0	197,766.0	135,443.0	333,209.0
Apr.	27,291.0	32,917.0	7,191.0	155,861.0	195,969.0	140,830.0	336,799.0
May	21,740.0	33,423.0	6,567.0	157,904.0	197,894.0	142,354.0	340,248.0
Jun.	24,688.0	34,281.0	6,015.0	163,610.0	203,906.0	144,195.0	348,101.0
Jul.	24,216.0	32,599.0	5,595.0	165,103.0	203,297.0	151,521.0	354,818.0
Aug.	21,868.0	34,666.0	5,412.0	168,632.0	208,710.0	151,399.0	360,109.0
Sept.	24,700.0	35,889.0	5,464.0	174,241.0	215,594.0	154,875.0	370,469.0
Oct.	26,145.0	36,101.0	6,567.0	180,186.0	222,854.0	154,141.0	376,995.0
Nov.	22,993.0	36,817.0	6,772.0	187,241.0	230,830.0	148,754.0	379,584.0

Sources: Central Bank of Brazil; and Fund staff estimates.

1/ Short-term Financial Investment Funds (FIF), Short-Term Fixed-Income Funds (FRF-CP), and Special Remunerated Deposits (DER). Excludes demand deposits held in FIFs.

2/ Excludes deposits in the portfolios of financial institutions, FIFs and FRF-CPs.

3/ Includes securities of the federal, state, and municipal governments. Excludes securities in the portfolios of financial institutions, FIFs and FRF-CPs.

Table 49. Brazil: Summary Accounts of the Financial System 1/

(In millions of *reais*, end-of-period)

	1993	1994	1995	1996	Oct. 1997
	I. Central Bank				
Net foreign assets	**2,996.0**	**33,214.0**	**53,728.0**	**68,216.0**	**68,132.0**
Net international reserves	2,959.0	31,600.0	49,614.0	62,278.0	61,640.0
Net other foreign assets	37.0	1,614.0	4,114.0	5,938.0	6,492.0
Net domestic assets	**5,357.0**	**49,789.0**	**51,889.0**	**76,675.0**	**94,479.0**
Net claims on public sector	6,920.0	14,412.0	8,448.0	2,385.0	-3,245.0
Net central administration	6,911.0	14,412.0	8,448.0	2,385.0	-3,245.0
Net state and local governments	9.0	0.0	0.0	0.0	0.0
Net social security	0.0	0.0	0.0	0.0	0.0
Net official enterprises	0.0	0.0	0.0	0.0	0.0
Credit to deposit money banks	120.0	20,556.0	34,572.0	67,639.0	86,279.0
Credit to rest of banking system	1.0	5.0	5.0	3.0	884.0
Credit to non-banking institutions	0.0	0.0	0.0	6.0	7.0
Credit under repurchase agreements	146.0	13,908.0	3,227.0	1.0	0.0
Blocked financial assets	-75.0	-306.0	-190.0	-125.0	-13.0
Credit to private sector	0.0	3.0	5.0	5.0	5.0
Nonmonetary international organizations	60.0	469.0	639.0	801.0	946.0
Official capital and surplus	-1,780.0	-556.0	-890.0	-3,654.0	-2,998.0
Net unclassified assets	-35.0	1,298.0	6,073.0	9,614.0	12,614.0
Counterpart unrequited foreign exchange	234.0	1,366.0	-2,539.0	-3,142.0	-3,188.0
Medium- and long-term foreign liabilities	4,875.0	4,449.0	4,450.0	2,637.0	2,453.0
Mutual funds deposits	260.0	2,552.0	5,154.0	11,632.0	3,560.0
Liabilities to deposit money banks	927.0	24,377.0	22,370.0	22,242.0	43,735.0
Liabilities to rest of banking system	1.0	211.0	382.0	379.0	1,237.0
Liabilities to non-banking institutions	15.0	96.0	2.0	31.0	3.0
Central bank securities outstanding	867.0	39,289.0	52,457.0	83,106.0	87,502.0
Liabilities under repurchase agreements	1,302.0	4,501.0	5,741.0	6,368.0	7,145.0
Liabilities to private sector	**340.0**	**8,894.0**	**12,522.0**	**15,354.0**	**13,788.0**
Currency in circulation	340.0	8,889.0	12,515.0	15,482.0	14,194.0
Other liabilities	0.0	5.0	7.0	-128.0	-406.0

Table 49. Brazil: Summary Accounts of the Financial System 1/ (continued)

(In millions of *reais*, end-of-period)

	1993	1994	1995	1996	Oct. 1997
	II. Deposit Money Banks				
Net foreign assets	**-766.0**	**-3,591.0**	**-10,224.0**	**-16,351.0**	**-15,487.0**
Assets	1,802.0	16,654.0	17,982.0	19,360.0	19,112.0
Liabilities	2,568.0	20,245.0	28,206.0	35,711.0	34,599.0
Monetary reserves and currency holdings	901.0	22,283.0	22,114.0	21,580.0	40,921.0
Other claims on monetary authorities	320.0	5,043.0	6,578.0	18,896.0	11,723.0
Net domestic assets	**14,518.0**	**158,807.0**	**233,430.0**	**250,655.0**	**271,017.0**
Net claims on public sector	2,179.0	9,036.0	25,171.0	48,813.0	43,697.0
Net central administration	-185.0	-6,485.0	7,936.0	23,179.0	17,908.0
Net state and local governments	1,422.0	13,446.0	17,967.0	25,673.0	30,120.0
Net social security	-198.0	-3,653.0	-6,316.0	-9,411.0	-9,427.0
Net official enterprises	1,140.0	5,728.0	5,584.0	9,372.0	5,096.0
Credit to rest of banking system	79.0	558.0	738.0	914.0	2,510.0
Blocked financial assets	0.0	13.0	0.0	0.0	0.0
Credit to private sector	11,589.0	153,906.0	192,424.0	199,613.0	217,628.0
Official capital and surplus	-2,080.0	-16,262.0	-21,478.0	-28,063.0	-39,689.0
Net unclassified assets	2,752.0	11,556.0	36,575.0	29,378.0	46,871.0
Medium- and long-term foreign liabilities	1,115.0	9,611.0	13,095.0	15,967.0	21,753.0
Liabilities to monetary authorities	146.0	9,844.0	17,678.0	24,088.0	20,424.0
Liabilities to rest of banking system	1,083.0	9,835.0	7,877.0	11,689.0	9,548.0
Liabilities to private sector	**12,631.0**	**153,252.0**	**213,248.0**	**223,036.0**	**256,449.0**
Demand deposits	379.0	10,868.0	11,255.0	9,250.0	19,341.0
Quasi-monetary liabilities	9,980.0	113,786.0	159,901.0	165,474.0	182,631.0
Savings deposits	2,914.0	40,704.0	58,562.0	66,884.0	76,961.0
Time deposits	4,804.0	52,469.0	78,438.0	74,373.0	78,509.0
Other deposits	2,262.0	20,613.0	22,901.0	24,217.0	27,161.0
Other liabilities	283.0	3,320.0	6,550.0	7,256.0	9,883.0
Private capital and surplus	1,990.0	25,278.0	35,542.0	41,056.0	44,594.0

