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Brazil

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CENTRE FOR CO-OPERATION WITH NON-MEMBERS (CCNM)

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2000-2001

Brazil

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

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BASIC STATISTICS OF BRAZIL

THE LAND

Area (thousand sq. km)	8 547.4

Inhabitants in urban areas (thousands,1998)	
São Paulo	17 148
Rio de Janeiro	10 386
Belo Horizonte	3 980
Porto Alegre	3 329
Recife	3 124
Salvador	2 812
Fortaleza	2 721
Curitiba	2 530
Belém	960

THE PEOPLE

Population (thousands, 1998)	158 232
Urban	125 911
Rural	32 322
Inhabitants per sq. km (1998)	18.5

Average annual population growth (1990-2000, per cent)	1.6
Infant mortality (per thousand live-births, 1998)	36.1
Life expectancy (1998): Males	64.3
Females	72.1
Unemployment (1999, % of the labour force)	9.6
Labour Force (1999, thousands)	79 315
Employees (1999, thousands)	36 806

PRODUCTION

GDP (billion BRL) (2000)	1 089.7
GDP per capita (in US$, market exchange rate) (2000)	3 467
GDP per capita (in US$, PPP exchange rate, World Bank) (1998)	6 937

Gross fixed investment (per cent of GDP) (1999)	18.9
Private external debt (2000)	24.4

THE GOVERNMENT

(per cent of GDP)	
General government revenue (1999)	31.7
Fiscal balance (1999)	–10.0
Primary balance (1999)	3.2
Public debt (2000)	45.3
Public external debt (2000)	15.7

Composition of the Congress :	Parliament	Senate
PSDB – Partido da Social Democracia Brasileira	103	13
PFL – Partido da Frente Liberal	96	21
PMDB – Partido do Movimento Democrático Brasileiro	95	26
PT – Partido dos Trabalhadores	56	6
PPB – Partido Progressista Brasileiro	47	2
PTB – Partido Trabalhista Brasileiro	28	2
PL – Partido Liberal	19	
PDT – Partido Democrático Trabalhista	17	3
PSB – Partido Socialista Brasileiro	16	3
Other	36	5

FOREIGN TRADE

Exports of goods and services (in US$ billion) (1999)	56.1
Main goods exports (per cent of total) (2000):	
Primary goods	22.8
Semi manufactured goods	15.4
Manufactured goods	59.0

Imports of goods and services (in US$ billion) (1999)	62.0
Main goods imports (per cent of total) (2000):	
Raw-materials and intermediate goods	51.1
Consumption goods	13.1
Mineral fuels and lubricants	11.4
Capital goods	24.4

CURRENCY

Monetary unit: Real

Currency units per US dollar (period average):	
Year 2000	1.83
December 2000	1.96
May 2001	2.30

The report on which this Survey is based was co-ordinated by Joaquim Oliveira Martins, under the supervision of Silvana Malle. The main contributors by topic were: Joaquim Oliveira Martins (*macroeconomic background, trade policy and competitiveness*); Teresa Santero (*fiscal policy, tax reform and fiscal federalism*); Tristan Price (*public debt management and social policies*); Marcos Bonturi (*pension reform*); Bernadette Sarmiento, OECD/CCNM (*capital markets and corporate governance*); Andrea Goldstein, OECD/DEV (*privatisation and regulatory reform*); Jonathan Brooks, OECD/AGR (*agricultural policies*) *and* Sylvie D'Apote, IEA (*energy markets and environment*). A *substantive contribution was made by* Carlos Mussi, UN-ECLAC. *Inputs were also received from* Mrs. Eva Thiel, OECD/DAF *and from* OECD/DEELSA.

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Assessment and recommendations

An important player in world economy…

Brazil is well endowed with natural and human resources, though its development during the last decades has not fulfilled its strong potential for growth. This contrast can cloud the reality that Brazil is one the big players in the global economy. With nearly a one trillion dollar economy (measured in purchasing power parity) and 170 million people, Brazil ranks amongst the 10 largest countries in the world. It has a substantial industrial base, and its position in the South America makes it pivotal for the whole region. At the same time as pursuing a strategy of regional integration, Brazil is a key partner in multilateral negotiations, such as trade liberalisation and global action against climate change. It adheres to several OECD agreements and guidelines. In sum, Brazil is a principal actor in the era of globalisation.

… with an increasingly outward orientation

By the end of the 1980s, Brazil's model of inward-oriented development was exhausted. Access to foreign savings had been constrained by the unfavourable dynamics of the external debt. Indexation mechanisms had sustained high inflation and maintained fiscal revenues, but also made the economy increasingly rigid. The use of import substitution to develop an industrial base negatively affected competitiveness in the corporate sector. Democratic institutions were re-established in 1985, and during the 1990s Brazil started transition towards a new development model based on market reforms and outward orientation. Significant reductions in tariffs and removal of other trade barriers took place. A decisive break with high inflation after 1995 brought about deep changes in the Brazilian economy, not least in stopping the regressive effects of the inflation tax that had affected the poorest segments of the population. An ambitious privatisation programme substan-

tially increased the participation of foreign enterprises and banks in the economy. Indeed, foreign direct investments played a major role in the economy during the last decade, though Brazil has always been a significant recipient of foreign capital. All these elements add up to what seems an irreversible change. Now the Brazilian economy faces the further challenge of achieving robust, market-based growth.

For the first time there is a critical mass of reform…

In this light, the core issue for Brazil is whether it has indeed crossed a threshold to sustained growth. This Survey suggests the answer is a cautious, and contingent, yes. It is cautious because there is still significant vulnerability to external shocks given the high burden of Brazil's external debt and dependence on foreign savings. The budget situation has improved substantially and the public debt has been stabilised at below 50 per cent of GDP. But the authorities have limited room for manoeuvre in setting macroeconomic policy as Brazilian public debt still has a short maturity and a significant part is indexed either to short-term interest rates or the exchange rate. The assessment is also contingent on progress with structural reform. While a great deal has been accomplished in recent years, much remains to be done.

… but sustained growth requires continued progress in several interdependent policy areas

There are three highly-interdependent elements by which a threshold for sustainable growth can be assessed. First, the building blocks of a sound macroeconomic framework: institutional arrangements and administrative capacities are required to assure that stabilisation objectives are met, with close co-ordination between fiscal adjustment and an independent monetary policy. In this context, the financial sector has to be sufficiently robust and resilient to shocks. Secondly, the enterprise sector has to be adaptable to adverse fluctuations in the business environment, as well as being able to exploit windows of opportunity to develop. A greater capacity to grow requires more efficient use of physical, financial and human capital. Increased productivity and competitiveness are needed to overcome the balance of payments constraint, which in turn would allow for a sustained investment cycle. The last element is that a continuing process of reform has to be socially acceptable. This is clearly a challenge for a democ ratic society with such high levels of inequality in the distribution of income as those

found in Brazil. Some distributional aspects of growth are a particular concern, and reforms in the areas of agricultural, energy and social policies are a condition for sustained growth. The Survey discusses these policy links.

While the monetary policy framework has delivered its targets, gains in credibility could be locked-in by consolidating the independence of the central bank

The conduct of monetary policy is a prime component of the macroeconomic framework. Exchange rate targeting was abandoned in January 1999, and from the middle of that year monetary policy has targeted inflation. Results have been encouraging, and the bank has achieved its objective of steadily bringing it down by setting a cautious pace in reducing nominal interest rates. It has already faced some significant market tests, and this has increased the credibility of the framework. In 2000, it had to deal with oil-price inflation and a rise in regulated prices. In early 2001 there was turbulence in financial markets, notably there was turmoil in Argentina. The depreciation of the Real began to accelerate, and strong growth in the Brazilian economy showed no signs of slowing. In late March 2001 the central bank decided to increase its reference interest rate (by 50 basis points) for the first time under the new regime. This move surprised the market and induced mixed reactions; but by being pro-active the bank s ent a strong signal that it will defend its hard-won credibility. In this respect, the central bank has made significant efforts to increase its transparency and the information available to the markets. Nonetheless, the credibility gains achieved so far could be locked-in by further strengthening the autonomy of the central bank and discussion along these lines is proceeding in Brazil. Establishing *de jure* operational independence requires new legislation, and would bring Brazil into line with current practices in OECD countries. While central bank independence is important, it should be noted that the credibility of the monetary framework ultimately depends on the degree of co-ordination amongst macroeconomic policies.

Under hard budget constraints, federal autonomy should foster responsible fiscal management…

Building a better fiscal framework has been a major challenge. During the 1990s public spending rose as a result of fiscal decentralisation coupled with wider access to welfare. However, decentralisation was a response to rigidity in the central government's budget that was itself a result of constitutionally mandated revenue sharing and strict rules for managing public employees. Revenue sharing also induced sub-

national government finances to become strongly procyclical, and increased spending was loosely controlled. The absence of effective constraints resulted in large structural budget disequilibria. This was masked for some time by high inflation, which reduced the real value of expenditure and boosted nominal revenue. Once inflation fell, high borrowing costs were no longer sustainable. Against this background, fiscal consolidation efforts, notably those since 1999, have been remarkable. The objective of a consolidated primary budget surplus was met in 1999 and 2000, increasing the credibility of future targets. This outcome required the imposition of tight budget constraints at the sub-national level. To this end, a number of important institutional arrangements have been introduced: debt renegotiation contracts between the federal governments and the states supported by fiscal adjustment at state level; a senate resolution imposing limits on state borrowing; privatisation of most banks owned by state governments; prudential constraints on bank lending to sub-national governments; and finally the 2000 Fiscal Responsibility Law. Together, these add up to a powerful set of budget constraints on sub-national governments. That state and local governments are accepting these arrangements is an encouraging signal that past episodes of slippage in sub-national expenditure could be avoided in the future. These constraints are applied more or less uniformly and, taken together, might become very restrictive in the face of a negative shock to the economy. Unexpected revenue shortfall could then entail very severe retrenchment in the discretionary spending of sub-national governments.

… but new budget regulations should be strictly enforced to reduce moral hazard

In some cases states or municipalities could seek derogations from their present commitments. However, in light of successive bailouts in the past and a tradition of loose enforcement of borrowing controls, it is essential that the Fiscal Responsibility Law and debt agreements should be firmly enforced. This position must be fully supported by legislative bodies, else the government would risk losing credibility. Despite significant spending rigidities in state and municipal governments, it should be emphasised that they do have instruments to adjust their budgets. They enjoy large spending autonomy and revenue raising capacity. Moreover, existing tax revenue sharing arrangements

have the advantage of providing a stable stream of resource. Finally, recent administrative reform also provides some flexibility in managing public employment to reduce public spending. Looking forward, ongoing fiscal adjustment needs further reforms to assure adequate revenue, and to increase efficiency and effectiveness of all spending. In this respect, reform of fiscal federal relations and of the civil service pension systems are clear priorities.

There is a need to reform fiscal federal relations in Brazil…

Tax reform needs to meet partially conflicting objectives. The constitution requires some degree of revenue independence for sub-national governments. Moreover, given the large regional income disparities, any reform has to assure an adequate degree of redistribution. At the same time, the states' main source of revenues, the value-added tax (ICMS), needs to converge to common rates, particularly where it applies to inter-state trade. Presently, differential rates depend on the specific direction of trade, and are set by the federal senate to redistribute revenue from richer to poorer states. The rate for intra-state trade is set separately by each state. This system is administratively complex, results in perverse redistribution and facilitates tax evasion. As the ICMS is origin-based, it has contributed towards aggressive tax competition in which some states have engaged to attract investment. For some time the federal government has attempted to rationalise the ICMS, but negotiations with the states have not reached a conclusion. Another distortion in the system is the existence of a financial transactions tax (CPMF) and cascading taxes applied to enterprise turnover. In introducing these taxes (labelled "social contributions" as the revenue is earmarked to social spending) the federal government has created sources of revenue that are not subject to constitutionally mandated sharing with sub-national governments, but which are quite distortive. Revenues from these taxes have increased substantially to nearly 5 per cent of GDP in 2000. Thus it is presently difficult for the federal government to forego these revenues, as it has no other broad-based tax on which to draw, and direct taxes are largely tied-in to tax-sharing arrangements intended to achieve redistribution. Therefore, the government has focussed on mitigating the most distorting features of the cascading taxes.

… which would be supported by better institutional co-ordination

There are no standard rules on what is optimal in this situation. Ultimately, it is a political judgement on whether to focus on the worst distortions or, alternatively, seek a broader reform from the outset. However, in any case, federal systems need effective consultation and co-ordination mechanisms to promote agreement and consensus building. Better co-ordination would facilitate the dialogue and ease negotiations, notably for the reform of the tax system. OECD experience of tax reform in federal systems is that one of the parties, typically the federal government, needs to take the lead in achieving the desired overall efficiency gains. This puts a premium on getting federal finances into a strong position so as to create room for such bargaining.

Progress has been achieved in reform of the general pension scheme…

At about 9 per cent of GDP, Brazil's public pension expenditure is relatively high, especially in view of Brazil's young population, and is above the OECD average. This drains resources away from other areas, such as much needed social investment in health and education. Recent reform of the general regime have gone a long way to ensuring a fair, equitable and transparent pension scheme, available to all workers. An adjustable formula (*fator previdenciário*) relates pensions to the duration and level of contributions, and life-expectancy. It introduces some welcome flexibility to the system, as benefits are automatically adjusted for the affects of population ageing. However, it is not clear whether recent reforms will be sufficient to ensure the long-term actuarial and financial balance of the general system. The large share of informal employment, the weight of non-pension benefits imputed to the system and the inadequate mechanism of pension indexation all pose a threat to the system's future balance. The solution to these challenges cannot be found in isolation from wider tax and labour market reforms. Finally, a complementary fully-funded pension system has recently grown rapidly. But its development will depend on modernising the regulatory and supervisory framework.

… but the priority is now to reduce generous civil service pensions and privileges

The main challenge is to reform the special pension regimes for civil servants. These represent about half of total pension expenditure, attesting to the extreme inequities of the Brazilian pension system. While estimates about future spending trends are sensitive to assumptions, it is likely that,

in the absence of further reforms, pension expenditure under these schemes will not decline as percentage of GDP over the next 10-15 years. This would reinforce inequity and create difficulties for fiscal policy. Initiatives to date, such as changing the employment conditions for civil servants joining since 1998 will only bring benefits in the very long-term. Benefits remain generous, and not sufficiently linked to the amount and length of contributions. Hence more forceful measures are required to address existing distortions. Benefits should at once be capped at less than 100 per cent of last salary. A more ambitious reform would introduce, as in the general system, an adjustable formula for all civil servants. This latter measure would ease portability between the public and private sectors, reduce incentives for early retirement and facilitate introduction of a fully-funded complementary pension scheme.

The financial system has proved resilient to crisis, but has room to develop

The final element in the macroeconomic framework is the financial system. In this regard, the Brazilian banking system has proved to be more resilient to international shocks and currency crisis than those in many other emerging markets. While the financial position of large federal banks has been affected by quasi-fiscal losses engendered by their conflicting objectives, most private banks remain well capitalised and well provisioned. The entry of foreign financial institutions has been instrumental in the process of bank re-structuring and privatisation, notably in the case of state level banks. Prudential supervision has been strengthened. These are positive developments, though the Brazilian banking sector still needs to increase its role in financial intermediation. Instead of intermediating credit to the private sector, banks had mainly engaged in short-term treasury operations. Furthermore, domestic capital markets have not played a big part in promoting growth. Brazilian companies have had to finance their investments largely from retained profits, whilst most long-term lending is provided by federal banks. High and volatile real interest rates, and the crowding-out effect of public debt, were major impediments to medium- and long-term lending. With the normalisation of macroeconomic conditions, bank lending should increase.

Among other factors, imperfections in the legal system have hindered the development and cost of financial intermediation

For the time being, the lack of secured lending and the lack of effective bankruptcy procedures are important factors in raising the cost of financial intermediation. Under existing commercial legislation, enforcing claims on collateral is difficult in view of the prior ranking of debt to all levels of government as well as to employees. A new law is under discussion. A further factor accounting for the high banking spreads prevailing in Brazil is the reserve requirement on demand deposits. These have declined, but were still at 45 per cent of total demand deposits at the end of 2000. Further decline on these reserve requirements will continue only slowly, since the central bank will have to ensure that banks handle this additional liquidity prudently. Finally, another source of distortion is the existence of compulsory credit to agriculture and for housing. Indeed, effective support to these sectors could be given in a more transparent way than through distorted access to credit.

A deeper capital market will not develop without better corporate governance

Given the relatively open capital account and global environment in which Brazilian enterprises increasingly operate, they may migrate to foreign capital markets if the domestic market is not competitive. In this context, the imposition of a financial transaction tax (CPMF) is clearly an issue. Poor protection of minority interests, taxation (including the CPMF) and a lack of competition have retarded the development of the local capital market and the emergence of an equity culture. The standard of reporting could be improved, and generally it is only the largest companies (with securities listed abroad) whose financial disclosure is in line with international norms. In all of this, both new legislation (on bankruptcy and collateral) and reform of the judiciary have a part to play in deepening the capital markets and increasing financial intermediation. An important step will be taken with the adoption of the new company law, which was approved in the lower house in late March 2001. Also the creation of a New Market, with listing requirements that focus on better corporate governance, testifies to the demand for improvement. Ultimately, better corporate governance should help to create a virtuous cycle of development in the capital market.

More competition is the best way to enhance competitiveness

Brazil needs foreign savings to grow and has found itself constantly bumping up against an external constraint. Brazil has in the past attempted to solve this problem by becoming less dependent on imports. However, direct policies to shift specialisation away from primary goods towards manufactured products had some effect, but proved costly. Despite the intensive industrialisation of the 1970s, by the end of the 1990s Brazil's historical trade specialisation had re-emerged. As such, the bulk of Brazilian exports are constrained by considerable trade barriers in international markets, notably on agricultural goods and some semi-processed products. In this context, it is claimed that retaining a certain degree of protection can be a negotiating tool for further trade liberalisation. But this entails deadweight losses for consumers and the enterprise sector. In modern industries, trade is a two-way game. Imports of intermediate goods and equipment are a key source of competitiveness. This is the rationale for the low barriers to trade in such products amongst OECD countries. With its accumulated stock of foreign capital, the Brazilian economy is becoming more interconnected with world markets and has room to develop both as a large exporter and importer of manufactured goods.

Further distortions should not be used to compensate for the so-called "Brazil cost"

Greater export orientation of Brazilian enterprises has to result from the right incentives. Companies will not focus on exports if their domestic market provides comfortable rents. Therefore, trade liberalisation initiated in the late 1980s, that paved the way to a more open and competitive economy, should be pursued. In this context, increased openness to foreign trade and investment means removing existing domestic bias instead, for example, of using export promotion to compensate for a collection of additional costs associated with operating specifically in Brazil ("Brazil cost"). A "similarity test" for certain imports of capital goods, mainly applied to public procurement, creates unnecessary uncertainty about policy objectives and over access to the Brazilian market. Credit facilities conditional on buying local equipment can prevent companies accessing the most modern technology. Increased competitiveness and propensity to trade will also be strengthened by appropriate regulatory oversight, notably competition policy. Improvements to the

legal framework and the effectiveness of the competition authority are both warranted. The effect of cascading taxes on competitiveness should be addressed on its own. The suggestion to introduce further taxes on imports to compensate for the effect of cascading taxes would merely create a further distortion on top of existing ones. As general point, the predictability of trade policy is hindered by the large numbers of laws, provisional measures, decrees and resolutions that have created an intricate web of statutes. Their rationalisation and simplification would greatly benefit transparency.

Relative success in large privatisation, though the regulatory regime has yet to be tested

Overall, Brazil's large privatisation programme has been well managed. The process, co-ordinated by the national development bank, has been transparent. A well-defined regulatory framework is essential to make sure that privatisation delivers its expected benefits. In designing such a framework, Brazilian policy-makers benefited from a number of foreign experiences. The framework for telecommunications seems to be functioning effectively, with strong market growth and increasing competition. While privatisation has been used as an opportunity to open up legal or *de facto* monopolies to competition, co-ordinating decisions ahead of privatisation has sometimes been complicated by the particular web of ownership linking the federal government and local state authorities. This was relevant in the energy sector where some sell-offs predated the establishment of clear norms and regulations. Therefore, transforming regulatory rules into actual policy measures has proved more difficult. The regulatory issue is not only about how to address these problems, but who should address them. This requires a greater degree of co-ordination across regulatory agencies. In particular, all problems of price discrimination or predatory behaviour should be dealt with by the competition agency.

Energy sector reform is needed to meet future demand

The energy sector in Brazil represents perhaps the most complex case in terms of implementing a regulatory framework that meets both developmental and efficiency needs. Brazil's energy system is one of the least carbon-intensive in the world. In addition to a large use of hydropower, the experience in the use of biomass fuels could be

an interesting example of the new solutions needed to face the global threat of the climate change. Nonetheless, the demand for energy is expected to grow quickly, outpacing energy supply available from renewable resources. In particular, electricity needs will increase much faster than GDP. Meeting this demand will be a policy challenge, and the government alone will not be able to sustain the necessary level of investment. Indeed, the government has started to reform the energy sector to allow and attract private capital and to reduce costs through increased competition. The current focus is on constructing gas-fired plants, which will be fed with gas imported through the newly opened Bolivia-Brazil pipeline, using state-led investment. This may be the quickest way to increase capacity and diversify the sources of energy supply, though the government needs to ensure that it does not undermine the policy of liberalisation and that there is sufficient competition in this market. Another issue is that energy policy in Brazil has always had a strong social component in a country where some 15 to 20 million people still lack access to electricity. Increasing rural electrification is a top priority of the government. However, the government should ensure that these social objectives are carefully designed not to undermine the financial viability of the electricity sector.

Agrarian reform needs to distinguish between social objectives and economic efficiency

Agriculture has a vital role to play in Brazil's continued economic development. The sector's direct economic importance is accompanied by extensive linkages throughout the economy, most notably in downstream processing activities. Investment in poor rural areas is seen as having the potential to widen the economic base of development and to reduce income inequality. It is important that Brazil's policies on rural credit and land reform reflect a clear view of the role that agriculture is expected to play in the country's economic development. It is difficult to gauge the extent to which the future of traditional farm households and their descendants is likely to lie outside agriculture, and there is some uncertainty over the ability of rural credit policies to generate a new class of commercial farmers from today's subsistence and semi-subsistence sector. This means that it is difficult to be sure that rural credit programmes have struck the right balance. Nevertheless, the

presence of appraisal systems, and continual refinement in the targeting of these programmes, suggests that policies have the capacity to adapt as experience from the early years of implementation comes in.

There is genuine demand for social expenditure, which needs better targeting

Significant inter-regional differences and income disparities mean that Brazil cannot afford to ease up on development of its social policy. Neither can it simply grow its way out of poverty, given the regressive nature of a large part of its social outlays. Notably, for a country with significant numbers of people in poverty and a very unequal distribution of income, it is perverse that most "welfare" expenditure is on pensions. The system of unemployment insurance is also open to abuse. There is an incentive for workers who simply wish to change jobs to seek redundancy as this gives access to benefits. These structural flaws swallow resources that could more properly be targeted towards those genuinely in need. Furthermore, most welfare spending by sub-national governments is universal rather than targeted, which has disproportionately benefited those on higher incomes. Where means-tested programmes do exist they often miss out people employed in the informal sector. Also, Brazil has some room to improve the way in which public expenditure is converted into tangible outcomes. Examples of successful targeting are in basic education (*Bolsa escola*), preventative healthcare and the rural pension. Better targeting of welfare programmes is particularly powerful in Brazil, since many of those living in poverty are not very far below the poverty line. Apart from the intrinsic value in improving the quality of public spending, improving welfare delivery would in due course support higher levels of sustainable growth.

In the search for a new development path, Brazil is a model of the opportunities and tensions offered by globalisation

Forging social consensus and political momentum are needed to progress towards a new development path. Consolidating a "social pact" among different entities and groups has been a laborious process, especially in a federal country characterised in the past by large swings from centralised to decentralised forms of government. The experience of OECD countries helps illustrate the policy choices, but the task of managing reform where there are such large social disparities and different levels of development

remains a daunting one. In this respect, the issues facing Brazilian policy-makers are similar to the worldwide challenges in regulating and managing the process of globalisation. Indeed, the world economy is also characterised by tremendous income disparities. At the same time, the gains from increasing integration and greater use of market mechanisms are potentially very large. The reform process will create the conditions for the private sector increasingly to be the driving force in the economy, as the role of the government evolves. Despite the presence of growin g areas of bureaucratic efficiency, Brazilian policy-makers face the challenge of strengthening transparent, accountable and assertive governance in public administration and the judiciary.

Summing up

Brazil has made significant progress in facing problems that are a legacy of the past. Macroeconomic stabilisation has been reinforced since the devaluation of the Real in 1999 and, for the first time in a decade, the economy was able to benefit from an export-led recovery. In 2000, this recovery became more broad-based, which has induced a significant increase of tax revenues and softened the impact of fiscal adjustment. Nonetheless, the dependence on foreign sources of finance, and thus the vulnerability to external shocks, remains significant. Brazil now faces the challenge of pressing ahead with the reforms that are needed to sustain growth. This encompasses a number of areas, in which the government is working. Reform of the fiscal federal relations is needed, and the pension system remains fiscally unsustainable in the absence of a reduction in benefits and privileges for civil servants. The financial sector could play a more important role in financial intermediation, while enhancing competitiveness requires further trade liberalisation and greater competition in the domestic market, including an effective regulatory framework. Better targeting of social expenditures is needed to promote the reduction of disparities, whilst strengthening human capital in the priority areas of education and health. All in all, Brazil has reached a turning point that opens up a perspective of sustained growth. Continuing to focus on its reform agenda can make this prospect a reality.

I. The search for a new development path

An important actor in the global economy…

At the turn of the millennium Brazil was one the world's ten largest economies. It contributed around 3 per cent to world GDP, or some one trillion US$ (in PPP terms). Its 167[1] million citizens represented a similar share of the world's population (Table 1). By surface area Brazil ranks amongst the five largest countries in the world. Its share of about one per cent of world trade flows in the late 1990s is less than its economic weight (Table 2). This is in part the result of its inward-oriented model of development that has gradually been reversed since the 1990s.

In contrast to its relatively modest role in world trade, Brazil has been a major recipient of both external credit and foreign direct investment. Brazil has drawn significant resources from multilateral financial organisations. It has the largest stock of external debt amongst all developing countries from private sources (banks and bond issues), most of which is held by the private sector. Along with China and Mexico, Brazil is a leading recipient of net foreign direct investment

Table 1. **World top-10 countries by economic size, 1998**

	GDP, PPP (current international $)		GDP at market prices (current US$)		Population, total	
	billion US$	In % of world	billion US$	In % of world	Million	In % of world
United States	8 002.2	21.3	8 230.4	28.6	270.3	4.6
China	3 846.2	10.2	959.0	3.3	1 238.6	21.3
Japan	2 940.0	7.8	3 783.0	13.2	126.4	2.2
India	2 034.6	5.4	430.0	1.5	979.7	16.8
Germany	1 818.9	4.8	2 134.2	7.4	82.0	1.4
France	1 246.1	3.3	1 427.0	5.0	58.8	1.0
United Kingdom	1 201.0	3.2	1 357.2	4.7	59.1	1.0
Italy	1 185.5	3.2	1 171.9	4.1	57.6	1.0
Brazil	**1 097.7**	**2.9**	**778.2**	**2.7**	**165.9**	**2.9**
Russian Federation	947.7	2.5	276.6	1.0	146.9	2.5

Source: World Bank.

Table 2. **Trade turnover: an international comparison**
In per cent of world trade turnover

	1960	1970	1980	1990	1997
United States	15.52	14.77	12.14	13.57	14.89
Germany	n.a.	n.a.	n.a.	9.93[1]	8.08
Japan	2.92	5.32	6.37	7.07	6.54
United Kingdom	9.80	7.20	5.98	5.79	5.50
France	5.13	5.71	6.25	6.22	5.10
Italy	3.30	4.54	4.46	5.05	4.27
Canada	4.53	4.67	3.09	3.44	3.59
Hong Kong, China	0.74	0.89	1.09	2.24	3.40
Netherlands	3.37	3.87	3.75	3.39	2.83
China	1.22	0.44	0.67	1.30	2.77
Belgium	2.71	3.26	2.99	3.03	2.54
Korea, Rep.	0.19	0.43	0.99	1.73	2.49
Singapore	n.a.	0.56	1.09	1.68	2.23
Spain	0.58	1.33	1.52	2.13	2.19
Mexico	0.82	0.79	1.13	1.16	1.62
Russian Federation	n.a.	n.a.	n.a.	2.41	1.44
Switzerland	1.58	1.79	1.66	1.90	1.43
Malaysia	0.68	0.43	0.59	0.74	1.38
Sweden	2.03	2.09	1.62	1.58	1.36
Austria	0.97	1.14	1.24	1.45	1.30
Australia	1.67	1.46	1.15	1.18	1.26
Brazil	**0.67**	**0.79**	**1.02**	**0.81**	**1.08**
Thailand	0.28	0.31	0.37	0.75	1.05
Indonesia	n.a.	0.35	0.90	0.66	0.90

1. 1991.
Source: World Bank.

(Table 3). These capital inflows are reflected in the important role of foreign companies in the enterprise sector. They control about 11 per cent of the capital in the economy, and produce 14 per cent of its output (CEPAL, 1998; Zockum, 1999). In manufacturing, foreign companies have an even higher share, accounting for 34 per cent of total turnover (SOBEET, 1998).

... that embodies diversity and large disparity...

Brazil has strong economic and cultural ties with almost all regions in the world (Americas, Europe, Africa, Middle East and Asia) and this is reflected in its very diverse society. This is an asset in today's globalising world. The country's climatic range mirrors this variety, running from the equatorial regions in the north to the temperate zones in the south. The economic geography of Brazil is unique; although not strictly comparable, some states have per capita incomes above those found in some European economies, while other states rank amongst the world's poorer regions (Figure 1). Overall income disparity partly reflects these

Table 3. **Foreign direct investment: a comparison of Brazil with selected countries**

A. Cumulative direct investment inflows

	1967-1979		1980-1998	
	US$ million	In % of world flows	US$ million	In % of world flows
United States	34 951	13.2	976 131	26.3
United Kingdom	35 822	13.5	344 640	9.3
China	0	0.0	259 083	7.0
France	15 199	5.7	224 715	6.0
Netherlands	10 734	4.0	155 952	4.2
BENELUX	8 650	3.3	129 855	3.5
Spain	5 787	2.2	123 849	3.3
Canada	35 970	13.6	112 656	3.0
Brazil	**17 942**	**6.8**	**96 718**	**2.6**
Australia	12 183	4.6	95 673	2.6
Mexico	6 669	2.5	92 808	2.5
World	265 409		3 714 914	

B. Cumulative net direct investment flows (US$ million)

Zone	1967-79	1980-98	1967-98
China	0	234 000	234 000
Brazil	**17 033**	**84 398**	**101 431**
Mexico	6 669	92 808	99 477
Spain	4 834	59 514	64 348
Australia	9 855	41 376	51 231
Malaysia	3 414	44 877	48 291
Singapore	2 584	43 845	46 429
Argentina	767	36 327	37 094
BENELUX	4 394	27 900	32 294
Colombia	507	29 385	29 892
Saudi Arabia	–2 853	31 521	28 668
United States	–92 241	63 546	–28 695

Source: IMF, CEPII, Chelem database.

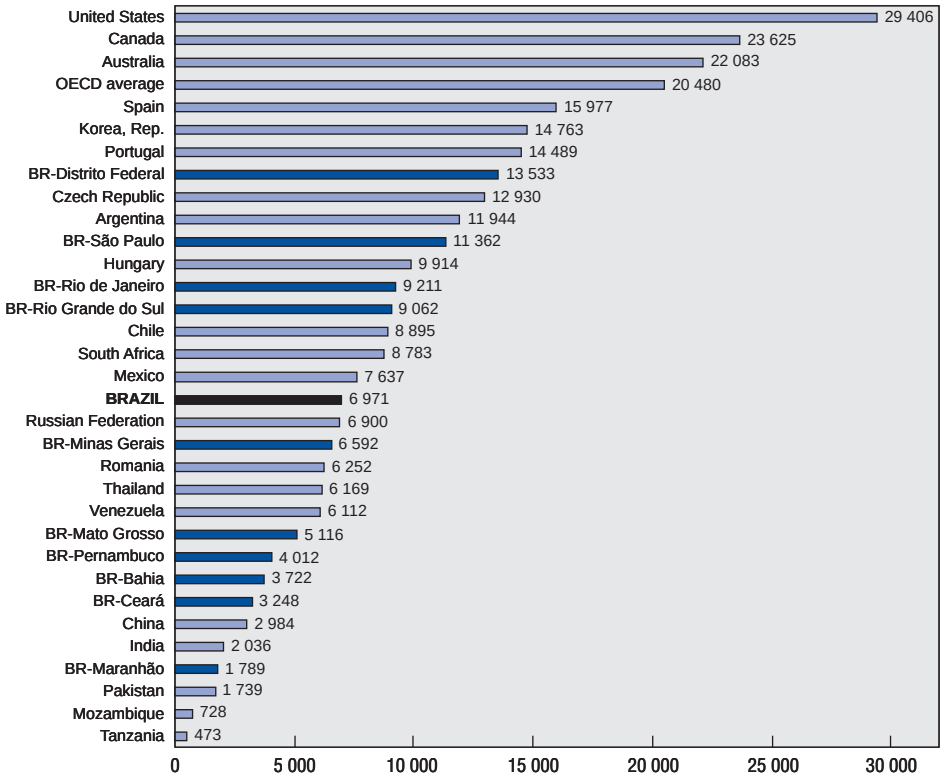
regional imbalances, although intra-state inequalities can also be significant. Indeed, Brazil has a very unequal distribution of income. It is heavily concentrated amongst the wealthiest, whilst the poor have one of the lowest shares of total income in the world (Table 4). Relatively low per capita income combined with such high inequality implies that the income of the poorest is extremely low.

... in search of a new development path

Economic developments over the last thirty years can be split into three distinct phases. A phase of growth in the 1970s. In the 1980s, a decade of stagnant incomes, very high inflation and a series of painful and frustrated stabilisation

Figure 1. **Comparisons of GDP per capita in selected countries and Brazilian states, 1997**

Purchasing power parities (current US$)



Source: IBGE, World Bank.

plans. The 1990s saw a new orientation for economic policy that has created a basis for macroeconomic stabilisation and more balanced growth. In retrospect, two major problems have hindered the sustainability of growth in Brazil: the management of public finances and external imbalances. This justifies the prominence in this Survey of fiscal reform (Chapter II) and policies to enhance private sector competitiveness (Chapters III and IV). Chapter V discusses agricultural reform, energy supply, environment and social conditions, which are important factors underpinning sustainable development.

Table 4. **Income inequality in Brazil and selected large countries**[1]

	Gini Index	Percentage share of income or consumption accruing to income sub-group						
		Lowest 10%	Lowest 20%	Second 20%	Third 20%	Fourth 20%	Highest 20%	Highest 10%
Brazil	**60.0**	**0.9**	**2.5**	**5.5**	**10.0**	**18.3**	**63.8**	**47.6**
Chile	56.5	1.4	3.5	6.6	10.9	18.1	61.0	46.1
Mexico	53.7	1.4	3.6	7.2	11.8	19.2	58.2	42.8
Russian Federation	48.7	1.7	4.4	8.6	13.3	20.1	53.7	38.7
Turkey	41.5	2.3	5.8	10.2	14.8	21.6	47.7	32.3
United States	40.8	1.8	5.2	10.5	15.6	22.4	46.4	30.5
China	40.3	2.4	5.9	10.2	15.1	22.2	46.6	30.4
India	37.8	3.5	8.1	11.6	15.0	19.3	46.1	33.5
Indonesia	36.5	3.6	8.0	11.3	15.1	20.8	44.9	30.3
United Kingdom	36.1	2.6	6.6	11.5	16.3	22.7	43.0	27.3
Poland	32.9	3.0	7.7	12.6	16.7	22.1	40.9	26.3
France	32.7	2.8	7.2	12.6	17.2	22.8	40.2	25.1
Spain	32.5	2.8	7.5	12.6	17.0	22.6	40.3	25.2
Korea, Rep.	31.6	2.9	7.5	12.9	17.4	22.9	39.3	24.3
Hungary	30.8	3.9	8.8	12.5	16.6	22.3	39.9	24.8
Japan	24.9	4.8	10.6	14.2	17.6	22.0	35.7	21.7

1. Ranked by Gini Index.
Source: World Bank, *World Development Indicators*, 2000.

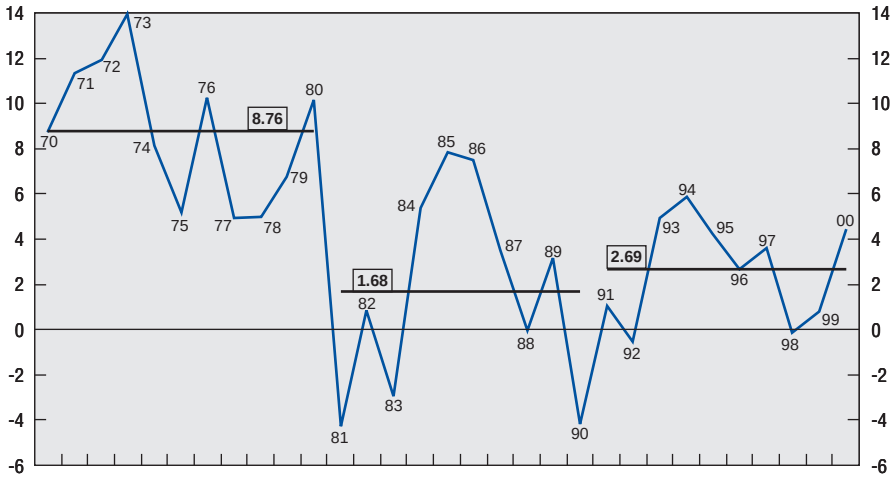
Normalisation of macroeconomic conditions has brought Brazil to the point where it faces the challenge of pressing on with reforms. There is reasonable confidence that the current design of economic policy will be maintained and reinforced. This Survey was prepared under that assumption. The changes seem irreversible, but Brazil cannot afford to lose time. As structural reforms are strongly interdependent, action must be taken simultaneously in the different areas outlined in this Survey in order for Brazil to reap the full benefits of its reforms to date.

A history of inward-oriented development

High growth and intensive industrialisation…

During the whole period 1945-1980, Brazil's GDP grew by more than 7 per cent per annum, with particularly high rates of growth in the 1970s (Figure 2). Intensive industrialisation could be achieved only through growing intervention by the state in the economy. Building on a corporatist vision of the economy set out during the Getúlio Vargas regime (1930-1945), successive Brazilian governments adopted a development model based on import-substitution. This involved establishing trade barriers, restricting foreign exchange operations, as

Figure 2. **GDP growth, 1970-2000**
Per cent



Note: Framed figures are 10-year average growth rates.
Source: IBGE.

well as introducing price controls and specialised agencies to allocate subsidies to specific sectors or projects. Wage adjustment and labour laws (*legislação trabalhista*) were implemented. State enterprises were created in the main infrastructure sectors (*e.g.* oil in 1952, energy in 1961, telecommunications in 1962) and banking (federal and state banks plus sectoral and regional agencies).

In order to fund government expenditure and investment the public sector operated a tax system that was able to sustain collection rates of 20-25 per cent of GDP, one of the highest among developing countries at that time. Interestingly, Brazil was the first country to adopt a value-added tax (VAT), in 1967. In the 1970s, the government, excluding state enterprises, generated public savings of up to 7 per cent of GDP (Varsano, 1996). These savings, together with external financing, were used to maintain a high level of public investment either by creating infrastructure or by financing state enterprises. The public sector's financing needs also led to the creation of a large market in public debt, which was sustained by complex indexation mechanisms (see Chapter III). By the mid-1970s, the ratio of investment to GDP was some 24 per cent; nearly half of the investment was undertaken by the government and state enterprises (Abreu and Verner, 1997). Public expenditure was also used to expand social security, building consolidated public systems for pensions, health and education.

... accompanied by growing macroeconomic and social imbalances

Persistently high inflation, external deficits and the accumulation of a large debt stock (public and external) accompanied this development model. While the industrialisation process had increased energy intensity in the economy, Brazilian policy-makers took time to adjust to the 1974 oil shock. Foreign liquidity was used to finance balance of payments requirements, promote domestic production of tradeable goods and increase investments in infrastructure. The government implemented sectoral industrial policies, with a series of special credit lines and protective barriers to maintain investment. Other instruments included price regulation, which acted as an indirect subsidy to exports by holding down the cost of inputs. Use of horizontal instruments, such as the exchange rate, was limited because of the impact it would have and on local prices had on the stock of external debt.

The period of rapid industrialisation implied an economy-wide transfer of resources away from the export-oriented agricultural sector. The emphasis on the industrial development also led to an overly rapid increase in the demand for skilled workers, whose relative wages rose. Adding to these sources of disparity, credit allocation was discretionary and loosely guaranteed, in line with government priorities, and on the basis of connections with the business sector.

Poverty levels declined substantially, from 68 per cent of households in 1970 to 35 per cent in 1980 (Rocha, 2000). At the same time, income distribution worsened[2] and regional development was unbalanced. The combination of excessive centralisation and regional diversity in practice made it difficult and costly to offer public services to the whole population. These problems created tensions within the federation, both between the central government and the states, and between states (see Chapter II).

The erosion of growth fundamentals in the 1980s

The growth strategy of the 1970s was not sustainable over time. Persistent external deficits led to the accumulation of a sizeable foreign debt burden. Indexation accommodated sustained high inflation, but also made the economy more rigid when an adjustment was needed. Import substitution promoted inward-orientation of the enterprise sector, which diversified the productive base but also protected the economy from external competitors. With time, this reduced Brazilian competitiveness.

The external constraint became binding

As in other developing countries, domestic savings in Brazil were less than the level of investment estimated to be necessary for rapid economic convergence. Foreign capital bridged the gap. The development of international finan-

cial markets in the late 1960s, and especially in the 1970s with the recycling of oil revenues from OPEC, made it possible for Brazil to become a significant recipient of external savings. Gross external debt was 10 per cent of GDP in 1967. It had increased to 18 per cent of GDP in 1974, and by 1982 it had tripled (US$85 billion).

The substantial rise in international interest rates in the early 1980s made this debt accumulation unsustainable. Interest payments reached US$13 billion (or 62 per cent of exports) in 1982. The current account deficit was more than 5 per cent of GDP. The Mexican moratorium in 1982 triggered an international debt crisis that was a major shock for the Brazilian economy. International reserves fell dramatically, external financial inflows dried up and direct investments dropped. Brazil then started a long process of external debt renegotiation that ended only in 1994.