Table 49. Brazil: Summary Accounts of the Financial System 1/ (continued)

(In millions of *reais*, end-of-period)

	1993	1994	1995	1996	Oct. 1997
	III. Monetary System				
Net foreign assets	**2,230.0**	**29,623.0**	**43,504.0**	**51,865.0**	**52,645.0**
Assets	5,605.0	50,763.0	72,188.0	87,719.0	87,395.0
Liabilities	3,375.0	21,140.0	28,684.0	35,854.0	34,750.0
Net domestic assets	**17,855.0**	**157,911.0**	**215,765.0**	**232,002.0**	**259,334.0**
Net claims on public sector	9,099.0	23,448.0	33,619.0	51,198.0	40,452.0
Net central administration	6,725.0	7,927.0	16,384.0	25,564.0	14,663.0
Net state and local governments	1,431.0	13,446.0	17,967.0	25,673.0	30,120.0
Net social security	-198.0	-3,653.0	-6,316.0	-9,411.0	-9,427.0
Net official enterprises	1,140.0	5,728.0	5,584.0	9,372.0	5,096.0
Credit to rest of banking system	79.0	563.0	743.0	917.0	3,394.0
Credit to non-banking institutions	0.0	0.0	0.0	6.0	7.0
Blocked financial assets	-75.0	-293.0	-190.0	-125.0	-13.0
Credit to private sector	11,589.0	153,909.0	192,429.0	199,618.0	217,633.0
Nonmonetary international organizations	60.0	469.0	639.0	801.0	946.0
Official capital and surplus	-3,860.0	-16,818.0	-22,368.0	-31,717.0	-42,687.0
Net unclassified assets	695.0	-17,028.0	-12,323.0	-50,481.0	-35,162.0
Net interbank float	268.0	13,661.0	23,216.0	61,785.0	74,764.0
Counterpart unrequited foreign exchange	234.0	1,366.0	-2,539.0	-3,142.0	-3,188.0
Medium- and long-term foreign liabilities	5,990.0	14,060.0	17,545.0	18,604.0	24,206.0
Mutual funds deposits	260.0	2,552.0	5,154.0	11,632.0	3,560.0
Liabilities to rest of banking system	1,084.0	10,046.0	8,259.0	12,068.0	10,785.0
Liabilities to non-banking institutions	15.0	96.0	2.0	31.0	3.0
Liabilities to private sector	**12,970.0**	**162,146.0**	**225,770.0**	**238,390.0**	**270,237.0**
Monetary liabilities	718.0	19,757.0	23,770.0	24,732.0	33,535.0
Currency in circulation	340.0	8,889.0	12,515.0	15,482.0	14,194.0
Demand deposits	379.0	10,868.0	11,255.0	9,250.0	19,341.0
Quasi-monetary liabilities	9,980.0	113,786.0	159,901.0	165,474.0	182,631.0
Savings deposits	2,914.0	40,704.0	58,562.0	66,884.0	76,961.0
Time deposits	4,804.0	52,469.0	78,438.0	74,373.0	78,509.0
Other deposits	2,262.0	20,613.0	22,901.0	24,217.0	27,161.0
Other liabilities	283.0	3,325.0	6,557.0	7,128.0	9,477.0
Private capital and surplus	1,990.0	25,278.0	35,542.0	41,056.0	44,594.0

Table 49. Brazil: Summary Accounts of the Financial System 1/ (continued)

(In millions of *reais*, end-of-period)

	1993	1994	1995	1996	Oct. 1997
	IV. Rest of Banking System				
Net foreign assets	**44.0**	**1,030.0**	**339.0**	**-515.0**	**-397.0**
Assets	83.0	1,269.0	382.0	184.0	150.0
Liabilities	39.0	239.0	43.0	699.0	547.0
Monetary reserves and currency holdings	53.0	1,526.0	611.0	768.0	1,234.0
Other claims on monetary authorities	15.0	113.0	459.0	1,195.0	2,396.0
Net domestic assets	**1,306.0**	**12,689.0**	**13,232.0**	**16,016.0**	**20,289.0**
Net claims on public sector	-480.0	-6,284.0	-6,372.0	-8,262.0	-8,018.0
Net central administration	-990.0	-9,907.0	-10,675.0	-12,969.0	-13,223.0
Net state and local governments	156.0	918.0	931.0	1,160.0	2,206.0
Net social security	0.0	0.0	0.0	0.0	0.0
Net official enterprises	355.0	2,705.0	3,372.0	3,547.0	2,999.0
Credit to deposit money banks	1,025.0	11,506.0	15,623.0	19,433.0	21,933.0
Blocked financial assets	0.0	0.0	0.0	0.0	0.0
Credit to private sector	1,981.0	25,796.0	27,333.0	31,802.0	41,088.0
Official capital and surplus	-1,120.0	-12,816.0	-16,461.0	-12,624.0	-14,242.0
Net unclassified assets	-100.0	-5,513.0	-6,891.0	-14,333.0	-20,472.0
Medium- and long-term foreign liabilities	261.0	1,638.0	2,141.0	2,636.0	4,135.0
Liabilities to monetary authorities	57.0	778.0	1,035.0	1,065.0	2,027.0
Liabilities to deposit money banks	145.0	958.0	1,162.0	1,152.0	3,835.0
Liabilities to private sector	**955.0**	**11,984.0**	**10,303.0**	**12,611.0**	**13,525.0**
Demand deposits	0.0	0.0	0.0	0.0	0.0
Quasi-monetary liabilities	684.0	7,865.0	5,298.0	6,339.0	7,440.0
Savings deposits	209.0	2,466.0	3,305.0	3,807.0	4,704.0
Time deposits	431.0	5,036.0	1,692.0	2,228.0	2,361.0
Other deposits	44.0	363.0	301.0	304.0	375.0
Other liabilities	9.0	179.0	143.0	563.0	413.0
Private capital and surplus	262.0	3,940.0	4,862.0	5,709.0	5,672.0

Table 49. Brazil: Summary Accounts of the Financial System 1/ (continued)

(In millions of *reais*, end-of-period)