Multiple indexation rules made the economy more rigid and distorted relative incomes

Indexation was introduced in the 1960s in order to moderate the impact of structurally high inflation: on average 36 per cent per year for 1945-80. Progressively it spread out to all areas of the economy: wages, taxes, interest rates, rents and contracts in general. But indexation was not perfect. Starting only from an annual basis, indexation rapidly became a short-term mechanism.[3] The market for public bonds constantly demanded higher nominal interest rates and shorter maturities: an extreme case was bonds indexed to the overnight nominal interest rate. The central bank finally had to intervene on an almost daily basis to clear the market at the expected nominal interest rate, given the inflation trend.

A positive consequence of this central bank action was that it maintained a demand for local currency. This prevented dollarisation and, in this way, enabled the government to collect an "inflation tax" (through *seignorage* and imperfect indexation). Indexation was also instrumental in maintaining the real value of taxes. When inflation accelerated to reach over 200 per cent in 1983, the government developed increasingly sophisticated indexation mechanisms to preserve the value of its revenues, including daily adjustments for late payments.

Such a broad-based indexation mechanisms had a cost. The economy became increasingly managed on a (very) short-term basis. Indexation also induced a stepped pattern of inflation: after an initial increase, the inflation rate stabilised at a higher level, accommodated by monetary policy. As a result, inflationary inertia became deeply rooted in the economy. In the absence of fiscal adjustment, economic agents started to anticipate these upward shifts in inflation, hence contributing to a self-fulfilling price spiral. The inflationary tax hit mainly those people with no access to the banking sector, which offered indexed financial instruments (Chapter III), and those with insufficient bargaining power to ensure full indexation of wages and prices. The poorest segments of the population that

retained most of their earnings in cash and non-unionised workers (see below), as well as the sectors with more flexible prices, were the most affected.

Import substitution damaged external competitiveness

Import substitution initially supported growth of local production, *e.g.* the motor vehicle industry in the 1950s (Abreu and Verner, 1997). The first oil shock encouraged further efforts to become less dependent on imports. Government investment in state enterprises was directed at expanding import substitution not only for final goods, but also for intermediate and capital goods. The so-called "rule of similars", in place since the 1950s, prevented the use of incentives, exemptions or official credit lines to import products that could be produced locally. These mechanisms were combined with export subsidies and tax exemptions to alleviate the consequent loss of export competitiveness. The most daring example of these policies was the "Informatics law" (1983-1992), which tightly controlled trade and domestic production of computer hardware.

These policies generated deadweight losses for consumers and had significant fiscal costs. State enterprises over-invested in anticipation of being able to borrow from abroad, but their prices were regulated. This combination forced the government to inject capital into these companies (nearly 1 per cent of GDP in 1987). Isolated from international competition, Brazilian companies began to loose competitiveness. The lack of access to new technology and imported machinery increased obsolescence in many industrial sectors, which was revealed by the trade liberalisation of the early 1990s.

Together with the erosion of growth fundamentals, inflation and the fiscal position were persistently out of control during the 1980s.[4] It took practically eight years and six plans to achieve macroeconomic stabilisation (see Box 1). As Brazil became less attractive for foreign investors growth faltered, as there were not enough savings, either foreign or domestic, to finance investment. The 1980s became popularly known as the "lost decade". The previous development model was exhausted and Brazil embarked on a period of transition to an alternative model (see Baumann, 2000).

The 1990s: a different approach to stabilisation and an outward orientation

The government took a new approach in March 1990. It explicitly recognised the role of a public debt overhang. Indeed, the large stock of indexed public bonds, mostly held domestically, had to be continually rolled-over. During hyperinflation the central bank hence had to validate nominal interest rate increases demanded by the market to roll over public debt. This in turn fuelled inflationary expectations and, in practice, made monetary policy endogenous.

Box 1. The laborious search for the right stabilisation plan

Between 1986 and 1994, Brazilian governments implemented a series of stabilisation plans. Successive plans failed to stabilise inflation as they were designed to freeze prices without controlling the fiscal position or restoring external credibility. Only in 1994 did the Real Plan anchor the economy and start a process of disinflation.

	12-month inflation (in per cent) on the eve of the Plan	12-month inflation (in per cent) after the Plan started
Cruzado Plan (1986-87)	248	64
Bresser Plan (1987-88)	167	400
Verão Plan (1989-90)	993	2397
Collor Plan I (1990-91)	3700	422
Collor Plan II (1991)	1140	515
Real Plan (1994-1998)	4922	28

A first attempt at stabilisation: the Cruzado Plan

A combination of inflationary financing of government expenditure, exchange rate devaluation and other price liberalisation policies accelerated inflation to over 210 per cent by the end of 1983. Inflation stayed at this high level until the end of 1984, giving rise to the view that past inflation determined the floor for present inflation (the "inertial component": see Arida and Taylor, 1989). In 1985, the military dictatorship gave way to a new democratic administration appointed by the congress. The economic environment seemed manageable: trade was in surplus, renegotiation of the external debt was underway, international interest rates were falling and the fiscal deficit was mainly due to large interest costs. But in the same year a bad agricultural harvest boosted inflation. Pressure to increase social expenditures increased, in particular to index wages and pensions more frequently (quarterly).

In line with the "inertial component" hypothesis, the new government simultaneously declared a general price freeze and introduced a new currency, the *Cruzado*, at the end of February 1986. As expected, monthly inflation was reduced to nearly zero. However, indexation was not synchronised across the economy and the price freeze locked in significant and undesirable changes in relative prices. This generated supply and demand imbalances, creating shortages and a parallel "black" market. At the same time, a large segment of the population experienced a sharp rise in real income. This was reinforced by renewed availability of consumer credit, and there was a consumption boom. Public investment and general expenditures also expanded, but government revenues did not grow at the same pace. The losses of state enterprises started to emerge. At the time monetary policy instruments needed to restrain aggregate demand had only a limited effect.

Box 1. **The laborious search for the right stabilisation plan** (*cont.*)

Fiscal adjustment was constrained by the prospect of an election in October 1986 for state governors, and for a congress that would act as a constitutional assembly. In the event, a restrictive fiscal policy was finally announced after the government parties won the October elections. The package included higher indirect taxes and increases in public tariffs. The public reacted with open discontent. Excess demand put pressure not only on domestic industry but also on imports, since the exchange rate had been frozen. By end of 1986, the current account deficit had widened and external debt renegotiations stalled. Brazil declared an external debt-servicing moratorium in February 1987.

The aftermath of the Cruzado Plan

The next three years (1987-1989) were dominated by attempts to avoid hyperinflation, though without a macroeconomic strategy. Two stabilisation programmes were implemented, the *Bresser* Plan in 1987, and the *Verão* (summer) Plan in 1989. Both plans relied on a price freeze with a promise of fiscal adjustment, however there was no political support to implement adequate reform measures. The government was not able to gain the international credibility that was needed to help finance the economy. Some timid trade liberalisation was started, as well as continuing institution building to improve fiscal management. In particular, the creation of a National Treasury in the Finance Ministry centralised management of cash expenditure and set in motion moves to eliminate the "monetary budget" (funds and other subsidies executed by the central bank), mainly by transferring them to the regular budget. Another important step was the elimination of an automatic overdraft allowed to the *Banco do Brasil* by the central bank (see Chapter III).

On the revenue side, better indexation was implemented to reduce the erosion of tax collection by inflation ("Oliveira-Tanzi effect"), and the tax base for social contributions and general taxes was increased. A modest privatisation effort involved resale to the private sector of some companies that had been transferred to the state because of their bad financial condition (*e.g.* textiles, transportation material). Despite these efforts, the structural budget deficit remained. Moreover, the lack of non-inflationary sources to finance public deficits introduced a strong pro-cyclical pattern in fiscal outcomes, which was particularly felt during economic downturns. This created a certain mistrust of fiscal policy-makers that was reflected in the 1988 constitution (see below). The new constitution created further obligations for the state to attend to social needs and preserve economic privileges. These ranged from job stability in public employment to monopolies and restrictions on foreign capital. Consequently, pressure on the fiscal accounts was unrelieved. Between 1984 and 1990, public wages increased from 6.3 to 7.4 per cent of GDP, pensions from 8.6 to 9 per cent, and current expenditures on other goods and services from 2.9 to 5.6 per cent. By the end of 1989, the Brazilian economy was again in turmoil with monthly inflation surpassing 70 per cent and a large public deficit.

The *Collor* plan introduced a two-month price freeze, a new exchange rate system and froze financial deposits and investments of above 50 000 cruzeiros (around US$1 300, at the time). In contrast to previous plans, the structural fiscal deficit was diagnosed as being the result of large and inefficient expenditures. In particular, increasing duplication of functions between state and local governments, together with widespread subsidies and grants. The government started to streamline public institutions and phase out support schemes and subsidies. A new privatisation programme was started.

Implementation of the plan faced some problems. Auctions of the frozen deposits to swap old currency for the new never took place. This implied that the central bank had to re-establish liquidity by delaying banking sector obligations in the new currency or by granting exemptions to the deposit freeze. As a result, inflation picked up again. After one year, the *Collor* II plan was adopted with a new price freeze and initiatives to reform the financial system. In May 1991 this was abandoned. Negotiations with the International Monetary Fund (IMF) were reopened and greater fiscal austerity finally enforced. The first large privatisation, of the steel sector, was launched. Capital account transactions were made more flexible. But further attempts to implement a more comprehensive stabilisation were delayed by the political turmoil related to the impeachment of President Collor in December 1992.

Notwithstanding the overall outcome, these plans did start an ambitious trade liberalisation programme. Between 1989 and 1992, average tariffs were reduced from around 39 to 15 per cent (Penha Cysne, 2000). The list of prohibited imports was abolished. Policy-makers recognised the value of external competition in satisfying demand and moderating inflationary pressures. The administration also furthered regional integration by expanding bilateral trade agreements with Argentina. This led to the MERCOSUL treaty, signed in March 1991, that set out the steps towards a full custom union between Brazil, Argentina, Uruguay and Paraguay (see Annex I.1).

Macroeconomic stabilisation through the Real Plan

By June 1993, inflation was running again at around 30 per cent per month, and a new stabilisation plan was designed. It suggested addressing the inertial component of inflation by synchronising all indexation rules in the economy to avoid a price freeze that would distort relative prices. To this end, a new unit of account, the URV (*Unidade Real de Valor*), was created. The central bank published a daily conversion rate between the URV and the currency (then the *Cruzeiro Real*). Prices, wages and contracts were converted into URVs between March and June 1994, using an average rate between November 1993 and February 1994. In this way, all prices were rapidly aligned, anchored to the URV. This subsequently allowed the government to replace the URV by an exchange anchor. In July 1994,

monetary reform was implemented. A new currency, the *Real*, was introduced whose value simply corresponded to the URV. At this point, the government left a floating exchange rate to find the equilibrium level between domestic and foreign prices.

Special attention was given to the fiscal position. A constitutional amendment was approved in February 1994 that reduced earmarked expenditure and gave the Treasury better control over budget execution. Together with the increase in tax revenues, this resulted in a large primary surplus. Trade liberalisation was accelerated in order to stimulate competition in the domestic market and restrain the potential pressure on prices as private sector demand recovered. International confidence in the reform and the wide interest rate differential, led to a rapid inflow of capital; the Real appreciated rapidly against international currencies. By the end of 1994, growth had resumed.

All these measures created the condition for sharp disinflation without the need for a price freeze; the central bank introduced a (semi) fixed exchange rate regime in order to create a nominal anchor for the economy only in March 1995, whose viability depended on the availability of external financing. The exchange rate was allowed to fluctuate within a narrow band, whose limits could be adjusted.

The impact of the Real Plan went beyond stabilisation

Macroeconomic stabilisation brought about changes in the Brazilian economy. It immediately stopped the substantial regressive effects of the inflation tax, and induced a step increase in real incomes of the poorest segments of the population. Macroeconomic stabilisation also interacted with the economic structure of the country across states and sectors.

Real incomes of the poorest went up

As discussed above, the lowest income segments of the population had limited access to the protection afforded by indexation. When inflation stops abruptly the once and for all rise in real incomes can be significant. In 1986, the *Cruzado* Plan had reduced those in poverty by almost 20 million. But the failure of this stabilisation plan meant that in 1987 poverty had reverted to its previous level. There was a similar, but more muted, effect during the *Collor* Plans in the early 1990s. The Real Plan had a stronger impact. According to the household survey, poverty fell from 41.7 per cent in 1993[5] to 33.9 per cent in 1995, taking almost 10 million out of poverty. In contrast to earlier plans, sustained disinflation consolidated this lower level of poverty at about 33 per cent of households or 50 million poor.

A difficult adjustment in the labour market

The effects of macroeconomic stabilisation began to filter through to the structure of the economy. Already by 1982, forced industrialisation of the economy

had begun to level off. By the end of the decade, the share of industry had fallen below 40 per cent of GDP. After 1994, this trend accelerated as the non-tradable service sector grew up to about 60 per cent of value-added (Figure 3, panel A). It seems that during the 1990s the Brazilian economy was finding its natural balance, with the growing importance of the service sector confirmed by figures for sectoral employment (Figure 3, panel B).

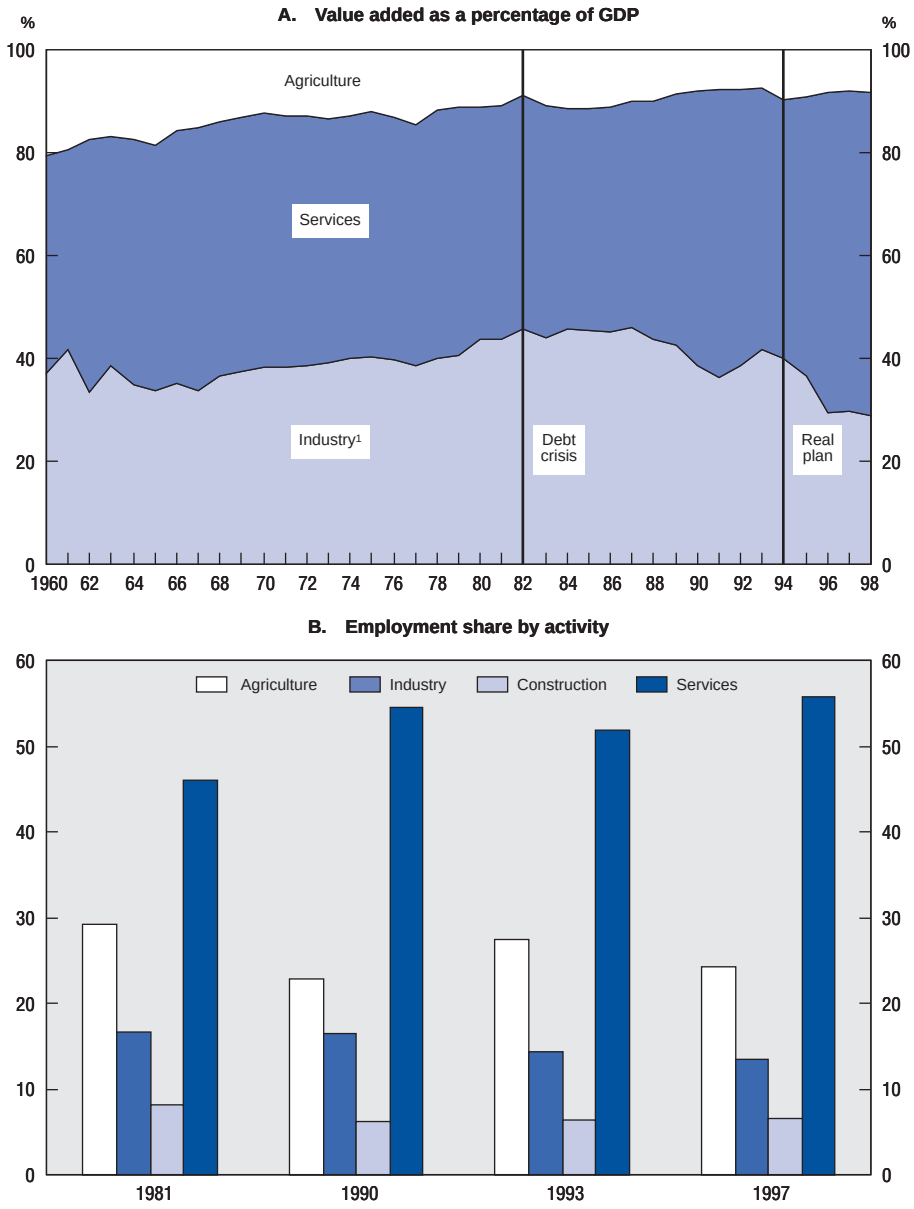
This structural change in the economy was reflected in substantial movements of employment across regions and sectors (Table 5). Between 1996 and 1998, industry lost nearly half a million jobs, or about 1 per cent of total *formal* employment (see below). Net job destruction was concentrated in large industrial companies (over 500 employees), but this was in part compensated by the net creation of jobs in small and medium size enterprises. This contributed to the deconcentration of the Brazilian industrial sector that started to take place in the early 1990s (Saboia, 2000).

The strong real exchange rate appreciation contributed to a loss of competitiveness in the manufacturing sector. Some industries were particularly hit, notably textiles, wearing apparel and footwear (see Table 6). The net largest decreases of employment were in the most industrialised states, such as S. Paulo and Rio Grande do Sul. A perhaps unexpected consequence of the Plan was that the loss of competitiveness created incentives for companies to move to the northern states, such as *Ceará*, in search of lower wages.[6] These regional movements were further promoted by a series of state-level fiscal incentives (see Chapter II).

The decrease in industrial employment was outweighed by the creation of jobs in the service sector. In S. Paulo, Rio de Janeiro and Paraná new jobs were concentrated in business services and distribution; but in other states the highest increases were in public administration (*e.g.* Minas Gerais) and other public services. Noteworthy was the investment in education that was reflected in large employment increases in this sector (see Chapter V).

This shift of labour towards the service sector was an important factor easing adjustment, though there is evidence that the new jobs were more precarious than former industrial employment (Amadeo and Pera, 2000). Notably, there was a substantial increase in informal employment, which has become a structural feature of the Brazilian economy (see Box 2). In aggregate, the economy needed to create many more jobs to accommodate the growing labour force as the age cohorts entering the job market in the 1990s mirrored the baby boom of the 1970s. By the end of 1998 "open" unemployment in the main metropolitan regions[7] increased to 9 per cent from around 5 per cent in 1993. Actually, this rate only partly reflected the true position of unemployment in some of the main states. When discouraged workers and other hidden unemployment are

Figure 3. **Structural change in the Brazilian economy**



1. Including construction.
Source: ILO, World Bank.

Table 5. **Net job creation and destruction by sector in Brazil, 1996-98**

	Code sector	Change in number of employees						Change in number of units				
		Total	Total growth rate in %	0-29 employees	30-99 employees	100-499 employees	Over 500 employees	Total	0-29 employees	30-99 employees	100-499 employees	Over 500 employees
Distribution sector, repair of vehicles and other objects	G	427 036	7.4	425 641	–7 984	–7 062	16 441	134 662	134 832	–68	–100	–2
Real estate, other renting and services to companies	K	333 659	13.3	201 879	18 311	27 972	85 497	85 208	84 587	401	148	72
Education	M	202 668	22.6	26 812	–732	–5 472	182 060	7 522	7 503	6	–30	43
Public administration, defence and social security	L	141 411	2.7	–2 329	–964	87 123	57 581	1 009	615	–27	382	39
Other collective services, social and personal	O	103 738	10.2	93 465	19 974	5 321	–15 022	80 136	79 705	423	10	–2
Health care and social services	N	102 732	10.2	39 424	9 100	2 577	51 631	12 978	12 743	199	18	18
Housing, catering	H	88 526	8.9	85 400	12 692	–7 217	–2 349	27 203	27 000	245	–38	–4
Agriculture, fishing, forestry	A	16 527	4.7	–1 957	–381	–1 468	20 333	101	106	–12	–11	18
Transportation, storing and communication	I	5 257	0.4	46 650	1 148	–1 746	–40 795	20 681	20 702	9	–36	6
Fisheries	B	1 452	32.3	403	150	206	693	160	156	2	1	1
International organisations and other n.e.c.	Q	–157	–64.6	–36	70	–191	0	–6	–6	1	–1	0
Financial intermediaries	J	–4 467	–0.7	7 161	–16 720	–24 713	29 805	6 377	6 769	–301	–93	2
Extractive industries	C	–14 891	–11.2	2 859	842	–1 427	–17 165	739	743	16	–13	–7
Construction	F	–15 368	–1.4	34 462	–6 990	–8 140	–34 700	11 691	11 885	–134	–27	–33
Production and distribution of electricity, water and gas	E	–38 936	–13.9	–3 412	–1 887	–7 156	–26 481	–853	–788	–43	–22	0
Manufacturing industries	D	–462 075	–8.3	155 856	11 582	–116 172	–513 341	23 630	24 051	392	–535	–278
Total variation 1996-98		**887 112**	**3.3**	**1 112 278**	**38 211**	**–57 565**	**–205 812**	**411 238**	**410 603**	**1 109**	**–347**	**–127**

Source: IBGE.

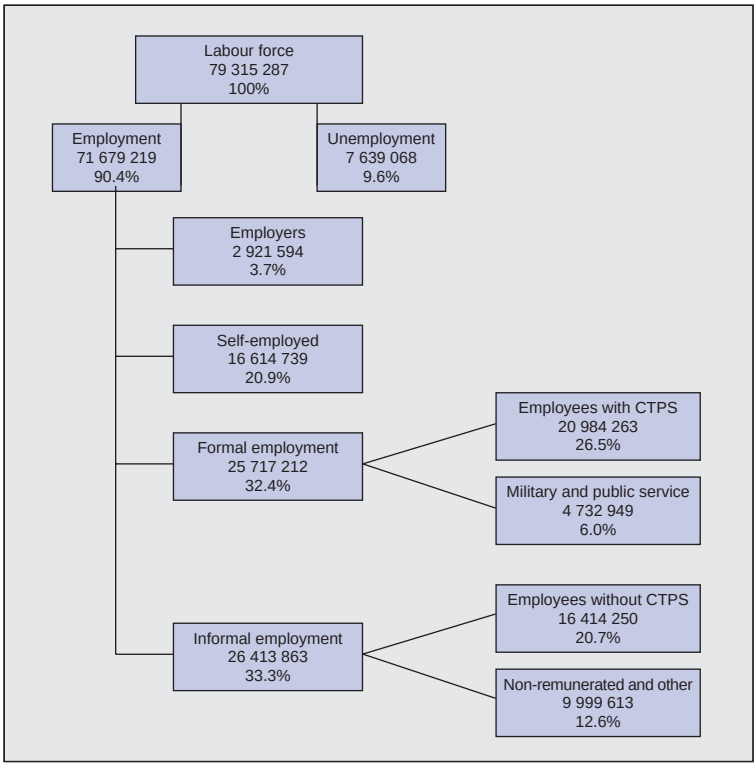
Table 6. **Breakdown of net job creation and destruction by main states and sectors, 1996-98**

Net job creation			Net job destruction		
São Paulo					
74	Business services	93 976	15	Food and beverages	–56 470
52	Retail distribution, repair of personal and domestic objects	59 020	17	Textiles	–33 091
			29	Machinery and equipment	–28 921
91	Recreational and cultural services	18 073	18	Wearing apparel	–21 355
55	Accommodation and food	17 919			
Rio de Janeiro					
74	Business services	24 734	75	Public administration, defence and social security	–35 713
80	Education	18 059			
60	Land transportation	12 565	45	Construction	–14 802
91	Recreational and cultural services	8 891	15	Food and beverages	–10 830
			64	Post and telecommunications	–8 658
Minas Gerais					
75	Public administration, defence and social security	89 389	10	Coal extraction	–344
			62	Air transportation	–541
52	Retail distribution, repair of personal and domestic objects	40 494	16	Tobacco	–571
			14	Non ferrous metals	–692
74	Business services	28 748			
80	Education	17 903			
Paraná					
52	Retail distribution, repair of personal and domestic objects	30 496	65	Financial intermediaries excluding insurance and pension funds	–12 549
74	Business services	28 563	23	Coke and refined oil, alcohol and other fuels	–8 489
80	Education	9 377			
75	Public administration, defence and social security	8 664	45	Construction	–2 455
			17	Textiles	–2 139
Rio Grande do Sul					
75	Public administration, defence and social security	154 606	18	Wearing apparel	–152 855
			19	Leather and footwear	–23 841
52	Retail distribution, repair of personal and domestic objects	28 496	65	Financial intermediaries excluding insurance and pension funds	–5 378
74		20 589			
80	Business services Education	11 402	40	Electricity, gas and heating	–3 917
Bahia					
75	Public administration, defence and social security	32 458	65	Financial intermediaries excluding insurance and pension funds	–6 491
52	Retail distribution, repair of personal and domestic objects	19 960	11	Crude oil extraction	–3 326
			40	Electricity, gas and heating	–2 598
74	Business services	16 944	13	Ferrous metals	–976
80	Education	9 126			
Ceará					
19	Leather and footwear	9 649	75	Public administration, defence and social security	–43 450
85	Health care and social services	9 162			
52	Retail distribution, repair of personal and domestic objects	8 547	15	Food and beverages	–7 026
			45	Construction	–3 748
74	Business services	6 027	65	Financial intermediaries excluding insurance and pension funds	–3 194

Source: IBGE.

Box 2. The structure of the labour market in Brazil

The labour market in Brazil is characterised by a dual structure. Approximately half of all employees are registered under the labour card, Carteira de Trabalho (CTPS), which also provides access to the pension and social security system. The other half of employees is engaged under informal labour contracts and other more precarious forms of employment (including non-remunerated jobs). The labour force in Brazil (economically active population, PEA) includes those over 10 years old. Its breakdown in 1999 according to different characteristics was as follows:



Source: PNAD-1999, IBGE.

Table 7. **Unemployment rate by selected urban region, 1991-2000**[1]
Percentage of labour force

	1991	1993	1995	1997	1998	1999				
						Total	Open unemployment	Hidden unemployment (discouraged workers)	Hidden unemployment (precarious employment)	Jan.-Aug. 2000
Belo Horizonte	n.a.	n.a.	n.a.	13.23	15.58	17.93	11.80	1.80	4.34	18.03[2]
Distrito federal	n.a.	15.17	15.47	17.81	19.26	21.63	14.08	3.32	4.24	21.11[3]
Porto Alegre	n.a.	12.33	10.68	13.36	15.54	18.90	12.03	2.10	4.78	17.44
Recife	n.a.	n.a.	n.a.	19.15	21.49	22.01	11.78	4.42	5.82	20.86
Salvador	n.a.	n.a.	n.a.	21.44	24.68	27.53	15.58	3.63	8.32	27.49
São Paulo	11.63	14.68	13.16	15.72	18.18	19.28	12.06	2.15	5.13	18.25

1. Labour force survey, (Pesquisa nacional de domicilios, PNAD).
2. January-July 2000.
3. January-May 2000.
Source: DIEESE, IPEA.

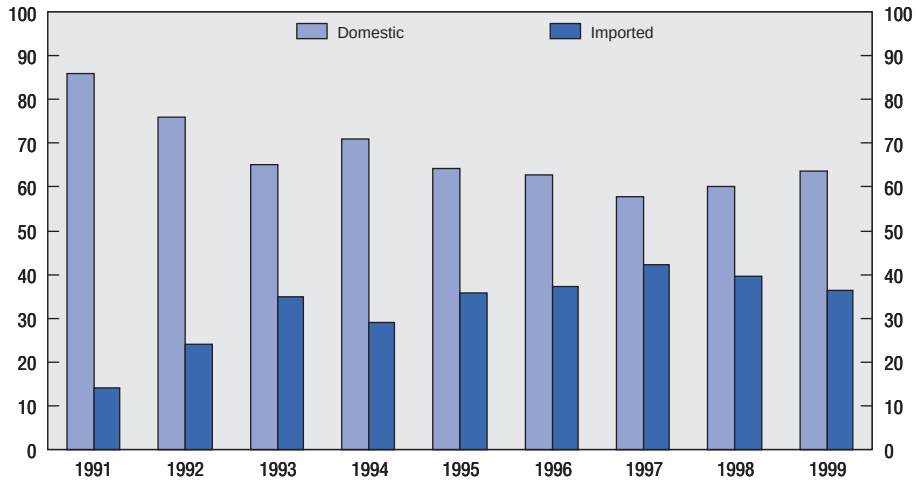
taken into account, total unemployment reached 18 per cent of the labour force in the state of S. Paulo in 1998 (see Table 7 and IPEA, 2000).

With low inflation, investment started to recover

Rapid disinflation in the early years of the Real Plan following earlier productivity gains encouraged enterprises to make investment decisions. In this new environment, there was a mini-investment boom during 1995-97. The pick-up of industrial investment corresponded mainly to the adoption of modern equipment that had high marginal productivity (see Bielschowsky, 1999). This investment had a high return since loan conditions even from the main development bank, the BNDES, were still quite demanding. At the same time, trade liberalisation had created opportunities to buy equipment and machinery abroad (Figure 4).

Labour productivity increased sharply (Figure 5). In 1991-94 the increase in productivity was achieved mainly by employment reduction, thereafter productivity gains were associated with the introduction of new equipment directed at labour-saving and cost-reduction. In other words, the 1995-97 investment cycle induced some capital deepening in the economy. This brings out a positive aspect to the otherwise strikingly tough adjustment in the labour markets described above. Unfortunately, as macroeconomic conditions deteriorated

Figure 4. **Share of domestic *vs.* imported investments of machinery and equipment**



Note: At constant prices of the previous year.
Source: IBGE.

again after 1997 expectations reversed. The investment cycle could not be prolonged sufficiently to generate the expected gains in terms of growth and employment.

Fiscal and external imbalances again put stabilisation under pressure

Brazilian experience with stabilisation plans suggested that sustained disinflation would only possible if structural reforms, especially those dealing with the reform of the State, were implemented and external financing could be maintained. With this in mind, the government proposed a series of constitutional amendments in 1995. These were needed to restructure the social security system, and change the employment terms and retirement benefits of public employees. They were also needed to eliminate state monopolies and prepare state enterprises in telecommunications, energy, transport and oil for privatisation, and to remove restrictions on foreign investment. These amendments to the 1988 constitution required a qualified majority in each house of congress, which proved difficult to secure in some cases. A number of measures were passed over the next three years,[8] but reform did not gain enough momentum to keep the macroeconomic situation under control.

Figure 5. **Labour productivity**
Per cent per annum

1. Labour productivity was estimated as the ratio between the change in value-added at constant prices, and the change in employment.
2. Productivity = (Volume index of production/number of paid hours).

Source: IBGE.

Confronted with these realities, Brazilian policy-makers had to gain time on both fronts, fiscal and external. From 1996 to the end of 1998 the government accelerated the privatisation programme (see Chapter IV), generating funds to finance the public deficit. Since the privatisations in the service sector attracted large inflows of foreign direct investment, this relieved pressure from the widening current account deficit. The delay in implementing structural reforms had a cost for the economy, notably in terms of high interest rates.

Macroeconomic imbalances made achieving an exchange rate target too costly

The disinflation brought about by the Real Plan created a role for monetary policy. However, this newly found flexibility was quickly sacrificed to the implementation of an exchange rate band, which operated between 1995 and 1998 against the background of a loose fiscal policy. The central bank had initially tried to control credit by increasing its compulsory deposit requirement. However, interest rates soon became the main instrument of monetary policy. Defending the exchange rate band required very high real interest rates, which in turn stimulated capital inflows. This created a cycle where anticipated appreciation stimulated even higher inflows. At this point the central bank started to accumulate international reserves needed to back the exchange rate band, reducing upward pressure on the exchange rate. At the same time it sterilised domestic liquidity, supporting an orderly reduction in domestic interest rates.

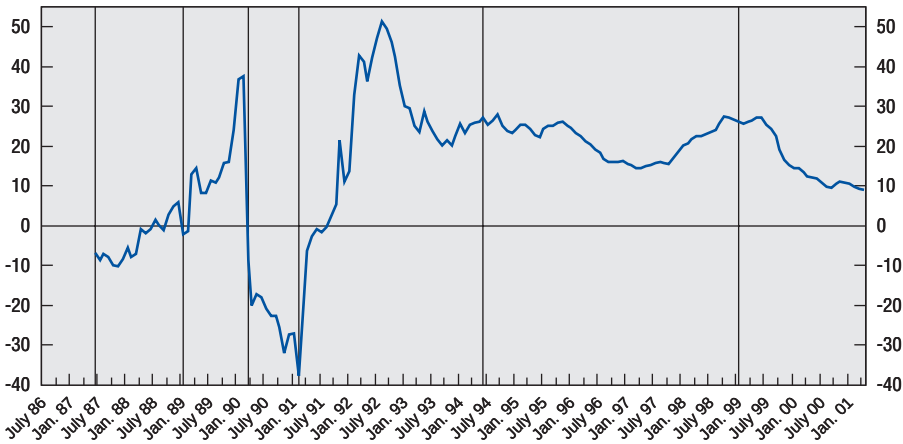
These policies started to have the desired effect, but the Asian Crisis of 1997 and the growing risk spreads in emerging market paper prevented the authorities from further relaxing monetary policy by reducing interest rates (see Figure 6). Most importantly, although the central government met its budget targets there was fiscal slippage by sub-national governments. Domestic markets started to demand higher interest rates and indexed bonds (either on the short-term interest rates or the dollar, see Chapter II) to roll the public debt over, pushing it onto an unsustainable path.

There was a lack of control of public expenditure

Expenditure management proved to be more difficult than expected. Public sector wages increased by 22 per cent in January 1995, an award made on the basis of past inflation. Expenditure increased substantially in real terms due to sharp deceleration of inflation. In May there was a real increase in the minimum wage, with implications for social security benefits (see Annex II.1). Both these decisions proved to be costly since, in a break with the past, inflation continued its downward trend and did not erode the real value of these payments. As a result, expenditure on wages and social security payments increased by 0.7 per cent of GDP in 1995.

More fundamentally, constitutionally mandated fiscal federal arrangements, together with strict limits to hiring and firing of public employees and ear-

Figure 6. **Real interest rate**[1]
Per cent



1. Annualised rate from monthly data, interest cumulated over previous 12 months. Interest rate: SELIC; Inflation: IPCA.
Source: BCB, IPEA.

marking of revenues, introduced great rigidity into the management of public finances at all levels of government (see Box 3). The need rapidly to reduce the financial deficit highlighted the difficulty of making a fiscal adjustment (Table 8). This was aggravated by a growing deficit in the social security system, due particularly to the special regime for civil servants, and the large share of payroll spending in total expenditure at all levels of government (Chapter II).

Public debt dynamics became unsustainable

The adverse fiscal implications of the new constitutional provisions became fully evident after the adoption of the Real Plan. High inflation had traditionally been a source of flexibility for the management of public budgets, particularly for state and local governments, working to some extent as a substitute for fiscal discipline. An efficient indexation of fiscal revenues was combined with delays in payments to erode the real value of expenditures.[9] The drop in inflation from a rate of nearly 5 000 per cent on a 12-month basis in June 1994 to 7 per cent in June 1997 and 3.5 per cent in June 1998, meant that inflation became rapidly unavailable to equilibrate budgets. To address this situation in the states and municipalities the government passed several measures in 1997. Debt renegotiation agreements (Law No. 9496/97) enabled fiscal adjustment to start. Moreover,

Box 3. The 1988 constitution and expenditure management

The 1988 constitution aimed to protect sources of income most vulnerable to fiscal austerity, notably wages and pensions. Job stability for public employees was enhanced. A minimum wage was assured to all retirees and a review of the pension payments system was mandated. The new constitution provided for universal access to health and social protection programmes,[1] fixed a floor for social benefits (one minimum salary) and mandated the indexation of social benefits. The social security regime for civil servants at all levels of government was broadened, statutorily assigning special treatment to all workers in the public sector (some previously subject to ordinary labour contracts), and introduced the right for all civil servants to qualify for a pension equal to their last salary.[2] These constitutional provisions compelled all levels of government significantly to increase personnel expenditures.

The constitution strengthened the fiscal federal structure by increasing the share of sub-national governments, notably of local governments, in tax revenue. The three government tiers (federal, state and local) get a fixed share of the main federal tax revenues (value-added tax, IPI, and income taxes). It even imposed a monthly deadline for the executive to transfer budget funds to the legislature and judiciary. These rigidities exacerbated the tendency by the federal government to resort to increasing social contributions, earmarked to a "social security budget", levied on business turnover and profits.

Importantly, the 1988 constitution also attempted to improve fiscal institutions. It created a new structure with a multi-year budget, a budget outline and a budget law covering not only the federal government but also capital expenditures of state enterprises. It established rules for tax creation and was supposed to increase the control on sub-national debts by giving the senate a greater role. In this respect, the intent of those drafting the constitution has not been fully implemented.

1. For instance, rural workers benefited from the increase of their pension to one minimum wage and from easier access to the social security system (for instance minimum pension rights without contribution requirements). According to the UN-ECLAC, while the measure has reduced the incidence of rural poverty, the number of rural pensioners increased by 2 million during 1991-95.
2. The constitution establishes the right of civil servants to retire after 35 years of work, with a pension equal to the last salary and linked to salaries of equivalent posts.

a programme was adopted to reduce states' ownership in the financial sector, which reduced an important source of budget financing.[10]

High real interest rates needed to stabilise the currency badly harmed fiscal performance (Figure 7). The nominal budget deficit of the consolidated public

Table 8. **Central government budget, 1996-99**
Accrual basis

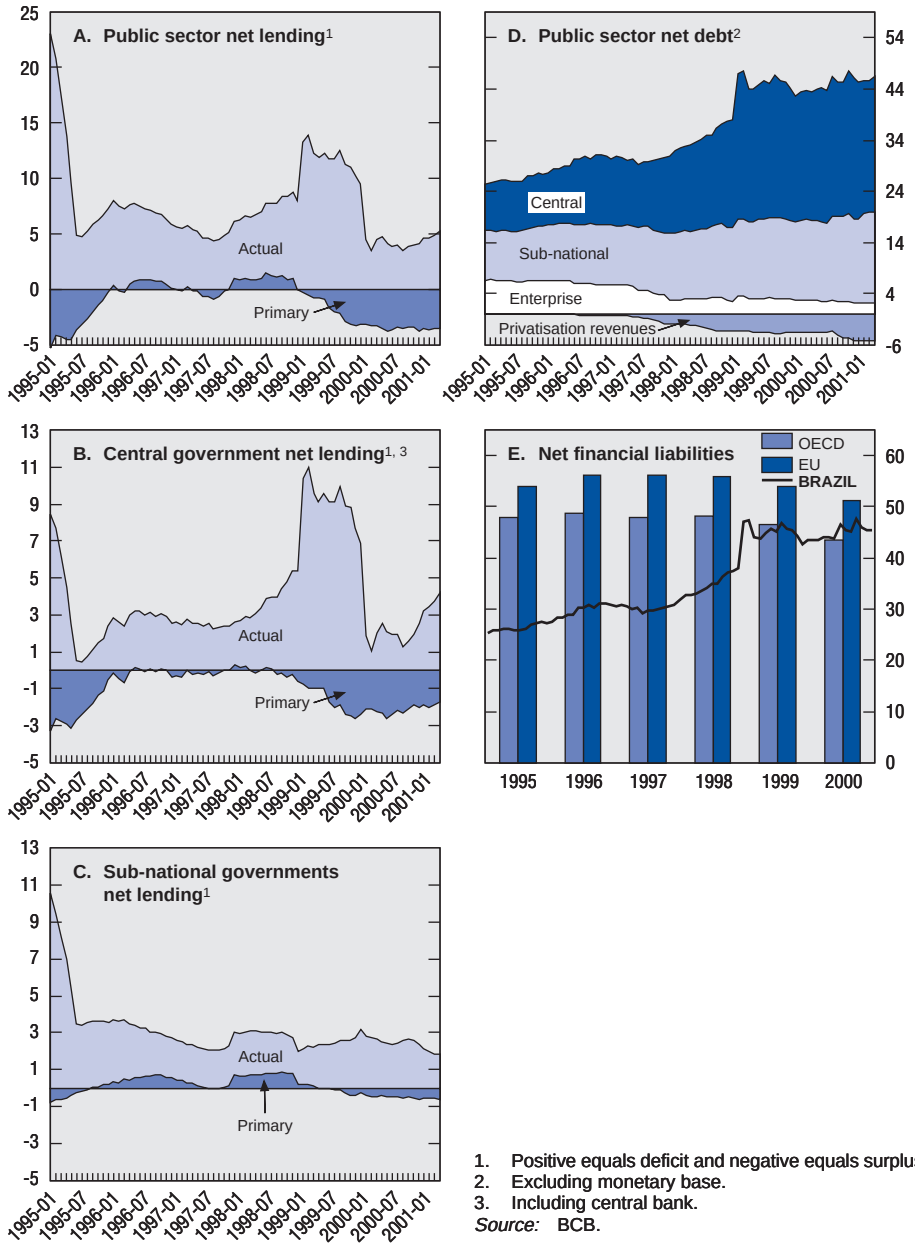
	1996		1997		1998		1999	
	BRL billion	% GDP	BRL billion	% GDP	BRL billion	% GDP	BRL billion	% GDP
Treasury revenues	92.6	11.9	109.9	12.6	134.1	14.7	158.2	16.5
of which: Transfers to sub-national governments	21.4	2.8	24.4	2.8	27.8	3.0	30.8	3.2
Treasury expenditures	55.3	7.1	72.0	8.3	79.8	8.7	81.7	8.5
of which: Payroll	25.0	3.2	25.7	3.0	29.9	3.3	29.1	3.0
Treasury balance	15.9	2.0	13.5	1.6	26.5	2.9	45.8	4.8
Social security balance	–16.5	–2.1	–18.2	–2.1	–26.7	–2.9	–28.4	–3.0
of which:								
General regime	–0.7	–0.1	–2.5	–0.3	–8.5	–0.9	–8.6	–0.9
Civil servants	–15.9	–2.0	–15.8	–1.8	–18.3	–2.0	–19.8	–2.1
Unemployment insurance balance	3.6	0.5	3.1	0.4	3.1	0.3	4.6	0.5
Central government primary balance	2.9	0.4	–1.6	–0.2	2.9	0.3	22.0	2.3

Source: IPEA.

sector jumped from around 4½ per cent of GDP in mid-1997 to near 8 per cent by mid-1998, reflecting an increase in nominal interest payments from 5½ to 7½ per cent of GDP. A debt structure largely biased towards the short term also contributed to rapidly rising debt servicing costs and debt accumulation. Market debt was largely concentrated in short-term instruments.[11] Financial market pressure for higher interest rates and shorter maturities, together with the disappearance of primary surpluses over the period 1995-98, all contributed to put public sector debt on an explosive path (Figure 8).

Efforts to increase the share of federal fixed-rate market securities, from 6 per cent in February 1995 to 64 per cent in October 1997, and to lengthen average maturity, from 2 to 8 months over that period, came to a halt at the end of 1997. With global financial markets badly hit by the Asian financial crises, real interest rates rose sharply and market confidence in the exchange rate deteriorated. In this context, with growing demand for US dollar linked or indexed interest rate securities, the share of fixed-rate debt started to fall again, reaching 3.5 per cent of total debt by the end of 1998. The incorporation of contingent liabilities also led to a deterioration in public sector debt. These included the securitisation of agricultural sector debt (Law No. 9138/95), energy funds (the petroleum account and alcohol programme) and wage indexation fund (F*undo de compensacoes de variação salariais*, FCVS). As a result, net public sector debt increased from 26 per cent of GDP in 1994 to 38 per cent by the end of 1998.

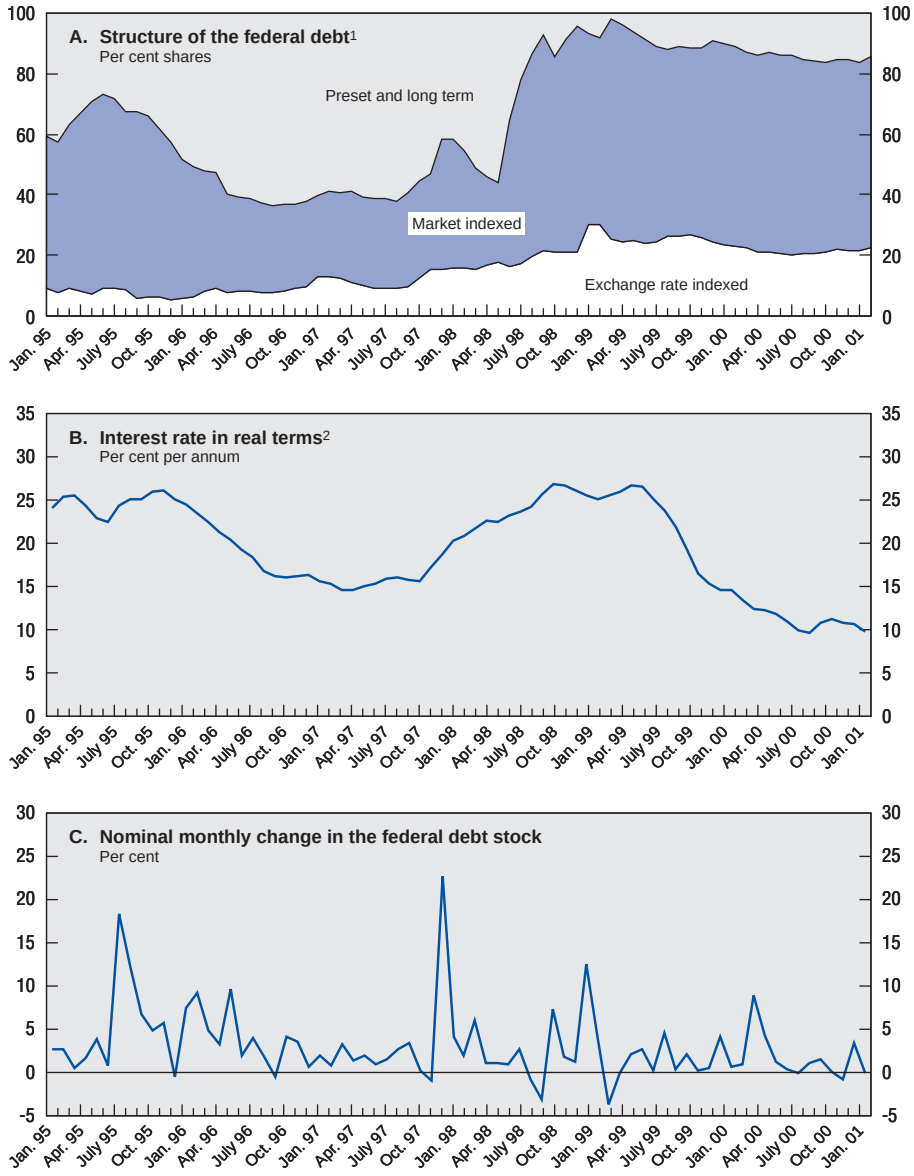
Figure 7. **Indicators of fiscal performance**
Percentage of GDP



1. Positive equals deficit and negative equals surplus.
2. Excluding monetary base.
3. Including central bank.

Source: BCB.

Figure 8. **Development of the federal debt**



1. Total federal domestic securities in issue, comprising National Treasury: financing bills, bills, bonds, notes, financing securities, and securitised credits.
2. SELIC deflated by the IPCA; monthly data.

Source: BCB and OECD.

The external financing constraint re-emerged

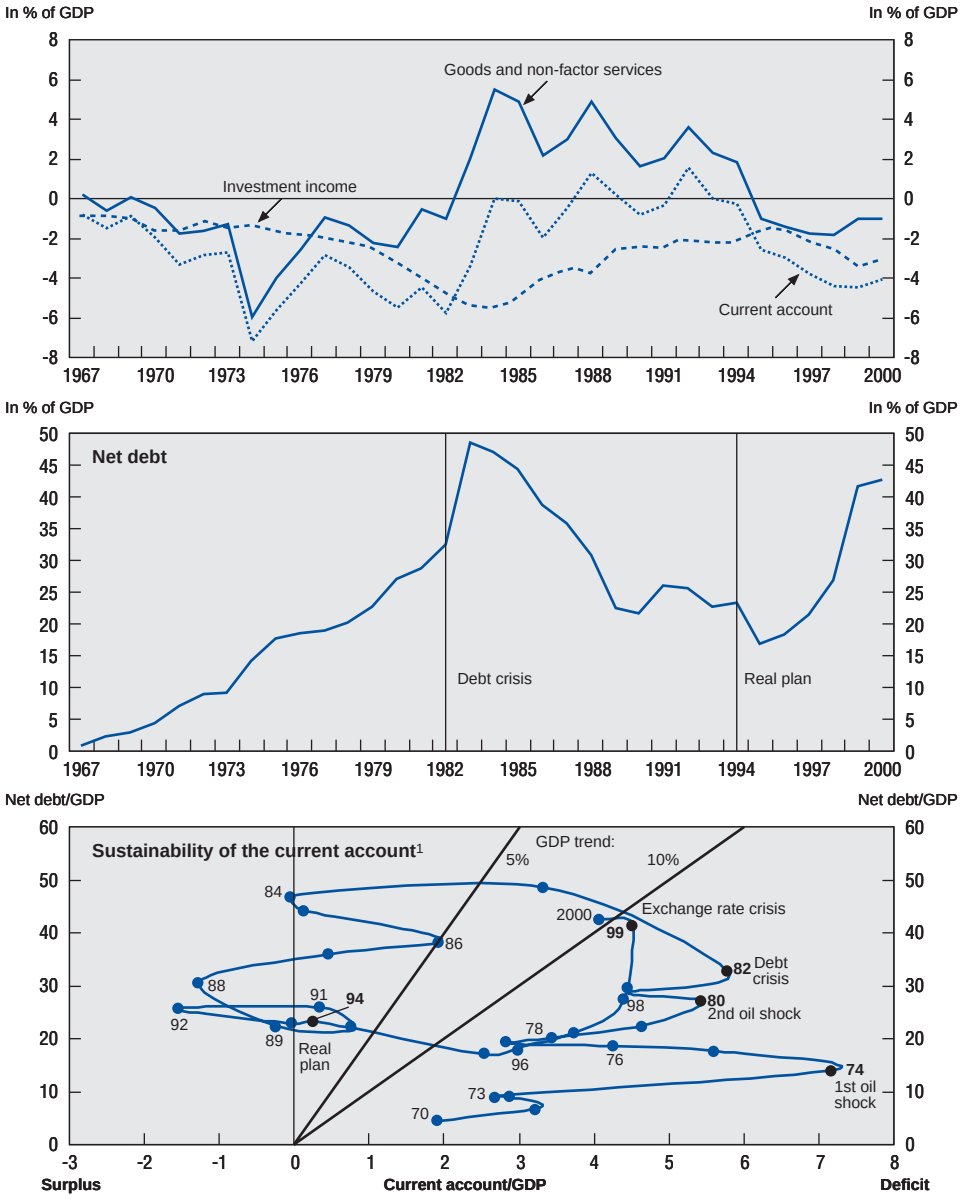
International lenders are not willing to finance indefinite increases in the net debt to GDP ratio. In this respect, concerns about Brazil's external indebtedness are not new and should be seen in an historical context. The external constraint in Brazil over the last thirty years is portrayed in Figure 9. The first panel of the figure shows the current account and its two main components: the trade and non-factor service balance, and the factor income balance (interests and dividends). All the variables were normalised by GDP to allow comparison over a long period. The next panel displays the profile of the debt cycle.[12] The third panel combines the net external debt and the current account indicators in order to provide an indicative view of when the external constraint becomes binding.

The levels of current account deficit compatible with a stable net debt to GDP ratio depend on the growth of nominal GDP (in international currency, as a proxy of the ability to pay).[13] This implies that a persistent deficit, leading to a steady increase of the debt ratio, increases vulnerability of the economy and, ultimately, will induce an adjustment. Average nominal GDP growth (in US$) over the last thirty years has been around 10 per cent in Brazil, and is represented by a bold line in the figure. Combinations of net debt and current account deficits to the right of this line lead to a steady increase of the net debt to GDP ratio or, in other words, they can be seen as unsustainable in the long run. By way of comparison, the figure also shows a somewhat less optimistic GDP trend of 5 per cent nominal growth.

A first debt cycle started in the early 1970s and spanned twenty-five years. As discussed above, the 1982 debt crisis induced a sharp reversal in this process. As a result of the sharp depreciation in 1983, the net debt ratio peaked at around 50 per cent of GDP. In the descending phase of the debt cycle (1983-94), the burden of interest payments forced governments to maximise export revenues by first depreciating the currency and trying to maintain a "crawling exchange rate peg" to compensate for increasing domestic prices (see Figure 10). This adjustment policy improved the trade balance. The external constraint remained binding as the net debt to GDP ratio was more than halved to around 23 per cent GDP in 1994.

After the 1994 Real Plan capital inflows accelerated. A new debt cycle began and Brazil again became a major borrower in international markets, although international financing during this later period is dominated by the inflows to the US economy (see Table 9). It is notable that foreign debt was perhaps more sustainable than previously, given lower involvement of the public sector and a higher proportion of foreign direct investment (FDI), the latter in

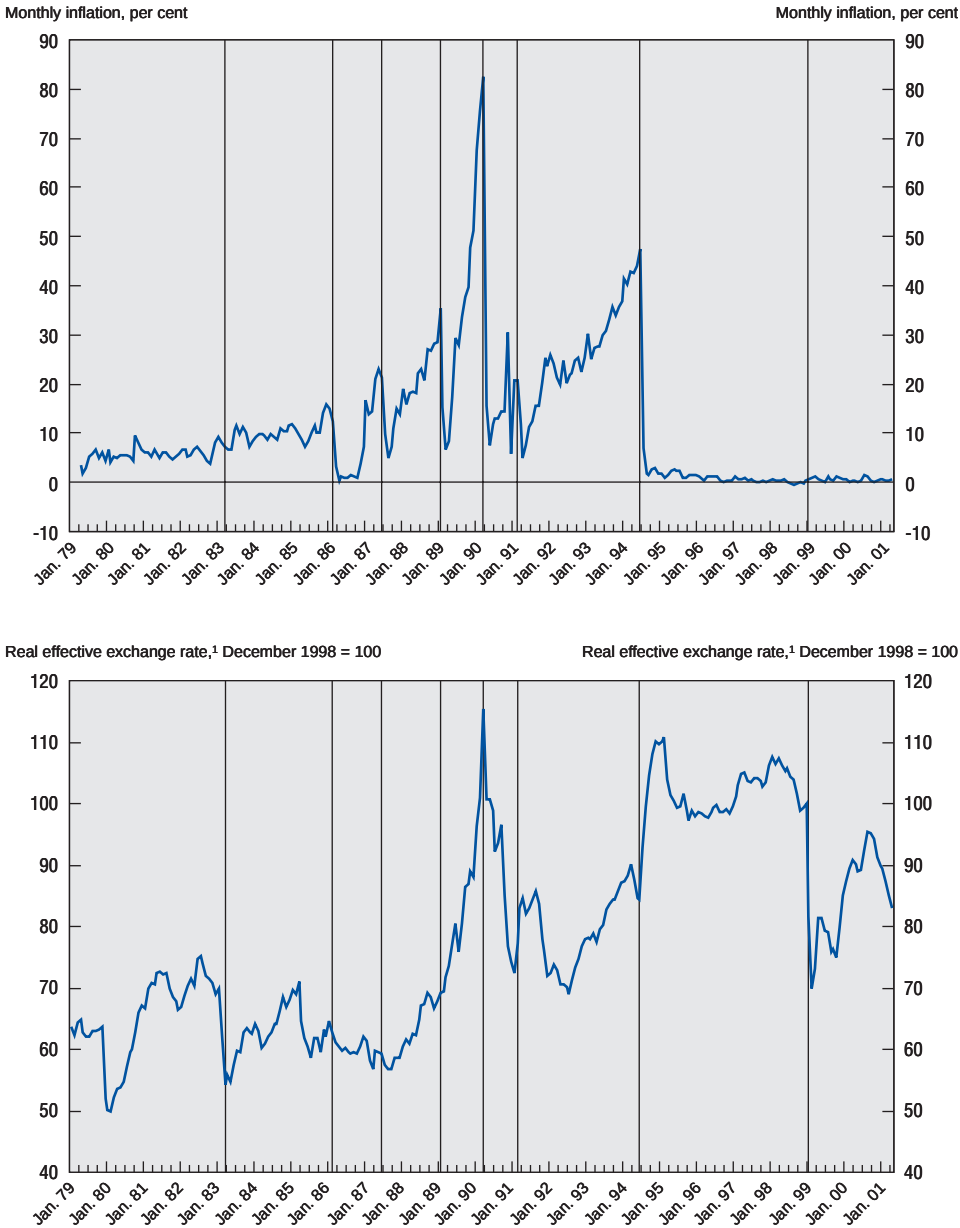
Figure 9. **The external constraint in Brazil**



1. The ratio Net debt to GDP is stabilised or decreases for points to the left on the bold lines, corresponding to a trend GDP growth rate of respectively: 5% and 10% per year (see text).

Source: IBGE, OECD.

Figure 10. **Inflation and real effective exchange rate**



1. An increase of the index indicates an appreciation. Real effective exchange rate: IPA OG – total exports.
Source: IPEA.

Table 9. **Net inflows and outflows of savings:[1] a global perspective**
US$ billion

	1975-82	1983-90	1991-96	1997-2000	Cumul 1975-2000
OECD	276	449	68	461	1 253
of which: United States	6	854	475	1 122	2 457
Africa and Middle East	–197	180	186	–17	153
Asia	49	1	44	–243	–149
South America	135	58	130	196	519
of which: Brazil	77	13	38	114	241
Eastern Europe	–41	–45	–3	–16	–105
Memorandum item:					
Unallocated flows	–223	–643	–424	–380	–1 670

1. Cumulative current account balances. A (+) number indicates a net inflow; a (–) number a net outflow.
Source: OECD, BCB.

large part the result of a large privatisation programme (see Chapter IV). The sustainability of these capital inflows is based in the view that direct investment is less volatile and is also likely to create the basis for future growth, though there is not yet a consensus on this point (*e.g.* Hausman and Cortez, 2000). Nevertheless, towards the end of the 1998 the sustainability of debt accumulation in Brazil was again called into question. Interestingly, the net debt ratio was reaching the same order of magnitude as before the 1982 debt crisis. Gross total external debt at the end of 1998 was some US$240 billion (of which 60 per cent was held by the private sector), and remained at around this level to the end of 2000.

The 1999 exchange rate crisis forced adjustment onto a new path

Confidence deteriorated with the Russian crisis in August 1998. By the end of 1998 Brazil was once again pressed to raise interest rates in order to maintain net capital inflows, and real interest rates stood higher than 40 per cent (year-on-year). In October, the government had announced an ambitious fiscal stabilisation plan and in November the congress approved further fiscal and structural measures. But these developments did not restore confidence. Although the Real Plan had led to price stability, reduction in poverty and higher levels of consumption and investment, economic growth had stalled.

On the 6 January 1999 the state of Minas Gerais declared a unilateral moratorium on its foreign bonded debt.[14] This event precipitated the need for policy action. As fiscal policy had proven to be resistant to adjustment, the market anticipated that the government would have to give up the exchange rate band. On

13 January, the central bank president resigned and exchange rate policy was immediately changed. The Real fluctuation band was widened. But after two days of continuous capital outflows (of around US$3 billion), the BCB decided to abandon the Real's fluctuation band. In three days, the currency had lost 22 per cent of its value.

Broadly speaking, markets were rather supportive of the move. The exchange rate crisis freed monetary authorities from the trap in which they found themselves. It also speeded up fiscal adjustment. By the end of January 1999, the budget had been approved without a single amendment and the nominal primary surplus of BRL 16.3 billion (3 per cent of GDP) had become law. Public administration reform was approved, thus creating effective instruments, incentives and sanctions for sub-national fiscal adjustment (see Chapter II). The congress also approved a new round of the CPMF (a controversial "contribution" on financial transactions), which together with other tax laws and instruments led tax collection to increase. For the first time in the 1990s, devaluation and a more favourable international environment created the basis for an export-led recovery (Figure 11), which softened the impact of fiscal adjustment.

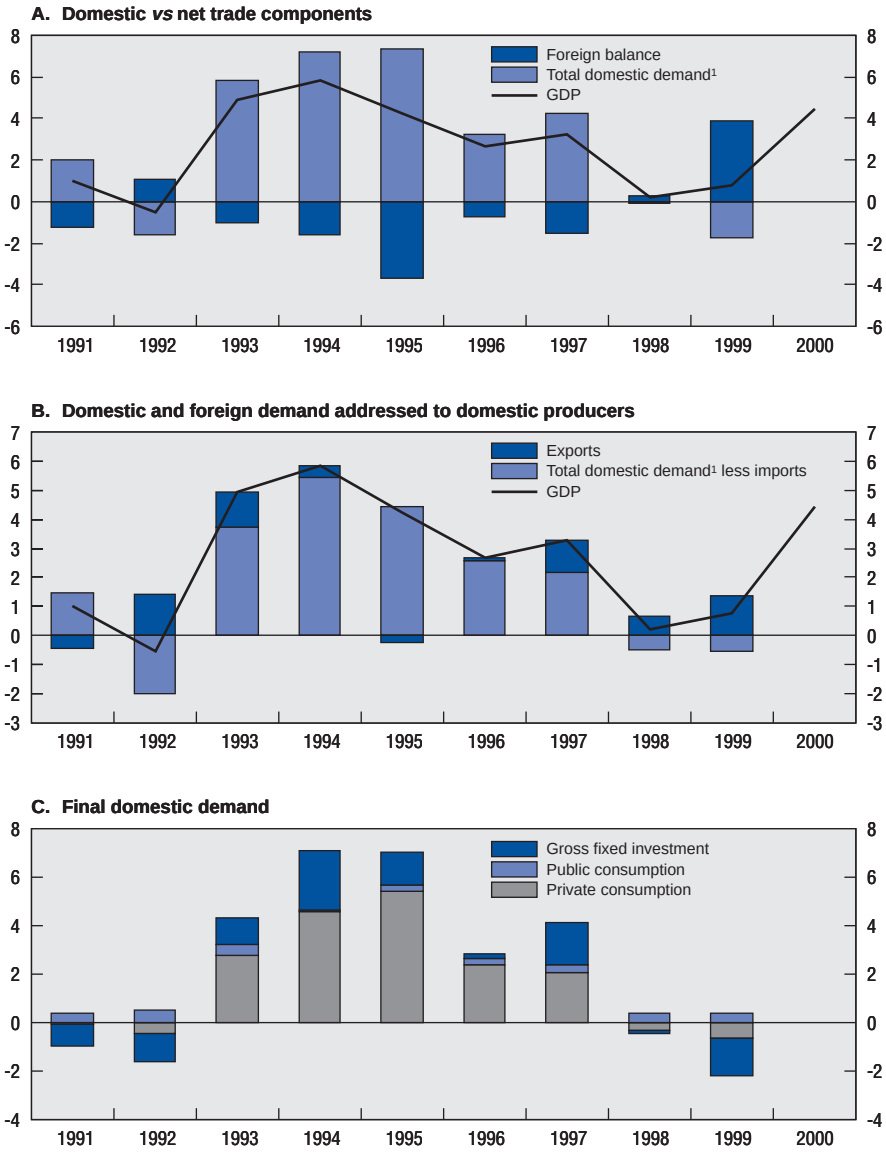
Comprehensive stabilisation measures were implemented

The reform package of November 1998 was put in place after the crisis. It was based on a three-year fiscal adjustment programme (1999-2001); the consolidated public primary surplus was targeted at 3.1 per cent of GDP in 1999, 3.25 per cent in 2000 and 3.35 per cent in 2001.[15] In counterpart, official creditors, multilateral and bilateral, provided support totaling more than US$41 billion. This programme for 1999-2001, agreed with the IMF, made roughly US$37 billion available in the first 12 months. The targeted primary surplus was largely met in 1999 and 2000. The short and medium-term measures taken in this context are summarised in Box 4. Short-term adjustment measures relied heavily on increased revenues, particularly from the more distortive social contributions. Measures taken on the expenditure side were more oriented to the medium-term. Greater federal government discretion in pursuing fiscal adjustment was validated by a constitutional amendment was passed in March 2000 (*Desvinculação da Receita da União*, DRU). It de-linked 20 per cent of federal revenues from tax and social contributions (except for the social contribution towards education salary) from their earmarked use until 2003.[16]

Institution building supported fiscal adjustment

With the aim of increasing transparency, discipline and accountability in the management of public finances a Fiscal Responsibility Law was enacted in May 2000. This law sets limits on payroll spending for all government levels, and stipulates that further legislation will set a ceiling on debt service. It introduces

Figure 11. **Contributions to GDP growth**
Per cent of GDP in the previous year



1. Including change in stocks.
Source: IBGE and OECD.

Box 4. Fiscal measures adopted in 1998-99

In 1998, the government announced a comprehensive fiscal stabilisation plan aimed at rapidly redressing fiscal imbalances and restoring credibility of fiscal policy.[1] However, most of these measures were only implemented after the crisis of January 1999. The short-run measures adopted in the course of 1999 were as follows:

On the revenue side:

- Higher social contribution on business turnover (COFINS, up 1 per cent to 3 per cent), encompassing previously exempt sectors (notably financial institutions).
- Temporary tax on financial transactions (CPMF) retained (the rate was increased from 0.2 per cent to 0.38 in 2000 and was expected be lowered to 0.3 in 2001-02).
- Increased social contribution on net profits (CSLL) by 4 percentage points (to 12 per cent), effective until end-2002.
- Certain exemptions to income tax removed (withholding taxes on gains on stock market day trading, and on interest payments to non-residents).
- Judicial deposits counted as revenues, pending court decision.
- Measures to strengthen tax enforcement and to improve compliance with social security contributions.

On the expenditure side:

- Cut investment programmes of federal public enterprises by 0.9 per cent of GDP over three years.
- Freezing employment and seniority payments at federal level, and postponing promotions until end 1999
- Introduction of some flexibility in managing federal government personnel. Mainly a programme for voluntary termination, voluntary reduction in working hours linked with reduction in salary, and the possibility of dismissal for poor performance.
- Pass through to domestic prices of oil import price increases (domestic oil prices were raised by more than 60 per cent in 1999) to prevent the accumulation of deficits in the oil price equalisation account.
- Enforcing debt service of states' restructured debt, forcing them to generate primary surpluses. The federal government offered to refinance securities and contractual debt of municipalities[2] conditional on the generation of primary surpluses to service the debt.
- Constitutional amendment passed in March 2000 freeing 20 per cent of federal revenues from earmarked use (*Desvinculação da Receita da União*, DRU), until 2003.

Box 4. **Fiscal measures adopted in 1998-99** (*cont.*)

The plan also embodied a number of steps towards medium-term structural reform:

- Constitutional amendment passed in November 1998 setting principles to improve actuarial balance of the social security system and capping employer contributions in the public system at twice employee contributions. Enabling law passed in 1999 modifying the formula for computing benefits in the general social security regime.
- Constitutional amendment passed in December 1998 on public administration reform. Opened up the possibility of dismissing civil servants under certain conditions, of introducing caps to the government wage bill and of allowing governments to use ordinary labour contracts for hiring workers. Enabling legislation includes rules for dismissal of federal civil servants where payroll expenditure limits are exceeded, and on the basis of poor performance.
- Federal budgets to be prepared in the context of a four-year plan (*e.g.* 2000-03 for the 2000 budget).
- Fiscal Responsibility Law enacted in May 2000. Fiscal targets to be set in terms of primary balances. Introduces constraints on budget management and personnel, as well as institutional responsibility. Sets limits on payroll spending at 50 per cent of current revenues for the central government, and 60 per cent for sub-national governments.
- Creation of a Commission for Control of Fiscal Management (CCF), which makes recommendations on any operations that have a fiscal consequence (Decree 2773/98); as well as several other decrees on budget planning and management designed to align revenue and expenditure with the fiscal targets set out in Budget Laws.

It should be noted that the envisaged increase in social security revenues from higher civil servants contributions and the extension of contributions to retired public employees were challenged and declared unconstitutional by the supreme court. The government is preparing a constitutional amendment that should make these reforms viable.

1. The programme was designed as a policy framework to support a stand-by credit arrangement with the IMF, providing access to a US$42 billion credit line. The currency crises and the large devaluation of the Real in January 1999 forced the authorities to implement a tighter fiscal adjustment in order to stabilise the economy.
2. Refinancing conditions were real interest rates of 6 per cent and debt restructuring to 30 years maturity.

specific targets to help evaluate budget management performance and attributes personal and institutional responsibilities. To prevent misuse of public resources, the following actions are prohibited: engaging in debt creating activi-

ties or raising public salaries in the six months preceding the end of the government mandate; during the last eight months in office, undertaking investment projects that go beyond the remaining time of the mandate; borrowing against expected tax revenues in an electoral year; granting tax benefits unless matching revenues are identified to cover the associated losses for the year of the concession and the two following years. Disciplinary consequences of non-compliance range from fines to loss of employment, ineligibility to public employment for five years, and imprisonment. The details are contained in a law on fiscal crimes approved in October 2000.

Budget procedures have been improved by the adoption of multi-year planning. This is expected to enhance co-ordination among different levels of government, avoid overlapping of public spending, and facilitate involvement in different programmes of public enterprises, the private sector and multilateral and development agencies. The plan emphasises the need to evaluate management performance, in particular regarding results achieved.

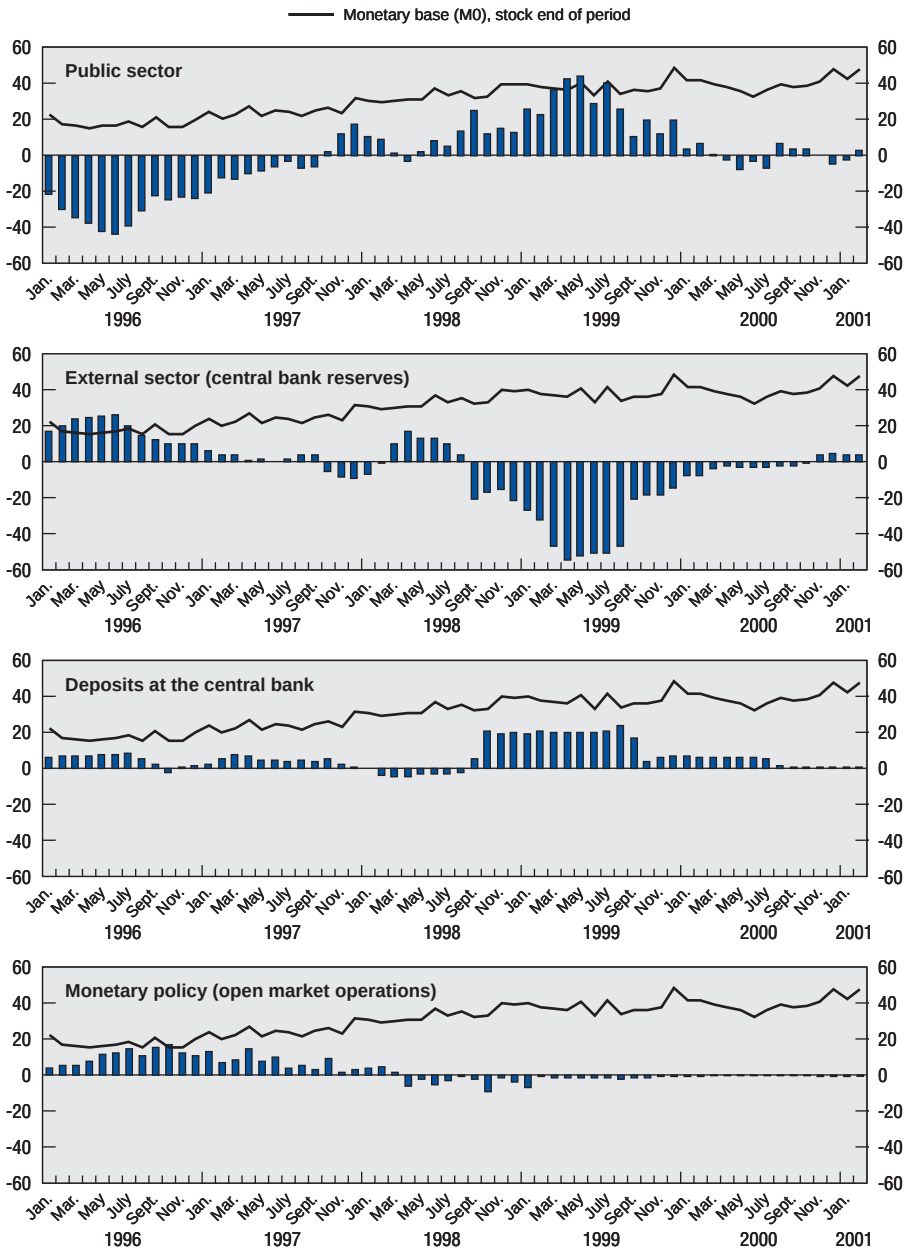
Progress has been made in reforming the social security system and in administrative reform. The latter should help fiscal adjustment at all levels of government by opening up the possibility of dismissing civil servants and using ordinary labour contracts for hiring workers. However, constraints in the form of strict criteria for dismissals reduce the potential additional flexibility in labour management.[17] Ordinary labour contracts allow the public sector to adopt the general regime of the social security, that is actuarially more balanced and less generally onerous (see Chapter II). However, in the short-term, ordinary labour contracts imply larger budget outlays since they require the disbursement of contributions by employers and employees to the general social security regime, while the government's contributions in respect of civil servants are not accounted as a budget disbursement.

A *new role for monetary policy*

From the last quarter of 1998 the central bank had been under pressure as international reserves fell. This was in contrast to the previous period, when the bank had accumulated reserves and sterilised inflows as the real exchange rate appreciated (see Figure 12). The pressure on international reserves built up during the first months of the floating exchange rate regime. The central bank counteracted the corresponding reduction in liquidity by buying public bonds and allowing the banks to transform part of their stock of public bonds into deposits at the central bank. At the beginning of March 1999, the exchange rate touched BRL 2.2 per US$ from its starting value of BRL 1.2 before the crisis.

The situation was progressively normalised with the adoption of new fiscal measures and the support of an exceptional financial package led by the IMF together with other multilateral financial institutions and the private sector, dis-

Figure 12. **Composition of the monetary base, 1996-2000**
12-month change, BRL billion



Source: BCB.

Box 5. The operational framework for inflation targeting

From 1996, the Monetary Policy Committee (COPOM), whose members are the central bank directors, has been solely responsible for setting interest rates. Inflation targeting was established by Presidential Decree No. 3088 in June 1999.* The Brazilian government now has a framework for monetary policy and can draw on all the tools necessary for its successful implementation (Mishkin and Savastano, 2000). The framework is based on a commitment to price stability as the primary aim of monetary policy; all other goals are subordinate. The main tools are public announcement of medium-term targets for inflation, and central bank accountability for achieving the inflation target. A prominent role is given to transparency. The inflation plan is communicated to the public and the market, including arguments supporting the choice of target.

COPOM meets monthly and its decisions, taken by a majority of its members, are announced immediately after its meeting. COPOM may give the president of the central bank the right to adjust interest rates between regular meetings where it sees a developing trend. The minutes of the COPOM meeting are published within one week, and the BCB publishes a quarterly Inflation Report.

The inflation target is set in terms of the broad consumer price index (IPCA) published by the National Bureau of Geography and Statistics (IBGE). It is formally set by a resolution of the National Monetary Council on the basis of proposals by the finance minister. The annual target is to be set no later than 30 June, 18 months before the year in question starts. The central bank has operational independence to set monetary policy in order to meet the target. The target is achieved when actual accumulated inflation during January-December is within 2 per cent of its target level.

In the case where the inflation target is breached, the central bank governor has to issue an open letter addressed to the finance minister explaining the reason why the target was missed, the corrective measures that need to be taken, and the time until inflation is expected to fall back within its target band.

* See Bogdanski, J. *et al.* (2000).

cussed above. It enabled the central bank to regain full control over domestic monetary policy and exchange markets, and to reduce volatility. To consolidate the monetary framework, an inflation targeting regime was put in place during the first half of 1999 (see Box 5).

As it implemented inflation targeting, the central bank abandoned direct monetary policy interventions (Figure 12) and the interest rate re-emerged as the main policy instrument. In June 1999, the National Monetary Council established the target of 8 per cent annual inflation (IPCA January-December) for 1999, 6 per

cent for 2000 and 4 per cent for 2001, with a tolerance interval of ±2 per cent for each year. At the same time, the exchange rate had stabilised at around BRL 1.8 per US$. In June 2000, the target of 3.5 per cent for 2002 was announced.

The central bank achieved its policy objectives through a cautious reduction of nominal interest rates. From 21 per cent per year at the end of June 1999, the central bank basic rate was reduced to 19 per cent at the end of September 1999. It remained there until March 2000, when it was lowered to 18.5 per cent. In July 2000, it come down two percentage points to 16.5 per cent, and was reduced to 15.75 per cent in December 2000 and to 15.25 in January 2001. Following these reductions, the real interest rate in Brazil fell below the symbolic threshold of 10 per cent.

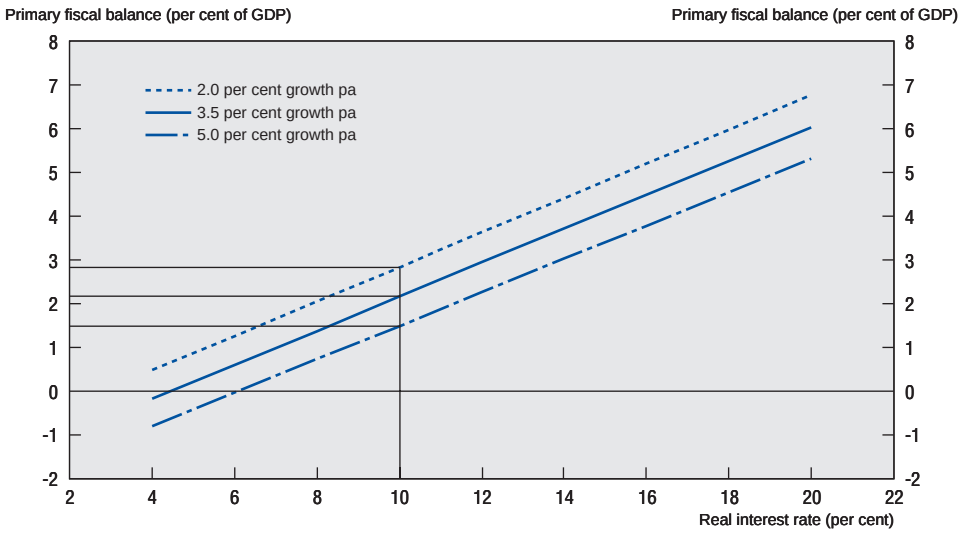
Since its implementation, the inflation-targeting regime in Brazil has worked well. Inflation was 8.9 per cent by the end of 1999 and 6.0 per cent by the end of 2000. It has already faced some market tests. A critical moment occurred in mid-2000, when inflation accelerated because of higher public prices (notably in the energy sector). However, the central bank correctly interpreted the increase in monthly inflation as having no persistent impact on the general price level. In March 2001, the central bank increased the rate for the first time under the new regime, by ½ percentage point, followed by other increases up to 18.25 per cent in June. This was in part a reaction to market pressures, notably arising from the situation in Argentina and turbulence in stock markets world-wide. It would also seem that the bank believed that the economy was reaching its potential, given the strong GDP growth in 2000. This was confirmed by the recent increase in core inflation and uncertainty about the impact on prices of exchange rate depreciation.

Success so far in running inflation targeting has enabled the central bank to reduce compulsory deposit requirements, thus creating the room for further expansion of credit to the economy (see Chapter III). These positive developments have been strongly related to market confidence in the central bank as an institution. There has been some discussion in Brazil about the possibility of locking-in these gains in credibility by strengthening central bank independence. Such a move, which would require new legislation,[18] would bring Brazil in line with current practice in most OECD countries.

Stabilisation, fiscal discipline and growth are needed to control debt dynamics

By the end of January 1999, the net public debt had jumped another 10 percentage points to 48 per cent of GDP. This reflected the impact of the large nominal devaluation of the Real on external debt and on internal US Dollar-indexed debt (altogether amounting to around 15 per cent of GDP). The sharp increase in the debt stock also reflected extremely high real interest rates used to

Figure 13. **Conditions for steady state public debt stationarity**[1]



1. See text.
Source: OECD.

support the exchange rate until the fixed-rate system collapsed, and to keep inflation at bay thereafter.

Since the crisis, better co-ordination of macroeconomic policies has stabilised the debt to GDP ratio. In order to reduced it further,[19] Brazil has to maintain a primary surplus of more than 3 per cent of GDP (it was 3.6 per cent in 2000), as well as to overcome the risks engendered by persistent high real interest rates. In this respect, there is a simple accounting relationship between the primary surplus and real interest rates,[20] which is shown in Figure 13. The bold line in the figure corresponds to a baseline scenario with GDP growth of 3.5 per cent per annum. A higher GDP growth rate shifts the curve downwards, and *vice versa*.

Accordingly, with the real interest rate prevailing at the end of 2000 (about 10 per cent) Brazil has to generate primary surpluses of 2.25 per cent every year in order to maintain a debt to GDP ratio of 40 per cent in the base case. At 2 per cent GDP growth the fiscal primary surplus should be nearly 3 per cent of GDP. Conversely, if growth rises to 5 per cent per annum, the required fiscal surplus falls to 1.5 per cent. In this context, and as shown in the figure, any reduction in real interest rates has significant leverage on the primary surplus needed to achieve the targeted debt to GDP ratio at a given rate of growth. This is particularly acute in Brazil given the short maturity of its debt (see above) that means changes in mar-

ket interest rates feed through very quickly to the cost of public debt service. Indeed if real interest rates were to fall towards the level more typically found in OECD countries, Brazil would be able to achieve its debt target even at more modest rates of growth. Though under these circumstances the Brazilian authorities might choose to adopt a more ambitious target for the debt ratio.

These figures help to put Brazil's recent fiscal performance in context. Although it has overcome immediate pressures arising from the dynamics of its debt, this issue remains a serious threat to macroeconomic stabilisation. This implies that recent fiscal outcomes, themselves a welcome break with the past, have to become the norm over coming years. In other words, the authorities should resist the temptation to allow pro-cyclicality in the fiscal stance, even if the pressures on many areas of government expenditure are likely to increase (see Chapter V).

Moreover, Brazil's overall debt burden remains vulnerable to exchange rate movements given the stock of external debt, and whilst such a substantial portion of the internal debt remains indexed to the exchange rate (around 20 per cent). For this indicator to become less volatile, the authorities will have to succeed in their aim of bringing down exchange rate indexed debt as confidence is restored in the economy and the country builds up a track record of successful inflation targeting.

Concerning the level of external debt, financial markets may be reluctant to finance further increases in the net debt ratio. Nevertheless, the current account deficit could remain at present levels providing that there is enough economic growth. In 2000, real GDP grew at 4.5 per cent, inflation was around 7 per cent and the exchange to the US dollar only depreciated slightly. This is just about a right mix to bring the current account deficit to GDP ratio to a sustainable level (Figure 9, panel 3). In the absence of major shocks, Brazil could remain in this ideal situation where inflows of foreign savings support growth and, at the same time, the conditions for current account sustainability are met. This would require continued macroeconomic stabilisation and improvements in the capacity of Brazilian enterprises to face competition at home and abroad, which has to be supported by progress in structural reforms.

At the turn of the century, Brazil also reached a turning point

The rebound of the Brazilian economy, from 0.8 per cent growth in 1999 to 4.5 per cent in 2000, may be sustained (Table 10). Export performance in 2000 was positive. Total export volume increased by roughly 11 per cent. Unlike during the Asian crisis, Brazilian exporters benefited from the Real's devaluation due to better credit conditions and strong world import demand. The sustainability of this trade performance is not assured. A recovery of industrial production in Brazil typically leads to a deterioration in the trade balance.[21] In 2000, export growth also

Table 10. **Key macroeconomic indicators**

	1996	1997	1998	1999	2000	2001
Real GDP growth	2.7	3.3	0.2	0.8	4.5	4.0
Inflation[1]	15.8	6.9	3.2	4.9	7.0	5.5
Fiscal balance (% of GDP)	–5.9	–6.1	–7.9	–10.0	–4.6	–4.0
Primary fiscal balance (% of GDP)	–0.1	–1.0	0.0	3.2	3.5	3.0
Current account balance (US$ bn.)	–23.1	–30.9	–33.6	–25.1	–24.6	–27.0
Current account balance (% of GDP)	–3.0	–4.2	–4.3	–4.8	–4.2	–4.4

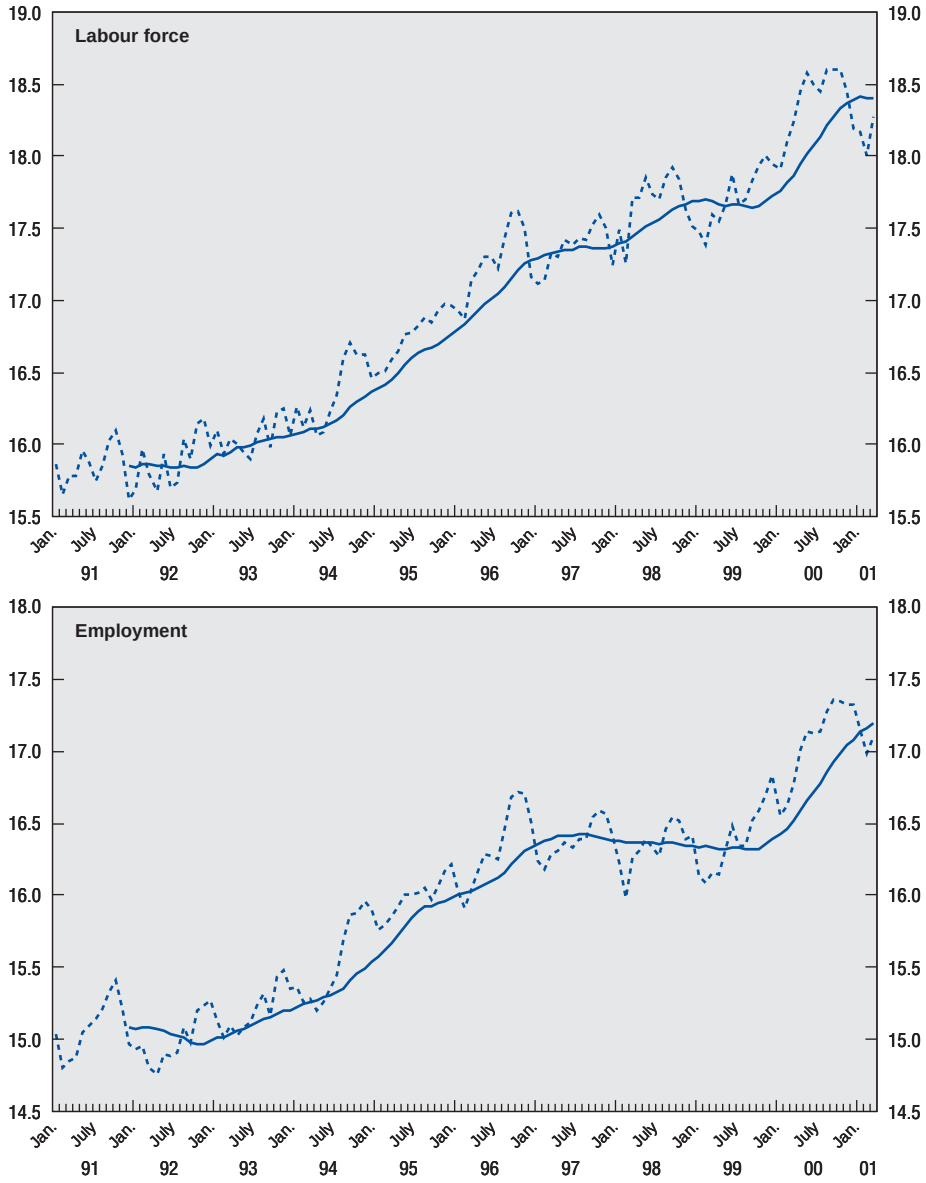
1. Consumer price index average annual growth rate.
Source: National authorities; figures for 2000 are preliminary. Figures for 2001 are OECD projections.

induced a surge in imports of intermediate products (24 per cent growth in volume terms). Moreover, trade specialisation is still dominated by primary goods and manufactures that are sensitive to cyclical conditions. This points to the vulnerability of the external position and to the need for structural changes in the enterprise and financial sectors, which are further analysed in Chapters III and IV.