	1993	1994	1995	1996	Oct. 1997
	V. Banking System				
Net foreign assets	**2,275.0**	**30,653.0**	**43,843.0**	**51,350**	**52,248**
Assets	5,688.0	51,032.0	72,570.0	87,903	87,545
Liabilities	3,413.0	21,379.0	28,727.0	36,553	35,297
Net domestic assets	**17,943.0**	**160,457.0**	**219,611.0**	**235,696**	**266,606**
Net claims on public sector	8,618.0	17,164.0	27,247.0	42,936	32,434
Net central administration	5,735.0	-1,980.0	5,709.0	12,595	1,440
Net state and local governments	1,587.0	14,364.0	18,898.0	26,833	32,326
Net social security	-198.0	-3,653.0	-6,316.0	-9,411	-9,427
Net official enterprises	1,495.0	8,433.0	8,956.0	12,919	8,095
Credit to non-banking institutions	0.0	0.0	0.0	6	7
Blocked financial assets	-75.0	-293.0	-190.0	-125	-13
Credit to private sector	13,570.0	179,705.0	219,762.0	231,420	258,721
Nonmonetary international organizations	60.0	469.0	639.0	801	946
Official capital and surplus	-4,980.0	-29,634.0	-38,829.0	-44,341	-56,929
Net unclassified assets	595.0	-22,541.0	-19,214.0	-64,814	-55,634
Net interbank float	155.0	15,587.0	30,196.0	69,813	87,074
Counterpart unrequited foreign exchange	234.0	1,366.0	-2,539.0	-3,142	-3,188
Medium- and long-term foreign liabs	6,251.0	15,698.0	19,686.0	21,240	28,341
Mutual funds deposits	260.0	2,552.0	5,154.0	11,632	3,560
Liabilities to non-banking institutions	15.0	96.0	2.0	31	3
Liabilities to private sector	**13,926.0**	**174,130.0**	**236,073.0**	**251,001**	**283,762**
Monetary liabilities	718.0	19,757.0	23,770.0	24,732	33,535
Currency in circulation	340.0	8,889.0	12,515.0	15,482	14,194
Demand deposits	379.0	10,868.0	11,255.0	9,250	19,341
Quasi-monetary liabilities	10,664.0	121,651.0	165,199.0	171,813	190,071
Savings deposits	3,123.0	43,170.0	61,867.0	70,691	81,665
Time deposits	5,235.0	57,505.0	80,130.0	76,601	80,870
Other deposits	2,306.0	20,976.0	23,202.0	24,521	27,536
Other liabilities	292.0	3,504.0	6,700.0	7,691	9,890
Private capital and surplus	2,251.0	29,218.0	40,404.0	46,765	50,266

Table 49. Brazil: Summary Accounts of the Financial System 1/ (continued)

(In millions of *reais*, end-of-period)

	1993	1994	1995	1996	Oct. 1997
VI. Nonbank Financial Institutions					
Net foreign assets	**11.0**	**76.0**	**87.0**	**71.0**	**-137.0**
Assets	11.0	76.0	87.0	93.0	42.0
Liabilities	0.0	0.0	0.0	22.0	179.0
Monetary reserves and currency holdings	0.0	3.0	6.0	31.0	4.0
Other claims on monetary authorities	8.0	405.0	154.0	350.0	406.0
Net domestic assets	**930.0**	**9,510.0**	**10,349.0**	**22,520.0**	**25,294.0**
Net claims on public sector	95.0	413.0	380.0	1,511.0	1,557.0
Net central administration	65.0	17.0	42.0	1,089.0	1,101.0
Net state and local governments	26.0	360.0	330.0	408.0	443.0
Net social security	0.0	0.0	0.0	0.0	0.0
Net official enterprises	4.0	36.0	8.0	14.0	13.0
Credit to deposit money banks	178.0	1,405.0	1,709.0	3,062.0	3,107.0
Credit to rest of banking system	1.0	14.0	5.0	12.0	33.0
Blocked financial assets	0.0	0.0	0.0	0.0	0.0
Credit to private sector	91.0	2,074.0	2,458.0	3,599.0	3,001.0
Official capital and surplus	0.0	0.0	0.0	0.0	0.0
Net unclassified assets	565.0	5,604.0	11,797.0	14,336.0	17,596.0
Medium- and long-term foreign liabilities	170.0	1,529.0	2,293.0	2,972.0	3,160.0
Liabilities to monetary authorities	0.0	0.0	0.0	0.0	0.0
Liabilities to deposit money banks	0.0	0.0	0.0	0.0	0.0
Liabilities to rest of banking system	204.0	1,517.0	1,619.0	3,670.0	3,629.0
Liabilities to private sector	**575.0**	**6,948.0**	**12,684.0**	**16,330.0**	**18,778.0**
Demand deposits	0.0	0.0	0.0	0.0	0.0
Quasi-monetary liabilities	0.0	0.0	0.0	0.0	0.0
Savings deposits	0.0	0.0	0.0	0.0	0.0
Time deposits	0.0	0.0	0.0	0.0	0.0
Other deposits	0.0	0.0	0.0	0.0	0.0
Other liabilities	131.0	1,181.0	3,901.0	5,482.0	7,397.0
Private capital and surplus	444.0	5,767.0	8,783.0	10,848.0	11,381.0

Table 49. Brazil: Summary Accounts of the Financial System 1/ (concluded)

(In millions of *reais*, end-of-period)

	1993	1994	1995	1996	Oct. 1997
	VII. Financial System				
Net foreign assets	**2,285.0**	**30,729.0**	**43,930.0**	**51,421.0**	**52,111.0**
Assets	5,699.0	52,108.0	72,657.0	87,996.0	87,587.0
Liabilities	3,413.0	21,379.0	28,727.0	36,575.0	35,476.0
Net domestic assets	**18,663.0**	**168,762.0**	**234,499.0**	**254,896.0**	**288,678.0**
Net claims on public sector	8,714.0	17,577.0	27,627.0	44,447.0	33,991.0
Net central administration	5,800.0	-1,963.0	5,751.0	13,684.0	2,541.0
Net state and local governments	1,613.0	14,724.0	19,228.0	27,241.0	32,769.0
Net social security	-198.0	-3,653.0	-6,316.0	-9,411.0	-9,427.0
Net official enterprises	1,499.0	8,469.0	8,964.0	12,933.0	8,108.0
Blocked financial assets	-75.0	-293.0	-190.0	-125.0	-13.0
Credit to private sector	13,661.0	181,779.0	222,220.0	235,019.0	261,722.0
Nonmonetary international organizations	60.0	469.0	639.0	801.0	946.0
Official capital and surplus	-4,980.0	-29,634.0	-38,829.0	-44,341.0	-56,929.0
Net unclassified assets	1,160.0	-16,937.0	-7,417.0	-50,478.0	-38,038.0
Net interbank float	123.0	15,801.0	30,449.0	69,573.0	86,999.0
Counterpart unrequited foreign exchange	234.0	1,366.0	-2,539.0	-3,142.0	-3,188.0
Medium- and long-term foreign liabilities	6,421.0	17,227.0	21,979.0	24,212.0	31,501.0
Mutual funds deposits	260.0	2,552.0	5,154.0	11,632.0	3,560.0
Liabilities to private sector	**14,500.0**	**181,078.0**	**248,757.0**	**267,331.0**	**302,540.0**
Monetary liabilities	718.0	19,757.0	23,770.0	24,732.0	33,535.0
Currency in circulation	340.0	8,889.0	12,515.0	15,482.0	14,194.0
Demand deposits	379.0	10,868.0	11,255.0	9,250.0	19,341.0
Quasi-monetary liabilities	10,664.0	121,651.0	165,199.0	171,813.0	190,071.0
Savings deposits	3,123.0	43,170.0	61,867.0	70,691.0	81,665.0
Time deposits	5,235.0	57,505.0	80,130.0	76,601.0	80,870.0
Other deposits	2,306.0	20,976.0	23,202.0	24,521.0	27,536.0
Other liabilities	423.0	4,685.0	10,601.0	13,173.0	17,287.0
Private capital and surplus	2,695.0	34,985.0	49,187.0	57,613.0	61,647.0

Sources: Central Bank of Brazil; and Fund staff estimates.