While exports were the source of growth in 1999, the second half of 2000 saw a revival in domestic demand induced by improved conditions in the labour market and a pick up of investment. Industrial employment was particularly dynamic, growing by around 4.5 per cent, together with employment in the informal sector. According to the monthly employment survey, on average some 700,000 new jobs were created in 2000. After several years of stagnation this enabled the level of employment creation to catch-up with labour force growth (see Figure 14). Real incomes recovered somewhat from the previous year's losses, but were still below the levels of end-1998. Nevertheless, labour market reform remains a key issue. Notably, the need to increase labour productivity and lower the share of the informal sector by promoting free labour union participation, encouraging direct negotiations between unions and employers, simplifying legal formalities for labour contracts, and facilitating employment for young workers. Over the long run, investment in human capital, improving social policies and reforming the agricultural sector are priorities to ensure conditions for sustainable development (Chapter V).

These favourable developments have helped ongoing fiscal adjustment, which is strongly dependent on the level of economic activity. Some of the reforms envisaged in the 1998 stability plan are still under discussion. They run the risk of loosing momentum if complacency about good fiscal results and weakens the impetus to reform. The stability plan proposed reform of the tax system with the aim of simplifying it, eliminating its most distorting features (in particular cascading taxes) and minimising the scope for tax wars among state governments. At the same time, the reform envisaged maintaining the overall tax burden and leaving

Figure 14. **Labour force and employment**[1]
Millions



1. Monthly labour survey of the main metropolitan areas (Pesquisa mensual de empregos, PME).
Source: IBGE.

the current distribution of tax revenues across levels of governments unchanged. These twin criteria have been a source of blockages, which are examined in the broad context of fiscal federal relations in the next chapter.

II. Reforms for medium-term fiscal sustainability

An integral part of the Real Plan was an acknowledgement that the sustainability of fiscal policy was a major factor underlying macroeconomic stabilisation. As discussed in Chapter I, the government began to take measures to improve the fiscal position, but a laborious political negotiation delayed the full implementation of the these measures between 1996 and 1998. The improving fiscal framework was, however, not sufficiently strong to deal with the shocks Brazil faced in 1997 and 1998 as a result of turbulence in world financial markets. Sharply falling inflation and high borrowing costs widened the budget deficit at all levels of government, and the mechanisms to make a compensating reduction in other expenditure proved inadequate. Hence, the deteriorating fiscal position, combined with doubts about the sustainability of the pegged exchange rate, pushed interest rates up to record levels. This tension resulted in the 1999 currency crisis, which forced adjustment onto a new path.

The government turned again to the issue of fiscal policy in order to redress fiscal imbalances and restore the credibility of fiscal policy. A comprehensive fiscal stabilisation plan was announced in late 1998. The government committed itself to generating a consolidated primary budget surplus for the next three years. The new Fiscal Responsibility Law (FRL), approved in May 2000, was one of the instruments to ensure that the fiscal position of sub-national governments was consistent with this overall goal, though the law applies to all levels of government. The FRL is also improving the transparency of public accounts and the budgetary process. In addition, the new environment for responsible fiscal management included debt restructuring contracts agreed between the federal government and most states. Extensive privatisation and closure of states' banks has contributed to stricter fiscal discipline. Recent administrative reforms enhance flexibility in managing public sector employment, which will support all members of the federation adjust their public spending to comply with their new commitments at a time of fiscal consolidation. Finally, the general pension scheme has been reformed, improving its actuarial and financial balance.

The new environment of fiscal discipline must be preserved if the government is to consolidate the gain in credibility that resulted from its decisive action.

This will depend on rigorous enforcement of the rules set out in the FRL and continuing progress in structural and fiscal reform. Existing fiscal federal arrangements have resulted in a rigid federal budget; discouraged the efficient use of shared taxes and induced an overly complex tax system by fostering multiple cumulative federal contributions earmarked to social expenditure (hereafter social contributions'), notably on enterprise turnover and profits, and financial transactions (see Box 6). Achieving such reform in federal systems, such as Brazil's, is not straightforward. Nevertheless, some OECD federations have managed to implement tax reforms despite institutional settings that made it difficult to achieve the required consensus. A broad scope in such complex negotiations is an important element in achieving success. A second critical challenge for regaining control over public spending in Brazil is reform of the special social security regime for civil servants, particularly at the state level and for public enterprises. In broad terms, these fiscal consolidation challenges are not very different from those faced by OECD countries in the 1980s (Table 11).

Fiscal and administrative decentralisation has deep roots in Brazil

Since its independence in 1822 Brazil has had a federal structure. Even before independence public administration was decentralised and, in this way, the Brazilian federal system was built from the bottom-up. As already noted, the history of Brazil is one of swings between more and less decentralisation, generally linked to political changes, but states have always played a key role in political and economic life (Box 7). There are three tiers of government in the Brazilian federation: the federal government, 26 states and a federal district (Figure 15), and more than 5 500 municipalities.[22] Unlike most federations, the Brazilian constitution treats states and municipalities as equal members of the federation. This adds considerably to the complexity of federal relations.

State governments have considerable autonomy in managing the most important taxes, in particular the state value-added tax (ICMS). This autonomy is reinforced by the system of constitutionally mandated transfers that precludes any interference by the central government. For their financing needs, in the past they were able to rely on public state banks (now privatised or in process of privatisation). States also manage some large non-financial public enterprises. Subnational governments enjoy substantial political autonomy, having their own elected executive and legislative bodies. At the federal level, states are represented equally in the senate (3 senators each), a system that gives 74 per cent of seats to 43 per cent of the population. Senate approval is required for all draft laws and constitutional amendments approved in the Lower House or Chamber of Deputies. The senate also rules on matters of state debt and is able to mandate exceptions. Finally, the states each have a separate judiciary.

Box 6. Brazil's tax system at a glance

An outline of the Brazilian tax system is given below. The size of each tax as a proportion of 1999 GDP is given in brackets. Taxes shared between different levels of government are marked with an asterisk.

Taxes on goods and services (14.1)	Payroll contributions (7.3)	Taxes on income (6.3)	Taxes on property (0.8)	Tax on foreign trade (0.8)
IPI (1.6) *	Pension contributions general regime (4.7)	IRPF (0.3) *	IPTR (0.02)	ICE (0.8)
IOF (0.5)	Civil servants contributions (0.3)	IRPJ (1.3) *	IPTU (0.4)	
ICMS (6.7) *	FGTS (1.7)	IRRF (3.9) *	IPVA (0.4) *	
ISS (0.5)	"Contribuições économicas" (0.1)	ITCD (0.03)		
Cofins (3.1)	"Salário de educação"(0.2)	ITBI (0.08)		
PIS/Pasep (0.9) CPMF (0.8)	Sistem "s" (0.3)	CSLL (0.7)		

Cofins	*Contribuição Social para Financiamento da Seguridade Social*	Social contribution for social security financing
CPMF	*Contribuição Provisória sobre Movimentação Financeira*	Temporary tax on financial transactions
CSLL	*Contribuição sobre o Lucro Líquido*	Social contribution on corporate profits
FGTS	*Fundo de Garantia por Tempo de Serviço*	Workers layoff insurance fund
ICMS	*Imposto Sobre a Circulação de Mercadorias e Servicios*	Tax on goods and services transactions
ICE	*Imposto sobre o Comércio Exterior*	Import and export tax
IOF	*Imposto Sobre Operações Financeiras*	Industrialised products tax
IPI	*Imposto sobre Produtos Industrializados*	Industrialised products tax
IPTR	*Imposto sobre a Propriedade Territorial Rural*	Tax on rural property
IPTU	*Imposto sobre a Propriedade Territorial Urbana*	Tax on urban property
IPVA	*Imposto sobre a Propiedade de Veiculos Automotores*	Tax on ownership of automotive vehicles
IRPF	*Imposto sobre a Renda das Pessoas Fisicas*	Individual income tax
IRPJ	*Imposto sobre a Renda das Pessoas Juridicas*	Corporate income tax
IRRF	*Imposto sobre a Renda Retido na Fonte*	Withholding income tax
ISS	*Imposto Sobre Serviços de Qualquer Natureza*	Tax on services
ITBI	*Imposto sobre a Transmissão de Bens Inter-vivos*	Property transfers tax
ITCD	*Imposto sobre Transmissão Causa-Mortis e Doação*	Heritage and endowment tax
PIS/Pasep	*Plano de Integração Social/Programa de Assistencia ao Servidor Publico*	Social integration programme/civil servants assistance programme

Table 11. **Size and structure of government spending: an international perspective**

Per cent of GDP

A. Size of the general government

		Total outlays	Total revenue	Net financial liabilities
Brazil	1970-79	19.7	25.4	22.0
	1980-89	24.5	23.7	42.8
	1990-97[1]	40.1	36.2	52.3
United States	1970-79	29.9	27.9	34.1
	1980-89	33.1	29.0	40.2
	1990-98	33.0	29.7	56.4
EU	1970-79	39.2	36.8	17.4
	1980-89	47.1	42.5	31.2
	1990-98	48.2	43.8	47.3
OECD	1970-79	32.2	30.0	20.5
	1980-89	37.6	33.9	32.2
	1990-98	39.1	35.8	43.6

B. The structure of general government expenditure

		Consumption	Transfers	Interest	Investment
Brazil	1970	11.3	9.1	1.7	4.4
	1985	10.4	8.8	12.1	2.5
	1997	15.2	13.0	5.5	2.2
United States	1970	18.5	7.5	2.2	1.3
	1985	17.1	10.3	5.0	1.4
	1998	14.4	11.3	4.2	0.6
EU	1970	16.2	13.1	1.7	4.0
	1985	20.6	19.2	4.8	3.3
	1998	19.8	19.6	4.7	2.1
OECD	1970	15.7	9.2	1.8	3.0
	1985	17.3	13.9	4.8	2.8
	1998	16.0	15.1	4.3	2.3

1. The years 1992 and 1993 are excluded because hyperinflation results in distorted data.
Source: OECD, IBGE.

The relative autonomy of sub-national authorities is reflected in their stable share of tax revenues. This is comparable to the average share observed in OECD federal countries (Table 12). Nonetheless, this share would have been much higher without a significant increase in the share of social contributions levied by the central government. This includes a number of new taxes, such as the tax on financial transactions (CPMF), earmarked to social spending and not shared with the local governments (see below). On the expenditure side, state and local governments account for around 32 per cent of spending, somewhat below the average of OECD federations (Table 13). Despite the focus of the 1988 constitution on transferring responsibilities and resources towards local governments, by comparison with OECD federal countries there is scope for further devolution.

Figure 15. **Brazil's states**

In per cent (Brazil = 100)

	GDP share	GDP 1997 per capita, in 1999 US$	Population share		GDP share	GDP 1997 per capita, in 1999 US$	Population share
Norte	**4.4**	**1 801**	**7.2**	**Nordeste**	**13.1**	**1 364**	**28.5**
Acre	0.2	1 424	0.3	Alagoas	0.7	1 173	1.7
Amapá	0.2	2 060	0.2	Bahia	4.3	1 580	8.0
Amazonas	1.7	3 180	1.5	Ceará	2.0	1 379	4.3
Pará	1.7	1 413	3.5	Maninhão	0.9	760	3.3
Rondônia	0.5	1 814	0.8	Paraíba	0.8	1 138	2.1
Roraima	0.1	1 325	0.2	Pernambuco	2.7	1 703	4.7
Tocantins	0.2	864	0.7	Piauí	0.5	850	1.7
Centro-Oeste	**6.2**	**2 738**	**6.7**	Rio Grande do Norte	0.8	1 395	1.6
Distrito Federal	2.3	5 746	1.2	Sergipe	0.6	1 586	1.0
Goiás	1.8	1 874	2.9	**Sudeste**	**58.6**	**4 066**	**42.7**
Mato Grosso	1.1	2 172	1.4	Espírito Santo	1.9	3 083	1.8
Mato Grosso do Sul	1.1	2 566	1.2	Minas Gerais	10.0	2 799	10.6
Sul	**17.7**	**3 501**	**15.0**	Rio de Janeiro	11.2	3 911	8.5
Paraná	6.1	3 136	5.7	São Paulo	35.5	4 824	21.7
Rio Grande do Sul	7.9	3 847	6.1				
Santa Catarina	3.7	3 489	3.1				

Source: IBGE.

Box 7. Historical background of fiscal federalism in Brazil

Brazil's federal structure is inherited, with few changes, from the colonial era. Land grants made by the Portuguese crown (*capitanias*) were transformed by decree into provinces of the Brazil Empire and subsequently into a federation of states, the Old Republic of Brazil.

Political and administrative decentralisation has deep roots given Brazil's history of alternating centralisation with decentralisation. Six sub-periods can be distinguished since the declaration of independence in 1822: Brazil Empire (1824-1889); the Old Republic (1889-1930); the Getulio Vargas era (1930-1945); the democratic republic (1945-1964), the military regime (1964-1985); the recent re-democratisation (starting in 1985).

The federation started taking shape during the imperial period (1824-1889) which was characterised by a centralisation of political power and fiscal management. Provincial governors were designated by the central government and there was no representation of provincial governments in the national congress. All main public responsibilities (defence, international relations, monetary policy, and tax administration) belonged to the central government.

Pressure from the powerful coffee oligarchy in S. Paulo, led to the establishment of the Old Republic (*Republica Velha*, 1889-1930). Dominant interest groups in the states gained control of all federal political matters. A new constitution transformed the provinces into states, allowed the states to have their own constitutions and elect their own governors. States were able to gain access to public guarantees for foreign credit. On the fiscal side, they were authorised to make a levy on exports, the largest revenue raising tax at the time due to the expanding coffee trade.

Discontent amongst competing states and economic depression resulted in a coup in 1930 that lead to the Getulio Vargas dictatorship (1937-1945). Subnational governments and their executive and legislative bodies were abolished and political power was again centralised. Fiscal centralisation did not however follow, as the regional/state share in tax revenues remained practically unchanged during the early years of the dictatorship. The 1934 constitution created a consumption tax and an income tax for the federal government; a sales tax for the provinces; and a licence tax, an urban property tax and public services fees for the municipalities. Federal tax revenues grew comparatively more quickly since federal taxes were largely levied from dynamic domestic tax bases and because of the growing importance of social contributions, collected by the federal government.

The overall orientation of economic policy remained practically unchanged during the liberal republic that followed the Vargas dictatorship (1945-1964). More fiscal decentralisation took place with the introduction of a system of tax-sharing arrangements in the 1947 constitution.

Political instability led eventually to a new military coup and the creation of an authoritarian military regime (1964-1985). Democratic election of state governors and mayors of large municipalities was suspended, and only re-introduced in the 1980s. Political power was centralised. Tax management was also centralised,

Box 7. **Historical background of fiscal federalism in Brazil** (*cont.*)

but the system of intergovernmental transfers was, once again, reinforced. The federal income tax and the federal tax on industrial products were used to finance two new funds: the State Participation Fund (FPE) and the Municipal Participation Fund (FPM). These funds were intended to be tools for income redistribution. Earmarked transfers and credit operations also become a major source of financing for sub-national governments. In turn, dependence on discretionary financing fostered irresponsible fiscal behaviour. Opposition by states and municipalities gradually led to a new wave of political decentralisation. A law on political parties approved in the 1980s (and particularly the method for election of party candidates) encouraged a decentralised party structure. In addition, elections to the national congress were based on regional representatives, which conferred great political power on local politicians.

The re-establishment of democracy (1985) further accelerated the process of political decentralisation. This was reinforced by the 1988 constitution, which also significantly increased the share of tax to which sub-national governments were entitled, largely to support their increasing role in providing social protection. Faced with the challenge of devolving tax revenues to sub-national governments (benefiting richer states/municipalities) and, at the same time, redistributing income in favour of poorer areas, legislators opted to strengthen transfers between levels of government. As a result, the federal government lost control of fiscal policy as it found itself having to transfer significant resources to sub-national governments, without any means to ensure their spending discipline.

Table 12. **Shares in tax revenue by level of government**

Per cent

	Federal or central[1]		Social contributions[3]		Sub-national	
	1985-90	1991-98	1985-90	1991-98	1985-90	1991-98
Australia	80.6	77.3	0	0	19.4	22.7
Austria	45.4	45.3	32.5	34.3	22.1	20.4
Belgium	52.6	35.6	32.8	33.4	14.6	31.1
Canada	41.9	39.9	13	13.9	45.0	46.2
Germany	31.4	30.9	37	39.3	31.6	29.8
Mexico	85.9	81.1	12.4	15.9	1.7	3.0
Switzerland	29.6	27.8	31.6	35.8	38.8	36.4
United States	41.8	42.0	25.5	25.1	32.8	32.9
Average OECD *federal countries*[2]	51.2	47.5	23.1	24.7	25.7	27.8
Brazil	**38.7**	**27.8**	**32.1**	**41.4**	**29.2**	**30.9**

1. Including supranational levels.
2. Non-weighted average.
3. Social security contributions, for Brazil including earmarked federal not-shared social contributions (see text).

Source: OECD *Revenue Statistics*, Secretaria do Tesouro Nacional.

Table 13. **Shares in total expenditure by level of government**[1]

	Central		State		Local	
	1985-90	1991-97	1985-90	1991-97	1985-90	1991-97
Australia	59.4	59.4	34.9	35.1	5.6	5.4
Austria	70.1	69.1	13.5	14.0	16.5	17.0
Belgium	88.6	89.0	0.0	0.0	11.4	11.0
Canada	43.3	42.0	41.3	42.3	15.5	15.6
Germany	58.7	59.4	24.4	24.0	16.9	16.7
Mexico	86.9	72.8	10.4	22.4	2.7	4.8
Switzerland	n.a.	51.5	n.a.	28.0	n.a.	20.5
United States	56.9	53.7	22.9	25.3	20.2	21.0
Average OECD federal countries[2]	66.3	62.1	21.1	23.9	12.7	14.0
Brazil	**67.9**	**68.3**	**23.5**	**21.6**	**8.6**	**10.0**

1. End year for Australia is 1998 and for Canada is 1995.
2. Non-weighted average.

Source: *Government Finance Statistics*, IMF.

Tax assignment provided autonomy and increased disparity across states

Sub-national government revenues come from own taxes, constitutionally mandated shared taxes and, to a much lesser extent, block grants. In this way, Brazilian sub-national governments control broad tax bases capable of providing substantial revenues (see Table 14). Notably, a value-added tax on goods and services (*Imposto sobre Comercialização de Mercadorias e Serviços de Transporte e Comunicação* or ICMS) accounts for 87 per cent of states' tax revenues[23] and for one quarter of total

Table 14. **Tax assignment across levels of government**[1]

Federal government	States	Local governments
Tax on industrial products (*Imposto sobre Produtos Industrializados*, IPI)	Tax on goods and services (*Imposto sobre Comercialização de Mercadorias e Serviços de Transporte e Comunicação*, ICMS)	Tax on Services (*Imposto Sobre Serviços*, ISS)
Personal and corporate income tax (*Imposto sobre Renda de Pessoas Físicas, e Jurídicas*, IRPF, IRPJ)	Tax on motor vehicles (*Imposto sobre Veículos Automotores*, IPVA)	Tax on property transfers (*Imposto sobre Transmissão de Bens Inter-vivos*, ITBI)
Tax on financial operations (*Imposto sobre Operações Financeiras*, IOF)	Heritage and endowment tax (*Imposto sobre Transmissão de Bens Imóveis Causa Mortis*, ITCD)	Tax on urban property (*Imposto sobre Propiedade Territorial Urbana*, IPTU)
Rural property tax (*Imposto Territorial Rural*, ITR)		
Import tax (*Imposto sobre Exportação*, IE)		
Wealth tax (*Imposto sobre Grandes Fortunas*, IGF)		

1. Social contributions of the federal government on business turnover and profits and banking transactions, are not included.

Source: OECD.

tax revenue in the country. Local governments also manage a tax on urban property and a tax on services mainly relevant in state capitals. Sub-national governments have considerable freedom to set tax rates and their coverage (though this may change, see below). The tax on rural property is a federal tax, though it would more naturally belong to local governments. The reason for this was the inefficiency of tax administration in rural areas and the desire of the federal government to use the tax as a tool for land reform (see Chapter V).

Given that states control the taxes with the largest base, own revenues dominate states' income. They account for a weighted average of 75 per cent of available revenue. However, the concentration of economic activity in the South and Southeast regions and in a few large municipalities gives rise to very different tax raising capacities among federal units. Therefore, the weighted average hides large inter-state differences. On a non-weighted basis, own revenues account only for 56 per cent of revenue, implying an important role for shared tax revenues and transfers in a number of states (Table 15). This is particularly the case for the poorest regions, in the north, northeast and centre-west. For example, average per capita tax revenue in the southeastern states and municipalities is five to six times the average for the northern states. Only a few large municipalities, mainly state capitals, are able to raise a significant amount of revenue from their own taxes.

Less developed states are strongly dependent on tax revenue sharing

Given the disparities described above, a certain amount of tax sharing was mandated by the constitution. This introduced a certain rigidity, but also produced a stable flow of resources to sub-national governments, which should have facilitated financial and investment planning. This revenue sharing concerns both taxes collected at federal level and at the state level. The most important channel is indirect revenue sharing that pools federal tax revenue into five funds and redistributes it on the basis of income and population. Table 16 shows the composition of the funds and the main criteria for allocation.[24] The federal government transfers 47 per cent of the revenue from corporate and income taxes and 57 per cent of the revenue from their value-added tax on manufacturing goods to sub-national governments. In 1999 this redistribution amounted to roughly 4 per cent of GDP.

The second sharing mechanism is direct devolution to states and municipalities of federal tax revenues raised in their territories. The federal government transfers 30 per cent of revenue from the tax on financial operations with gold (IOF-*ouro*) and all income tax withheld from states' civil servants. It also transfers to local governments 70 per cent of IOF-*ouro* collected in their jurisdictions, all taxes on municipal civil servants income and 50 per cent of the revenue from rural property tax (ITR), as well as some resources under Complementary Law No. 87/96.

Table 15. **Structure of sub-national government revenues, 1997**

Per cent

Federal units	State government			Local government		
	Own resources	Shared taxes	Other transfers	Own resources	Shared taxes	Other transfers
North region	42.8	51.8	5.4	15.7	69.1	15.2
Rondônia	57.3	40.1	2.6	11.6	68.8	19.6
Acre	10.6	86.1	3.3	9.8	72.2	18
Amazonas	72.4	22.0	5.6	26.0	62.3	11.7
Roraima	12.8	84.9	2.3	17.1	54.3	28.6
Pará	42.7	46.2	11.1	14.1	69.8	15.3
Amapá	10.7	86.3	3.0	13.2	76.5	10.3
Tocantins	21.8	77.9	0.3	6.7	79.5	13.8
Northeast region	51.1	43.2	5.7	12.6	69.6	17.8
Maranhão	28.6	65.0	6.4	8.4	65.2	16.4
Piauí	34.1	62.3	3.6	7.1	67.6	25.3
Ceará	54.3	40.9	4.8	9.9	63.8	26.3
Rio Grande doNorte	44.5	51.1	4.4	11.0	62.4	26.6
Paraíba	42.7	53.4	3.9	6.9	83.7	9.4
Pernambuco	61.7	33.0	6.3	18.8	66.3	14.9
Alagoas	39.7	54.4	5.9	11.7	74.1	14.2
Sergipe	38.6	57.7	3.7	13.9	69.0	17.1
Bahia	62.8	29.9	7.3	13.8	74.2	12
Centre-west region	76.4	15.1	8.5	27.2		–
Mato Grosso do Sul	75.2	18.8	6.0	21.1	–	–
Mato Grosso	71.5	22.0	7.5	10.7	–	–
Goiás	75.7	18.4	5.9	17.4	–	–
Distrito Federal	81	6.3	12.7	33.8	–	–
Southeast region	87.8	2.7	9.5	31.4	51.5	17.1
Minas Gerais	79.8	8.4	11.8	18.5	62.1	19.4
Espírito Santo	79.7	10.6	9.7	19.6	69.8	10.6
Rio de Janeiro	84.2	3.1	12.7	40.4	43.6	16
São Paulo	91.4	0.5	8.1	33.3	49.6	17.1
South region	76.6	7.5	14.9	20.4	61.8	17.8
Paraná	77.5	10.1	12.4	23.9	57.0	19.1
Santa Catarina	77.8	6.6	15.6	19.7	64.2	16.1
Rio Grande do Sul	77.6	6.0	16.4	17.6	65.1	17.3
Brazil weighted average	75.1	15.8	9.1	25.8	50.6	23.6
Brazil unweighted average	55.8	37.1	7.2	16.9	66.1	17.2

Source: Ministerio da Fazenda, OECD.

There is also direct tax sharing between state and local governments. States transfer 25 per cent of the revenue from their value added tax (ICMS) and 50 per cent of the revenue from motor vehicles (IPVA) to local governments. Together, the intra-state transfers amounted to some 2 per cent of GDP in 1999.

Table 16. **Indirect federal tax sharing arrangements**

Constitution of funds

In percentage of revenue

Funds	Share from Federal Income tax (IR)	Share from Federal tax on Industrial Products (IPI)
States Participation Fund (FPE)[1]	21.5	21.5
Local Governments Participation Fund (FPM)[1]	22.5	22.5
Regional Funds to North (FNO)	1.8	1.8
Regional Funds to Northeast (FNE)	0.6	0.6
Regional Funds to Centre-west (FCO)	0.6	0.6
Compensation for Export Exemption (FPEx)[2]	–	10.0
Total revenue shared	47.0	57.0

Distribution of funds

FPE[3]	FPM[4]
52.5 per cent to states in the Northeast region	35.3 per cent to municipalities in the Northeast
25.4 per cent to states in the North region	31.2 per cent to municipalities in the Southeast
8.5 per cent to states in Southeast region	17.5 per cent to municipalities in the South
7.1 per cent to states in Centre-West region	8.5 per cent to municipalities in the North
6.4 per cent to states in South region	7.5 per cent to municipalities in the Centre-West

1. 15 per cent of the fund goes to the education fund FUNDEF.
2. State governments transfer 25 per cent of their revenue from this fund to local governments.
3. Allocation among states follows a coefficient fixed by law.
4. 10 per cent of the total goes to state capitals and 3.6 to municipalities in the interior with population over 156 216. The rest is distributed on the basis of population with a bias benefiting less populated municipalities.

Source: OECD.

Fiscal federal arrangements have produced budgetary rigidity and tax distortions

The rigidity of federal transfers and social expenditures mandated by the 1988 constitution limited the scope for active use of fiscal policy by the central government. By way of illustration, discretionary spending by the federal government in 2000, *i.e.* after payroll spending and mandatory transfers, was only about 20 per cent of its revenues. This had to cover all other expenditure including health, education and investments. During the 1990s, this rigidity resulted in a progressive decentralisation of mandatory social expenditures, while the federal government relied increasingly on non-shared sources of revenue to give itself room for manoeuvre in executing macroeconomic policy. Faced with increased responsibilities for social expenditure and without additional sources of revenue, the financial situation in the states became increasingly problematic. In practice, there were no effective constraints on sub-national budgets, and there was a widespread expectation that the federal government would bailout states that found themselves in difficulty. As discussed in Chapter I, rapid disinflation exacerbated the situation by depriving all levels of government of access to inflationary sources of financing.

Spending was decentralised…

While the federal government accounts for 80 per cent of social transfers and for 90 per cent of debt service, sub-national governments have significant spending responsibilities. They account for 62 per cent of public payroll expenditure (excluding pensions), 71 per cent of other current spending and 78 per cent of public fixed investment.

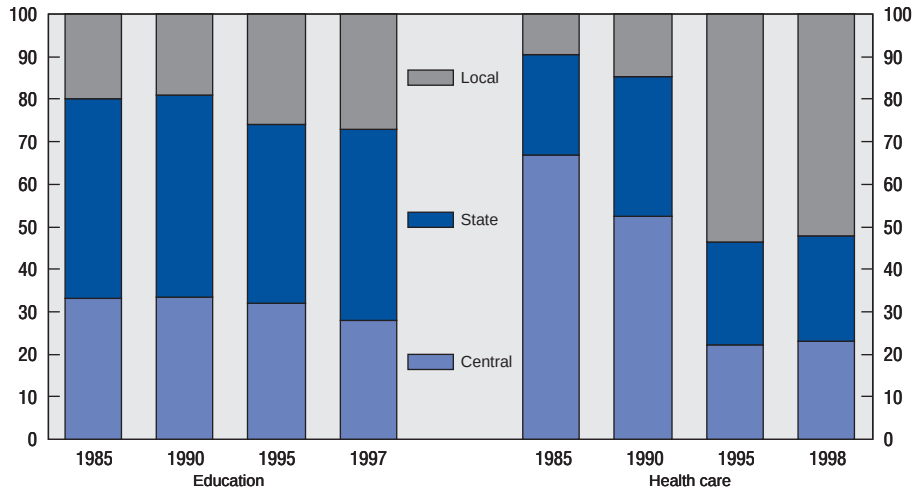
This allocation reflects a gradual and uneven process of decentralisation that started even before 1988 (Table 17), and was a response to the difficulty central government had in providing public services rather than to a planned process of decentralisation. Indeed, there is no explicit assignment of functions by levels of government in the constitution. This was left to regulation by infra-constitutional law, which has never been completed. The unequal devolution of services responded largely to social and economic disparities between states and municipalities, which precluded a uniform transfer of responsibility for expenditure to all federal units. Furthermore, since devolution was not always matched by a transfer of personnel and equipment, this led to increased in public spending.[25]

Table 17. **Assignment of responsibilities across levels of government**

Expenditure function	Responsibility for policy and control	Responsibility for provision
Defence	F	F
Foreign affairs	F	F
Foreign trade	F	F
Monetary and financial policies	F	F
Immigration	F	F
National roads	F	F
Interstate roads	F	F, S
Social security	F	F, S, L
Railways and airports	F	F, S
Natural resources	F	F, S
Sector policies	F, S	F, S
Environmental protection	F, S	F, S
Health	F, S	F, S, L
Social assistance	F, S	F, S, L
Police	F, S	F, S, L
Education	F, S, L	F, S, L
Fire protection	F, S	S
Water and sewerage	F	S, L
State roads	S	S
Local roads	S	L
Parks and recreation	L	L

Note: F = federal; S = state; L = local.
Source: J.R. Affonso and J.C. Raimundo, 1996, *Federalismo Fiscal no Brasil – Breves Notas* –Ministerio da Fazenda – Seminario sobre Gestão da Despesa Pública (Brasilia, March).

Figure 16. **Health and education expenditure by level of government**
Per cent of total



Source: Ministério de Saúde, Ministério de Educação.

As it turned out, large discretion and lack of conditionality in the use of resources failed to ensure equality in the levels and quality of public services across states. Nonetheless, in health care and education decentralisation was more carefully planned. A constitutional amendment assigning responsibility for basic education to local governments was passed and the mechanisms to transfer resources to the providers, conditional on the quality of services provided, have been put in place. As a result, decentralisation in health care and education is considerable (Figure 16), and has improved coverage and quality of services (see Chapter V).

... but financial controls were loosely enforced

A variety of controls on sub-national borrowing have existed in Brazil for some time, generally through limits on the share of debt service in net revenues, and increases in the debt stock.[26] However, sub-national governments had had easy access to credit as witnessed by their large debt accumulation. Due to traditionally high real interest rates in Brazil this was a major source of fiscal imbalance for states and large municipalities. Whilst the number of controls has increased over the last twenty-five years, they were generally only loosely enforced prior to the 1997 debt restructuring programme (see Box 8). In the aftermath of financial

Box 8. Recent federal bailouts and debt restructuring of sub-national government

Brazil's federal government set up debt-restructuring operations three times in ten years.[1] In 1989 the federal government assumed BRL 10.5 billion of states' external debt. In 1993 BRL 39.4 billion of states' debt with federal financial intermediaries was refinanced. In 1997 a programme was launched to restructure states' bond debt; by 1999 BRL 87 billion had been refinanced.[2]

Debt accumulation by sub-national governments started in the 1970s with easy access to external borrowing, which was encouraged as a means to finance a growing current account deficit. When external markets became less accessible during the 1980s and controls were introduced to limit credit supply from private financial institutions, federal public financial intermediaries provided easy access to credit. Bond issuing was also an important source of finance for the largest states and municipalities. When debt increased significantly, state governments were barred from borrowing from their own banks, and bank lending to state suppliers carrying a state government guarantee was prohibited. Credit operations were limited to 10 per cent of net revenues and bank credit on account of expected revenues (AROs) limited to 15 per cent of net revenue. The central bank also froze the stock of credit from financial institutions to the non-financial public sector at 1987 levels. At the same time there was comprehensive debt relief. In 1989, the federal government assumed states' external debt and refinanced it with an equal liability in domestic currency, 20 years maturity, real interest rates equal to those on federal external debt, and a 5 year grace period.

In 1991, the central bank authorised the exchange of central bank bonds for state bonds, and allowed mutual funds to buy sub-national government bonds. As a consequence states' debt in bonds increased by 40 per cent in real terms between 1991 and 1993. In 1993 new bond issue by states was prohibited, although they could continue to issue bonds to meet judicial claims and to roll over existing debt. As a result, states demanded a new financial rescue. In 1993 states' debt to federal financial intermediaries was restructured to a new maturity of 20 years, with a real interest rate of 6.5 per cent and no grace period. At the same time, a cap was established on the debt service to net revenues ratio, and debt service obligations exceeding that cap were automatically capitalised. As the volume of state bonds increased they became more illiquid and state banks were forced to hold them with the consequent deterioration of their financial balances. In 1994 the central bank again authorised a swap of state bonds for central bank bonds to prevent a banking crisis, and by the end of 1994 it was holding BRL 30.6 billion (1998 prices) of state bonds.

In the second half of the 1990s the financial situation of sub-national governments deteriorated markedly. The main contributing factors were: the unavailability of inflation to balance budgets, the end of the grace period on restructured external debt, rising real interest rates on non-rescheduled debt[3] and a wage increase of more than 40 per cent for public employees in 1995 (when inflation was rapidly falling). Capitalisation of debt service led to debt escalation. Short-term borrowing from commercial banks at market interest rates secured with future revenues grew considerably (so-called revenue anticipation loans or AROs) and arrears to suppliers accumulated.

Box 8. Recent federal bailouts and debt restructuring of sub-national government (*cont.*)

In a break with previous policies, in 1997 the federal government proposed a debt-restructuring programme to the states on the basis of bilateral contracts and states' commitment to fiscal adjustment. State debt to banks and bonded debt was replaced with Treasury bonds. States' debt with the Treasury was refinanced over 30 years at real interest rate of 6 per cent per year. A cap of 13 per cent of net revenues (15 per cent for some) was set for annual debt-service. Sales of state assets (public enterprises and banks) had to be used to cancel at least 20 per cent of debt. The states have committed to adjust debt to revenue within a specified period (6 to 19 years depending on the state) and to set contractual limits to payroll and investment spending In the case of non-compliance states lose access to the preferential rate of interest charged; in addition, revenues from ICMS and from FPE transfers have been pledged as collateral for states' debt servicing.

1. This box is based on material from Bevilaqua (1999).
2. Figures for 1989 and 1993 are at December 1998 prices and for 1997 programme at 1999 prices.
3. Real rates were on average more than 30 per cent per year in 1995.

crises and federal rescue operations, controls generally became stricter. But stressful financial positions then often led to informal periods of grace that rendered controls ineffective.[27]

An important point is that unrealistic conditions on borrowing, or excessively tight fiscal limits (in the sense of implying an inability for sub-national governments to function normally), had in practice required either loose implementation of financial constraints or the creation of new federal mechanisms to bypass them. In this way, the last twenty years witnessed several attempts by the federal government to introduce limits to borrowing, which were subsequently circumvented by new credit facilities (generally of a temporary nature) and finally resulted in financial bailouts.

Tax-sharing introduced perverse incentives for federal tax policy. As noted above, it made social contributions more attractive as sources of revenue than less distorting taxes, such as income taxes. The system may also have adverse incentives for sub-national governments, as it reduces the tax effort in states or municipalities that rely heavily on tax sharing.[28] The mechanisms for redistributing funds out of the Local Government Participation Fund also led to the proliferation of municipalities. In ten years from 1988 the number of municipalities

has increased from 4 112 to 5 507, but many were small and turned out not to be financially viable.[29]

The tax system is overly complex and distortive

The tax structure in Brazil developed in an environment of macroeconomic instability. Raising tax revenues during a time of high inflation conditioned the tax system and the priorities of tax administration. Emphasis on consumption taxes was a response to the need for tax bases that suffered less erosion in the face of hyperinflation. The concentration on a few easily controllable products or transactions reflected the need for rapid, rather than exhaustive, tax collection.

There is a consensus that cumulative social contributions introduce distortions in the organisation of production, distort relative prices, dent competitiveness of domestic products (see Chapter IV), and dissuade capital inflows. Revenues from these taxes increased fivefold from the early 1990s to nearly 5 per cent of GDP in 2000.

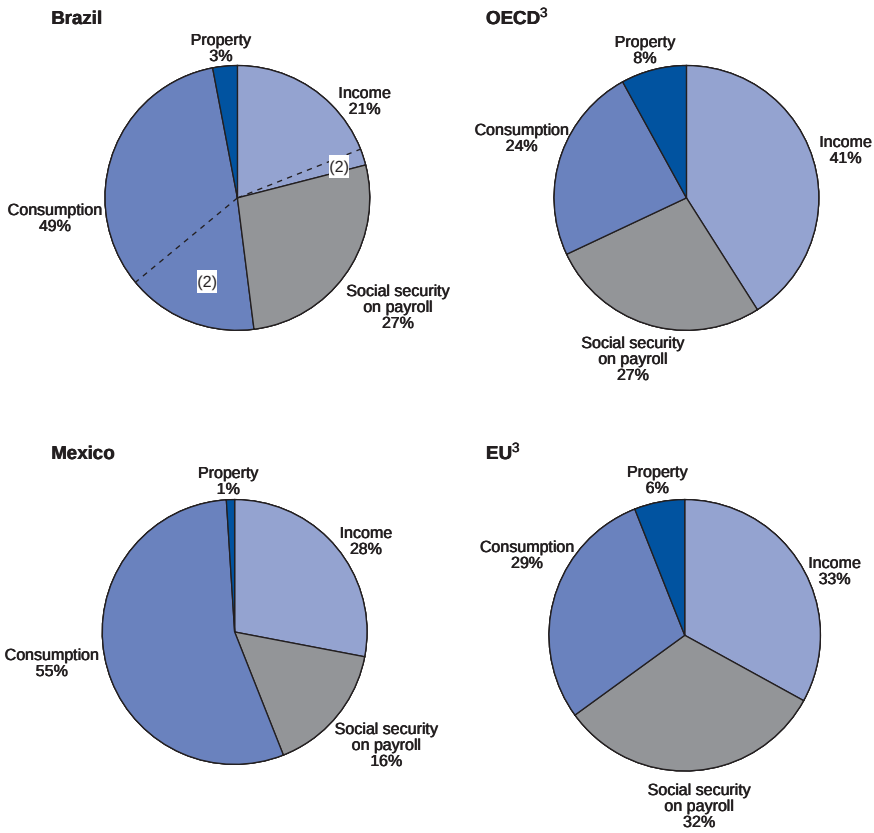
Consumption taxes raised by the three levels of government overlap for manufacturing products and intermediate services. The federal value added tax is, in particular, notorious for its complexity. More than 200 different rates apply to different products according to numerous definitions, and there is a long list of exemptions and special conditions. These invite avoidance and behaviour that erodes tax revenue, which has declined from 4.5 per cent of GDP to less than 2 per cent in 2000. Relatively little use is made of direct taxation (Figure 17). The income tax base is narrow due to a large number of exemptions and a relatively high minimum threshold (about six times the minimum wage). Finally, revenue from property taxes has grown only since disinflation took place.

The ICMS *is a controversial tool for redistribution*

The states' value-added tax (ICMS) has five different rates, together with region-specific exemptions and credits that result in considerable compliance difficulties for agents being taxed in more than one state. The tax is levied at origin of production, instead of the destination where the product or service is consumed. This facilitates collection, although it concentrates revenues in the southern states where the bulk of production takes place. Its most controversial aspect is the differentiated ICMS rates on *inter*-state transactions. These are set by the federal senate, and are lower than those on *intra*-state transactions (set by the states). Generally, rates on intrastate transactions are 17 per cent, while the interstate rate is 12 per cent.