1/ Beginning with end-1994, the data exclude information on the state banks of São Paulo and Rio de Janeiro and some small financial institutions.

Table 50. Brazil: Financial System Loans to the Private Sector 1/

	1993	1994 2/	1995 2/	1996 2/	October 1997 2/
			(In millions of *reais*)		
Total	**18,204.0**	**160,099.0**	**204,738.0**	**226,068.0**	**269,324.0**
Rural	1,627.0	18,550.0	26,732.0	24,414.0	31,586.0
Industry	6,837.1	39,475.0	54,452.0	66,737.0	76,846.0
Commerce	1,584.7	18,182.0	28,170.0	29,402.0	33,747.0
Consumer loans	665.0	15,005.0	16,064.0	23,171.0	36,489.0
Housing	4,167.8	45,435.0	53,864.0	55,796.0	60,208.0
Other services	3,322.4	23,452.0	25,456.0	26,548.0	30,448.0
			(In percent of total)		
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Rural	8.9	11.6	13.1	10.8	11.7
Industry	37.6	24.7	26.6	29.5	28.5
Commerce	8.7	11.3	13.8	13.0	12.5
Consumer loans	3.7	9.4	7.8	10.2	13.5
Housing	22.9	28.4	26.3	24.7	22.4
Other services	18.3	14.6	12.4	11.7	11.3

Sources: Central Bank of Brazil; and Fund staff estimates.

1/ Includes receivables, payments arrears, and loans in the process of liquidation.

2/ Excludes information on the state banks of São Paulo and Rio de Janeiro, and some small financial institutions. Because of the resulting difference in coverage with previous years, percentage changes are not calculated for these columns.

Table 51. Brazil: Monthly Rates of Return on Selected Instruments

(In percent)

	Nominal rates			Real rates 1/		
	Overnight	Time deposit	Savings deposit	Overnight	Time deposit	Savings deposit
1990 (average)	25.4	25.9	26.6	-0.3	0.1	0.7
1991 (average)	17.0	18.4	15.6	0.6	1.8	-0.6
1992 (average)	26.3	26.2	24.1	2.2	2.1	0.4
1993 (average)	33.4	33.3	31.6	0.6	0.5	-0.8
January	28.5	30.4	27.4	0.7	2.2	-0.2
February	28.9	24.4	27.0	1.4	-2.2	-0.1
March	28.4	27.7	26.4	0.3	-0.3	-1.2
April	30.5	32.2	28.9	0.2	1.5	-1.0
May	30.9	31.2	29.3	-0.4	-0.2	-1.7
June	31.9	31.8	30.7	0.4	0.4	-0.5
July	32.7	33.1	31.0	0.0	0.3	-1.3
August	34.6	34.2	34.0	-0.5	-0.8	-0.9
September	37.2	38.7	35.3	0.9	2.0	-0.6
October	38.4	37.5	34.6	1.7	1.1	-1.1
November	38.4	37.8	36.8	1.3	0.9	0.2
December	40.4	40.7	37.5	0.9	1.1	-1.2
1994 (average)	25.2	26.0	24.0	1.8	2.3	0.9
January	42.8	46.8	42.2	0.4	3.3	0.0
February	42.0	43.9	40.6	-0.3	1.1	-1.3
March	46.4	44.9	42.6	1.1	0.1	-1.6
April	46.5	49.5	46.7	2.8	4.9	3.0
May	48.0	48.4	47.2	5.0	5.3	4.4
June	50.6	53.7	47.6	2.8	4.9	0.7
July	6.9	5.2	5.6	1.3	-0.3	0.1
August	4.2	3.6	2.6	0.8	0.2	-0.7
September	3.8	4.0	3.0	2.3	2.4	1.4
October	3.6	3.9	3.1	1.1	1.3	0.5
November	4.1	4.3	3.4	1.6	1.8	0.9
December	3.8	3.5	3.4	3.2	2.9	2.8
1995 (average)	3.6	3.5	2.8	2.4	2.4	1.7
January	3.4	3.6	2.6	2.0	2.2	1.2
February	3.3	3.1	2.4	2.1	2.0	1.2
March	4.3	4.6	2.8	2.4	2.7	1.0
April	4.3	4.3	4.0	1.9	2.0	1.7
May	4.3	4.1	3.8	3.8	3.7	3.4
June	4.0	4.1	3.4	1.4	1.4	0.8
July	4.0	3.9	3.5	1.7	1.7	1.2
August	3.8	3.5	3.1	2.5	2.1	1.8
September	3.3	3.1	2.5	4.5	4.2	3.6
October	3.1	2.9	2.2	2.9	2.6	1.9
November	2.9	2.9	2.0	1.5	1.5	0.6
December	2.8	2.5	1.9	2.5	2.3	1.6

Table 51. Brazil: Monthly Rates of Return on Selected Instruments

(In percent)

	Nominal rates			Real rates 1/		
	Overnight	Time deposit	Savings deposit	Overnight	Time deposit	Savings deposit
1996						
January	2.6	2.6	1.8	0.8	0.8	0.0
February	2.4	2.3	1.5	1.6	1.5	0.7
March	2.2	2.1	1.3	1.9	1.9	1.1
April	2.1	2.0	1.2	1.2	1.2	0.5
May	2.0	2.0	1.1	0.3	0.3	-0.6
June	2.0	1.9	1.1	0.8	0.7	-0.1
July	1.9	1.8	1.1	0.8	0.7	0.0
August	2.0	1.9	1.1	2.0	1.9	1.1
September	1.9	1.8	1.2	1.7	1.6	1.0
October	1.9	1.8	1.3	1.6	1.6	1.0
November	1.8	1.8	1.3	1.2	1.2	0.7
December	1.8	1.6	1.4	0.6	0.4	0.1
1997						
January	1.7	1.8	1.3	0.7	0.7	0.3
February	1.7	1.9	1.2	0.9	1.1	0.4
March	1.6	1.6	1.1	0.8	0.7	0.3
April	1.7	1.6	1.1	1.2	1.1	0.7
May	1.6	1.6	1.1	1.1	1.1	0.6
June	1.6	1.6	1.2	1.2	1.2	0.8
July	1.6	1.6	1.2	1.6	1.6	1.1
August	1.6	1.6	1.1	1.4	1.5	1.0
September	1.6	1.6	1.2	1.2	1.1	0.7

Sources: Central Bank of Brazil; and Fund staff estimates.