In an attempt by the federal senate to equalise tax revenues, ICMS rates on inter-state trade depend on the specific state where the goods are purchased. For example, sales from S. Paulo to the state of Ceará are taxed at only 7 per cent by the state of S. Paulo. The producer then has to pay the difference (*i.e.* 10 per

Figure 17. **Structure of the tax system**[1]
Per cent share of total revenue



1. 1999 for Brazil; 1998 for Mexico, OECD, EU.
2. Social contribution on turnover (16%) and on business profits (2%).
3. Weighted average.

Source: Secretaria da Receta federal (SRF); OECD (2000), *Revenue Statistics.*

cent) between this rate and the intrastate rate in Ceará (17 per cent) directly to the state of Ceará. This is *de facto* a transfer of tax revenues between S. Paulo and Ceará. This cumbersome system creates strong incentives to re-direct trade or misreport movements to evade tax.[30] A feature of levying taxes at origin is that it creates incentives for state governments to attract business to their state. This increases the tax base as well as increasing local employment. However, the differ-

ence between intra- and inter-state rates provides incentives for states to encourage enterprises producing for local state consumption.

In this respect, some states have engaged in aggressive competition (*guerra fiscal* or tax war') to attract investment with the consequent loss of tax revenues in the short run. Tax competition amongst states takes the form of tax credits and tax payment facilities granted to particular taxpayers. The Council of Secretaries of Finance of the States (*Conselho de Secretarios de Fazenda dos Estados*, CONFAZ) was created in 1967 expressly to harmonise rates and tax bases between states. In principle, any sort of tax benefit granted by states has to be unanimously approved by CONFAZ, but this has not been an effective constraint.

Stabilisation depends on discipline in fiscal federal relations

Fiscal adjustment by sub-national governments is critical for the success of stabilisation, as they account for more than 40 per cent of the stock of public debt and some 60 per cent of the public budget deficit in 2000. The Fiscal Responsibility Law (FRL), approved in May 2000, bilateral fiscal adjustment contracts signed by states and federal governments (see below) and extensive privatisation or closure of states' public banks, together provide a new environment for fiscal discipline. The FRL is a Complementary Law (one which applies to all levels of government, federal, state and municipal), which invalidates any budget law that contravenes it. For some states compliance with targets and controls entails a major effort of fiscal consolidation, but one that is nevertheless needed to rebalance their budgets. The moral hazard that is a consequence of repeated federal bailouts can only be avoided by enforcing the contracts and the law. Experience in OECD countries, such as Australia or Canada, shows that enhanced transparency of sub-national budgets and giving a role to financial markets to assess performance greatly improves fiscal discipline.[31]

Sub-national fiscal targets are tightly constrained…

Sub-national borrowing is now controlled in three ways: a 1998 senate resolution on sub-national borrowing (*Resolução* 78/1998), debt restructuring contracts signed between states and the federal government (see Box 8),[32] and the Fiscal Responsibility Law (see Box 9). This represents a tight constraint, insofar as these instruments are both observed and enforced. Other than refinancing existing debt, governments under adjustment programmes are not allowed to incur any new debt, including credit from suppliers or contractors.

The federal senate will not authorise credit operations if a state's net debt to revenue ratio exceeds a given ceiling,[33] or payroll spending (including pensions) is more than 60 per cent of net current revenues. In any case, credit operations

Box 9. Legislative controls on fiscal and public financial management

The framework to ensure consistency between sub-national fiscal performance and consolidated fiscal targets is based on two main pieces of legislation.

Senate Resolution 78:

- Public financial institutions cannot lend to their owners. Suppliers and contractors cannot provide credit to sub-national governments or any associated or dependent entities.
- Reinstatement of the golden rule: new borrowing cannot exceed fixed capital expenditure.
- Total amount of new credit operations in a year cannot exceed 18 per cent of net real revenues that year. Debt service in any year cannot exceed 13 per cent of net real revenues.*
- Net debt stock cannot exceed twice the value of net real revenues, and the ratio should decline gradually to reach one to one by 2008. Credit from multilateral institutions or federal financial institutions with the purpose of improving tax administration and financial management are excluded from debt limits.
- Administrations with a negative primary balance or with payment arrears to any national financial institution are not authorised to borrow.
- Borrowing on the basis of expected revenues will be limited to 8 per cent of net revenue for the year. These have to be paid ten days before closing of the same fiscal year, and are entirely prohibited during the last year in power of a government's mandate.
- New bond issues are limited to capital refinancing needs until 2010. The maximum capital rollover is 95 per cent. States whose debt was assumed by the federal government are barred from issuing new debt.
- No borrowing is authorised during the last 180 days of a state or local government's mandate.
- Sub-national governments cannot grant tax exemptions or tax benefits of any kind.

Fiscal Responsibility Law (May 2000)

This is a complementary law, which means that it may not be changed through an ordinary law (such as the budget law) or a provisional measure, and applies to all levels of government, encompassing the judiciary, executive and legislature.

- Reinstatement of the golden rule for credit operations.
- Debt limits will be established by the federal senate, though they may exceptionally be revised in the context of the annual budget and adjusted to macroeconomic conditions. Caps for net debt stock to revenue ratios are being discussed in the senate. The proposal is that the ratio of net debt to

Box 9. **Legislative controls on fiscal and public financial management** (*cont.*)

current revenue should reach a given target level, probably 1.0, over 15 years. During this time all credit operations must be consistent with this target, else federal voluntary transfers will be withheld.

- No lending allowed between different levels of government, nor from public financial institutions to their owners. No lending by the central bank in any form. The central bank is gradually reducing its bonds and will be forbidden to issue its own securities in two years time.
- Borrowing on the basis of expected revenues forbidden before 10 January and outstanding credit should be liquidated before 10 December of each year. Credit operations on expected revenues prohibited in the government's last year.
- If debt has been assumed by the federal government, no new borrowing until full debt amortisation (other than capital refinancing or otherwise agreed in a bilateral debt restructuring contract).
- New expenditure commitments of a continuous nature have to be matched by instruments ensuring finance for the year it becomes effective and two consecutive years.
- Payroll spending (widely defined as spending on wages and pensions) capped at 50 per cent of net revenues for the federal government and 60 per cent for sub-national governments. Expenditures incurred in contracting out services to replace civil servants are not included. Provisionally two years are allowed for adjustment where limits are exceeded. In the future, adjustment time is reduced to two consecutive four-month periods. No increases in payroll expenditure are allowed for 180 days before the expiry of a political mandate.
- Prohibition on spending commitments that exceed one budget period during the last year of a political mandate.
- Tax benefits should be included in the annual budget together with the instruments to offset their impact on the budget for two consecutive years.
- In case of recession (see text), the period of adjustment to limits on payroll, debt and fiscal targets must be doubled.
- Changes in monetary or exchange rate policy affecting fiscal performance will trigger an increase in the time limit for debt adjustment.
- Timely publication of budget performance and debt evolution for all levels of government (use of internet sites) to enhance transparency of public accounts.
- Measures against misbehaviour range from withholding federal voluntary transfers to denial of credit guarantees or banning new debt.

Box 9. **Legislative controls on fiscal and public financial management** (*cont.*)

– Personal responsibility envisaged for all public officials of any jurisdiction or administration. Concrete measures are contained in a Fiscal Crime Law. Penalties for mismanagement range from fines, loss of job, ineligibility for public service for a maximum of 5 years, to imprisonment.

* This figure is also specified in the bilateral debt contracts between the federal government and the states, but there it acts as a safeguard against a fall in current revenues.

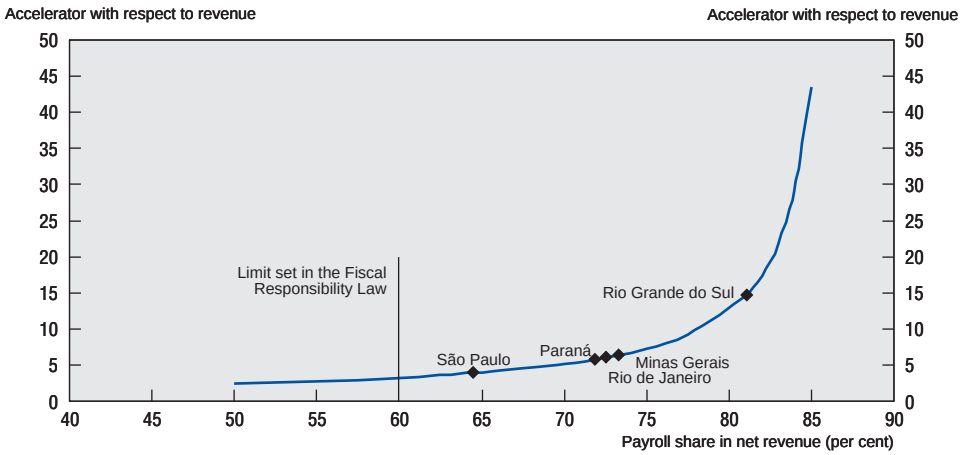
cannot exceed 18 per cent of net real revenues in a year and there is a ceiling on debt service of 13 per cent of net revenues.[34] No borrowing may be used to finance current spending. On the other side, the supply of credit has also been restricted. Prudential regulation by the central bank (see Chapter III) has limited the exposure of financial institutions to the public sector to 45 per cent of their net worth. It should be noted, however, that in the case of economic recession the law doubles the time period over which targets for payroll, debt and fiscal balance must be met. A recession is defined as four consecutive quarters of growth below 1 per cent.

... but debt adjustment at the sub-national level will be difficult

The restructuring agreements commit the states to reduce their debt (now from the federal government) as a share of their net revenues (gross revenues less mandatory transfers made to municipalities). Given the ceilings on wages and pension expenditure, and debt servicing it is possible to compute the fiscal accelerator' effect on remaining (discretionary) expenditure as revenue varies. On the assumption that states do not increase their nominal debt (*i.e.* they run a balanced budget), Figure 18 shows the position of the five large states[35] in this respect. It is assumed that payroll costs are fixed in the short run, and that debt servicing remains constant as a proportion of total revenues (at the 13 per cent ceiling). In the case where payroll expenditure is 60 per cent of revenues, the fiscal accelerator is about 3.25 (*i.e.* a 1 per cent shortfall in revenue results in a 3.25 per cent fall in discretionary expenditure).

In 1999, the five states in the figure all exceeded the 60 per cent limit on payroll expenditure in revenues set out in the debt contract, though this was some

Figure 18. **The fiscal accelerator in selected states**[1]
States' data for 1999



1. States' expenditure other than debt servicing and payroll costs is assumed to be discretionary; states are also assumed to run a balanced budget. Payroll costs are broadly defined to include pension expenditure and direct social security costs. Debt servicing remains constant at 13 per cent of total revenues.

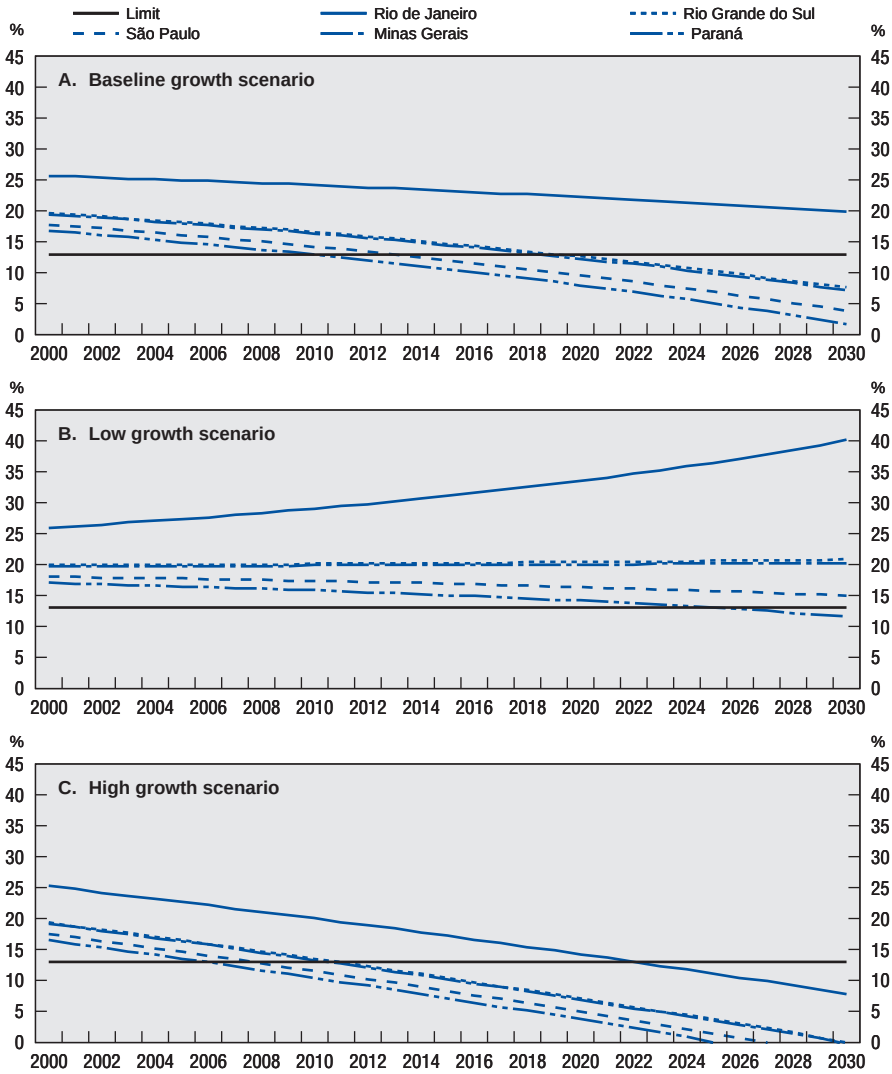
Source: OECD.

improvement on the position three years earlier. The calculation shows that once payroll expenditures are at 75 per cent, the accelerator starts to imply quite infeasibly large reductions in other expenditures. The figure shows that Rio Grande do Sul is in a particularly challenging position. In order to comply with both the debt contracts and the FRL, the states would critically have to reduce the share of their net revenue taken up by payroll expenditure in order to give themselves sufficient scope to absorb fiscal shocks and develop their other policies. In doing so, they could make use of recent legislation that introduced some new ways for them to manage this area of expenditure. For instance they may now put workers on paid leave at a proportion (increasing with seniority) of their previous full salary, along with mechanisms to reduce the headcount of public sector employees. However, adjustment in the long run remains difficult due to commitments on labour rights in the 1988 constitution. Of course, once states' servicing burden falls below the 13 per cent constraint they will have more flexibility to manage the consequences of fiscal shocks or fluctuations in the economic cycle.

Under these conditions, the point at which the states escape the debt servicing constraint turns out to be very sensitive to growth. For the same five states as above, Figure 19 shows when the debt servicing limit ceases to bind them,

Figure 19. **State-level debt after restructuring**[1]

Per cent of net revenue



1. This estimation is based on states' debt at the end 1999. It is assumed that servicing comprises only interest payments of 6 per cent per annum, on 80 per cent of the total; no account is taken of the 20 per cent of debt that states are obliged to pay down to federal government within 30 months, for example using the proceeds from asset sales.
States revenues are assumed to grow at 2, 3.5 and 5 per cent in the three different scenarios. States revenues in 1999 were estimated from the latest available year (1997) updated by the same increases as for total federal revenues in 1998 and 1999.

Source: OECD.

under different scenarios for revenue growth. All the scenarios assume that the states are able to repay 20 per cent of their restructured debt (as required in the debt contract) and benefit from a fixed 6 per cent real interest rate by meeting their other contractual obligations. An important point is that they also assume the federal government ensures automatic rollover of the restructured debt.

The analysis in Figure 19 presents three scenarios: the high growth scenario assumes annual revenue growth of 5 per cent, the baseline 3 per cent, and the low growth 2 per cent. In the baseline scenario, the first states fall below the 13 per cent debt servicing only in 2015. In the low growth scenario only a single state escapes during the thirty-year horizon, in 2025. Actually, in the low growth case some states are caught in a debt trap (Panel B). However, in the high growth scenario, the graduation point is reached much more quickly; four of the five have passed it by 2011, although Rio de Janeiro does not reach it until 2022 by reason of its high starting level of debt.

This seems to lead to two conclusions. Firstly, in their current form, the complex arrangements for restructuring state debts will have to hold for a decade if they are to achieve the stated objectives. Secondly, a uniform constraint imposes different adjustment costs on the states since they start from very different positions. This rigidity may induce the risk of sub-optimal outcomes and associated costs, although in this context the ceiling on debt servicing introduces an element of flexibility. In any event, the firm mechanism chosen for fiscal adjustment was needed to introduce financial discipline.

Uniform fiscal targets are restrictive but cannot be relaxed

In theoretical terms, a set of uniform binding constraints is unlikely to be optimal at the aggregate level. There is no room for flexibility and, given the tough penalties, states are not equally likely to over- as undershoot their targets. This introduces a bias. Although the debt contracts do not specify a balanced budget constraint, the combination of debt contracts, resolutions and laws effectively add up to this result. This may lead the federal government to make the choice between relaxing the constraints it has so carefully put in place (therefore putting at risk the credibility it has won), or supporting the development of a pro-cyclical fiscal policy in the states and municipalities.

The experience of the European Union, in using golden rules for fiscal convergence criteria in the Maastricht treaty for the period 1992-98 and in the context of the Stability and Growth pact thereafter, is a useful reference here. Ambitious fiscal consolidation targets have been reached helped by a consistent policy framework over a medium-term horizon. The general government deficit for the

euro area fell by 3 ½ percentage points of GDP between 1993 and 1997, with primary expenditures falling by 2 percentage points.[36]

Against this background, sub-national governments need to build institutional capacity to assume new responsibilities. The government is already tackling this issue by providing assistance for the states to improve their budget management. This parallels activity in OECD countries. Mexico is currently working in training civil servants and transmitting administrative procedures and know-how to sub-national governments through inter-governmental co-operation. Alternatively, sub-national governments lacking capabilities could purchase services from other levels of government, as in Canada, from neighbouring federal members, as in the United Sates, or from the private sector, as in Spain.

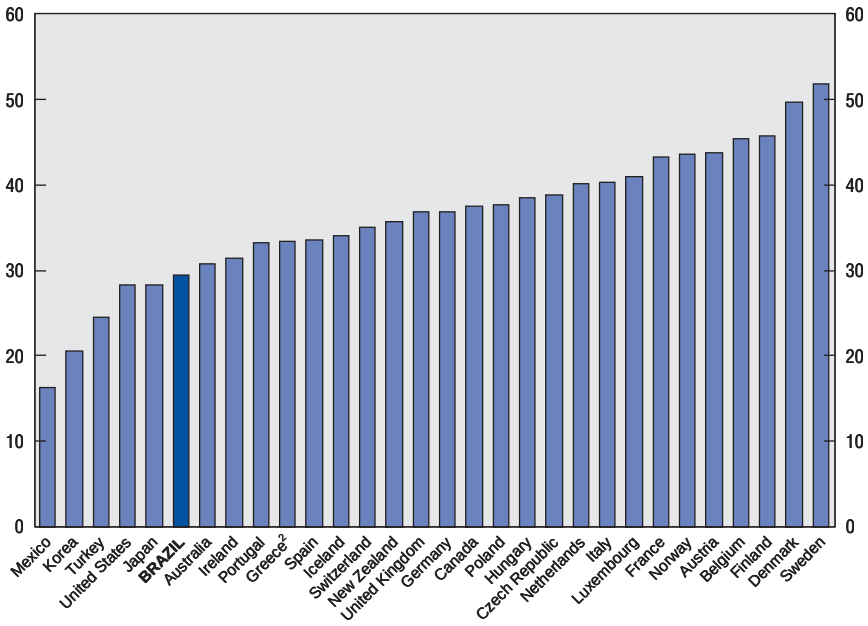
Pressure to reform the tax system is mounting

Brazil's tax system has remained basically the same since 1967, even as the domestic economic and social environment has changed dramatically. International market integration is also inducing a re-consideration of the tax system, particularly as regards its impact on competitiveness. Tax revenue in Brazil is about 30 per of GDP, relatively high for emerging markets but in the lower range of OECD countries (Figure 20). There seems to be little scope to lower overall tax revenue given growing demands for expenditure on education, health and social provision, as well as investment in infrastructure (see Chapter V).

The government sent a draft constitutional amendment to reform the tax system[37] to congress in 1995, but a draft reform was not finally agreed until March 2000. The original proposal was already a compromise. It kept the tax burden unchanged, did not disturb the existing distribution of revenues among government levels and preserved the autonomy of all government tiers in managing their taxes. The core of the reform was to create a single value-added tax (VAT) that would replace states' ICMS and the federal value-added tax (IPI), with two uniform centrally set rates (the federal senate would set state rates and congress the federal rate).

The expected gains from the tax reform would come from simplifying the system by eliminating multiple rates and special treatments,[38] reducing tax competition among the states and improving compliance by eliminating tax avoidance opportunities. It is because VAT in Brazil is assessed at origin (rather than destination) that harmonising the VAT rate produces these gains (McLure, 2000). However, harmonisation deprives states of fiscal autonomy as they no longer have the power to change the rate. Returning fiscal autonomy to the states would require changing VAT according to the destination principle. In this regard, there are proposals on how to implement such a system (Varsano, 1999 and Keen, 2000).[39]

Figure 20. **Tax burden in Brazil and OECD countries**[1]
1998



1. Defined as total tax revenue as a percentage of GDP.
2. Data for 1997.
Source: Ministério da Fazenda, OECD.

In practical terms, any changes in tax policy are bound to have repercussions in revenue re-distribution among levels of government. Thus it was not possible to design a comprehensive tax reform without calling into question existing fiscal federal arrangements. With the benefit of hindsight, examining all elements of tax policy, including power to tax and appropriation of revenue, would perhaps have made it easier to reach an agreement. As it was, during lengthy debate, the initial proposals had to be considerably reduced in scope, to the point where they dealt with only with the most acute problems: cascading social contributions and the states' ICMS.

One objective of the proposed tax reform was to centralise regulatory power over ICMS in order to end tax competition. However, centralisation might not end harmful tax competition among the states to the extent that measures to attract investment do not necessarily depend directly on tax autonomy, and indeed may not have a direct effect on the budget.

Box 10. Vertical and horizontal co-ordination and consultation in OECD federal countries

Federal systems in OECD countries are becoming more collaborative.* Less directive models and more autonomy to sub-national governments call for more co-ordination to help clarify national goals, and to make goals and programmes compatible across government tiers. Some form of "jurisdictional co-ordination" based on court decisions exists in most countries. In most federal countries co-ordination takes place at more than one level. Formal and informal mechanisms of consultation stimulate information flows between levels of government. Information exchanges help the central government to convey its needs and objectives to lower government tiers and, at the same time, to know the impact of its policies on sub-national governments economy and finances. Associations of local authorities may play major formal and informal roles in consultation. Second parliamentary chambers in many countries constitute an important consultation mechanism and a way to guarantee sub-national interests at the centre.

Vertical co-ordination seeks to assure top-down policy coherence, while horizontal co-ordination aims to bring together the views of the different federal units regarding policy options. The latter is a particularly big challenge in federal countries. In Australia, the Council of Australian Governments (COAG) was created in 1992. It gathers Commonwealth, state and territory ministers as well as the President of the Australian Local Government Association to adopt common policies, co-ordinate programmes and draw up common legislation. Many Commonwealth-State Ministerial Councils and National Standards Setting Bodies (NSSB) have a regulatory role and produce standardised national regulations and strategies for enforcing these standards.

In Austria, a "Liaison Office of the Länder" was set up in 1951. Its tasks include ensuring co-ordination amongst the L*änder*, and between them and the federal government. It acts as a secretariat to various Conferences. The L*and* Governors' Conference aims to reconcile the interests of the L*änder vis-à-vis* the B*und*. There are also various "Conferences of Experts" at both the political and administrative level. There is also the Austrian Conference of Regional Planning that helps to co-ordinate regional planning projects and policies.

In Canada there are the First Ministers meetings where the Prime Minister, the Provincial Premiers and territorial leaders get together to discuss policies. These constitute useful forums for discussion of difficult horizontal problems. There are also more than 500 intergovernmental meetings a year involving federal provincial councils of ministers and committees of officials. Almost all focus on particular issues where co-ordination of policies is necessary. The meetings deal with subjects ranging from law enforcement to budgetary issues.

In Germany policies are co-ordinated by high-level councils. The most important is the Financial Planning Council that makes recommendations regarding the co-ordination of budgets and financial plans of all government tiers. It is chaired by the Federal Minister of Finance and includes the Ministers of Finance of the L*änder*, the Federal Minister of Economics and representatives of local governments and the German Federal Bank. Also important is the Economic Policy Council chaired

Box 10. **Vertical and horizontal co-ordination and consultation in OECD federal countries** (*cont.*)

by the Federal Minister of Economics and made up of representatives from federal, L*and* and local authorities. Recommendations from these councils carry considerable weight in policy decisions. There are also planning committees that co-ordinate activity between the Federation and the L*änder* with representatives of both levels of government.

* This box is based on OECD/PUMA (1997).

Experience in OECD countries shows how difficult it is to reach an agreement on far-reaching tax reform in a federal country. Usually, these reforms have associated budgetary costs and at least, temporary, revenue losses for the central government. For example, the Australian tax reform passed in July 2000 was negotiated over many years. It is a comprehensive tax-sharing package including the gradual elimination of states' excise taxes and some federal transfers. The corresponding revenues are to be replaced by claims on federal VAT (constitutionally reserved to the federal level). The overall budgetary cost of the tax package was estimated at around 3 per cent of GDP over 1999-2003.[40]

Germany is an example of an OECD country that has a mechanism for equalising VAT revenues. A complex system redistributes VAT so that revenues per capita are equalised to around 95 per cent. However, this system also removes incentives to efficient tax collection or to increase tax effort, and is currently under challenge form richer states. It is suggested that the system could benefit from more redistribution through block grants, rather than through tax sharing. Moreover, the effort towards revenue equalisation in Germany has not removed state or regional competition to attract investment, which can take many forms in addition to tax benefits.[41]

The success of fiscal stabilisation, tax reform that improves economic efficiency and competitiveness, and the implementation of economic policy more generally all depend on achieving agreement and co-operation between all levels of government. In Brazil, fiscal federalist policies have been characterised by large and somewhat contradictory swings. On the one hand, provision of public services was partly decentralised (strengthening the basis of the federalist system), on the other hand, the lack of controls and poor local performance required federal intervention. An institutional framework that facilitates dialogue and co-ordination has proved instrumental for reform in OECD federal countries (Box 10). In Brazil, better co-ordination among and within tiers of government would facilitate dialogue

and ease negotiation, notably for reform of the tax system. The federal government should play a leading role in establishing the right forum.

Reforms of the pension system are critical for fiscal adjustment

The pension system is divided into three segments: a general regime for private sector workers, multiple special regimes for civil servants at different levels of government, and a voluntary complementary regime available to all workers (Table 18).

The discussion above on fiscal adjustment at the sub-national level showed how much of their expenditure states incur on the payroll. This expenditure is so significant, partly because it includes pensions of former public employees; in fact about half of total pension expenditure is paid to civil servants. In the absence of further reform this expenditure is unlikely to fall over the next 10-15 years. Including both the public sector and the general pay-as-you-go (PAYG) regime, Brazil's public pension expenditure is about 9 per cent of GDP, above the OECD average (Figure 21). Given that OECD countries are generally not only wealthier, but also significantly older, Brazil's pension expenditures are clearly excessive, draining resources away from other areas, such as much needed social investment in health and education (see Chapter V).

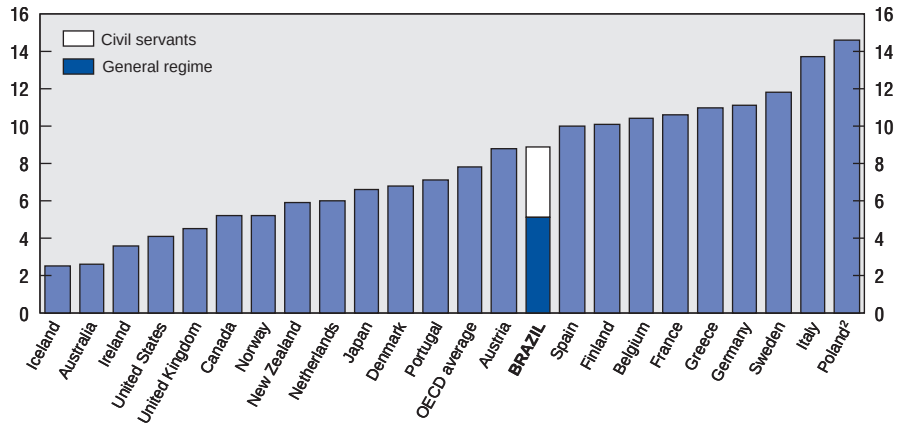
The combined deficit of the publicly managed schemes was almost 5 per cent of GDP in 1999 (Table 19). The bulk of this deficit (4 per cent of GDP)[42] originates from the special regimes for civil servants, half of which from the sub-national schemes. This large deficit is rather striking, as only about 5 per cent of total retirees are former civil servants. The general scheme underwent a major reform in 1999, which has gone a long way to ensuring its long-term actuarial and financial balance (see Annex II.1). In contrast, reform of the special schemes for future civil servants have been timid, even though they are significantly more generous than the general regime. The most significant aspects of the reforms will apply only to civil servants. For current civil servants, several government proposals have either been watered down in congress or struck down by the supreme court. One

Table 18. **A summary of Brazilian pension systems**

	General system	Special systems	New state-level schemes	Complementary system
Coverage	Private sector	Civil servants	Civil servants	All workers
Nature	Mandatory	Mandatory	Mandatory	Optional
Scope	National	Federal, state or local	State	Open[1]
Management	Public	Public	Mixed	Private/Independent
Funding	Pay-as-you-go	Pay-as-you-go	Pre-funding	Fully-funded

1. With the exception of some industrial sectors, which have closed funds.
Source: Ministério da Previdência e Assistência Social.

Figure 21. **Public pension expenditure:[1] an international comparison**
Per cent of GDP



1. 1995 for OECD countries, 1999 for Brazil. Figures generally exclude the military.
2. The ratio for Poland excludes pensions paid directly from the budget.

Source: Brazilian Ministério da Previdência Social; Roseveare *et al.* (1996); Polish Ministry of Finance; Italian Ministero del Tesoro, Ragioneria Generale dello Stato, February 1997; Greek Social Security budget.

Table 19. **Financial results of the social security system, 1999**
Per cent of GDP

	Contributions	Expenditures	Balance
General regime	5.0	5.9	–0.9
Public sector special regimes	0.7[1]	4.6	–3.9
of which:			
Federal	0.2	2.3	–2.2
State	0.5	2.0	–1.5
Local	0.1	0.3	–0.3
Total	**5.7**	**10.5**	**–4.9**

1. Includes employee contributions only.
Source: Ministério da Previdência e Assistência Social and Ministério da Fazenda.

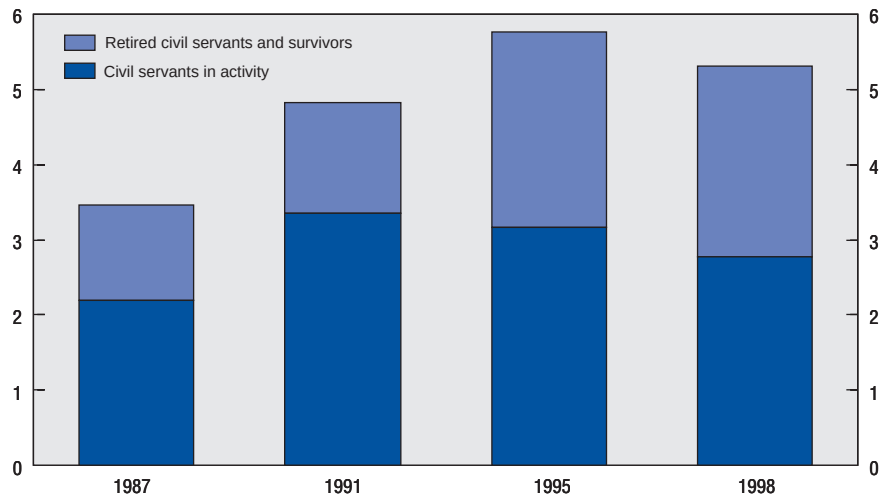
important proposal, namely to levy a social security contribution on high earning retirees, is still under discussion. If approved, this is expected to bring in significant extra revenue. At the sub-national level, only a few states (notably Bahia, Pernambuco, Paraná and Rio de Janeiro) have reformed the pension schemes for their public employees. Even these incipient schemes, often capitalised with proceeds from

privatisation, provide at best short-term fiscal relief to state governments. To the extent that they are not, in their present form, actuarially balanced, they do not constitute a long-term solution to the fiscal challenge arising from the large and growing contingent liabilities of civil servants' pension systems.

The special regimes for civil servants are a major source of financial imbalance

There are a multitude of PAYG pension schemes applying to civil servants. Other than at the federal level, each of the 27 states have their own pension systems. As a rule, municipalities follow the general regime, although some (often larger ones) have their own special schemes. These schemes differ slightly from each other in terms of contribution rates, but in almost all cases they are considerably more generous than the general scheme. Between 1987 and 1995, federal pension expenditures have increased by a factor of four (in real terms), being one of the main reasons behind the sharp increase in federal payroll expenditures, which jumped from 3.5 to 5.8 per cent of GDP (Figure 22). Since 1995, the federal payroll has dropped slightly as a percentage of GDP, but this was a result of reduction in

Figure 22. **Federal payroll expenditure**
Per cent of GDP



Source: Ministério da Fazenda.

expenditure on active civil servants. Pension expenditures have continued to increase, and now about half of the federal payroll is now spent on pensions.[43]

The strategy of freezing pay and recruitment in order to offset the growing financing requirements of civil servants' pension schemes may be reaching its limit. There has been growing pressure for pay rises, and the average age of working civil servants has grown steadily. As a result, it is unlikely that in the next few years increased pension spending could be offset by a reduction in active payroll expenditures. This situation is generally replicated at the state and municipal level. The aggravating factor is that payroll expenditures usually represent a much larger share of state's current revenues, typically between 60 and 80 per cent, against less than 50 per cent for the federal government. The size of the problem varies significantly among states and municipalities. In 1998, about three-quarters of the total pension deficit was concentrated in the five states discussed above (S. Paulo, Minas Gerais, Rio de Janeiro, Rio Grande do Sul and Paraná). Among municipalities, the problem is mostly concentrated in the two largest cities (S. Paulo and Rio de Janeiro) and nine other large metropolitan areas.

Reform initiatives have not been sufficient

The growing pressure of civil servants' pensions on payroll expenditures has led the government to propose a series of reforms to congress, some of which involved changes in the constitution. Reforms, partly approved in 1998-99, eliminated some abuses and inequities but have not significantly changed the benefit formula for workers hired before their implementation (Box 11). This formula equating benefits to 100 per cent of the last basic salary, independent of the level of the contribution, has been the main source of distortion in the system. For workers hired after 1998, some important changes were made, including the institution of a higher minimum retirement age. Reforms (pending the approval of secondary, implementing legislation) have also widened the possibility for governments at all levels to recruit civil servants under the general regime and/or to cap benefits at the same level as that in the general regime, with additional benefits guaranteed by a complementary scheme. Authorities hope these measures will lead to the elimination of present inequities. It is not clear, however, whether governments at all levels will widely use this possibility since it implies short-term fiscal costs (*i.e.* increasing social security contributions of public employers).

Faced with tight budgets and barred from changing defined pension benefits by the federal constitution, state governments have taken a series of initiatives to reform their civil servants' pension systems. The most common reform has been to create a pre-funded component to guarantee existing benefits. These funds have usually been financed by privatisation receipts and/or increased contribution rates. Bahia, Pernambuco, Paraná and Rio de Janeiro have been among

Box 11. Recent reforms to civil servants' pension schemes

Attempts at reforming public sector pension schemes have encountered significant legal and political obstacles. Reforms approved by congress in 1998 fell significantly short of original proposals by the executive. Although some tightening of eligibility requirements was approved and the worst abuses curtailed, most measures will apply only to civil servants joining the system after implementation of the reforms. Moreover, entitlements have not been significantly changed, with the effect that very little progress has been made towards the financial and actuarial balance of the various public sector pension schemes.

The main reform measures were:

- Institution of a minimum retirement age, starting at 53 years for men and 48 years for women. Through a transitional formula linked to the years of contribution prior to the approval of reform, this minimum retirement age will increase effectively to 60 and 55 years respectively. New entrants will automatically be subject to the higher minimum retirement age.
- Requirement that workers contribute for at least ten years to a public sector pension scheme before drawing retirement benefits. The scope for early retirement before having made 35 years of contribution for men and 30 for women (including previous contributions to the general scheme), has been limited for current workers and abolished for new entrants.
- Abolition of favourable special regimes for certain categories of civil servants, such as university teachers, judges, financial controllers and members of congress.
- Elimination of the possibility of adding "bonus time" to the length of contribution, which used to bring forward considerably the average age of transition to retirement.
- Requirement that a worker remain five years in a post before drawing pension benefits equivalent to the salary of that post. This eliminates the practice of fictitious promotions close to retirement age.
- Institution of a ceiling on pension benefits, equal to the civil servant's last salary. This measure eliminated loopholes that allowed some civil servants to incorporate non-wage advantages to their pension benefits, which in practice meant that their pensions could be higher than their last salary.

Of the original reform proposals not approved by congress, the most significant were the capping of benefits to 70 per cent of the last basic salary, the immediate application of the higher minimum retirement age of 60 for men and 55 for women to all civil servants rather than to new entrants only, and the linkage between wages and pensions. Congress had approved the institution of pension contributions by retired civil servants and an increase in pension contributions by current civil servants, but this has been declared unconstitutional by the supreme court.

Box 12. Creation of public pension funds at the state level: the cases of Paraná and Bahia

By the late 1990s, payroll expenditures accounted for 75 per cent of Paraná's current net revenues, of which around one third were spent on pensions (including survivors' pensions). Moreover, the share of pension expenditure had grown steadily as the ratio between active and retired civil servants declined. To deal with these challenges the state government introduced a major reform of the pension scheme in December 1998, raising contribution rates, creating a pension fund and introducing a two-tier pension system. The top marginal contribution rate rose from 10 to 14 per cent for salaries above BRL 1 200. The average contribution rate rose from 9.0 to 11.1 per cent. Employee contributions are matched one to one by the state government. A pension fund was created as an independent social service institution, linked to the state government by a management contract. The fund has been gradually capitalised using privatisation revenues, the transfer of real estate assets and the securitisation of receivables, to a total estimated at over BRL 5 billion over 1998-2003.[1] This fund will be split between two pension "pillars". The security pillar applies to civil servants up to 50 (male) or 45 (female) years old. This pillar will be entirely covered by the pension fund, which, according to state officials, would be actuarially balanced with a real rate of return of 6 per cent. The financial pillar applies to older workers and will only be partly financed by the fund, with the balance covered by direct transfers from State Treasury.[2] The state expects that, with these reforms, payroll expenditures will fall towards 50 per cent of current net revenues in the next 15 years, with a declining share of the total spent on pensions.

In Bahia, the State Legislature has approved the gradual increase in employee contribution rates from 5 per cent in 1999 to 12 per cent in 2004. Employer contributions will also be phased in gradually, from 5 per cent in 2001 to 21 per cent after 2012. Moreover, a reserve fund was created with the proceeds from the privatisation of Coelba, the state electricity company. This fund is to a large extent independently managed and has relatively tight investment guidelines, as a means to reduce the risk of political interference in administrative and investment decisions.

1. The largest privatisation was that of Copel, the state electricity company. Receivables included royalties from electricity generated by the *Itaipu* dam, on the border with Paraguay, and federal government debt. The latter refers to national social security institute (INSS) debt towards the state pension scheme, linked to the transfer of pension rights of former private sector workers who became state civil servants.
2. It is expected that the fund will be able to cover about half the expenditures of the financial pillar in the next three years, declining gradually towards zero in 2010.

the most advanced in that regard (see Box 12). These initiatives are welcome, but barring changes to constitutionally mandated benefits, or sharp increases in contribution rates, these pre-funded systems are unlikely to prove actuarially balanced. As such, they merely provide a temporary relief to state governments'

accounts rather than a permanent solution to their growing pension liabilities. The World Bank estimates that even Paraná's well-funded security (second) pillar may be depleted in 20 to 30 years depending on assumptions over wage growth and rates of return.[44] Consequently, the main challenges for reform still lie ahead.

A *still overly generous system*

As a result of loose eligibility requirements it is estimated that in 1998 about a quarter of male federal pensioners, and about half of female pensioners, had retired at or below the age of 50. Most eligibility requirements are defined in the constitution and apply to all levels of government. Since the reforms of 1998-99, these requirements do not differ markedly from the general scheme (see Annex II.1). The main difference is that a minimum retirement age for civil servants has been introduced, rising gradually to 60 years for men and 55 for women.

Contribution rates vary widely between the different special schemes,[45] but in all cases, they are far from being enough to finance defined benefits (Table 20). Overall, civil servants' pension schemes offer considerably generous entitlements. Civil servant pensions are equal to 100 per cent of the last basic salary, as long as a worker has been in the post for at least five years.[46] In most cases, the marginal increase in pension benefits for an extra year of activity is zero, encouraging civil servants to retire as soon as they meet eligibility requirements. The possibility of drawing a pension while in activity elsewhere (in the private sector or at a different public sector level) further encourages immediate retirement. An eventual affiliation to the general system prior to joining the civil service counts towards the length of contribution requirement. As a result, it is not

Table 20. **State pension schemes: some selected data**

	Employee marginal contribution rates		Financing requirements
	December 1998	January 2000	1998 (BRL billion)
	Per cent		
Federal	**11.0**	**11.0**	**33.3**
São Paulo	6.0	6.0	4.5
Minas Gerais	7.7	7.7	1.7
Rio de Janeiro	11.0	11.0	1.6
Rio Grande do Sul	7.22	7.22	1.5
Paraná	10.0	10 to 14	0.8
Bahia[1]	5.0	6.5	0.3
Ceará	8.5	11.0	0.2

1. Rates will increase progressively to reach 12 per cent in 2004.
Source: Ministério da Previdência e Assistência Social.

uncommon for workers joining the civil service in their 40s and 50s (university professors and upper managerial echelons, for instance) to retire a few years after being hired. Recent reforms introduced the additional requirement of a minimum service of 10 years in the public sector, but this is unlikely to change the overall incentive to retire early. Last but not the least, pensioners do not pay pension contributions, so their after-tax income actually increases in the transition to inactivity.

A further source of inequities in the entitlement system has been that, until recently, a series of loopholes allowed civil servants (especially in the top echelons) to incorporate non-wage advantages to their pension benefits. This practice was to a large degree curtailed with the 1998 reforms, which instituted a ceiling on pension benefits, equal to civil servant's last salary. This measure does not apply to civil servants already in retirement, however, so past abuses have not been corrected. It is not uncommon to find civil servants (or their survivors) with pensions above 100 minimum wages. Authorities in *Rio Grande do Sul*, for instance, estimate that the top 10 per cent of beneficiaries accounted for almost half of the state's pension spending. In that state, past abuses seem to have been especially prevalent in the judiciary, which has a large degree of autonomy over its pay.