1/ Real interest rates are nominal rates deflated by the IGP-DI, end-of-period.

Table 52. Brazil: Total Loans by Sector 1/

(In percent of total loans)

	Public Sector			Private Sector							
	Federal government	States and municipalities	Subtotal	Industry	Mortgage	Agriculture	Commerce	Individual	Other services	Subtotal	Total
Dec. 1991	8.15	21.03	29.19	20.18	26.01	9.45	5.73	1.98	7.47	70.81	100.00
Dec. 1992	5.88	20.77	26.65	20.49	27.44	8.83	5.69	2.56	8.34	73.35	100.00
Dec. 1993	4.20	16.61	20.81	30.82	20.72	7.52	7.02	3.07	10.04	79.19	100.00
Dec. 1994	4.10	15.20	19.30	19.90	22.90	9.40	9.20	7.60	11.80	80.70	100.00
1995											
January	4.1	15.3	19.4	20.5	22.8	9.2	9.3	7.6	11.2	80.63	100.0
February	4.0	15.1	19.1	21.2	22.5	9.3	9.4	7.0	11.4	80.87	100.0
March	4.0	15.2	19.2	20.9	21.7	9.3	9.8	7.2	11.8	80.78	100.0
April	4.0	15.4	19.3	21.3	22.5	9.5	10.0	7.1	10.3	80.65	100.0
May	3.9	15.3	19.2	21.0	22.2	9.3	9.9	7.0	11.4	80.80	100.0
June	4.0	14.8	18.8	20.6	22.6	9.4	10.3	6.7	11.5	81.15	100.0
July	3.5	12.7	16.2	22.9	22.2	10.4	11.4	7.3	9.6	83.79	100.0
August	2.6	12.7	15.4	23.0	22.7	10.8	11.4	7.0	9.7	84.62	100.0
September	2.4	12.7	15.1	22.6	22.7	10.9	11.6	6.8	10.2	84.86	100.0
October	2.5	13.0	15.4	22.6	22.5	11.1	11.5	6.7	10.1	84.57	100.0
November	2.5	13.4	15.9	22.4	22.3	11.0	11.6	6.5	10.3	84.14	100.0
December	2.7	13.0	15.6	22.4	22.2	11.0	11.6	6.6	10.5	84.39	100.0
1996											
January	2.6	16.7	19.3	21.8	21.5	10.3	11.5	6.4	9.3	80.74	100.0
February	2.6	17.0	19.6	21.3	21.2	10.5	11.6	6.5	9.5	80.39	100.0
March	2.9	17.5	20.3	21.8	21.1	10.2	11.5	6.1	9.0	79.66	100.0
April	2.2	17.5	19.8	21.6	20.9	10.5	11.5	6.0	9.6	80.20	100.0
May	2.2	18.1	20.2	21.7	20.0	10.4	11.3	5.8	10.6	79.76	100.0
June	2.0	18.2	20.2	21.7	20.8	10.2	11.3	6.0	9.8	79.83	100.0
July	1.9	19.3	21.3	21.5	20.6	9.6	11.3	6.2	9.5	78.73	100.0
August	2.0	19.1	21.1	22.0	20.2	8.9	11.3	6.6	10.0	78.89	100.0
September	2.3	19.6	21.9	21.9	19.7	8.6	11.4	6.8	9.7	78.07	100.0
October	2.0	19.7	21.6	22.8	19.7	8.8	10.3	7.2	9.4	78.36	100.0
November	2.1	19.9	22.0	22.4	19.4	8.9	10.3	7.7	9.3	78.03	100.0
December	1.9	19.7	21.5	23.2	19.4	8.5	10.2	8.0	9.2	78.46	100.0
1997											
January	1.8	20.1	21.9	22.8	19.2	8.5	9.8	8.4	9.2	78.10	100.0
February	1.8	19.9	21.7	22.8	19.2	8.6	9.9	8.7	9.2	78.33	100.0
March	1.7	19.7	21.4	22.7	19.4	8.7	9.9	8.9	8.9	78.57	100.0
April	1.7	19.6	21.3	22.4	19.3	8.9	9.9	9.1	9.2	78.74	100.0
May	1.3	19.5	20.9	22.5	19.1	8.7	10.2	9.2	9.4	79.12	100.0
June	1.3	20.3	21.6	22.5	18.9	8.5	10.1	9.2	9.1	78.36	100.0
July	1.3	20.3	21.6	22.7	18.7	8.5	10.1	9.3	9.1	78.38	100.0
August	1.3	20.5	21.8	22.7	18.2	8.7	10.0	9.7	9.0	78.24	100.0
September	1.2	20.7	21.9	22.5	17.9	8.7	9.8	10.2	9.0	78.09	100.0
October	1.2	20.5	21.7	22.3	17.5	9.2	9.8	10.6	8.9	78.28	100.0

Source: Central Bank of Brazil.

1/ Total loans include loans in arrears and in liquidation, but exclude loans in liquidation of some official banks (Banespa, and CEF).