The main challenge: the need to reduce privileges

Acknowledging the need to address existing inequities in the civil servants pension regime, the authorities have proposed a number of reforms. These included implementing legislation to allow employment of civil servants under the general regime, or under (less generous) conditions determined at state or local level. Further measures under discussion in congress would cap benefits to a level similar to that prevailing in the general regime. The reform strategy is designed to reduce inequities by fostering a gradual convergence of public sector pension schemes towards the rules applying in the general regime. This is appropriate, but since measures will apply only to new entrants, they will not lead to a significant reduction in the systems' financing requirements in the short and medium-run. By 1999, more than half of federal employees were older than 40, and will soon qualify for early retirement. Even without new entrants, demographic pressures alone are likely to lead to a steady increase in the number of pensioners and in special regimes' pension expenditures over the next 10 to 15 years. Estimates about future spending in the civil servants pension schemes are particularly sensitive to assumptions about real wage and pension growth as well as the number of new entrants to these schemes. According to the government's actuarial evaluation, the deficit in the civil servants pension schemes may now stabilise as a percentage of GDP before declining steadily from 2015. Based on less favourable assumptions, the World Bank estimates that the special

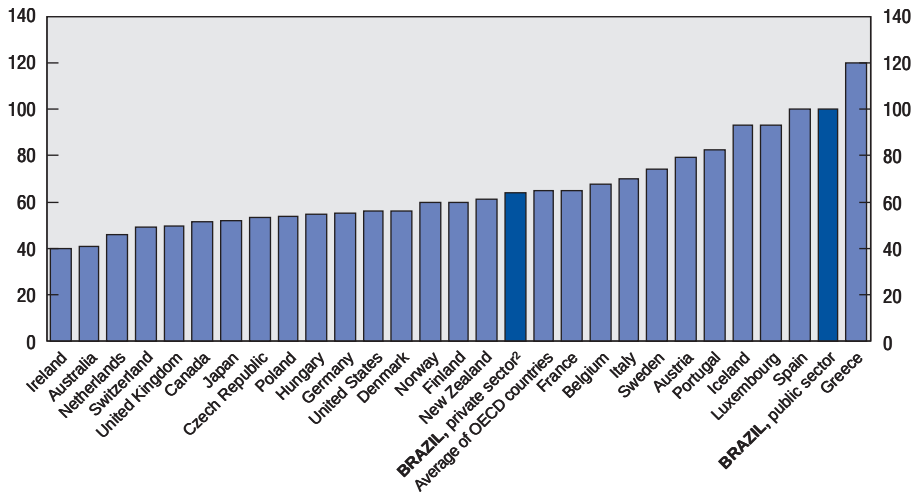
schemes' deficit may increase by as much as one further percentage point of GDP by 2015, before declining slowly.[47]

Several measures could be envisaged to help move the various public sector pension schemes towards financial and actuarial balance. Eligibility requirements should be tightened further, especially in the case of the minimum period of contribution to public sector pension schemes, which should be lengthened. Contribution rates should be raised in some states, notably S. Paulo, and sub-federal levels of government should be further encouraged to create pre-funded pension schemes. Finally, issues related to regulation of these pre-funded schemes should be resolved. Preferably, they should be regulated under the same rules as the complementary' schemes to ensure independent, sound and actuarially based management.

These measures alone would, however, not be enough. Although desirable, changes to eligibility requirements and contribution rates are unlikely to eliminate the system's financial and actuarial imbalances. These derive mostly from the excessive generosity of the entitlement system. Even abstracting from the fact that the average public wage is higher, the difference between the two sectors is large. At the same level of income (medium skill level), the pension of a male worker retiring at 55 under the general regime would amount to about two-thirds of his last salary, compared with 100 per cent in the public sector's special regimes. The special systems are also quite generous by international standards. The OECD Secretariat has constructed a synthetic indicator of expected old-age gross pension replacement rates, based on a few simplifying assumptions to permit cross-country comparisons of the relative generosity of pension schemes.[48] Whereas the Brazilian general scheme's replacement rate is close to the OECD average, the public sector schemes are among the most generous in the world; only Greece has a higher replacement rate (Figure 23).

It is true that civil servants have special regimes in many OECD countries and that these are generally more generous than private sector schemes. But typically, OECD civil servant pensions do not equal 100 per cent of the last salary with such loose entitlement requirements. Replacement formulae generally consist of a share of the final salary (typically between 1.75 and 2 per cent) per year served, up to a maximum (generally between 35 and 40 years). So, after an entire career as a civil servant, the most a pensioner can claim is between 70 and 80 per cent of his/her last salary. Those with shorter careers in the public sector generally get much lower pensions. These PAYG "extended earnings" systems, although considerably less generous than their Brazilian counterparts, have been under pressure in most OECD countries, since they have often led to an unsustainable build-up of contingent liabilities. As a result, many countries have started to move away from them: in Canada, the Netherlands and the US, for instance, civil servants already derive the majority of their pension earnings from a funded component. It is a tes-

Figure 23. **Expected gross replacement rates**[1]
Per cent



1. The figures refer to theoretical replacement rates for a 55-year old and are based on assumptions as reported in Blöndal and Scarpetta (1998), Box III.1.
2. Data refer to male workers who have not reached the social security ceiling.
Source: Blöndal and Scarpetta (1998).

timony to the excessive generosity of the Brazilian special pension regimes that much wealthier countries have found their (less generous) systems unaffordable.

In anticipation of deeper reforms in the special regimes for civil servants, at the very least a less generous replacement formula should be immediately applied, capping benefits at a fraction of the last salary. More ambitiously, an equivalent of the reform introduced in the general system should be applied to all civil servants, with a very short transition period and a higher minimum retirement age. This measure would also ease portability between the public and private sectors, eliminate distortions and abuses associated with workers joining the civil service close to retirement age, and facilitate the introduction of a fully-funded complementary pension scheme.

Public companies' complementary regime has an impact on fiscal adjustment

The development of complementary pension funds has indirect effects on government accounts, related *inter alia*, to the tax treatment of pension contributions and benefits, and the development of an alternative system for civil servants. It also has a more direct bearing on the sustainability of the recent fiscal

adjustment, to the extent that two-thirds of funds' assets are linked to state-owned enterprises' pension schemes, chiefly among those, P*revi*, the closed fund for B*anco do* B*rasil* employees. These plans are predominantly based on defined benefits – a fixed monthly pension – which tend to be significantly more generous than their private sector equivalent. In 1999, average pension benefits in the general government sector were close to average salaries, whereas in the private sector they were only half as high. This generosity is partly financed by high employer contributions (employer/employee contribution ratios are often above 2 to 1) but in some cases, benefits are higher than it would be warranted, raising questions of actuarial balance. In fact, in recent privatisations, large contingent liabilities associated with overly generous pension systems significantly reduced sale proceeds.

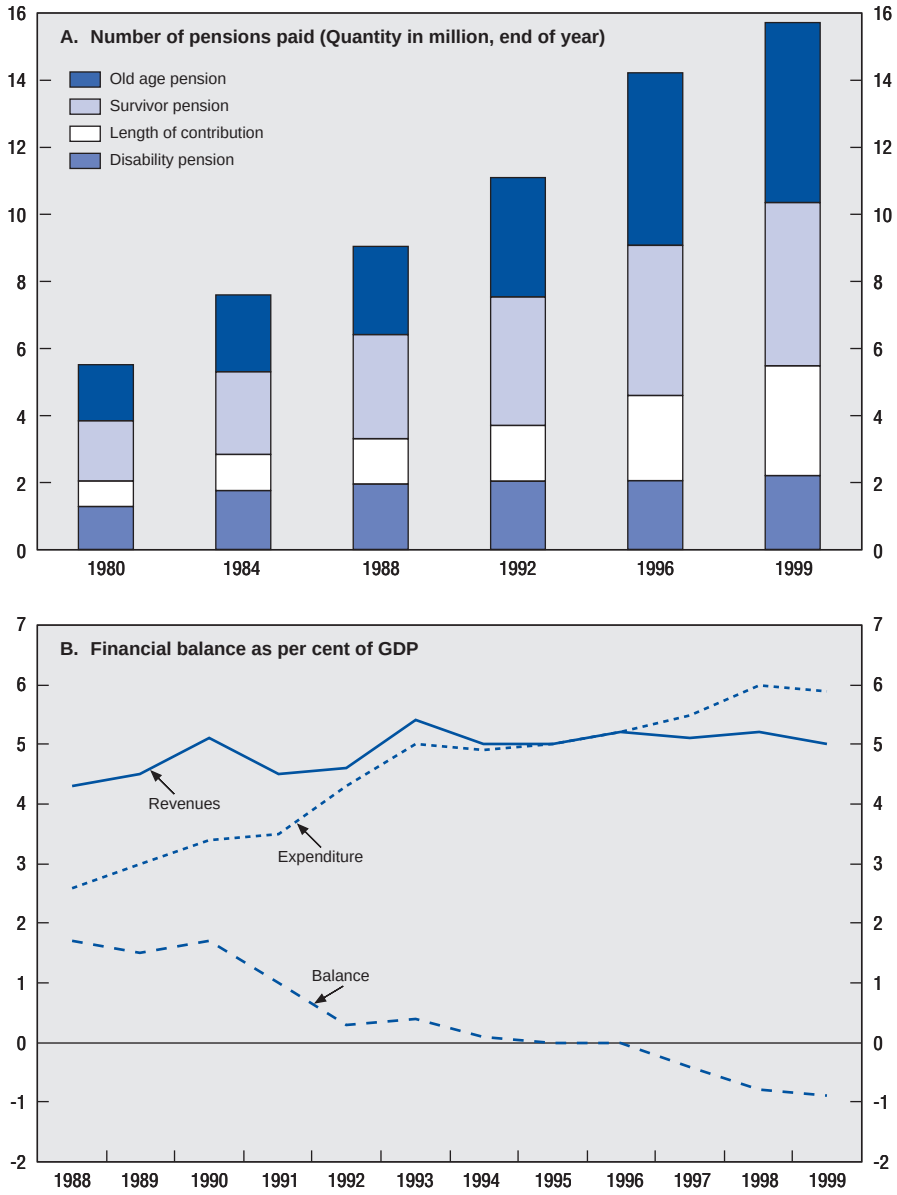
Following recent legislation limiting the ratio of employee/employer contribution rates to one, these differences between the private and public sectors are likely to diminish gradually. On the other hand, this measure is likely to make concerns over actuarial imbalances more pressing, especially in view of the generally inadequate level of disclosure from some of those schemes. Aware of the problem, authorities have been conducting actuarial studies of several state-owned enterprises' pension funds, in order to enhance transparency and eventually implement measures to tackle imbalances. It seems inevitable that any review will need to curtail pension benefits and/or increase employee contribution rates, especially if a costly re-capitalisation exercise affecting general government accounts is to be avoided.

In contrast with special schemes, general pension regime has moved towards sustainability

By the mid-1990s, it had become clear that the combination of non-funded extension of benefits and perverse incentives in the system's original design were leading to an explosive widening of the deficit in the general regime (Figure 24). After several years of discussion, a major reform of the general pension regime was approved in 1998-99 (see Annex II.1 for details). A decision was made to retain the PAYG system, since the cost of transition to a fully funded scheme was considered too high. The main element of the reform consisted in the introduction of an adjustable formula to calculate pension benefits (*fator previdenciário*) based on actuarial rules (see Box 13). This new methodology corrected distortions and introduced welcome flexibility to the system, which will help it deal with the demographic challenges Brazil is likely to face in the next 50 years.

Other reforms have included the abolition of contribution scales, extension of the contribution period over which benefits are calculated, and the introduction of tighter eligibility requirement for full pension entitlement. The latter is now conditional on a minimum length of contribution to the social security system (35 years for men and 30 for women). In practice, this means that it is no longer

Figure 24. **General pension regime**



Source: Suplemento Histórico do AEPS-1996; Anuário Estatistico de Previdência Social 1998; Boletim Estatistico de Previdência Social/MPAS; SPS/MPAS.

Box 13. The new methodology for calculating pension benefits in the general regime

The new benefit formula was inspired by the Swedish notional accounts model. The pension is based on the past contributions of each worker, life expectancy and a coefficient that provides incentives for postponing retirement, as follows:

$$Pension = \frac{W \times c \times P}{R} \times bonus$$

Where:

W = average of 80 per cent of highest wages

c = contribution rate

P = contribution period

R = residual life expectancy at retirement, updated annually by IBGE

$$bonus = 1 + \left(\frac{retirement\ age + (c \times P)}{100} \right)$$

The first part of the formula ($W \times c \times P$) represents the amount of contributions accumulated in the workers notional individual account. The annual updating of life expectancy works as an endogenous mechanism, adjusting automatically the pay-as-you-go system to the ageing population. Finally, the *bonus* represents an implicit rate of return that increases as workers decide to retire later.

Life expectancy is officially estimated by the annual household survey of the Brazilian Institute of Geography and Statistics (IBGE). A single life expectancy table is used, regardless of gender or other personal characteristics. Women and teachers (primary and secondary school) get a bonus 5 years added to the contribution period. Woman teachers get the bonus twice, adding ten years to the actual contribution period. A five-year transition mechanism was introduced before the full implementation of the *fator previdenciário*.

possible to count years of undeclared work towards retirement, as was previously the case. The capping of contributions and benefits at a level of earnings reached by less than 20 per cent of workers, is a well designed element which ensures equity and encourages the development of a fully-funded complementary pillar.

More importantly, the design of the system itself should lead to a general increase in the retirement age. One of the main features of the reformed Brazilian system is that it provides workers with enhanced flexibility in choosing when to retire, as well as with large incentives for remaining in activity for longer periods.

In spite of reforms, the Brazilian system remains quite generous. Although the systems are not entirely comparable, in most OECD countries the standard statutory retirement age is at least 65 for both sexes, with a few exceptions.[49] It should be borne in mind that a multitude of non-employment benefit systems provides incentives for early retirement in most OECD countries, to the effect that the average age of transition to inactivity is often lower than the statutory age. Still, the average age of transition to inactivity among older workers in Brazil has been and is likely to remain below the OECD average (see Table 21).[50] This is only partly justified by the fact that life expectancy at 60 is lower in Brazil (17.3 years of retirement) than in the OECD (an average of about 21 years), especially given that these are likely to converge.

Recent reforms to the general regime have gone a long way in moving towards a fair, equitable and transparent first pillar pension system, available to all workers. However, it is not clear whether these measures will be sufficient to

Table 21. **An international comparison of average retirement age, 1995**

	Males	Females
Brazil[1]	**56.0**	**52.0**
Belgium	57.6	54.1
Luxembourg	58.4	55.4
Austria	58.6	56.5
Netherlands	58.8	55.3
Finland	59.0	58.9
France	59.2	58.3
Germany	60.5	58.4
Italy	60.6	57.2
Spain	61.4	58.9
Australia	61.8	57.2
New Zealand	62.0	58.6
Canada	62.3	58.8
Greece	62.3	60.3
Denmark	62.7	59.4
United Kingdom	62.7	59.7
Sweden	63.3	62.1
Ireland	63.4	60.1
Portugal	63.6	60.8
Turkey	63.6	66.6
United States	63.6	61.6
Norway	63.8	62.0
Switzerland	64.6	60.6
Japan	66.5	63.7
Iceland	69.5	66.0

1. 2000.
Source: OECD Secretariat's estimates based on *Economically active population* 1950-2010, ILO (December 1996). For Brazil, MPAS.

ensure the long-term actuarial and financial balance of the system. The growth of informal employment, the weight of non-pension benefits imputed to the system and the inadequate mechanism of pension adjustment all pose a threat to the system's future balance. Some adjustments can be made to deal with these problems, but the long-term solution to these challenges will have to be found within the wider context of tax and labour market reforms. Finally, the development of private pensions will also depend on the modernisation of the regulatory and supervisory framework, where more rapid progress is needed (see Chapter III).

III. Development of financial markets

The Brazilian financial sector has strong potential for development. The banking sector is still adjusting to a more competitive market environment, though during the years of hyperinflation the banks were able to manage rather complex indexation arrangements and, in this way, preserve the local currency (Bevilaqua and Garcia, 1999). Contrary to other countries in Latin America, Brazil was never a dollarised economy. In Brazil, high inflation also prompted the creation of an efficient payments system (Listfield and Montes-Negret, 1996). Although bank credit has recently grown strongly, its level in the economy is low compared with OECD countries. This is evidence that the Brazilian banking sector is not yet playing as full a role as it could in financial intermediation. Instead of intermediating credits to the private sector, banks have mainly engaged in short-term treasury operations. As a result, enterprises and households in Brazil have been disadvantaged by a lack of access to credit.

Together with a low level of banking intermediation, the capital markets have been trapped in a vicious circle of small scale and low liquidity. Capital market operations account for a small fraction of the private sector total financing needs. Private investments have been primarily financed by retained earnings and long term credits from official agencies, especially from the national investment bank (BNDES), as well as short-term loans. Only the largest domestic enterprises and the multinational firms operating in Brazil have access to external markets as alternative sources of financing. Overall, domestic capital markets have not played a major role in promoting growth. The counterpart to these weak financial structures is that corporate governance is underdeveloped and most companies are closely held.

Nevertheless, the situation is changing. The macroeconomic environment has stabilised. With lower inflation and fiscal consolidation, the banking sector has progressively been given a different set of incentives, which will contribute to financial deepening. Instead of financing short-term government debt and relying on inflationary revenues, banks are reshaping their activities and are competing for creditworthy customers. The central bank is supporting this development by insisting on better risk assessment in the sector and by strengthening supervision and the regulatory framework. Reduced state involvement in the economy is pro-

moting an enhanced role for private initiative, which will have to be financed. The government's privatisation programme has induced the entry of foreign banks and hence potential competition to the market. The legal framework for improving corporate governance in the enterprise sector is being discussed in congress. All these steps go in the right direction providing that the reform effort is sustained and co-ordinated.

There is still scope for financial intermediation to grow

A striking feature of the Brazilian banking system is that commercial bank lending to the enterprise sector is at a low level (Table 22). Traditionally, private banks have restricted their private sector lending to short-term, self-liquidating commercial transactions. Medium- and long-term finance to industry and agriculture has mainly been provided by specialised federally-owned institutions and development funds. Major impediments to the development of more active

Table 22. **Financial intermediation in Brazil and selected countries**
In percentage of GDP

	Domestic credit total				Domestic credit to private sector			
	1994	1995	1997	1999	1994	1995	1997	1999
Monetary survey								
Argentina	26.2	27.6	30.0	34.4	20.0	19.7	21.6	24.2
Brazil	**57.7**	**36.6**	**40.0**	**47.6**	**45.5**	**30.8**	**25.9**	**28.4**
China (mainland)	92.3	91.2	106.2	130.4	89.5	88.3	102.9	121.8
France	101.0	101.9	102.3	105.4	88.0	87.0	82.9	81.8
Germany	122.7	127.4	140.1	147.2	101.7	103.1	112.8	117.4
Hungary	93.1	83.1	65.8	62.4[1]	26.2	22.5	24.2	23.6[1]
India	47.6	44.5	46.5	46.2[1]	24.1	23.0	24.0	23.8[1]
Japan	135.0	136.2	132.6	143.9	116.8	117.8	113.6	115.2
Korea	57.7	56.6	69.4	85.2	57.2	56.6	68.2	82.0
Mexico	34.5	28.1	28.7	22.0	34.9	25.3	17.9	14.4
Poland	36.6	32.1	34.8	36.3[1]	11.2	11.9	17.0	19.5[1]
Russia	31.7	23.6	26.6	32.7	12.1	8.7	9.6	11.5
Spain	107.1	106.8	110.1	115.9	77.7	77.1	84.2	92.9
Switzerland	181.4	183.4	183.8	185.1	166.3	168.4	168.5	173.9
United Kingdom	116.9	123.3	126.1	127.0	110.1	116.2	120.9	123.4
United States	75.1	76.7	78.2	82.7	61.7	63.9	65.6	71.2
Banking survey								
Argentina	26.6	27.9	30.4	35.2	20.3	20.0	21.9	25.0
Brazil	**63.0**	**39.8**	**43.4**	**51.6**	**52.9**	**35.0**	**30.6**	**34.5**
Japan	286.4	294.2	294.5	n.a.	208.5	208.9	200.1	n.a.
Mexico	46.5	42.3	37.3	28.8	38.7	29.3	20.4	16.2
United States	115.7	124.1	139.3	160.7	93.8	102.3	118.9	142.4

1. 1998 data.
Source: IFS, IMF.

medium- and long-term lending operations by the private banking sector were the uncertain macroeconomic environment, notably high and volatile real interest rates and crowding-out by the public sector's financing needs, at both federal and state level (Chapters I and II).

There are also more microeconomic reasons for the low existing level of financial intermediation. Secured lending is rather problematic. Under existing commercial legislation, enforcing claims on collateral is difficult given the seniority of debt to federal, state and local authorities as well as to employees. This situation has been further aggravated by moral hazard, arising from a bias towards borrower protection where disputes arise (see below). It is also difficult for banks to locate lending opportunities to firms with an acceptable risk classification, especially since standards of disclosure are traditionally weak even though the quality of financial statements is gradually improving. In this regard the BCB has established a centre to assess credit risk (*Central de Risco de Crédito*).

With macroeconomic stabilisation and a commitment by the authorities to develop financial markets, there are indications that bank credit to the private sector is beginning to expand. Real interest rates have fallen (Chapter I) and the prevalence of public debt in banks' balance sheets is expected to diminish as a consequence of the ongoing fiscal adjustment programme (Chapter II). This process will necessarily be gradual, as banks are also subject to enforcement of prudential provisioning rules by the central bank. It seems indeed reasonable to develop bank intermediation on the basis of adequate risk assessment, rather than promoting overly rapid credit expansion without all the links and institutional requirements in place. There can be no strong banking sector without sound development of the economy. Recent experience of banking crises in transition and emerging market economies provide ample evidence of this.

Structure of the banking system

The Brazilian banking system evolved in a setting of high inflation and states' autonomy to create their own banks. To a large extent this accounts for the structural characteristics of the sector that persist to this day (see Box 14). It consists of a sizeable private banking sector, five federally owned banks, including the two largest in Brazil (*Banco do Brasil* and *Caixa Econômica Federal*), and state level public banks. Their relative size is shown in Table 23. This constitutes one of the largest banking industries among emerging market economies. Most of private sector banks operate as universal banks, with investment, commercial and retail divisions, whilst the public sector banks are generally not authorised to engage in investment banking.

The sector is still characterised by the presence of two large federal banks, which together accounted for 39 per cent of total assets and 37 per cent of total deposits at the end of 2000. *Banco do Brasil* is the main lender to the

Box 14. Historical background of the banking sector in Brazil

Until the 1960s the pillar of the Brazilian financial sector was the federal government's bank, B*anco do* B*rasil*. This institution shared the responsibility for financing investment with the Treasury, and the National Bank for Economic and Social Development (BNDES) created in 1951. Private banks, facing uncertain liquidity and collateral, concentrated their operations on the short term. The post-war period saw a proliferation of state commercial banks, as well as state-owned development and savings banks, established with the objective of financing operations in the agricultural sector, as well as other developmental activities, such as housing, industry and small and medium-sized enterprises (SME). There was no well-developed money market, hence banks funded their operations through short-term deposits by actively competing to attract deposits through country-wide branch networks. Basic rediscount services for liquidity management were provided by the B*anco do* B*rasil*. By the end of the 1960s, public sector banks (federal and state) accounted for more than half of total deposits and loans in the system.

In 1964, the government undertook a full-scale financial sector reform with the aim of diversifying both instruments and institutions of the financial system, thereby overcoming the limitations imposed by the prevailing usury law and the gold clause, which restricted interest rates to a maximum of 12 per cent a year, while inflation rates averaged 17 per cent in the 1950s and about 45 per cent in the 1960s. The main objective of the policy reforms was to ensure non-inflationary financing of the government deficit as well as to provide incentives to private savings in an environment of high inflation. Law 4595/64 created the Central Bank (B*anco Central do* B*rasil,* hereafter BCB). The BCB absorbed most monetary policy functions of the B*anco do* B*rasil* and banking regulation previously under the responsibility of a Superintendence on Money and Credit (SUMOC). The National Monetary Council (NMC), became the highest authority responsible for monetary and financial policy. B*anco do* B*rasil* was gradually converted into a commercial bank. In 1986 B*anco do* B*rasil's* automatic overdraft facility at the BCB was closed; the bank was recapitalised by the Treasury in 1997.

A number of credit programmes and specialised funds were designed to channel resources to priority sectors. State-led import substitution required active public financing of large-scale projects, accomplished through official agencies and development banks financed by the state budget and compulsory savings. Long term financing was predominantly provided from two sources: the BNDES, and by directed credit policies that required banks to provide a certain amount of credit for specific spheres of activity, mainly agriculture and housing (though the banks had the option to place equivalent funds in a non-remunerated account in the central bank). These requirements were still place in 2000.

The 1960 reform intended that investment and development banks would be responsible for long term loans, using term deposits and foreign funds, whilst commercial banks were expected to continue concentrating on short-term credit operations using cash deposits, which they did. Credit, financing and investment corporations would finance consumer credit and personal loans, issuing bills of exchange. The institutions of the Federal Housing System (SFH) would provide mortgage financing backed by savings deposits and real estate bills. In the 1970s, commercial banks played an important role in the intermediation of foreign funds (Studart, 1995).

Table 23. **Structure of the Brazilian banking system**
BRL billion, December 2000

	Number	Per cent of total	Total assets		Total deposits	
			Amount	Per cent of total	Amount	Per cent of total
Federal banks	12[1]	5.5	248.4	30.8	57.8	23.6
State banks	11	5.1	34.4	3.7	19.6	5.9
Domestic private banks	107	49.3	252.7	27.0	101.7	30.8
Foreign private banks	72	33.2	229.1	24.5	69.6	21.1
Private banks with minority foreign share	15	6.9	55.2	5.9	17.1	5.2
All banking institutions	217	100	935.1	100	330.0	100

1. This includes the federalisation of state level banks since 1999.
Source: BCB.

agricultural sector, whilst C*aixa* E*conômica* F*ederal* is the most important provider of housing credits. Including other publicly-owned banks raises the share in both total assets and deposits to around 43 per cent. This structure partly reflects some of the changes that the banking sector had to undergo in adjusting to the low inflation environment of the Brazilian economy following the launch of the Real Plan (Chapter II). The end of easy inflationary profits revealed severe institutional problems and regulatory weaknesses in the banking system (see below).

T*he difficult adjustment to rapid disinflation in* 1994

The shock to the banking system in 1994 must be seen in an historical context. In the inflationary environment, which from the 1950s had become a feature of the Brazilian economy, banks were able to collect substantial intermediation margins. At the same time, borrowers' default rates were kept low by the reduction of their repayment obligations in real terms. The lucrative float, from revenues earned on temporary reinvestment of low-cost liabilities (such as tax receipts, demand deposits, collateral against loans) in highly remunerated short-term securities, led to an explosive expansion in the number of commercial banks and bank branches. Substantial profits were also earned from treasury operations based on arbitrage of interest rates and currencies. An additional source of earnings, was the significant share of current account balances generated via wage payments or maintained for transaction purposes, which did not earn any compensation for inflation. In short, inflation was a source of multiple windfall gains to the banks. Encouraged by widespread indexation, the public continued to maintain funds in the domestic banking system. As a result, in contrast to other countries experiencing high inflation, currency substitution never developed in Brazil.

Table 24. **Inflation revenues of Brazilian banks**
Per cent of total revenues

	Inflation revenues/GDP	Inflation revenues/total revenues
1990	4.0	35.7
1991	3.9	41.3
1992	4.0	41.9
1993	4.2	35.3
1994	2.0	20.4
1995	0.0	0.6

Source: BCB.

Following implementation of the Real Plan, monthly inflation rates were reduced from 50 per cent in mid-1994 to 0.6 per cent in December of the same year. This implied that the important revenue source provided by the float, which averaged 3.6 per cent of the GDP in the period 1990-1994 (see Table 24), practically vanished.

The expansion of credit also increased non-performing loans

As a result of the rapid disinflation, the banking sector came to depend more on lending operations and fee-based services as sources of revenue. The high level of operating costs in Brazil's banking sector led private banks to expand credit, which financed the demand for consumer goods, boosted by the increase in real incomes that came in the wake of the Real Plan. Credit grew at about 60 per cent during the first six months of the Plan. However, the substantial rise in interest rates in the aftermath of the Mexican crisis at the end of 1994 provoked an increase in non-performing loans and arrears. The state banks were particularly at risk as state finances deteriorated and arrears on bank debts incurred by state governments escalated, since they were largely vehicles to finance state budget deficits. Non-performing loans of the entire banking system rose from about 5 per cent in September 1994 to about 15 per cent during 1997 (BCB, 1998). In December 1999 they stood at 9.2 per cent for the whole system, and 12.1 per cent for the state and federally-owned banks.

During this period significant structural weaknesses in some major private sector banks, such as the *Banco Econômico* and *Banco Nacional*, became apparent. They reflected the prevailing low standards of banking supervision and regulation. The increase in bad assets of several institutions caused an increase in the demand for liquidity in the banking sector as a whole, leading to shrinkage in the inter-bank market. The central bank had to intervene to close a number of insolvent banks. Irregularities found in balance sheets of other institutions caused

Table 25. **Interventions by the central bank in the banking system**
July 1994-December 2000

Type of bank	Number of institutions liquidated, intervened in, or under REAT[1]
Investment banks	1
Private domestic commercial banks	6
State commercial banks	3
State development banks	1
Domestic multiple banks with foreign participation	2
Private domestic multiple banks	35
State multiple banks	4
Total	52

1. REAT – *Regime Especial de Administração Temporaria* (Under Temporary Special Administration).
Source: BCB (1998).

further fears and rumours. In order to avert a full-scale banking crisis, the BCB put the distressed institutions into liquidation or temporary custody.

By the end of 2000, the Central Bank had liquidated, intervened in, or put under the Temporary Special Administration (REAT) 52 financial institutions, most of them private banks (see Table 25). Two of the largest banks in Brazil, *Banco Econômico* and *Banco Nacional*, were liquidated in 1995, requiring cash disbursements by the government of BRL 5.4 billion and BRL 7.2 billion respectively. *Banco do Brasil*, still one of the largest public sector banks, had to be recapitalised with almost US$ 8 billion (at the prevailing exchange rate) in April 1996. Besides liquidation and recapitalisation, the central bank used mergers and acquisition, as well as privatisation, as tools of restructuring.

Reform of the banking sector

Although widely feared, a systemic banking crisis did not occur. In addition to the BCB action, this was due to the presence of a core segment of large and medium sized private banks that were well capitalised and conservatively run. These banks were able to strengthen their competitive position through the acquisition of weaker institutions hit by the crisis. An increasingly liberal policy towards foreign banks also helped limit the crisis as major foreign banks were able to make significant acquisitions.

Furthermore, Brazilian authorities provided timely assistance during the absorption of distressed institutions by stronger banks. The assistance took the form of adjustment programmes for private and the state-level banks (see Box 15). A supervisory and regulatory system was also implemented in line with the Basle Accord's rules and was, in some aspects, even stricter. All these elements have

Box 15. Restructuring the banking sector: the PROER and PROES

The Programme of Incentives for Re-Structuring and Strengthening the National Financial System (**PROER**) was created by *Medida Provisória* No. 1179 in November 1995 and regulated by the provisions of Resolution 2208. It provided a policy framework for re-structuring private banks. The PROER fostered the liquidation of distressed private banks to prevent interruption of services and disruption to clients. The programme was further assisted by the creation of a private credit guarantee fund in 1995 (*Fundo Garantidor de Crédito*). An important feature of the programme was that the former controlling owners had to abandon their control of the assisted bank.

The PROER provided a system of tax incentives and credit facilities to encourage rapid consolidation of the banking system through mergers and acquisitions. The acquiring (healthy) bank took over all the deposits of the insolvent bank, and those assets that it wished to take. PROER credit made up the difference. All PROER credits were guaranteed using public bonds whose value exceeded the credit by 20 per cent. The acquired (insolvent) bank was liquidated; its balance sheet included the PROER credit as a liability. Besides receiving credit at subsidised interest rates from official agencies, the acquiring bank was allowed to absorb the financial losses of the acquired bank on its balance sheet through tax write-offs (so-called *crédito tributário*). UNIBANCO, by then the sixth largest Brazilian bank, benefited from PROER in 1995 to acquire *Banco Nacional*, the seventh largest bank. *Banco Excel* also benefited from this programme to acquire a part of *Banco Econômico*. From December 1995 to March 1997, disbursements under PROER amounted to BRL 21 billion (around US$21 billion, or 3 per cent of GDP in 1997) for seven operations of financial assistance (IMF, 1997). This is somewhat below the level of equivalent bank restructuring programmes in other countries (Honohan and Klingebiel, 2000).

The Programme of Incentives for the Re-Structuring of the State Public Financial System (**PROES**) was set out in *Medida Provisória* No. 1514 of August 1996 and implemented in February 1997. The programme was designed to re-structure and privatise state-level banks in order to reduce the role of the public sector in the financial system. The federal government financed the restructuring of the state banks by exchanging the bad debts of state governments for central government bonds, with the state governments in turn becoming indebted to the central government. This new debt was consolidated with other state debts and restructured under law 9496/97 (see Chapter II). A condition of this arrangement was that state governments had to agree to liquidate or privatise the state banks, transform them into non-deposit taking financial institutions or development agencies, or restructure state banks' balance sheets so that they would be run on a fully commercial basis. In this last case, the federal government would finance only half of the debt restructuring agreement. PROES was amended in July 1998 in light of states' continuing financial difficulties. The revised programme mandated that further federal financing would only be available if the control of state-owned banks was passed to the federal government, which could either privatise or liquidate them. This alternative of "federalising" state banks coupled with the

Box 15. **Restructuring the banking sector: the PROER and PROES** (*cont.*)

rescheduling of state government debt, has been a key restructuring tool. A major case was the federalisation of B*anespa* (former state bank of S. Paulo), the largest of the state banks. In November 2000 B*anespa* was successfully privatised and sold to a foreign bank. The B*anco do* E*stado do* R*io de* J*aneiro* (BANERJ) was privatised by the state in June 1997, with part of the assets acquired by B*anco* I*taú* and the rest liquidated (although not strictly forming part of the PROES).

At PROES inception 35 financial institutions were controlled by state governments, out of which 23 were commercial or universal banks. By August 2000, ten had been closed, 13 either privatised directly or federalised prior to privatisation. Only five banks remained under state control after restructuring and recapitalisation, while a number of states chose the option to transform their banks into development agencies that are not authorised to lend to state governments. The federal government had issued BRL 55.4 billion in federal securities (equivalent to 5.8 per cent of GDP in 1999) under PROES. The participation of state-level banks in the financial sector has thus shrunk drastically, from about 18 per cent of financial sector assets and liabilities in 1994-97 to around 3.5 per cent by the end of 2000.

been crucial in promoting structural changes in the banking sector. From June 1994 to December 1998, the banking system went through a major consolidation, with a fall in the number of private and state-level banks, as well as in the number of banks with foreign minority equity participation. The number of banks under foreign control nearly doubled.

Restructuring the large federal banks

In addition to the BNDES, the group of federal banks includes four deposit-taking institutions. Of these, B*anco do* B*rasil* and the C*aixa* E*conômica* F*ederal* are amongst the largest banks in Latin America, while BNDES ranks in the top ten. Two smaller regional development banks, the BASA (Amazonia) and BNB (Nordeste) also belong to this group. Together, the federal banks account for some 40 per cent of total banking sector assets in Brazil.

In comparison with private sector banks, the federal banks are constrained by developmental objectives that often have to be cross-subsidised from their commercial operations. The central bank is nevertheless pressing for better sectoral disclosure of results. The BNDES has a quite specific status and is gener-

ally viewed as a sound institution (Box 16). In part due to quasi-fiscal losses engendered by their conflicting objectives, the federal commercial banks have together needed capital injections totalling more than BRL 10 billion in the five years to 2000, of which the federal government provided BRL 8.7 billion. The rest was supplied by the private sector.

A recent, somewhat controversial, report commissioned by the federal government (Booz-Allen and Hamilton, 2000) projects a negative outlook for these banks. This conclusion was based on the high credit risk embedded in the developmental loan portfolios and holdings of illiquid assets, as well as on the high operating costs. Currently, several institutions are unable to comply with the new and stricter loan provisioning rules and capital adequacy requirements. Therefore, significant changes to the operating policies of these banks are needed for the situation to improve. There are a range of options for the strategic reorientation of these institutions. They include full privatisation, partial sales, improved regulation and oversight, as well as retaining their combined developmental and commercial roles under improved management. The government seeks to improve

Box 16. The BNDES

The BNDES is a prime example of the *bolsões de eficiencia* (see Chapter IV). Founded in 1951, to provide long-term finance, the BNDES has traditionally been the centre of structuralist economics in Brazil, assisting the overall strategy of import-substitution and industrialisation by successively concentrating lending in railway, electrical energy, steel, motor vehicle, and information technology projects. Despite its interventionist role, the BNDES was chosen to manage the privatisation of state assets because of its technical expertise. Moreover, it has a fully-owned investment bank (BNDESPAR), whose main objectives are to support private equity investments in infrastructure, reorganisation of industrial sectors through merger and acquisition, and to encourage the development of capital markets. It acquired some of its holdings in important companies as a result of debt-equity swaps for non-performing loans. The resources of the BNDES are derived from a savings fund based on compulsory contributions from all Brazilian workers (FAT, previously PIS/PASEP).

In 2000 the BNDES launched a new strategic plan. This sets out how the BNDES will direct its activities in the future. Greater emphasis is to be given to horizontal activities, providing financing for exports, and contributing to improvements in corporate governance through conditional lending. The BNDES-EXIM programme provides support for exports of manufacturing goods. Disbursements under this programme have risen from US$30 million to more than US$2 billion in 1999.

the transparency of policy objectives and their cost, in order to minimise risks to the budget. The final decision will be taken by the government once the extensive policy debate currently underway reaches a conclusion. It is likely that substantial changes to the economic and legal framework for the federal banks will be required even were one of the less radical solutions to be chosen. This is an area where the Brazilian authorities could draw on experience in OECD countries.

Progress on banking supervision and regulatory framework

The central bank's supervision of banks and financial groups has been significantly strengthened since the launch of the Real Plan. Until 1995, the legislation on bank intervention did not allow for preventive action, being restricted to emergency situations. Supervision was complicated by the distortions produced by inflation, as well as by new rules and legislation that consolidated the use of universal banking together with more liberal entry and exit. This had had the effect of almost doubling the number of banks from the late 1980s. By March 1995, rising interest rates had revealed the mismatch between balance sheet' asset and liabilities, and highlighted the capital inadequacy of many banks. The BCB reacted by implementing a comprehensive plan for strengthening prudential requirements and implementing effective banking supervision (see Box 17). Between 1994 and 2000, Brazil has been able to adapt[51] previously less than effective regulations and supervisory practices to the 25 Basle Core Principles, which emphasise strict enforcement of rules on transparency and financial soundness.

Improving the framework for banking supervision

In parallel to rules on capital adequacy, other mechanisms have been created to enhance the supervisory capacity of the central bank. In 1988, the central bank introduced the Accounting Plan for Institutions of the National Financial System (COSIF), which created the basis for consolidated financial accounting. Banks have to submit quarterly consolidated accounts to the central bank. There are still differences between accounting principles in Brazil and International Accounting Standards (see Annex III.1), which influence banks' reported performance. In particular, these affect reporting of tax credits and rules for the consolidation of certain types of subsidiaries. Regulations are being developed to ensure full conformity of banks, accounting practices with international standards, as well as to assist management of liquidity risk.

In 1998, the BCB adopted an important resolution (*Resolução* 2554) establishing that financial institutions should present an implementation programme for internal control systems in accordance with, and in some cases more stringent, than the Basle core principles.[52] Capital requirements needed to cover market risk, which includes both foreign exchange exposure and interest rate risk, were introduced in 2000.[53] Also in 2000, the central bank created a new department to

Box 17. Banking supervision and the regulatory framework

Medida Provisoria No. 1182 of 1995 (incorporated into Law No. 9447 of March 1997), together with existing legislation, enabled the central bank to comply with the Basle Core Principles dealing with the preconditions for effective banking supervision and the formal powers of banking supervisors. Since January 1995, the Central bank has assessed bank capital adequacy on the basis of a Basle-type risk-weighted ratio. In May 1997, minimum capital was increased from 8 to 10 per cent; and in November 1997, the ratio was further raised to 11 per cent. In Brazil, only tier-one shareholders' equity, plus revaluation reserves, count towards meeting minimum capital requirements. Depending on the specific bank's capital profile, this condition actually makes Brazil's current capital adequacy ratio much tighter, equivalent to around 13-15 per cent under the Basle rules. The capital requirements covering counterparty credit risks from banks' derivatives transactions are also more stringent than recommended by the Basle Principles.

An important initiative following the Real Plan was the creation of a mandatory, privately funded, deposit insurance scheme (*Fundo Garantidor de Créditos*) through which deposits are guaranteed up to BRL 20 000 (or around US$ 10 000 at end-2000 exchange rate) for deposits and certain other types of financial assets. It is funded by a contribution of 0.025 per cent levied on the monthly balances of insured accounts.

The programme for General Consolidated Supervision (*Inspeção Global Consolidada*) was created in the second half of 1997. Both private and public financial institutions are now subject to this on-site supervision system by the BCB. The GCI includes: examination of financial and non-financial activities on a consolidated basis; an assessment of controlled subsidiaries and affiliates, both local and foreign; and an inspection of branches abroad.

The central bank created a centralised credit risk assessment system (*Central de Risco de Crédito*) in 1997, to assess the overall exposure of the banking system to any single borrower. The system receives monthly information on all borrowers with exposures in excess of BRL 50 000, and provides information on forgiven debts, collateral protection and internal loan grading information. The threshold was first reduced to BRL 20 000 in October 1999, and then to BRL 5 000 in January 2001. Banks have been able to incorporate this type of information into credit scoring models to assess prospective borrowers. Nonetheless, this gives rise to privacy issues that are still being debated. Finally, the BCB is supporting its effort also through a programme of modernisations to the central bank's supervising practices (PROAT). In 2000 the BCB also created a new scale for scoring credit with nine categories; the corresponding requirement to make provisions lies between 0 and 100 per cent.

increase routine monitoring of individual banks on the basis of quantitative financial indicators (indirect supervision), then considered weak. Its full implementation will require new procedures and resources for a more effective and more frequent on-site inspection system.

The introduction of a payment system based on Real Time Gross Settlement Systems (RTGS or LBTR in Portuguese) is planned for December 2001. From January 2002, the balance of bank's reserves cannot be negative during intra-day movements. During the past decade a number of countries have introduced RTGS for large-value funds transfers and nearly all G-10 countries have RTGS in operation. This system monitors the balance on inter-bank funds transfers on a continuous, transaction-by-transaction basis throughout the processing day.[54] A fundamental policy concern is the impact of RTGS on systemic risk. RTGS is expected to strengthen banking supervision in the future.

Finally, it should be noted that some of these regulatory changes, including adoption of the Basle core principles are very recent. Therefore, the degree of effective compliance remains to be assessed over time.

The role of foreign banks in restructuring and promoting competition in the sector

For the first half of the 1990s foreign participation in the Brazilian banking system did not change. It was difficult for foreign banks to gain entry: the 1964 Law 4595 had made entry of foreign financial institutions conditional on authorisation by either the central bank or the president. Foreign participation was in any case restricted to minority holdings in investment banks and leasing companies. In the same spirit, the 1988 constitution specified that participation by foreign financial institutions in the domestic market would be governed by article 52 of the Transitory Dispositions Law. This Law temporarily prohibited new entry by foreign financial institutions, as well as capital increases in existing foreign-owned financial institutions, awaiting complementary legislation. Only international and bilateral agreements, could overrule these restrictions, or where the government deemed it to be in the national interest. As a result, banks under foreign control accounted for only about 7 per cent of total assets in the banking system, and about 15 per cent of private banks' assets in 1994. Foreign banks have concentrated on some market niches, such as international finance and high-end retail banking, as well as playing the role of consumer finance arms of motor vehicles manufacturers.

In a clear break with past policies, the entry of foreign financial institutions was viewed as being instrumental in bank re-structuring. Liberalisation began in August 1995 when foreign institutions were explicitly allowed entry, or to increase their capital participation, if deemed to be in the national interest (Legislative Intent 311). Authorisations were issued by presidential decree. A further step was taken in November 1995 by Resolution 2212, which eliminated the requirement that the minimum capital of a foreign bank should be twice that required of a domestic one.

Given the large number of foreign banks interested in the Brazilian market, the central bank encouraged them to participate in the restructuring process. In practice this resulted in the incoming foreign banks taking over existing domes-

tic banks, either on their own or in partnership with Brazilian financial groups.[55] By 1998, a number of foreign banks had made use of this possibility: *Banco Santander* of Spain, *Société Générale* of France, Britain's HSBC and ABN Amro of the Netherlands. As a result, the growth rate of foreign-owned assets in the banking system was roughly three times the growth rate of total assets. By June 2000, their share in total assets exceeded 25 per cent.

Although it is too early to assess the long term effect of rising foreign participation in the banking system, there are expectations that increased competition and efficiency, technological improvements and more advanced risk management techniques will help bring about a reduction of persistently high banking spreads in Brazil. Banks are not exempt from competition law, but by the end of 2000 competition agencies have not been significantly involved in the banking sector (Clark, 2000). The central bank exercised sole authority and did not have a working agreement with the competition agency (see Chapter IV).

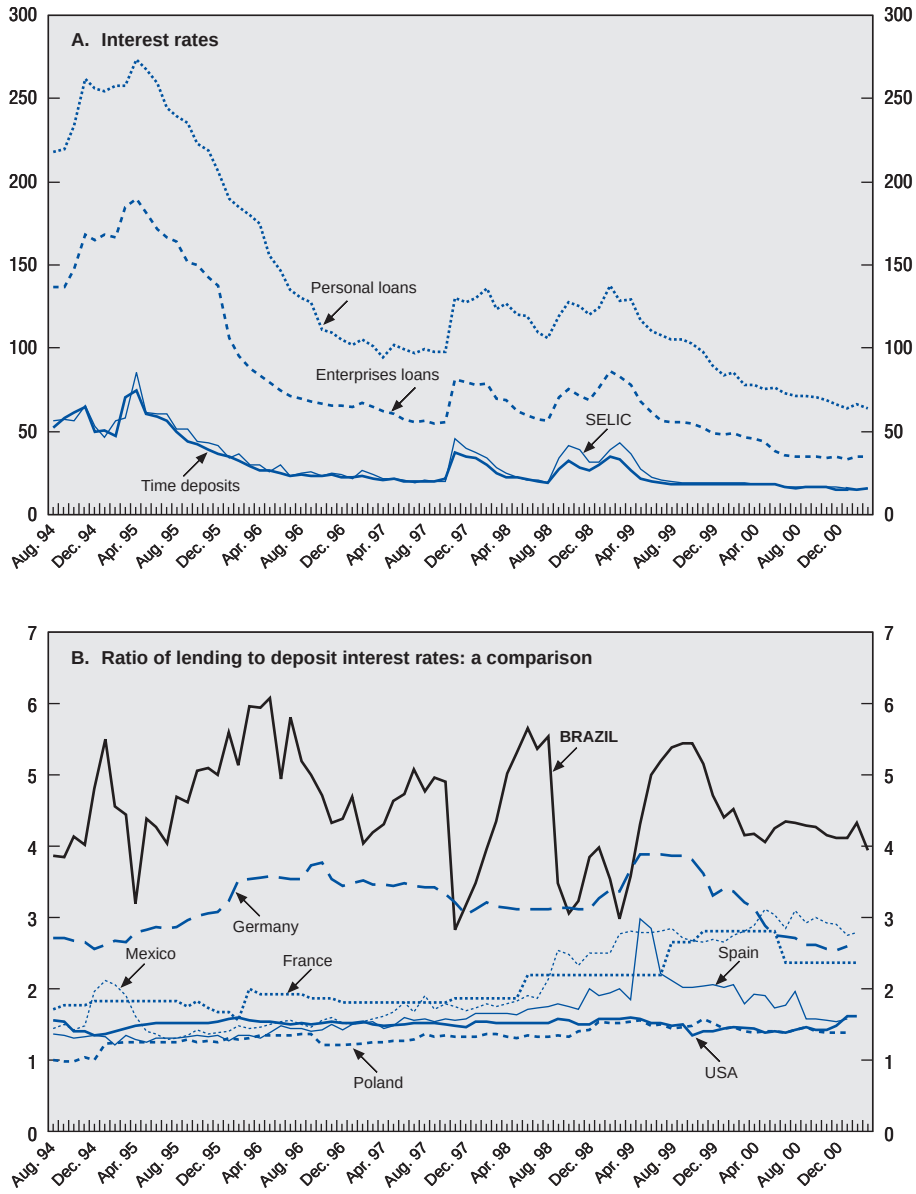
Why are banking spreads so high in Brazil?

Banking spreads have been consistently high in Brazil. With substantial disinflation and real interest rates that had fallen to around 10 per cent, average banking spreads began to fall, though in February 2001 were still at 37 per cent (see Figure 25, panel A).

A certain degree of hysteresis in the system accounts for a large part of the explanation. For many years Brazilian banks had focused on treasury operations. The assets sold to clients as a protection against inflation had to be very liquid, since they were cash substitutes. Even with indexation, a volatile inflation rate made intermediation very risky. To compensate this risk, private banks resorted to extremely high spreads in their lending interest rates, as well as very high levels of collateral.

More direct causes can be associated with the resilience of high banking spreads (BCB, 2000*a*). One is the high reserve requirement enforced by the BCB. In 1994, the marginal reserve requirements on demand deposits were at 100 per cent, though they have declined considerably. Between April 1999 and June 2000 the reserve requirements on the stock of demand deposits fell from 75 to 45 per cent; the requirement on term deposits fell from 30 to 0 per cent. Another is the persistence of directed credits (see Box 18). Banks have been constrained to use 25 per cent of their demand deposits for loans to the agricultural sector and 65 per cent of their savings accounts to mortgage lending for housing. A further cause is the tax system. In Brazil, any financial operation is affected by cumulative taxes (mainly CPMF, see Chapter II). Hence, banks bear the tax when they make loans or pay interest to depositors. This additional cost must be reflected in their interest spread. These distortive taxes are on top of the usual taxes on profits and charges for the credit guarantee fund (FGC).

Figure 25. **Average lending rates and spreads**
Per cent per annum



Source: BCB; IFS, IMF.

Box 18. Brazil's bankruptcy legislation

Insolvency legislation in Brazil (Law No. 6024: *Lei de Falências*, the Bankruptcy Law) dates from 1974, though it has changed little in practice since 1945. A reform proposal supported by the business and financial community was presented to congress in the early 1990s. Following strong opposition, this proposal is now under consideration by congress in a substantially revised form.

The law as it stands provides for two distinct legal proceedings, significantly affecting the rights of creditors: *concordata* (agreement) and *falência* (bankruptcy). The *concordata* is essentially a court imposed settlement leaving the debtor in control of ongoing operations while allowing him or her to obtain partial debt forgiveness or, at a minimum, protection from unsecured creditors. The degree of relief is determined in accordance with an official schedule in proportion to the length of time the repayment period is extended. In order to initiate this process, debtors have to meet certain conditions, including an ability to repay at least 50 per cent of unsecured debt. The debtor may trigger a *concordata* voluntarily before any petition for bankruptcy has been filed, or defensively at a later stage to suspend ongoing bankruptcy proceedings. The latter would imply liquidation of the debtor's assets under the supervision of a court-appointed trustee (*sindico*). The assets are distributed amongst the creditors according to a predetermined ranking. There are seven classes, of which the first four relate to employee claims and claims for overdue federal, state and local taxes as well as claims relating to social security and other mandatory government programmes. "Secured" credits only rank amongst the three bottom classes together with claims in connection with debts and expenses for the bankruptcy proceedings, and unsecured credits.

Both *concordata* and *falência* cases are handled by state courts. In certain large cities special courts have been assigned to handle insolvency proceedings. Nevertheless, both types of proceedings are generally extremely time-consuming and often take many years, making insolvency an unattractive option for creditors.

There are criticisms of the current system other than on account of the time taken for the proceedings. A major failing of the present legislation is that it lacks a procedure to support corporate re-organisation where this is feasible. The initial reform plan submitted to congress in made provision for corporate recovery based on a restructuring plan approved by a creditors' committee and ratified by the court, with subsequent implementation by independent administrators. This proposal was in line with standard practice in OECD countries. However, it was strongly resisted by congress as it would reduce the rights of creditors currently at the top of the ranking.

Another criticism is that existing proceedings heavily favour debtors, giving ample room for strategic, opportunistic behaviour on the part of delinquent or insolvent companies, hence lessening creditors' willingness to lend. An aggravating factor is that it is impossible to recover assets quickly even when they are shown to have been fraudulently transferred to affiliated entities after the initiation of insolvency proceedings.

Box 18. **Brazil's bankruptcy legislation** (*cont.*)

The design of any insolvency system has to reflect country specific conditions, but certain overriding principles do prevail internationally.* These concern the need for comprehensiveness and clarity, precision in the legal definition of insolvency and triggering mechanisms, the role of courts and trustees, the ranking of creditors as well as the effectiveness of reorganisation procedures. Insolvency legislation should strike a proper balance between debtor and creditor rights. This involves a trade-off between protecting troubled enterprises and encouraging liquidation for the benefit of creditors primarily interested in the recovery of their assets (as opposed to the interests of employees and other stakeholders in continued operations). Insolvency procedures should help to facilitate negotiations between creditors and debtors and avoid premature closing of companies facing financial difficulties, hence they should include a workable alternative to liquidation. They should also encourage debtors to service their debts more consistently. Additionally, to promote the provision of external finance, secured creditors should be able to expect compensation according to the value of their secured claim, and thus be accorded clear priority rights. The existence of large "super-priority" claims, such as overdue taxes and payments to employees undermines lenders' confidence in security.

* See the G22 working group report, "Key Principles and Core Principles of Insolvency Regimes", which followed the financial crises in 1997-98. It has served as a basis for discussions on drafting internationally acceptable standards for insolvency regimes.

Although difficult to quantify, the lack of effective bankruptcy procedures and secured credits is an important contributory factor in raising the cost of financial intermediation. Evidence collected by the OECD on the course of this Survey, suggests that imperfections of the legal system are an important bar to developing credit markets. The spreads on car leasing contracts are much lower than for bank credit as the lender has better access to collateral. In this context, a resolution from the NMC (*Resolução* 2493) enabled banks to securitise part or all of their credit portfolios. Through Financial Credit Securitisation Companies (CSCFs) they can sell credits, including those in arrears and in liquidation. This resolution has facilitated loan recovery and is expected to stimulate the supply of credit, as well as to ease the process of bank re-structuring.

Finally, there are significant administrative costs in operating credit lines. Although banks have made access to credit lines easier, there are many internal procedures to supervise the granting and monitoring of credit. The costs of non-performing loans were estimated to account for between one fifth and one third of total spread (BCB, 2000*a*).

The elements discussed above suggest that without more microeconomic reforms it is likely that high banking spreads will persist. Indeed, the ratio between lending and deposit rates (a proxy for banking mark-ups) in Brazil is higher than in OECD countries (Figure 25, panel B),[56] but over the period since 1994 shows no sign of falling. This suggests that structural factors explain the resilience of high spreads. Obviously, monetary and fiscal policies will continue to have an important role in bringing interest rate down, confirmed by experience in other Latin America countries (Brock and Suarez, 2000).

What are the prospects for enhanced financial intermediation in Brazil?

The banking sector in Brazil is evolving (Table 26). The volume of credit injected into the economy grew substantially after the Real Plan, together with the ratio of credits in arrears and losses to total credits. Both indicators began to stabilise following bank restructuring and improved after 1998. In a positive development, provisions for credits in arrears and in liquidation were above the level of declared non-performing loans during the critical period of bank restructuring. This over-provisioning of bad debts was costly, but it reflected a prudent stance on the part of the BCB. In 2000, this trend seems to have been reversed.

Profitability has been volatile and the net margins have fallen. This partly reflects how falling inflation has removed access to windfall profits. Revenues from banking services are growing in relative terms, although this is partly due to regulatory changes allowing banks to charge clients for services rather than a deepening and diversifying of financial activities. Finally, the share of administrative costs and expenditure on personnel has risen significantly during the period, as the sector struggles to adapt to a low inflation environment.

The Brazilian banking system proved to be relatively more resilient to international shocks and currency crisis than other emerging markets. Most banks remain well capitalised and well provisioned. Both PROER and PROES assisted the banking sector at a difficult time. The entry of foreign institutions also contributed actively to the restructuring process.

A more fundamental issue, however, is assessing the extent to which these developments will result in increased participation by the sector in financing sustainable growth. Improved fiscal performance and better management of the public debt is expected to create incentives for financing the private sector. Co-ordination of macroeconomic policies has already led to substantially lower real interest rates. As a result total loans increased by 13 per cent in the 12 months to February 2001, and credits extended at market interest rates grew by 70 per cent over the period, admittedly from a much lower base. The average interest rate charged on loan decreased from 62 to 52 per cent.

In order to reduce spreads in the economy, other reforms are needed. The cost of financial transactions should be reduced by reforming the tax system. Any

Table 26. **Brazilian banking system main indicators: June 1994-December 2000**

	June 1994	Dec. 1994	Dec. 1995	Dec. 1996	Dec. 1997	Dec. 1998	Dec. 1999	Dec. 2000
Number of banks	273	269	266	259	246	233	221	217
Credits (US$ million)[1]	122 606	143 942	168 755	167 391	160 001	166 624	146 043	154 738
Assets (US$ million)[1]	386 261	375 432	440 436	466 660	522 530	515 651	459 964	478 237
Deposits (US$ million)[1]	142 090	157 378	182 525	173 413	195 374	201 449	176 428	168 751
Net Equity (US$ million)[1]	40 884	42 979	37 730	44 767	40 859	50 747	49 888	49 287
Leverage (%)	3.0	3.3	4.5	3.7	3.9	3.3	2.9	3.1
Credits in arrears and in liquidation/total credits (%)	2.1	3.2	10.4	7.1	7.8	10.9	9.0	6.8
Provisions for credits in arrears and in liquidation/delinquent and non-performing credits (%)	98.7	87.5	95.8	108.7	150.5	116.5	129.5	94.6
Net profit/net equity (%)	0.03	0.51	–2.45	5.39	–3.10	2.60	2.76	1.50
Services revenues/ financial mediation results and services revenues (%)	10.0	163.6	38.9	34.1	42.1	36.5	32.2	33.6
Administrative and personnel expenses/ financial mediation results and services revenue (%)	96.6	840.1	151.8	113.2	134.4	107.7	94.3	95.3

1. Values in December 2000 BRL, converted to US$ at 31 December 2001 exchange rate.
Source: BCB, Sisbacen database.

reform should consider the impact of the tax system on the incentive to provide against bad loans. However, any reform of this nature has to be done carefully. As experienced in other countries, a change in the rules has implications for tax revenue and creates incentives to reveal bad debts in the economy. But neither is there any advantage in maintaining a system of perverse incentives.

Enhanced competition in the banking sector will only benefit the economy if banks are accurately able to assess creditworthiness. In this context, imperfections in the legal system create impediments to an expansion of secured lending. Furthermore, the banking system itself depends on the continuing process of adjustment in the real economy; in turn, this presupposes the authorities' determination to encourage further exit of ill-adapted institutions that had been established under different competitive conditions. This is linked to how far the system could be freed from the remaining elements of state guidance.

The lack of development in banking intermediation should have given greater weight to capital markets. The assets of mutual and pension funds far exceed total bank lending to the private sector. Further development of both the banking sector and capital markets will complement each other in the future. Efforts to develop capital markets are presently influenced by the dominance of public sector debt in the market, and weak corporate governance in Brazilian companies.

The wider financial sector is underdeveloped

By market capitalisation, the Brazilian stock market is Latin America's largest. Trading volume more than doubled between 1994 and 1998 to some BRL 658 million, some 60 per cent of value traded in Latin America (BOVESPA, 2000). This market is regulated by the *Conselho Monetario Nacional* (CMN, the national monetary council). But day-to-day regulation is carried out by the BCB and the *Comissão de Valores Mobiliários* (CVM, the securities and exchange commission). The former is chiefly concerned with licensing brokerage firms and regulating foreign investment in the stock market; the latter has authority over stock exchanges and the securities market generally, and is responsible for protecting investors and shareholders. The CVM is also responsible for setting the accounting and reporting standards of public companies.

Capital markets have not financed investment

Although the assets of mutual and pension funds are significantly larger than the volume of bank credits, the capital markets have hitherto not been a significant source of investment finance for the Brazilian economy. In 1987-96 the largest Brazilian companies financed 64 per cent of their investment through retained earnings, 29 per cent though debt, and only 6 per cent using equity (Rodrigues and Melo, 1999). The predominance of retained earnings in financing investment suggests that there is considerable scope to increase both the volume

of bank lending and use of the capital market to raise funds. However, there was a trend increase in new equity issues from 1993, and acceleration in privatisation of state and federal assets (Table 27).

Whatever the chosen system, there is evidence that financial market development is related to economic growth (OECD, 2000*f*).[57] Institutional differences seem to matter less than does overall development of the financial system (Carlin and Meyer, 2000), but empirical evidence suggests that market oriented systems are associated both with high levels of equity and high skill industries. A related finding is that deeper and more liquid capital markets are associated with higher standards of corporate governance (La Porta *et al.*, 1998). The need remains for a vibrant national market in Brazil to help consolidate financial reforms, provide benchmarks for risk assessment and to encourage the growth of domestic institutional investment.

Government attempts to stimulate capital market development date back to modest financial reforms that took place in 1964. The government wanted to "democratise" the stock market, and offered incentives both to individuals and companies to stimulate its use. Firms were given fiscal incentives to become public joint stock companies, and investors received tax rebates when acquiring the shares through special funds administered by investment banks. In addition,

Table 27. **Primary issue of debentures and shares in Brazil, 1980-98**
In per cent of gross investment

	Debentures	Shares	Total
1980	1.21	0.54	1.74
1981	0.48	2.86	3.34
1982	0.78	2.90	3.68
1983	0.68	1.89	2.56
1984	1.50	0.85	2.35
1985	1.55	0.30	1.85
1986	2.34	0.27	2.61
1987	0.59	0.04	0.64
1988	0.71	4.34	5.05
1989	0.68	1.34	2.02
1990	0.81	0.95	1.76
1991	0.82	1.37	2.18
1992	1.31	0.47	1.78
1993	1.00	4.55	5.54
1994	1.99	2.91	4.91
1995	1.46	5.24	6.70
1996	0.78	5.60	6.37
1997	2.18	4.31	6.49
1998	2.35	5.85	8.20

Source: *World Development Indicators* 1999 (World Bank) and CVM.

share bonus payments were free of tax and capital gains tax was reduced. These measures led to stockmarket booms in 1969 and 1971, both of which were followed by severe corrections. The overall effect was to create a general mistrust of equity markets, which led in due course to a fall both in trading volume and new issues.

Another attempt to revive the capital market was made in 1976. New legislation reformed the regulations governing public companies and created the CVM.[58] It was intended that the local capital market would provide finance to local private firms, as a complement to the system of official credit available from the BNDES. The new rules contained an incentive to firms to use the capital market. They raised the limit for the proportion of non-voting shares (so-called preferential shares) in firms' total capital (from 50 per cent to 67 per cent), which allowed closely held firms to issue new shares without sacrificing control. In all, even if the state's involvement in capital market could find justification in a number of market imperfections and development problems,[59] it has not contributed to encourage transparency and better corporate governance. In the context of liberalisation and macroeconomic stabilisation, the government began to open up the market to foreign investors.

The capital market has started to open up

In 1991 the government introduced a mechanism, known as Annex IV, for foreign institutional investors to invest in stock exchange portfolios, shares and other securities.[60] Over its first nine years this created the conditions for gross investment inflows from abroad of more than US$150 billion (Table 28). The pace of inflows quickened to 1997, averaging US$3.3 billion per year in net terms between 1993 and 1996. It was not until 1998 that there was a net outflow under Annex IV, in the wake of financial crises in Asia and Russia that affected emerging

Table 28. **Foreign capital flows under Annex IV legislation, 1991-99**
US$ million

	Inflows	Outflows	Net result
1991	428	96	386
1992	2 966	1 652	1 314
1993	14 614	9 136	5 477
1994	20 532	16 778	3 754
1995	22 026	21 498	528
1996	22 935	19 341	3 593
1997	32 191	30 576	1 615
1998	21 886	24 349	–2 462
1999	12 396	11 296	1 100
(Total 1991-99)	150 032	134 725	15 307

Source: CVM.

Table 29. **Selected stock market indicators, 1990-99**
Year and market value, US$ million

	Debentures	Shares	Notes	BOVESPA price/ earnings ratio
1990	916	775		3.6
1991	1 011	602		7 8
1992	339	943		8 8
1993	3 843	841		8 4
1994	3 304	2 259		12 6
1995	7 574	2 112	1 260	26 9
1996	8 289	1 152	481	34 0
1997	6 922	3 500	4 525	12 5
1998	8 674	3 484	9 681	15 2
1999	3 621	1 459	4 428	. .

Source: CVM.

markets more widely. Strong portfolio investment from overseas reflects more than a technical change in Brazil's financial legislation (see Annex III.2). Foreign investors' perception of the market changed as the economy stabilised and the government progressed with privatisation and other structural reforms. Another factor was the growth of institutional investment in Brazil.

The inflows from abroad were an important influence in the market. Trading volume and the market value of stocks increased. Stock market capitalisation averaged more than 26 per cent for 1993-1998 compared with 8 per cent during the 1980s; similarly, traded volumes increased from less than 3 per cent to a little under 17 per cent of GDP over the same periods. Price earnings ratios also began to rise towards levels more typical in OECD countries (Table 29). More importantly, companies began to use the market to raise finance as primary issues of long-term securities increased.[61] But these changes should not be overstated. Enterprise raises only a small proportion of its finance in the capital markets, and these markets remain small compared with OECD countries.

Trading on Brazilian stock exchanges by non-residents is still subject to specific rules. While there is no generalised national treatment', in some cases this is a benefit to foreign investors. For instance, foreign exchange transactions associated with privatisations can be carried out in New York, thereby falling outside the scope of the financial transaction tax (CPMF).

Development of pension funds require an appropriate regulatory framework

Complementary funds are voluntary, privately managed, fully funded pension schemes. The complementary system in Brazil in its present form dates back to the mid-1970s, when a regulatory framework was established to allow the cre-

ation of both open and closed pension funds. Assets have increased steadily in the past few years, from 8.6 per cent of GDP in 1995 to 14.3 per cent in 1999. However, the number of contributors to closed funds has stagnated in the past five years, at between 1.5 and 2 million, barely 3 per cent of the total private sector labour force. The market for open-ended funds has been more dynamic. Compared to the OECD average, the Brazilian complementary system is relatively small. In the OECD, fund assets are generally in excess of 100 per cent of GDP and coverage rates are above 50 per cent of total labour force. This is only partly related to the skewed distribution of income in Brazil, since only about a sixth of higher income workers (defined as those with income above the general system's ceiling) contribute to complementary pension regimes.

The main factors hampering the development of complementary funds in Brazil have been the inadequate regulatory and supervisory structures, the unfavourable and uncertain tax system and the high associated administrative costs. The latter is in part related to the tax on financial transactions (CPMF) and other administrative and regulatory burdens affecting the financial system as a whole (including high reserve requirements and a complicated tax system). An ambitious reform agenda includes the creation of a new general regulatory framework and an independent supervisory agency, an increase in the flexibility of benefit plans and wider use of risk pooling. Measures to increase transparency (information disclosure) and to clarify the tax treatment of pension funds have also been proposed. Also under discussion in congress is the creation of a complementary regime for civil servants, associated with the capping of pension contributions and benefits for new entrants. These reforms, if approved, would go a long way to removing existing obstacles to the development of a wider complementary pension scheme.

The futures market have supported adjustment to international financial turbulence

The *Bolsa de Mercadorias e Futuros* (BMF) intermediates a wide range of derivatives financial services. This covers mainly interest rates, foreign exchange and different indices (in particular, the Bolsa de Valores de S. Paulo – BOVESPA), but also commodities. The BMF ranked as the world's tenth largest future markets in 1999. In 2000 the BMF traded contracts worth six times Brazilian GDP. Both the traded value and the number of contracts traded has increased as macroeconomic stabilisation has taken hold. The existence of this market enabled Brazil better to weather the financial turbulence in emerging markets during 1997 and 1998, and smoothed the impact on the banking sector of the devaluation of the *Real* in January 1999. New financial products are to be launched in 2001, in particular derivatives for Euro denominated assets, ADRs and credit derivatives. This deepens the capital market and should lend additional impetus to the expanding supply of credit.

Weak corporate governance has held back capital market development

Since the 1950s the state has had a central role in directing credit for development. Combined with the absence of private sources for long term finance, this has influenced how corporate governance has developed in Brazil. Since companies have typically relied either on official sources of credit or retained profits to undertake their long term investments there has been no incentive to develop structures for corporate governance. In addition, ownership is concentrated, further reducing any pressure to accommodate those who do not hold a controlling stake. As a result, there is little protection of minority shareholders that would have been needed to encourage capital market development. This concerns access to information and enforcement of existing legal rights, but also in the company law itself (see Annex III.3).

Lack of transparency makes Brazil unattractive

Disclosure and reporting requirements, including those relating to takeovers and insider trading, are laid down by the CVM.[62] However, the general standard of reporting is considered to be poor, and only companies with securities traded abroad have a level and quality of disclosure in line with international standards. Early in 1999 the CVM announced its intention to revise and amend its Instructions to improve the standard and degree of disclosure. To this end, the CVM has commissioned a group of experts to prepare a legislative bill of law to harmonise Brazilian accounting practices with those prevailing in world financial markets, based on recommendations of the International Accounting Standards Committee (see Annex III.1). This proposal is being discussed in the congress.

As well as these questions about financial disclosure, Brazilian capital markets lack price transparency. Whilst listed companies may have substantial equity capital, a significant portion of shares in issue is in the hands of controlling shareholders, institutional investors, or in state treasuries. In practice, therefore, the tradable "free float" is much reduced, and the consequential lack of liquidity is a considerable deterrent to investors.

Two trends have sharpened the incentive to improve this situation. Between 1991 and 1998, the total volume of mergers and acquisitions (including privatisation) in Brazil was US$142 billion (Filho and Silva, 1999). The privatisation programme and increasing merger and acquisition activity has promoted participation by foreign companies in the market. These have generally chosen to de-list, or at least reduce the traded equity in the companies they have acquired. They take a global view of their operations and the Brazilian capital market is less attractive than their home market, both on grounds of modest market valuations and low liquidity. Secondly, some large domestic companies have started to issue their shares on overseas exchanges. Initially this could be seen in the number of American Depository Receipts issued in New York. The Madrid exchange now

allows Brazilian firms to list their shares directly, which is cheaper than using depository receipts. The growing number of Brazilian companies accessing international markets, as well as rising foreign portfolio investment in Brazil has triggered a process to improve financial reporting standards

It is important not to lose time

Brazil is subject to the same pressures that have led to consolidation in capital markets throughout the OECD area. Further development of the capital market in Brazil is still not assured. Growth during the 1990s has been eroded as Brazil increasingly finds itself competing with exchanges in other jurisdictions. This tendency is likely to accelerate unless Brazil can reform its capital market. The number of listed companies is declining, though this is partly a reflection of strong growth in listings during 1995-98 as privatisation got underway. The market remains the preserve of large companies; the same companies that have access to international markets and typically also benefit from the growth of institutional investment. Poor protection of minority interests, taxation (the CPMF) and a lack of competition are retarding the development of the local capital market and the emergence of an equity culture needed to finance future investment.

The authorities cannot afford to lose time. Even under existing legislation the growth of institutional investment is likely to change the balance of power in corporate governance. This is already taking place. During the privatisation process pension funds have emerged as active shareholders, sometimes holding controlling stakes in privatised companies. Where they hold minority stakes, they will be unwilling to submit to the existing rules which would discriminate against them. As time goes on they will require better disclosure as they plan for the longer-term. Legislation should be updated to anticipate these new realities, and to encourage better corporate governance.

The dimensions of reform

The 1980s were marked by monetary instability, high inflation rates, low growth and an adverse external environment. International flows to Brazil dried up and long-term financing became restricted to official agencies. Macroeconomic stability has been the most important factor behind recent growth in Brazil's capital market, but growth in investment is now constrained by still high real interest rates. Brazil stands alongside Russia as one the countries with the highest real interest rates worldwide (see Chapter I).

The capital market also suffers from a number of microeconomic distortions, notably the harmful effects of the CPMF. Another hindrance to the development of the market is the state social security system, which has hampered the

growth of private pension funds (see Chapter II). Privately-managed pension fund assets accounted for more than 14 per cent of GDP in 1999. Evidence from OECD countries suggests that there is room for this to grow.

The present government remains committed to undertaking the necessary reforms to foster capital markets. An example of this is the launch in December 2000 of a New Market (see Annex III.3). The government has also put in place credit lines to help small and medium sized companies to list on the stock market. There is still considerable scope to develop financial intermediation, and in this regard a new company law is crucial to encourage better standards of corporate governance that are an integral part of this process (see Box 19).

Box 19. The proposed new company law

There are several important new features of the proposal for the new Corporate Law discussed in the congress during 2000.

The new law will enhance minority shareholder rights by:

- Limiting non-voting preferred shares for newly public companies to 50 per cent of capital.
- Giving priority to preferred shares in receiving dividends; these would have to be 10 per cent more than ordinary dividend, or the lower of a 3 per cent dividend and (as a group) 25 per cent of that profit.
- Giving minority shareholders, with either voting or non-voting shares, the right to be represented both in the Audit Committee and the Board of Administration.
- Obliging companies to become private only through a public offer made at an objectively determined price, which could be revised under an article to be regulated by the CVM. This would be a significant break from current practice, which uses the market value as its benchmark, thereby excluding the premium attached to controlling shares.
- During an acquisition, minority voting shareholders must be offered at least 80 per cent of the price to ordinary shareholders.

The law would also strengthen the regulatory framework:

- The CVM would become independent and have greater powers of enforcement. Moreover, it would improve effectiveness by requiring faster rulings, and by prioritising cases according to their severity.
- Insider trading would become a criminal act, thus allowing prosecution of individuals.

Financial deepening will reflect wider structural reform

New corporate legislation is not by itself a sufficient tool to develop Brazilian capital markets. Neither are reforms to strengthen the CVM or decrease the CPMF. Capital market development is taking place in a wider, international, context. It is difficult to understate the importance that investment flows, both inward and outward, have had during the 1990s. The evidence is that an effective and efficient capital market is compatible with Brazilian firms being listed overseas. That is not to forget that, in practice, further fiscal reform, the consolidation of the fiscal adjustment, and reform of the judiciary all have a part to play in deepening the capital markets and increasing financial intermediation.

IV. Reforms to enhance corporate competitiveness

The need to generate export revenues has provoked an on-going policy debate in Brazil on how to improve corporate sector competitiveness. The economy is particularly sensitive to the development of exports and the trade balance since it has to bear the burden of large net interest payments on its external debt. At times of weakening trade and current account balances the availability of external financing has in the past quickly become a constraint, slowing the economy. In this way, external imbalances have affected the sustainability of growth.

Import substitution policies gave away in the 1970s to state-led industrialisation that was intended not only to reduce dependence on imports, but also to increase exports. This process, however, was heavily dependent on capital from abroad. Starting in the early 1980s, a series of external shocks made it increasingly difficult to access the external finance needed for state intervention (see Chapter I). Even so, protectionist policies remained in place until the end of the 1980s, since when the government has taken important steps in implementing trade liberalisation. As a result, the links between structural policies and macroeconomic conditions became stronger. In particular, since the 1994 Real Plan the government can no longer (systematically) use the exchange rate to improve competitiveness. In fact, after the exchange rate was allowed to float in January 1999 the monetary stance of the central bank led to a long period of broad price and exchange rate stability.

Along these lines, government policy has begun to focus on implementing macroeconomic stabilisation and structural reforms that are mutually reinforcing. Based on the experience of OECD countries, this co-ordinated approach can be expected to provide the right environment and incentives for the private sector to develop and compete in global markets. This chapter starts with a brief descriptive analysis of Brazilian firms export behaviour and the pattern of specialisation in trade. It then turns to the structural policies affecting the real sector, such as trade, competition, industrial and technology policies, privatisation and regulatory reform.

Resilient specialisation in the Brazilian economy

There has been an ongoing policy debate in Brazil about the sources of external competitiveness and the pattern of specialisation. Despite a growing share of manufactures in total exports, there is some concern that the Brazilian economy mainly exports primary and low-value added goods, while it has to import intermediate and capital goods. This is seen as a problem. At the outset, it should be noted that the concept of external competitiveness is somewhat misleading. In standard macroeconomics this is associated with the level of the real exchange rate, but in Brazil's case large and erratic movements in this variable make it difficult to disentangle short-term fluctuations from the underlying competitive position of the economy in world markets. Hence, it is illuminating to examine the economy's *revealed* comparative advantages, since by their nature these are much less affected by changes in short-term factors.

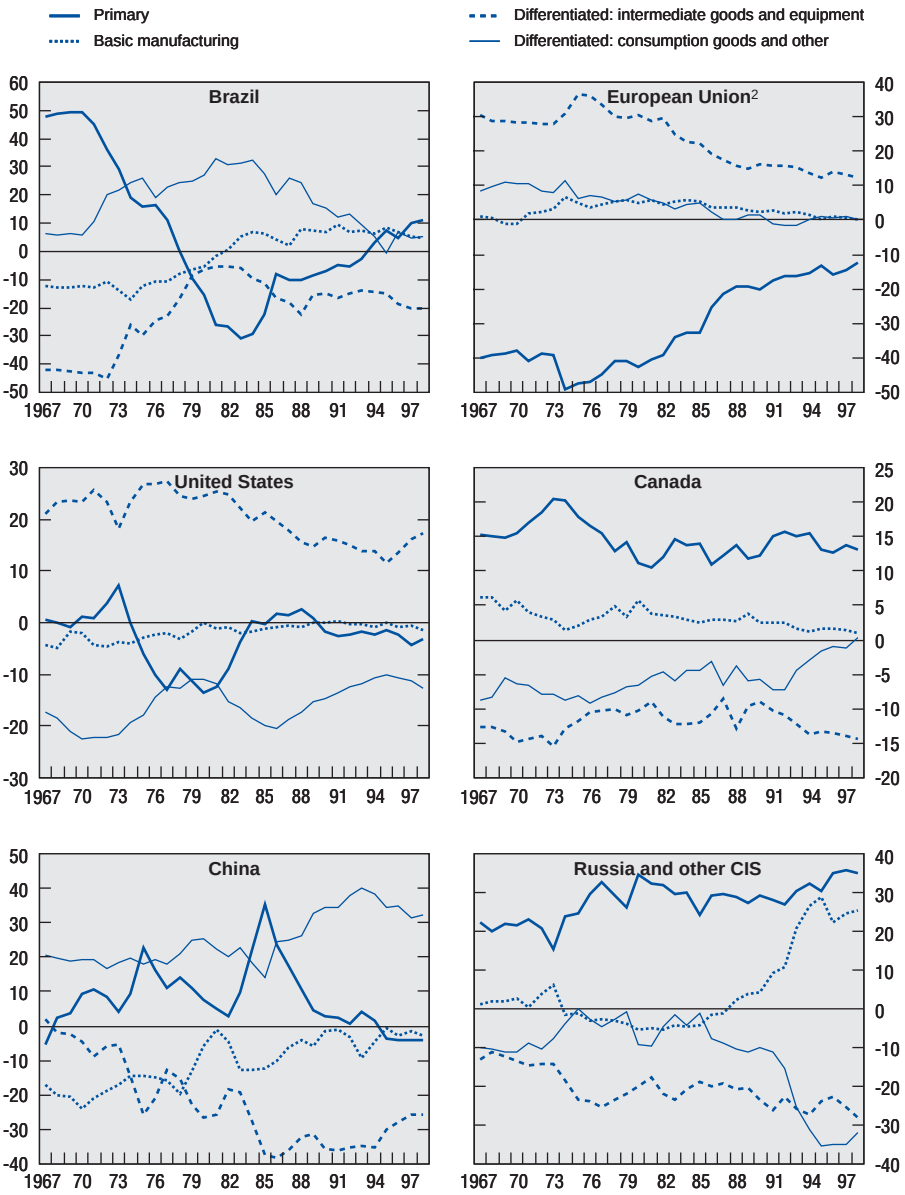
The indicator of revealed comparative advantage (RCA) has been calculated here as the difference between export and import shares.[63] In order to make a broad comparison of Brazilian trade with selected large countries and regions, merchandise trade was broken down into four categories (see Annex III.1 for further details):

1. P*rimary goods*, i.e. *mainly non-processed agricultural goods and raw-materials*
2. B*asic manufacturing*, i.e. *heavy industries such as iron and steel or base chemicals, and intermediate goods at the first stage of transformation*.
3. I*ntermediate goods and equipment*
4. C*onsumption goods and other mixed products*

The structure of RCA is relatively stable in all countries in the sample except Brazil. In Brazil there was a significant shift in RCA from primary goods in the early 1970s to consumption goods and basic manufacturing in the years to 1983. But following the gradual elimination of mechanisms supporting industry, and an extended period where macroeconomic instability weakened investment, this movement has been reversed. As a result, it again became more profitable to produce and export agricultural goods and raw materials than to produce industrial goods. By 1998 primary goods had once again become Brazil's top comparative advantage (Figure 26). In this way Brazil's previous pattern of trade specialisation re-emerged despite persistent trade barriers in international markets for agricultural goods.

Brazil broadly shares the same pattern of trade specialisation as Canada and Russia, in relatively homogeneous products or internationally-traded commodities. By contrast, the strength of the US and EU economies tends to lie in intermediate goods and equipment, whereas China has been consistently specialised in consumption goods and other mixed products.

Figure 26. **Specialisation in the Brazilian economy:[1] a comparative view**



1. Indicator of Revealed Comparative Advantage (see text).
2. Intra-EU trade excluded.

Source: CEPII, CHELEM data base (see data Annex).

This broad analysis is confirmed by a more detailed breakdown of the trade specialisation shown in Table 30. Since 1970, Brazil's revealed comparative advantages have been in agricultural goods (*e.g.* sugar, coffee, meat, etc.) and iron ore, although the concentration of specialisation in these products has been declining. Steel was the strongest sector in the late 1980s, but since then its relative role has diminished. At the same time, other basic manufacturing industries, such as paper, leather and beverages have become more important. The main comparative disadvantages were telecommunications, specialised machinery, computers and other processed goods. Brazil has also become less specialised on cereals due to division of labour within MERCOSUL, while its relative reliance on crude oil has diminished (see Chapter V). It is important to note that a negative RCA does not mean the country will have difficulty in exporting these kinds of products. Rather it identifies the areas structurally giving rise to deficits in trade that must be made up with surpluses in other areas.

Despite a "traditional" specialisation, manufactured exports have developed

Indeed, despite the decline in the RCAs for manufactured goods since the 1980s, Brazil does export sophisticated industrial products. This can be seen from a more detailed structure of trade flows ranked by export shares (Table 31). At this level of product classification the top item is road vehicles (some 7 per cent of total exports in 1999). Amongst other top export products is *Other transport equipment*, which comprises aircraft sales. The range of exports is therefore greater than the aggregate picture that emerged from the analysis of revealed comparative advantage. This is consistent with a steady increase in the share of intra-industry trade (Figure 27). From this position, and with continuing inflows of capital, the Brazilian economy will become increasingly interconnected with world markets and develop both as a large exporter and importer of manufactured goods. In this respect Brazil reflects the same trend observed in OECD countries.

Is there something "wrong" with the structure of Brazilian trade?