Table 53. Brazil: Exports by Principal Commodity Groups

	1993	1994	1995	1996	Jan.-Sep. 1996	Jan.-Sep. 1997
	(In millions of U.S. dollars)					
Total exports f.o.b.	**38,563**	**43,545**	**46,505**	**47,747**	**35,858**	**39,685**
Primary products	**9,357**	**11,055**	**10,969**	**12,184**	**9,086**	**11,784**
Coffee beans	1,065	2,219	1,970	1,719	1,085	2,091
Raw sugar	196	173	408	256	...	...
Soybeans and soybran	2,761	3,296	2,767	2,731	2,210	2,305
Cocoa beans	98	108	25	47	33	3
Tobacco leaf	656	694	769	1,029	813	877
Iron Ore	2,257	2,294	2,548	2,695	2,014	2,134
Other	2,324	2,274	2,482	3,708	2,931	4,374
Industrial products	**28,893**	**31,856**	**34,714**	**34,741**	**26,140**	**27,266**
Semi-manufactures	**5,440**	**6,890**	**9,146**	**8,354**	**6,463**	**6,282**
Crystal sugar	347	615	1,042	935	787	639
Cocoa products	156	173	85	127	99	83
Tin	106	88	57	67	47	48
Soybean oil	306	828	1,107	685	572	500
Paper paste	711	840	1,447	954	744	709
Iron products	624	734	838	390	315	261
Steel products	1,122	1,072	1,368	481	370	374
Leather hides	396	459	566	672	476	552
Other	1,672	2,081	2,636	4,043	3,053	3,117
Manufactures	**23,453**	**24,966**	**25,568**	**26,413**	**19,677**	**20,984**
Soluble coffee	217	340	456	376	288	257
Refined sugar	230	195	366	421	314	482
Electric machinery	1,320	1,404	1,505	1,584	1,163	1,282
Nonelectric machinery	3,324	3,732	3,972	4,180	3,059	3,267
Transport equipment	3,433	3,806	3,336	3,721	2,716	3,762
Of which						
Total automobiles 1/	...	1,142	944	1,160	837	1,471
Airplanes	...	140	182	284	160	443
Footwear	1,932	1,624	1,499	1,650	1,253	1,236
Fruit juices	836	992	1,107	1,416	1,030	713
Steel products	2,774	2,650	2,084	2,359	1,852	1,501
Processed beef	295	287	293	227	189	173
Cotton fabrics and yarn	259	291	216	278	210	186
Other textiles	735	826	814	754	576	545
Petroleum derivatives	766	1,139	839	950	712	751
Other	7,332	7,680	9,171	7,055	5,319	4,915
Other exports	**313**	**634**	**824**	**822**	**632**	**635**
	(Annual percentage change)					
Memorandum items:						
Total exports	7.7	12.8	6.8	2.7	4.9	10.7
Primary products	6.1	18.2	-0.8	11.1	9.1	29.7
Semi-manufactures	5.5	26.5	32.7	-8.7	-0.6	-2.8
Manufactures	9.8	6.4	2.4	3.3	5.3	6.6
Excl. automobiles and airplanes	...	...	3.2	2.2	4.6	2.1
Total automobiles 1/	...	...	-17.3	22.9	15.3	75.7

Source: Central Bank of Brazil.

1/ Passanger and commercial vehicles.
2/ Includes rexports.

Table 54. Brazil: Imports by End-Use

	1993	1994	1995	1996	Jan.-Sep. 1996	Jan.-Sep. 1997
	(In millions of U.S. dollars)					
Total imports, f.o.b.	25,256	33,079	49,972	53,301	37,464	45,776
Consumer goods	3,210	5,540	10,927	9,720	6,666	8,595
Foodstuffs	1,089	2,014	3,514	3,278	2,311	2,549
Apparel	159	296	804	862	583	737
Automobiles	700	1,469	3,040	1,562	1,050	1,907
Others	1,262	1,761	3,569	4,018	2,722	3,402
Raw materials	12,863	15,607	22,382	24,645	17,866	20,993
Grains	1,229	1,408	1,665	2,103	1,599	1,288
Of which						
Wheat	726	749	914	1,288	1,077	730
Fertilizers	511	634	661	860	546	782
Chemical products	3,844	4,961	7,349	7,958	5,817	6,738
Inorganic chemical products	413	495	639	566	412	412
Organic chemical products	1,707	2,202	2,990	3,179	2,367	2,690
Other chemical products	1,724	2,263	3,720	4,214	3,038	3,636
Cast iron and steel	367	432	699	793	556	895
Nonferrous metals	438	571	1,096	938	675	836
Coal	657	677	764	755	551	589
Others	5,817	6,924	10,148	11,238	8,122	9,865
Oil and derivatives	4,094	4,356	5,217	6,228	4,275	4,273
Crude oil	2,138	2,339	2,587	3,459	2,328	2,386
Refined products	1,956	2,017	2,630	2,769	1,947	1,887
Capital goods	5,089	7,576	11,446	12,708	8,657	11,915
Transport equipment and components	1,403	1,927	2,895	2,950	2,137	3,082
Automotive vehicles, tractors etc.	1,107	1,697	2,537	2,417	1,825	2,227
Others	296	231	358	533	312	855
Machines and electric materials	3,686	5,649	8,551	9,758	6,520	8,833
	(In percent)					
Total imports	100.0	100.0	100.0	100.0	100.0	100.0
Consumer goods	12.7	16.7	21.9	18.2	17.8	18.8
Automobiles	2.8	4.4	6.1	2.9	2.8	4.2
Other	9.9	12.3	15.8	15.3	15.0	14.6
Raw materials	50.9	47.2	44.8	46.2	47.7	45.9
Fuels and lubricants	16.2	13.2	10.4	11.7	11.4	9.3
Capital goods	20.1	22.9	22.9	23.8	23.1	26.0
Transport equipment and components	5.6	5.8	5.8	5.5	5.7	6.7
Machines and electric materials	14.6	17.1	17.1	18.3	17.4	19.3
	(Annual percentage change)					
Total imports	...	31.0	51.1	6.7	-1.0	22.2
Consumer goods	...	72.6	97.2	-11.0	-22.9	28.9
Automobiles	...	109.9	106.9	-48.6	-61.2	81.6
Other	...	62.2	93.7	3.4	-5.4	19.1
Raw materials	...	21.3	43.4	10.1	3.4	17.5
Fuels and lubricants	...	6.4	19.8	19.4	6.2	0.0
Capital goods	...	48.9	51.1	11.0	9.8	37.6
Transport equipment and components	...	37.4	50.2	1.9	-6.5	44.2
Machines and electric materials	...	53.2	51.4	14.1	10.9	35.5

Source: Central Bank of Brazil.

Table 55. Brazil: International Reserves of the Central Bank 1/

(In millions of U.S. dollars)

	December 31					Sep. 31
	1992	1993	1994	1995	1996	1997
Net Reserves	16,810	24,948	37,438	51,042	59,951	61,956
Gross reserves	**23,268**	**31,711**	**38,487**	**51,533**	**60,089**	61,996
Gold	747	1,107	1,418	1,767	1,381	955
SDRs	1	2	7	1	1	1
Foreign exchange	22,520	30,602	37,062	49,765	58,707	61,040
Liabilities	**6,458**	**6,763**	**1,049**	**491**	**138**	40
Use of Fund credit	800	304	186	141	68	32
Arrears	6,316	6,449	796	286	0	0
Other liabilities	-658	10	67	64	70	8

Sources: Central Bank of Brazil; and Fund staff estimates.

1/ "Liquidas ajustadas" concept.

Table 56. Brazil: Detailed Balance of Payments

	1993	1994	1995	1996	Jan.-Sep. 1997
	(In billions of U.S. dollars)				
Current account balance	**-0.59**	**-1.68**	**-18.08**	**-24.36**	**-22.63**
As a percent of GDP	-0.14	-0.30	-2.53	-3.25	...
Merchandise trade	**13.31**	**10.47**	**-3.47**	**-5.55**	**-6.09**
Exports, f.o.b.	38.56	43.55	46.51	47.75	39.69
Primary exports	12.62	15.56	16.79	18.07	15.95
Industrial exports	25.94	27.98	29.72	29.68	23.73
Imports, f.o.b.	-25.26	-33.08	-49.97	-53.30	-45.78
Oil imports	-4.40	-4.07	-4.71	-6.12	-4.53
Non-oil imports	-20.86	-29.01	-45.26	-47.17	-41.24
Services and transfers (net)	**-13.90**	**-12.15**	**-14.62**	**-18.81**	**-16.54**
Services (net)	**-15.59**	**-14.74**	**-18.59**	**-21.71**	**-18.20**
Interest payments	-8.28	-6.34	-8.16	-9.84	-6.31
Revenue	1.05	1.80	2.49	2.90	2.90
Expenditure	-9.33	-8.14	-10.64	-12.74	-9.22
Other services	-7.31	-8.41	-10.44	-11.87	-11.88
Revenue	4.22	4.86	6.22	8.25	6.24
Expenditure	-11.53	-13.27	-16.66	-20.11	-18.13
International travel	-0.80	-1.18	-2.42	-3.59	-3.26
Revenue	1.04	1.05	0.97	0.84	0.76
Expenditure	-1.84	-2.23	-3.39	-4.43	-4.02
Transportation	-2.09	-2.44	-3.01	-3.48	-3.19
Revenue	1.64	1.70	1.72	2.73	1.48
Expenditure	-3.73	-4.14	-4.73	-6.21	-4.67
Insurance	-0.05	-0.13	-0.12	-0.06	0.06
Revenue	0.16	0.14	0.19	0.24	0.28
Expenditure	-0.21	-0.27	-0.31	-0.30	-0.22
Profits and dividends	-1.93	-2.57	-2.97	-2.82	-3.96
Revenue	0.22	0.40	0.91	1.47	0.78
Expenditure	-2.15	-2.97	-3.89	-4.29	-4.74
Government	-0.35	-0.33	-0.34	-0.28	-0.23
Revenue	0.05	0.09	0.13	0.18	0.33
Expenditure	-0.40	-0.42	-0.47	-0.45	-0.56
Other	-2.09	-1.76	-1.57	-1.64	-1.32
Revenue	1.11	1.47	2.31	2.79	2.61
Expenditure	-3.20	-3.23	-3.88	-4.43	-3.93
Unrequited transfers	**1.69**	**2.59**	**3.97**	**2.90**	**1.66**
Credits	1.79	2.75	4.23	3.17	1.91
Debits	-0.11	-0.16	-0.25	-0.27	-0.25
Capital account balance	**10.12**	**14.29**	**29.36**	**32.39**	**25.43**
Investment (net) 1/	**6.27**	**8.21**	**5.05**	**16.01**	**18.69**
Abroad by Brazilians (net)	-1.09	-1.04	-1.56	0.08	-0.97
In Brazil by nonresidents	7.36	9.25	6.61	15.93	19.66
Debt conversion	0.22	0.14	0.31	0.29	0.51
FDI	0.37	1.74	3.62	9.12	11.59
Credit	0.95	2.36	4.78	9.64	12.00
Debit	-0.58	-0.62	-1.16	-0.52	-0.41
Portfolio investment	6.65	7.28	2.30	6.04	8.08
Credit	15.35	25.14	24.84	26.08	29.86
Debit	-8.70	-17.86	-22.54	-20.04	-21.97
Reinvested profits	0.10	0.08	0.38	0.45	0.09
Other	0.02	0.01	0.01	0.03	0.04

Table 56. Brazil: Detailed Balance of Payments (concluded)

	1993	1994	1995	1996	Jan.-Sep. 1997
	(In billions of U.S. dollars)				
Long-term capital (net)	**2.98**	**5.17**	**5.47**	**12.39**	**16.52**
Multilateral	-0.70	-0.67	-0.12	1.17	1.51
Disbursement	0.97	1.13	1.66	2.88	2.62
Amortization	-1.67	-1.80	-1.78	-1.71	-1.12
Bilateral	-0.64	-0.69	-1.64	-2.08	-0.85
Inflow	1.24	0.31	0.40	0.41	0.43
Amortization	-1.88	-1.00	-2.04	-2.49	-1.29
Suppliers/buyers	-1.08	-0.55	-0.43	-1.21	6.42
Disbursement	0.42	0.95	1.46	1.12	8.44
Amortization	-1.50	-1.50	-1.89	-2.33	-2.02
Banks	-1.63	3.13	0.28	-2.83	-1.74
Disbursement	0.83	44.51	1.74	0.81	3.70
Amortization	-2.46	-41.38	-1.46	-3.64	-5.44
Intercompany	0.57	0.18	0.73	1.22	1.34
Disbursement	1.06	0.63	1.13	1.58	1.70
Amortization	-0.49	-0.45	-0.40	-0.36	-0.36
Bonds and notes	6.39	4.90	7.88	15.44	8.78
Disbursement	7.37	7.13	10.41	18.50	13.41
Amortization	-0.98	-2.23	-2.53	-3.06	-4.63
Other (net)	0.32	-0.68	-0.55	0.78	1.25
Brazilian lending abroad (net)	-0.25	-0.45	-0.68	-0.10	-0.18
Short-term capital (net)	**0.87**	**0.91**	**18.83**	**4.00**	**-9.78**
Others (including errors and omissions)	-1.12	0.33	2.20	0.97	-0.51
Overall balance	**8.41**	**12.94**	**13.48**	**9.01**	**2.29**
Gross reserves (increase = -)	-8.71	-7.22	-12.92	-8.67	-2.29
Liabilities	0.31	-5.72	-0.56	-0.35	-0.10
IMF	-0.50	-0.13	-0.05	-0.07	-0.03
Monetary authorization and short-term liabilities	0.80	-5.60	-0.51	-0.28	-0.06
Memorandum items:					
Total debt service					
In billion of U.S. dollars 2/3/	19.80	16.26	21.71	27.25	25.31
As percent of exports of goods and nonfactor services 2/3/	47.53	34.74	43.71	52.29	58.98

Source: Central Bank of Brazil.

1/ This table uses the Brazilian classification system for the balance of payments.

2/ Including IMF and excluding commercial banks refinancing in 1994.

3/ Including US$2.7 billion of the debt conversion that took place in the second quarter of 1997.

Table 57. Brazil: Direction of Trade 1/

	1993	1994	1995	1996	Jan.-Sep. 1996	Jan.-Sep. 1997
			(In millions of U.S. dollars)			
Total exports	**38,563**	**43,545**	**46,505**	**47,747**	**35,858**	**39,685**
Latin America 2/	9,547	10,163	10,399	11,322	8,279	10,130
Mercosul	5,387	5,921	6,154	7,306	5,341	6,518
Argentina	3,659	4,136	4,041	5,170	3,784	4,862
Paraguay	952	1,054	1,301	1,325	955	1,039
Uruguay	776	732	812	811	602	617
Other	4,160	4,242	4,245	4,016	2,938	3,612
EU 3/	10,190	12,202	12,912	12,836	9,764	11,191
United States 4/	7,989	8,951	8,798	9,312	6,943	7,120
Japan	2,313	2,574	3,102	3,047	2,390	2,431
Oil exporters 5/	1,099	847	1,078	1,142	878	850
CMEA 6/	530	534	985	1,056	743	924
Other	6,895	8,274	9,231	9,032	6,861	7,039
Total imports	**25,256**	**33,079**	**49,972**	**53,296**	**37,450**	**45,776**
Latin America 2/	4,781	6,411	10,039	11,648	8,164	10,169
Mercosul	3,378	4,583	6,831	8,258	5,880	7,302
Argentina	2,717	3,662	5,581	6,775	4,819	6,132
Paraguay	276	352	514	551	402	441
Uruguay	385	569	737	932	659	729
Other	1,403	1,827	3,208	3,390	2,284	2,867
EU 3/	5,945	8,972	13,754	14,088	10,073	12,106
United States 4/	5,163	6,787	10,513	11,829	8,330	10,526
Japan	1,919	2,412	3,296	2,756	1,910	2,711
Oil exporters 5/	2,899	2,534	2,248	2,665	1,972	2,005
CMEA	573	810	1,044	977	649	649
Other	3,976	5,153	9,078	9,333	6,352	7,610
			(In percent)			
Total exports	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Latin America 2/	24.8	23.3	22.4	23.7	23.1	25.5
Mercosul	14.0	13.6	13.2	15.3	14.9	16.4
Argentina	9.5	9.5	8.7	10.8	10.6	12.3
Paraguay	2.5	2.4	2.8	2.8	2.7	2.6
Uruguay	2.0	1.7	1.7	1.7	1.7	1.6
Other	10.7	9.7	9.1	8.4	8.2	9.1
EU 3/	26.4	28.0	27.8	26.9	27.2	28.2
United States 4/	20.7	20.6	18.9	19.5	19.4	17.9
Japan	6.0	5.9	6.7	6.4	6.7	6.1
Oil exporters 5/	3.0	2.0	2.3	2.4	2.4	2.1
CMEA	1.4	1.2	2.1	2.2	2.1	2.3
Other	17.9	19.0	19.8	18.9	19.1	17.7
Total imports	**100.1**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Latin America 2/	18.9	19.4	20.1	21.9	21.8	22.2
Mercosul	13.4	13.9	13.7	15.5	15.7	16.0
Argentina	10.8	11.1	11.2	12.7	12.9	13.4
Paraguay	1.1	1.1	1.0	1.0	1.1	1.0
Uruguay	1.5	1.8	1.5	1.7	1.8	1.6
Other	5.6	5.4	6.4	6.4	6.1	6.3
EU 2/	23.5	27.2	27.5	26.4	26.9	26.4
United States 3/	20.4	20.5	21.0	22.2	22.2	23.0
Japan	7.6	7.3	6.6	5.2	5.1	5.9
Oil exporters 4/	11.5	7.7	4.5	5.0	5.3	4.4
CMEA	2.3	2.4	2.1	1.8	1.7	1.4
Other	15.7	15.6	18.2	17.5	17.0	16.6

Source: Central Bank of Brazil.

1/ Since 1992 imports according to the country of origin, and not from the country of acquisition of the product.
2/ ALADI, Central American Common Market, and other Latin America.
3/ As from 1995, Austria, Finland and Sweden joined the European Union. The series was rearranged in accordance with present composition
4/ Including Puerto Rico.
5/ Algeria, Iran, Iraq, Kuwait, Lybia, Nigeria, Qatar and Saudi Arabia.
6/ Council for Mutual Economic Assistance (COMECON).

Table 58. Brazil: Total External Debt Outstanding

	End-December				End-June
	1993	1994	1995	Prel. 1996	Prel. 1997
	(In millions of U.S. dollars)				
Registered external debt	**114,270**	**119,668**	**129,313**	**144,092**	**147,909**
Public sector	**83,515**	**86,864**	**87,168**	**84,229**	**...**
Banks	44,016	6,212	6,138	5,642	...
Brazilian	6,749	1,912	1,967	910	...
Foreign	37,267	4,300	4,171	4,732	...
Multilateral organizations	9,014	8,870	8,837	8,880	...
Of which: IMF	304	187	141	68	...
Bilateral (Paris Club included)	19,226	19,264	18,480	15,089	...
Debt bond from banks	8,363	51,538	51,451	51,239	...
Others	2,896	980	2,262	3,379	...
Private sector	**30,755**	**32,804**	**42,145**	**59,863**	**...**
Banks	18,910	22,004	30,252	46,673	...
Brazilian	2,683	3,013	3,808	5,448	...
Foreign	16,227	18,991	26,444	41,225	...
Multilateral	1,852	1,789	1,984	2,513	...
Bilateral	607	413	700	916	...
Others	9,386	8,598	9,209	9,761	...
Non-registered external debt	**31,456**	**28,627**	**29,943**	**34,039**	**32,410**
Public sector	**7,098**	**466**	**287**	**70**	**10**
Arrears	6,449	386	286	0	...
Banks	6,379	386	286	0	
Others	70	0	0	0	...
Paris Club	0	0	0	0	...
Credit lines	1	0	0	0	...
Banco Central do Brasil	648	80	1	70	10
New money trade	600	0	0	0 ...	
Others	48	80	1	70	10
Private sector	**24,358**	**28,161**	**29,656**	**33,969**	**32,400**
Credit lines	2,377	2,586	3,421	5,162	5,448
Commercial banks external liabilities	21,981	25,575	26,235	28,807	26,952
Total external debt	**145,726**	**148,295**	**159,256**	**178,131**	**180,319**
Public sector 1/	90,613	87,330	87,455	84,299	...
Private sector	55,113	60,965	71,801	93,832	...
International reserves 2/	32,211	38,806	51,840	60,110	57,615
Commercial banks assets	8,424	15,035	8,930	10,440	...
Total net external debt	**105,091**	**94,454**	**98,486**	**107,581**	**...**
Memorandum items:					
Total external debt as a percent of exports of goods and nonfactor services	349.7	316.9	320.6	342.4	318.0
GDP	33.2	26.6	22.3	23.8	23.6
Total net external debt as a percent of exports of goods and nonfactor services	252.2	201.9	198.3	206.8	...
GDP	24.0	17.0	13.8	14.4	...
Short-term debt as percent of gross international reserves	97.7	73.8	57.8	56.6	56.3

Sources: Central Bank of Brazil; and Fund staff estimates.

1/ Includes outstanding purchases from the Fund.
2/ Includes arrears.
3/ Includes arrears to suppliers and arrears related to foreign direct investment.
4/ Exports of goods and nonfactor services.
5/ GDP in U.S. dollars, Central Bank of Brazil estimates.
6/ Gross international reserves of the Central Bank, end-of-period.