Brazilian specialisation could in some sense be viewed as problematic because of agricultural protection in many international markets. In addition, primary goods typically have low income and high price elasticities, and can suffer extremely disruptive terms-of-trade or cyclical shocks. These issues are further dealt with in the next chapter, which provides a deeper analysis of policy issues affecting competitiveness in Brazil's agri-food sector. In this context, and in contrast to the mainstream view on the superiority of free-trade, alternative approaches (*e.g.* McCombie and Thirwall, 1994) have emphasised that the structure of specialisation can affect long-term growth. In retrospect it could be argued that past policies in Brazil did contribute to the creation of an industrial base, and have influenced the regional division of labour. However, these policies also had a

Table 30. **Sectoral structure of Brazilian specialisation**

Code	Title	RCA[1]					Export share 1998	
		1970	1980	1989	1993	1998		cumulative
JB	Other edible agricultural products	38.29	17.33	9.72	7.76	9.37	11.15	11.15
HA	Iron ores	9.74	9.50	7.17	7.24	7.34	7.34	18.49
CA	Iron and steel	–0.80	2.19	10.62	9.41	5.79	6.59	25.08
KF	Sugar	6.08	8.59	1.75	2.39	3.75	3.90	28.98
KG	Animal food	2.88	7.08	6.67	5.39	3.57	3.72	32.69
DE	Leather	0.82	2.68	3.68	5.34	3.46	4.20	36.90
KH	Beverages	0.35	1.71	3.04	2.57	2.62	2.94	39.84
EC	Paper	–1.63	1.76	1.76	2.40	2.18	3.82	43.66
KC	Meat	3.00	1.43	–0.03	2.66	1.67	2.38	46.03
CC	Non ferrous metals	–4.86	–3.03	1.16	1.29	0.98	2.65	48.68
KI	Manufactured tobaccos	0.05	0.08	0.03	0.26	0.83	0.87	49.56
EA	Wood articles	0.94	0.71	0.76	1.27	0.78	0.95	50.51
JC	Non-edible agricultural products	10.95	1.78	–0.67	–1.37	0.68	2.02	52.52
NB	Non-monetary gold	0.00	0.00	0.00	0.07	0.62	0.63	53.15
FU	Commercial vehicles	–0.84	1.50	2.48	1.21	0.60	2.84	55.99
HC	Unprocessed minerals n.e.s.	–0.51	–0.32	–0.19	0.39	0.52	0.82	56.81
EB	Furniture	0.03	0.12	0.13	0.52	0.31	0.65	57.46
FD	Agricultural equipment	–2.42	0.76	0.50	0.19	0.30	0.71	58.17
HB	Non ferrous ores	1.59	0.37	–1.48	–0.58	0.30	0.77	58.94
KD	Preserved meat/fish	–0.22	0.79	0.33	0.62	0.29	0.76	59.69
FN	Telecommunications equipment	–2.15	–0.82	–2.66	–2.83	–4.10	4.59	4.59
FG	Specialised machines	–6.02	–1.22	–2.43	–3.16	–3.50	4.39	8.98
IB	Crude oil	–8.40	–38.80	–17.63	–8.97	–3.35	3.37	12.35
FO	Computer equipment	–1.61	–0.01	–1.78	–2.77	–3.22	3.75	16.10
JA	Cereals	–1.67	–5.62	–1.90	–2.94	–3.00	3.04	19.14
FT	Cars and cycles	–0.22	1.20	2.47	–2.23	–2.34	5.27	24.41
IH	Refined petroleum products	–1.96	–0.34	1.11	–4.19	–2.31	3.19	27.60
GC	Basic organic chemicals	–3.90	–1.94	–3.04	–3.01	–2.06	4.31	31.91
FI	Precision instruments	–2.23	–1.06	–2.28	–2.18	–2.05	2.54	34.45
FR	Electrical apparatus	–2.78	–1.05	–1.38	–1.10	–1.95	3.13	37.58
GF	Pharmaceuticals	–0.97	–0.50	–1.01	–1.45	–1.84	2.34	39.93
GB	Fertilisers	–2.51	–2.94	–1.22	–1.50	–1.76	2.23	42.16
GH	Plastic articles	–1.81	–0.51	–0.12	–0.61	–1.62	3.08	45.23
FE	Machine tools	–1.77	–1.18	–1.20	–0.96	–1.20	1.54	46.78
FL	Electronic components	–0.28	–0.43	–1.63	–1.27	–1.20	1.41	48.19
FW	Aeronautics	–4.45	–2.44	–4.91	–3.44	–1.11	3.85	52.05
EE	Miscellaneous manuf. articles	–1.12	–0.11	–0.65	–0.66	–1.09	1.77	53.82
IA	Coals	–1.10	–1.20	–2.50	–2.17	–1.00	1.01	54.82
FV	Ships	–1.23	0.22	–0.17	–0.28	–0.81	0.91	55.73
FB	Miscellaneous hardware	–2.45	–0.44	–0.74	–0.25	–0.76	2.87	58.60

Code	Title	RCA[1]					Import share 1998	
		1970	1980	1989	1993	1998		cumulative

1. RCA: Revealed comparative advantage indicator (see text).

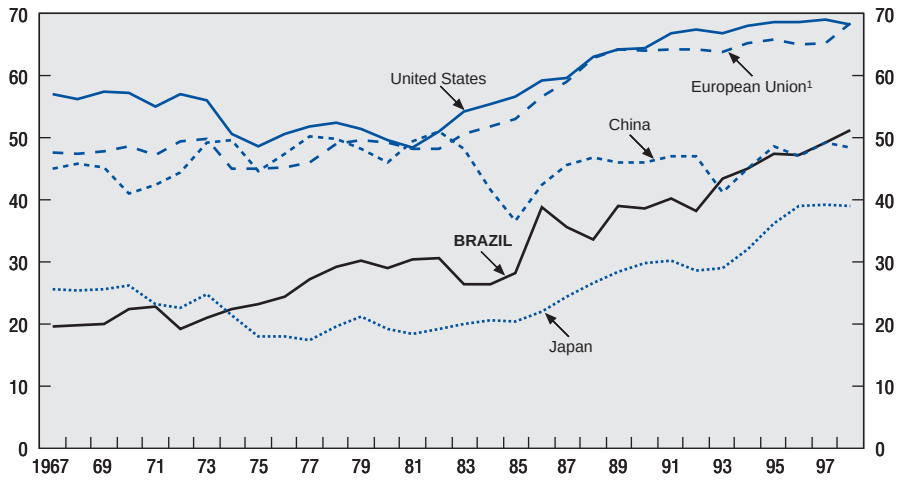
Source: CEPII, CHELEM database.

Table 31. **Detailed structure of Brazilian exports, 1999**

Products	Export share (I)	Memorandum items	
		Import share (II)	RCA[1]
78 Road vehicles including air cushion vehicles	7.29	6.93	0.36
28 Metalliferous ores and metal scrap	6.60	0.69	5.91
67 Iron and steel	6.46	1.06	5.40
07 Coffee, tea, cocoa, spices, manufactures thereof	5.75	0.30	5.45
06 Sugar, sugar preparations and honey	4.19	0.12	4.07
79 Other transport equipment	4.04	2.46	1.58
01 Meat and meat preparations	4.02	0.20	3.82
05 Vegetables and fruit	3.52	1.20	2.33
22 Oil seeds and oleaginous fruit	3.32	0.19	3.13
08 Feeding stuff for animals, excluding unmilled cereals	3.31	0.10	3.20
68 Non-ferrous metals	3.12	1.88	1.25
74 General industrial machinery and equipment and parts	2.94	5.58	–2.64
71 Power-generating machinery and equipment	2.88	4.65	–1.77
85 Footwear	2.80	0.11	2.68
25 Pulp and waste paper	2.59	0.38	2.21
51 Organic chemicals	2.12	5.98	–3.86
12 Tobacco and tobacco manufactures	2.00	0.03	1.97
77 Electrical machinery, apparatus and appliances n.e.s.	1.99	9.05	–7.05
64 Paper, paperboard, paper articles, paper-pulp/board	1.87	1.27	0.60
72 Machinery specialised for particular industries	1.78	4.72	–2.94
93 Special transactions not classified according to kind	1.72	0.00	1.72
65 Textile yarn, fabrics, made-up articles, related products	1.71	1.72	–0.01
66 Non-metallic mineral manufactures n.e.s.	1.60	0.72	0.87
63 Cork and wood manufactures, excluding furniture	1.59	0.11	1.48
76 Telecommunications, sound recording apparatus	1.51	5.23	–3.72
42 Fixed vegetable oils and fats	1.49	0.45	1.05
69 Manufactures of metal n.e.s.	1.36	1.65	–0.29
61 Leather, leather manufactures n.e.s.and dressed furskins	1.34	0.29	1.05
24 Cork and wood	1.31	0.02	1.29
62 Rubber manufactures n.e.s.	1.31	1.01	0.30
75 Office machines, automatic data-processing equipment	0.98	3.13	–2.15
57 Plastics in primary forms	0.96	2.05	–1.09
89 Miscellaneous manufactured articles n.e.s.	0.93	1.93	–1.00
59 Chemical materials and products n.e.s.	0.85	1.82	–0.98
33 Petroleum, petroleum products and related materials	0.84	8.81	–7.97
82 Furniture and parts thereof	0.81	0.28	0.53
97 Gold, non-monetary	0.72	0.00	0.72
52 Inorganic chemicals	0.60	1.00	–0.40
54 Medicinal and pharmaceutical products	0.58	3.89	–3.31
88 Photographic apparatus, optical goods, watches	0.54	1.01	–0.47
87 Professional, scientific and controlling instruments	0.52	2.27	–1.75
27 Crude fertilisers and crude materials (excluding coal)	0.45	0.32	0.13
53 Dyeing, tanning and colouring materials	0.43	1.01	–0.58
55 Essential oils, perfume materials, toilet-cleansing material	0.42	0.64	–0.22
09 Miscellaneous edible products and preparations	0.38	0.26	0.12
84 Articles of apparel and clothing accessories	0.36	0.40	–0.04
73 Metalworking machinery	0.30	1.83	–1.53
29 Crude animal and vegetable materials n.e.s.	0.30	0.27	0.03
03 Fish, crustaceans, molluscs, preparations thereof	0.29	0.59	–0.30
58 Plastics in non-primary forms	0.26	0.70	–0.44
Total	**99.04**	**90.28**	

1. Revealed comparative advantage (I-II).
Source: Ministry of Industry and Trade, FUNCEX.

Figure 27. **Intra-industry trade**
Grubel-Lloyd Index



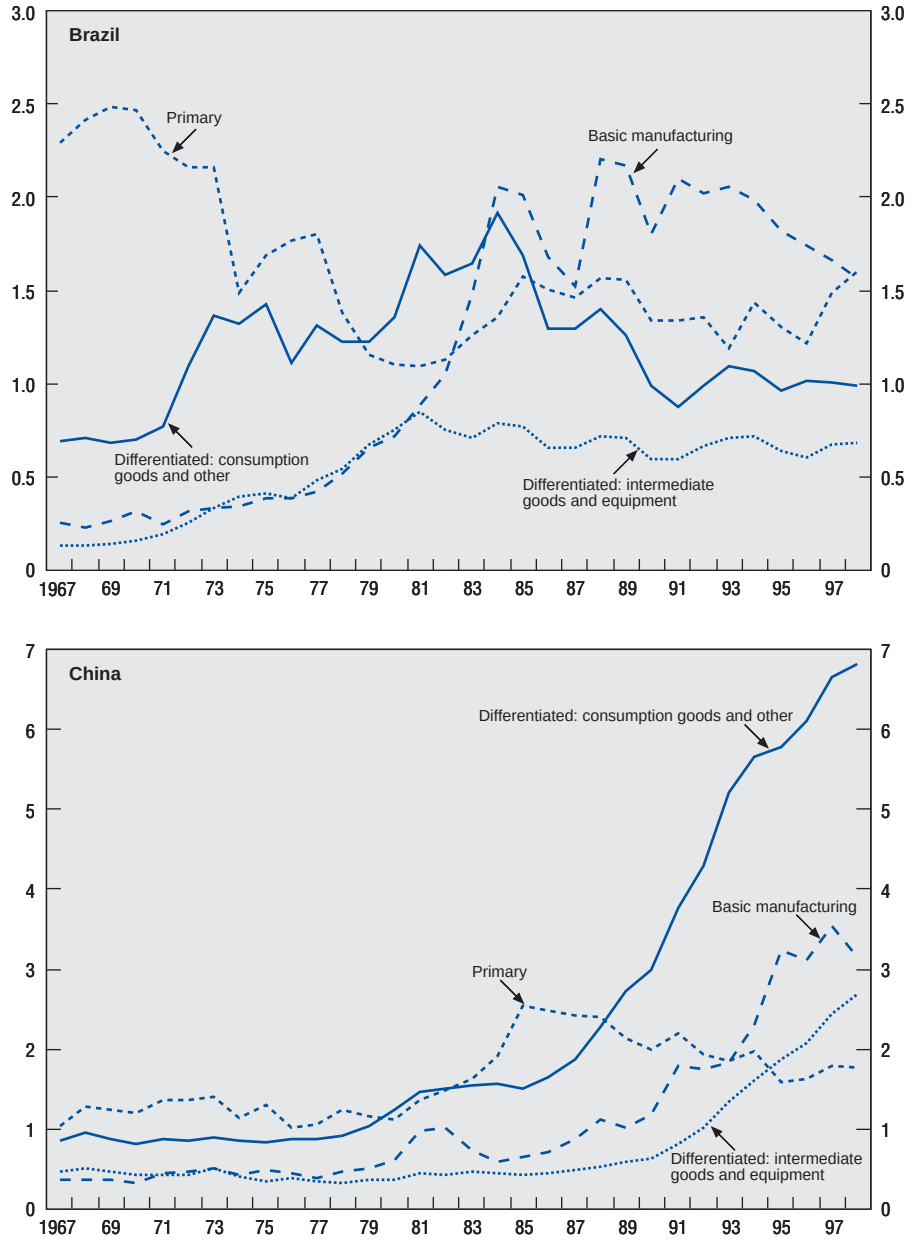
1. Intra-EU trade excluded.
Source: CEPII, CHELEM data base.

cost in terms of excessive involvement by the state in the economy, substantial debt accumulation and growing disparities.

Brazilian governments have made considerable efforts to promote exports. In the 1970s and 1980s, export subsidies averaged 50 per cent of the value of manufactured exports.[64] Broadly, the effect of this support was not very durable, and Brazil has been loosing ground in world markets (Figure 28). Its market share in primary goods declined and has not recovered the level of the late 1960s. Its share in manufactured goods has stagnated over the past twenty years, in contrast with the evolution in the world market share of Chinese products.

The adoption of a floating exchange rate regime in 1999 and the pursuit of liberalisation should favour the emergence of trade specialisation in line with underlying market forces. For the time-being Brazil witnesses active media and policy debate on trade performance. The economic press often commentates extensively on monthly figures for the trade balance, and the authorities are pressured to implement measures to promote exports. It is becoming increasingly evident to Brazilian policy-makers that past policies targeted at shifting specialisation away from primary goods to manufactured products were both relatively unsuccessful and costly.

Figure 28. **Market position in world exports: Brazil and China**



Source: CEPII, CHELEM data base (see data Annex).

The inward orientation of Brazilian *enterprises: why is it so difficult to export?*

The legacy of previous policy combined with the size of the domestic market, is that the Brazilian corporate sector has a strong inward bias. Relatively few enterprises export and then only a narrow range of products (Pinheiro and Moreira, 2000). This concentration has nonetheless started to decrease, with exports increasingly destined for the regional (South American) market. Notably the MERCOSUL area has become integrated in the marketing and product strategies of Brazilian firms, and its share of Brazilian exports more than doubled to nearly 20 per cent during the 1990s. Foreign-owned companies are important in the export sector, being the source for some 40 per cent of exports in 1999. However, most FDI flows to Brazil in recent years were in fact targeted at the domestic service sector, which only has an indirect effect on competitiveness.[65]

The concentrated structure of the export sector suggests that there is some scope for targeted policy intervention to increase the export propensity of Brazilian firms. However, official guidelines and mechanisms for such intervention are still being debated. Pinheiro and Moreira (2000), argue that such a policy should be directed towards large firms, but the issue of export promotion remains unsettled. The experience of OECD countries offers rather mixed evidence on the effectiveness of such policies (OECD, 1996). Government interventions can be strategically justified on the grounds that they help domestic firms to gain international market share (Krugman, 1986). But it is difficult to impossible to gather the information needed to design these policies correctly. There are also the usual risks associated with public sector intervention. Consequently, there is progressive consensus amongst economists that export promotion policies are unlikely to succeed (Panagariya, 2000; Muendler, 2000).

To be sustainable, export orientation has to result from the right incentives. Why should Brazilian enterprises focus on exports if their domestic market provides sufficient room for expansion and profitability, not to mention comfortable rents? The drive to export flows from competitive challenge and the desire to exploit competitive niches world-wide.[66]

The issue of intermediate products deserves special attention. In modern manufacturing processes, the biggest gains in competitiveness derive from purchasing the cheapest components at a given quality standard. In today's industries, production is highly segmented and can be flexibly transformed to generate a high variety of consumer goods. In other words, mass production is of components rather than finished products. Hence, imports of intermediate goods and equipment are a source of competitiveness rather than a weakness calling for policy action. There are low barriers to trade in such products amongst OECD countries (OECD, 1997). Given that each component can be seen as a differentiated good or a product niche, there is room for reciprocal and mutually beneficial trade in these products. Additionally, there are also gains to consumer from increased product diversity. These are robust conclusions of the new trade theory (see Box 20).

Box 20. Foreign trade and development: Prebisch *vs.* Krugman

Trade policies in South America have in the past been strongly influenced by the work of Raul Prebisch. One of the key arguments used to justify import substitution was the existence of "elasticity pessimism". In 1950, under the assumption of balanced trade and price stability, Prebisch established a relationship between the relative growth rates of an economy *vis-à-vis* its trade partners and the income elasticities for its exports and imports, as follows:

$$\frac{g}{g_W} = \frac{e_x}{e_M}$$

where g and g_W are the trend growth rates of the economy and the rest of the world, respectively, and e_X and e_M the export and import income elasticities. The policy message is relatively straightforward: if a country wants to grow faster than the rest of the world it also needs to have an export elasticity higher than its import elasticity. But, the situation of developing countries in the 1950-60s was precisely the reverse. Typically, these countries exported primary goods having low income elasticities and imported manufactured products with high income elasticities. In order to grow without being constrained by the balance-of-payments a country could either pursue a policy of steady real exchange rate depreciation or accumulate foreign debt. The former option was not available in a world of fixed exchange rates, and the latter increased external dependence. Import substitution was seen as a way-out of this deadlock.

Trade theory developed in the 1980s cast a new light on this policy puzzle. Under a framework of monopolistic competition, Krugman (1986) showed how a country could overcome the elasticity constraint by developing intra-industry trade in differentiated products. The principle is as follows. If consumers have a certain taste for variety, each new differentiated product creates a niche and the corresponding demand. If the number of products produced in a given country is related to the size of the economy, then the countries with the fastest growth also tend to produce the most products. Contrary to the traditional view, this mechanism does not need a price (exchange rate) or demand adjustment to equilibrate the trade balance. Instead, the mechanism works endogenously. The country with higher growth rates would naturally create more product variety, which would in turn generate its own export markets.

These microeconomic effects play a role in the growth process and interact with macroeconomic policies, notably with the exchange rate. For example, there is evidence from a comparison between Korea and Taiwan that the latter was able to generate more product variety than Korea and rely less on a continuous competitive devaluation to gain market share (see Oliveira Martins, 1992; Feenstra *et al.*, 1999). More recent work, has also shown a positive and significant impact of product variety on explaining relative export intensity and growth (see Funke and Ruhwedel, 2001).

Trade liberalisation initiated in the late 1980s should be pursued. It paved the way to a more open and competitive economy. However, while there is no gain in delaying reforms, the costs of slow progress in some areas may prevent the benefits of progress achieved in other areas of reform from materialising.

Trade and industrial policies

Brazil has done much to liberalise trade

Brazil started to reform its trade regime in the late 1980s, although it maintained high trade barriers until 1993. The process was accelerated after the Real Plan, and by 1995 the (simple) average tariff had been lowered to 14 per cent from 32 per cent in 1990. Removal of the market reservation on computers in 1991 and, in 1995, the constitutional amendment ending legal discrimination against foreign enterprises were important developments.[67] A review of special regime tariffs in 1997 halved the list of items covered (to about 2 000 by 1999).

MERCOSUL's common external tariff (CET) largely determines the structure and level of Brazilian tariffs. The CET ranges from 0 to 20 per cent, and there are special treatment for sugar, motor vehicles and parts, capital goods, computer and telecommunications. However, following balance-of-payments difficulties in 1997, MERCOSUL temporarily raised its tariff by 3 per cent for most goods and, in addition, tariffs for capital goods not produced domestically (the so-called *ex-tarifario*) were increased from zero to 5 per cent. As a result, the average MFN tariff increased to 13.7 per cent from 12.5 per cent in 1996 (Table 32). The temporary three per cent increase was reduced to 2.5 per cent from January 2001 for non-capital goods, and eliminated completely for capital goods.

Discriminatory rules on import financing were also imposed in 1997, but were removed in 1999. Although some imports are subject to non-automatic licensing, formally, there are no import surveillance mechanisms. Nevertheless, a "similarity test" is still applied, and there are no plans to phase it out. This test, which covers imports made by certain government enterprises, companies benefiting from tax exemption and to imports carrying a fiscal benefit or other exemption, discourages imports where a similar good is produced domestically. Its intention is analogous to the indirect support given to domestic production of equipment through the BNDES-FINAME credit line.[68] Access to this credit is conditional on the similar goods not being produced domestically. As argued above, this policy of protecting the domestic market from imports of equipment and capital goods is counterproductive for the competitiveness of the enterprise sector as a whole. Strong product differentiation makes it almost impossible for a bureaucratic institution to assess product similarity. Companies should be free to decide which goods and equipment are best suited to their production processes.

Table 32. **Summary of Brazil's MFN tariffs, 2000**

	No. of lines	Average (%)	Range (%)	Standard deviation (%)	Coefficient of Variation (CV)
Total	**9 371**	**13.7**	**0-35**	**6.7**	**0.5**
By WTO definition					
Agricultural products	939	12.6	0-27	5.8	0.5
Live animals and products thereof	98	11.1	0-19	5.1	0.5
Dairy products	34	20.5	15-27	4.4	0.2
Coffee and tea, cocoa, sugar, etc.	170	16.5	0-23	3.9	0.2
Cut flowers and plants	56	8.1	0-17	4.2	0.5
Fruit and vegetables	186	12.8	0-23	4.4	0.3
Grains	35	8.1	0-15	6.1	0.8
Oil seeds, fats, oils and their products	108	10.3	0-15	4.4	0.4
Beverages and spirits	36	21.4	15-27	3.3	0.2
Tobacco	18	18.3	13-23	2.9	0.2
Non-agricultural products	8 411	13.9	0-35	6.7	0.5
Fish and fishery products	131	12.7	0-19	4.5	0.4
Mineral products, precious stones, etc.	454	10.6	0-23	6.0	0.6
Metals	746	14.6	3-21	5.1	0.3
Chemicals and photographic supplies	3 004	10.5	0-23	5.6	0.5
Leather, rubber, footwear, travel goods	198	16.4	3-27	6.0	0.4
Wood, pulp, paper and furniture	304	13.6	0-21	5.4	0.4
Textiles and clothing	966	20.3	5-27	3.7	0.2
Transport equipment	189	19.8	3-35	9.7	0.5
Non-electric machinery	1 117	14.3	0-30	6.1	0.4
Electric machinery	598	15.5	1-26	7.3	0.5
By sector[1]					
Agriculture and fisheries	388	9.5	0-19	5.1	0.5
Mining	139	6.5	0-19	3.0	0.5
Manufacturing	8 843	14.0	0-35	6.6	0.5
By stage of processing					
First stage of processing	835	8.9	0-23	5.0	0.6
Semi-processed products	3 514	11.9	0-21	5.8	0.5
Fully-processed products	5 022	15.8	0-35	6.7	0.4

1. ISIC (Rev.2) classification. Electricity, gas and water are excluded (1 tariff line).
Source: WTO (2001).

The impact of trade liberalisation on competition in the domestic market has been substantial. Import penetration in the manufacturing sector rose from less than 5 per cent to more than 15 per cent in 1996 (Moreira and Correa, 1998). The increase was particularly marked in some sectors, such as industrial equipment and machinery and electronic equipment where penetration reached over 40 per cent. There is also evidence that imports had a measurable effect in reducing profit margins (Correa, 1999), thus enhancing competition and improving consumer welfare. Nonetheless, Brazil's total trade is still somewhat below its poten-

tial. Exports plus imports were around 17 per cent of GDP in 1999, low even by the standards of a large country.[69]

There are potential gains from further trade reform

Export promotion is the subject of debate in Brazil. There are two main export financing programmes or export guarantee funds. The PROEX is an export credit programme that also compensates exporters for high domestic interest rates. This has recently been the subject of a dispute with Canada on the market for regional aircraft.[70] There are also state level fiscal incentives (see Chapter II), including tax and duty exemptions for selected activities, notably in the manufacturing sector. In practice, Brazil has in the past used export promotion as a way to overcome an adverse macroeconomic environment and structural inefficiencies hindering export competitiveness. But this treats only the symptom rather than the cause, and layers a further distortion on top of existing distortions.

Brazil has been active in using other non-tariff measures. There is non-discriminatory treatment for public procurement (estimated at 12 per cent of GDP in 1998), but in certain cases preference is given to Brazilian suppliers or products (WTO, 2001); Brazil is not a member of the WTO Agreement on Government Procurement. Brazilian products have been targeted by several anti-dumping investigations, but Brazil itself is also an active user of anti-dumping. Over 1996-99, 72 anti-dumping investigations were initiated and definitive duties were imposed in 36 cases. By end-1999, Brazil had some 46 anti-dumping measures in force. For instance, Brazil applies safeguard measure to toys, notably from China, which have been extended to end of 2003. Brazil also applies transitional safeguard of the WTO Agreement on Textiles and Clothing. There has been greater protection of intellectual property rights since 1996 as a result of new legislation and greater efforts at enforcement.

Brazil now has to build on the progress it has achieved through trade liberalisation. Free trade with other, smaller, members of MERCOSUL members does not much affect Brazil's overall openness to trade. There is still a significant amount of intervention in international trade, as shown by special regimes applied to some products and use of anti-dumping duties. Additional efforts appear to be essential to support the outward-oriented development strategy to which the government is committed. Brazilian authorities often use the argument of existing distortions in developed countries, notably in sensitive markets such as agriculture and steel, to justify their own trade policy. Indeed, agricultural protection in the OECD amounted to US$361 billion in 1999, roughly 1.4 per cent of GDP on average over the OECD area (OECD, 2000*c*).[71] This figure is about twice the size of the agricultural exports of developing countries to OECD markets. Brazil and other emerging markets support further trade liberalisation. In this context, retaining a certain degree of protection can be a negotiating tool. But can the

deadweight losses borne by rich countries with their own policy distortions really be afforded by a developing country?

Federal industrial policy has become less important

Following trade liberalisation, state involvement in sectoral production has diminished substantially, not least because of commitments arising from international agreements and budget pressure deriving from fiscal adjustment. Instead, government has adopted a more horizontal approach. This is confirmed by a fall in tariff dispersion, reducing the scope for inter-sectoral distortions. Some sectoral policies still exist, namely for steel, motor vehicles, aircraft and shipbuilding, but these are progressively being phased out.

Managed trade in the automotive sector was reduced as scheduled in December 1999. Programmes for alcohol production and computer equipment are being similarly phased out. Government intervention in the agricultural sector has decreased; support programmes, mostly minimum-price supports and rural credit at preferential rates, are targeted at assisting low-income farmers. In the energy sector, the process of privatisation of power utilities has attracted sizeable private investment and a regulatory framework was introduced in 1998 (see below). The state remains deeply involved in the oil sector through the national company P*etrobras*, despite the increasing role of foreign players in the sector. There has been some service sector liberalisation, notably in the telecommunications and financial services.

Against this background, the focus of industrial policy has shifted to the level of individual states. Some regions are actively promoting specific industrial clusters, which are intended to play the role of regional locomotives and trigger economies of agglomeration. Examples, are the footwear cluster in the Ceará and the chemical pole in Bahia. These policies have mostly taken the form of tax incentives and exemptions. These exacerbated the "fiscal war" between Brazilian states described in Chapter II. Nevertheless, fiscal retrenchment in the states and municipalities needed to sustain aggregate fiscal adjustment, and plans to reform the ICMS, mean that local government will have limited room for manoeuvre to pursue such policies.

Technology policy is being redefined

Given the key role played by state-owned enterprises in Brazilian innovation, there were worries about the impact of privatisation (Dahlman and Frischtak, 1993). The evidence on this effect is mixed. Using the OECD methodology described in the Oslo Manual, a comparison of innovation activities in two subsets of companies in Brazil for 1994 and 1998 shows that privatised companies underperformed the control group of all companies (see Pinto da Rocha and Tavares Ferreira, 2000). It is likely, however, that changes in ownership and organisation

have made the innovation effort more efficient (see below). In the utilities, privatisation has brought about a reduction of spending in research and development and a shift towards technological services (Cassiolato *et al.*, 1999). CEPEL (the Eletrobras R&D centre) is also facing a cut in resources since some of its main supporters were acquired by foreign firms, which can rely on the laboratories of their parent companies. ANP (the oil agency) created a sector programme for R&D based on the revenue from oil royalties. This programme, which will deliver an estimated BRL 340 million over the next four years, will be managed by the Ministry of Science and Technology and may also be adopted in telecommunications and other sectors.

H*ow much do cascading taxes affect competitiveness?*

It has been noted above that Brazilian enterprises face a country specific cost, the "Custo Brasil" (CNI, 1998). This comprises many things, including a cumbersome legal system, lack of appropriate infrastructure and a high tax burden. A particular example is the effect of cascading or cumulative taxes on the cost structure of Brazilian enterprises. These taxes have played an important role in maintaining overall tax collection and raising revenues for the federal government (see Chapter II). They are also difficult to avoid, and in this way help the authorities in their fight against tax evasion. Nonetheless, from a theoretical perspective they are also highly distorting. Given that this type of tax has been abolished in all OECD countries, except rare cases of minor local turnover taxes, no international comparison of the impact of these taxes is possible.

Even in Brazil there are few estimates available on the overall effect of these cascading taxes. Evaluating their impact is difficult because they increase enterprise costs at each stage of production, affecting the overall structure of production through intermediate consumption. Although still preliminary, some recent work has developed a method to fill this gap (Pereira and Ikeda, 2001). It develops an iterative method based on an input-output matrix. The first round effect of the relevant taxes on turnover or transactions (COFINS, PIS/PASEP and CPMF) corresponds to their average rate, about 4 per cent. This in turn increases the cost of production and is borne by the buyers of intermediate inputs, who pass on this cost in their prices, and so on. After several iterations the cumulative effect stabilises, and the new inflated input-output matrix provides the basis for estimating the total impact of the cascading taxes on costs.

Ultimately, the sectoral impact of these taxes depends on the structure of intermediate consumption. The estimated effect of cascading taxes on prices ranges from around 10 per cent in sectors such as iron and steel, motor vehicle parts or electrical machinery, to below 5 per cent in the service sectors. Therefore, according to these results, the effect on export competitiveness is indeed significant, all else being equal. Nevertheless, the effect on competitiveness in the

domestic market is more ambiguous, given that the effect of cumulative taxes is similar to, or lower than, existing tariffs. This suggests that there is, approximately, a level playing field in the domestic market between imports and domestic production. In this situation, any attempts to raise further taxes on imports will increase distortions and reduce even further the export competitiveness of Brazilian enterprises, by increasing the cost of their intermediate inputs. The way forward in addressing this issue is a wider tax reform.

Cascading taxes have had consequences for the structure of industry. Enterprise has sought to minimise the effect of these taxes by internalising the different stages of the production process. This has tended to encourage vertical integration, and so reduced the incentives for Brazilian enterprises to subcontract as a way to optimise the production process as has happened in OECD countries.

Privatisation and regulatory reform

The wave of state divestitures reached Brazil later than the rest of Latin America. Sell-offs were rather erratic during the early 1990s, at a time of political turbulence and unsuccessful attempts at stabilisation. With the Real Plan, the government started to give existing privatisation plans a higher priority. The BNDES has had a central co-ordinating role. This proved successful, as it has shielded privatisation from excessive political pressures. Overall, the process has been carried out transparently. Privatisation has been used to open up legal or *de facto* monopolies to competition, but co-ordinating decisions has sometimes been complicated by the web of ownership ties linking federal government and local authorities. This has been a particular issue in the energy sector, where privatisation took place before a regulatory framework had been put in place.[72] These developments are occurring against the background of a judiciary and government administration still in need of reform.

The consequences of the large privatisation programme on the structure of ownership are not yet settled. While control has been transferred on the basis of competitive bids to different groups of investors, including domestic and foreign corporations, banks, and semi-public pension funds, reforms to open up the capital market remain outstanding (see Chapter III).

State intervention undermined corporate performance

The state's role in the Brazilian corporate sector (Table 33) and the size of the public enterprise sector (Table 34) is not out of line with other large countries. The rise of state capitalism in the 1950s responded to the desire of foreign donors and lenders to by-pass the public administration, regarded as inefficient, and to concentrate scarce human resources in a limited number of relatively autonomous state-owned enterprises (SOEs). In Brazil, the state intervened in three broad areas. Public ownership, through the take-over of existing private companies, has

Table 33. **Brazilian state-owned enterprises (SOEs) in comparative perspective: qualitative indicators, *circa* 1990**

Sector	Brazil	Argentina	Chile	France	Korea	Italy	Mexico	Spain
Air transport	❍	❍	❍	●	❍	●	❍	●
Comm. Banking	❊	❊	❍	❊	❍	●	❍	❊
Electricity	●	●	❊	●	●	●	●	❊
Petroleum	●	❊	❍	❊	●	●	●	❊
Railways	●	●	●	●	●	●	●	●
Steel	●	❍	❍	●	●	●	❍	●
Telecoms	●	❍	❍	●	●	●	❍	●
Tobacco	❍	❍	❍	●	●	●	❍	●
TV broadcasting	❍	❍	❍	❊	❊	❊	❍	❊
Urban transport	❍	❍	❍	●	●	●	❍	●
Water supply	●	❍	●	❍	●	●	●	●

Notes: ● Fully or predominantly public sector.
❊ Mixed sector.
❍ Fully or predominantly private sector.
Source: Goldstein (1999).

Table 34. **Brazilian SOEs in comparative perspective: quantitative indicators**

	Brazil		Industrial economies[1]		Developing economies[1]		Latin America[1]	
	1978-85	1986-91	1978-85	1986-91	1978-85	1986-91	1978-85	1986-91
Share of GDP	5.0	8.6	4.5[2]	6.0[3]	10.4	11.0	9.0	9.2
Share of non-agricultural GDP	5.5	9.5	4.7[2]	6.2[3]	12.6	13.1	9.9	10.1
Share of gross domestic investment	26.3	15.2	8.9[2]	6.2[3]	26.9	20.5	24.1	15.6
Share of employment	1.2	n.a.	n.a.	n.a.	4.9	4.8	4.3	4.0

1. Weighted average.
2. 1982.
3. 1988.
Source: World Bank (1995), *Bureaucrats in Business*. New York, NY: Oxford University Press.

dominated the provision of public transport and utilities. Secondly, the state has owned exclusive rights to the exploitation of non-renewable natural resources such as petroleum and iron ore. Finally, the government has intervened directly in some strategic manufacturing industries, such as steel in the 1940s, petrochemicals in the 1960s, and aeronautics and electronics in the 1970s. In all cases, the state did not aim to maintain autonomous intervention, nor to compete directly with private business, but rather to nurture a triple alliance (*tripé*) with multinational corporations and local private entrepreneurs (Evans, 1979). The most well-known example of this is the car industry's GEIA (*Grupo Executivo da Industria Automovel*).

In other cases, *e.g.* *Petrobras* and *Embraer* (see below), this policy enabled a cadre of technically competent managers to emerge, who were given considerable autonomy to pursue long-term goals. The holding company structure adopted in telecommunications, electricity, and petroleum allowed a good balances between the objectives of operational flexibility and financial accountability. Yet such efforts were largely limited to some agencies (*pólos de modernidade* or *bolsões de eficiência*) and failed to spread more widely through the economy.[73]

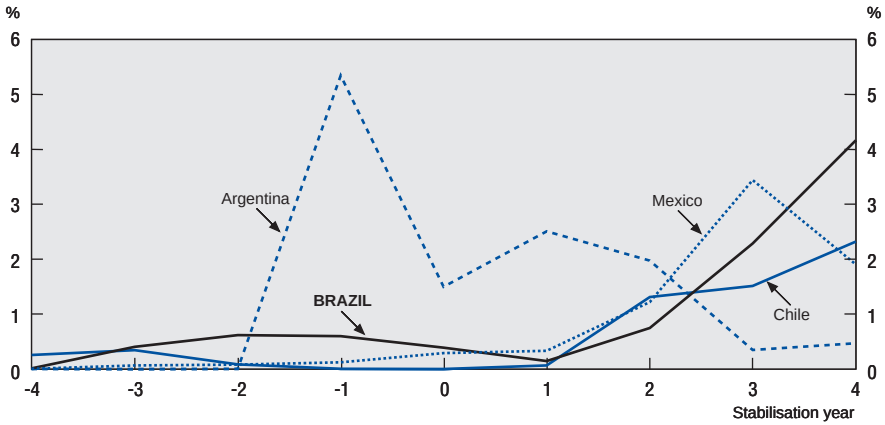
However, SOEs results were not adequately monitored, and state-sector executives "developed a vested interest in protecting their firms from outside interference" (Trebat, 1983), often appearing as interested in building their own "empire" as in improving corporate performance. Since the early 1970s, the government implicitly legitimised this behaviour on the part of public managers, moving from the targeting of some key sectors to indiscriminate, across-the-board, assistance. After 1975, corporate goals were subordinated to macroeconomic stabilisation through price and tariff controls, and limits on financing on both domestic and international capital markets. SOEs were obliged to obtain government or (after 1985) congressional approval for investment plans. In this setting, the loss of a clear sense of mission, and the blurring boundaries between SOEs, private entrepreneurs and politicians bred corruption (Fleischer, 1997). Thus, traditional oligarchic power polluted joint projects between the state and private industrial capital: "Projects of industrial transformation became additional opportunities for the traditional oligarchy, now encapsulated within the state, to pursue its own clientelistic agenda" (Evans, 1995).

Privatisation started slowly…

Brazil has been an exception to the usual sequencing of privatisation (Figure 29). Initial progress on stabilisation was not accompanied by any substantial rolling back of the state. This reflected various factors, notably the fact that Brazilian policy-makers were reluctant to divest large state-owned enterprises (SOEs) that were seen as successful examples of indigenous entrepreneurship and a positive heritage from intensive industrialisation (Chapter I). In the 1980s less extensive capital flight than in, for instance, Mexico shielded Brazil from the pressure for fast market opening. The 1988 constitution aggravated underlying problems by adding further rigidities to the management of SOEs while also increasing spending powers in the hands of local governments (and the enterprises they own). During this period the three largest SOEs sold were Eletrosiderúrgica Brasileira, Aracruz Celulose, and Caraíbas Metais (see Cardoso, 1992). Cumulative net receipts from state divestiture, all through private placements, amounted to a modest US$ 200 million.

A strategy for large-scale privatisation was announced in April 1990 (*Programa Nacional de Desestatização*, PND). This far-reaching plan has governed policy up

Figure 29. **Privatisation receipts as a percentage of GDP**[1]



1. For Chile, data for years zero and one (1984-85) are not available.

Sources: OECD (2000), Privatisation database (based on national statistics) and World Bank (2000), *World Development Indicators,* except:
Chile: Dominique Hachetet and Rölf Lüders (1988), "Aspects of Privatization: The Case of Chile, 1974-1985", *mimeo,* Pontifical Catholic University of Chile.
Mexico (1983-1992): World Bank (1994), *Welfare Consequences of Selling Public Enterprises,* Part V (Table 18-2, p. 410). New York, NY: Oxford University Press.

to 2000. The PND established a clear and transparent legal and regulatory framework for state retrenchment, which has been integrated through a series of successive measures, sometimes responding to new pressures emerging in the course of the privatisation process itself (Table 35). Legal state monopolies existed in a number of sectors, making it necessary to introduce constitutional amendments to liberalise ownership and access in the telecommunications, electricity, and petroleum industries. In order to insulate technical decisions from political pressures responsibilities have been tightly concentrated in the BNDES, which is state-owned but functionally independent.

Managing the sell-offs initially proved more difficult than expected, reflecting the difficult financial situation in some SOEs earmarked for immediate sale, the presence of minority shareholders (often entrusted with a priority right to acquire other shareholders' stocks), as well as political factors. Despite these problems total receipts in 1991-92 reached slightly less than US$4 billion, mainly in the petrochemical and steel sectors. During the next two years, privatisations were confined to manufacturing, where simultaneously opening of economy to foreign trade was deemed sufficient to ensure competition. Prior restructuring involved changes in management, labour-shedding, and consolidation of the balance sheet. This met resistance from labour unions, illustrated by a 32-day strike

Table 35. **Main privatisation laws and decrees in Brazil**

Law 8031/1990	Stipulates that a foreign investor can acquire no more than 40 per cent of voting shares, unless explicitly authorized otherwise by Congress.
Decree 99463/1990	Establishes the Brazilian Privatisation Program (PND), which covers all companies directly or indirectly controlled by the federal government, as well as private-sector companies which for whatever reason have been taken over by the federal government; excludes companies engaged in activities in the exclusive domain of the federal government; and institutes the Directive Committee (CD) to manage both public holdings in companies to be sold (kept in the special Brazilian Privatisation Fund, FBD) and privatisation operations.
Decree 99464/1990	Appoints the BNDES as the government's agent responsible for managing the FBD and sets the list of companies to be privatized at an early stage; successive inclusions are to be decided by the President of Brazil.
Decree 915/19993	Regulates self-generation in electric power.
Decree 1309/1993	Creates the national power transmission system (SINTREL).
Decree 1068/1994	Extends the scope of the PND to include all minority participation held by all public sector bodies.
Decree 1204/1994	Abolishes any limit on foreign ownership of voting shares, unless otherwise stipulated by the government.
Law 8884/1994	Competition law, splitting responsibilities between the SDE (in the Ministry of Justice) for fact-finding investigations; the SEAE (in the Ministry of Finance) for the economic analysis; and the CADE (granted independence by the law) for taking decisions.
Provisional measure 841/1995	Replaces the CD with the National Privatisation Council (CND), permanently composed of five ministers, as well as (on a case-by-case basis) of ministers with sector competencies, and the president of the Central Bank when privatisation in financial services is discussed.
Law 8987/1995	Regulates the granting (through competitive bidding based on the price offered for a given tariff set by the state) for concessions for the provision of public services; sets the basis for settling any dispute between public authorities and concession-holders through arbitration.
Law 9074/1995	Regulates the activity of independent power producers.
Constitutional revision 7/95	Modifies article 177, paragraph 1 of the constitution, to allow the federal government to let private investors operate in the oil and gas industries.
Constitutional revision 8/95	Modifies the constitution to allow private investment in telecommunications, limiting foreign ownership to 49%.
Decree 2003/1996	Regulates power generation by self-producers and independent producers.
Decree 2077/1996	Simplifies procedures to be followed in the privatisation of public services.

Table 35. **Main privatisation laws and decrees in Brazil** (*cont.*)

Law 9295/1996 (*lei minima*)	Institutes the Cellular Mobile Service (SMC), to be provided by concession-holders in competition with Telebrás, and opens the provision of value-added services to private investors.
Law 9427/1996	Sets up the National Electricity Agency (ANEEL) and indicates the main provisions for the regulation of concessions in electricity.
Constitutional revision 13/96	Abolishes the state monopoly for reinsurance.
Law 9457/1997	Modifies the 1976 corporation and securities market laws, abolishing the need for a public offer when there is a change in control of a listed company, limiting the withdrawal rights for dissenting shareholders, slightly expanding the prerogatives of the audit committee, and strengthening the duties of the Securities Commission (CVM).
Law 9472/97	Sets up the National Telecommunications Agency (ANTEL) and indicates the main provisions for the regulation of telecommunication services.
Law 9984/00	Sets up the National Water Agency (ANA) and indicates the main provisions for the regulation of water and sanitation services.

Source: Updated from Goldstein (1999).

Table 36. **Privatisation in Brazil, 1991-2000**
US$ million

	Number of companies	Cash payments	Use of federal securities[1]	Debt transferred to new owners	Total[2]
Programa Nacional de Desestatização					
1991	4	18	1 596	374	1 988
1992	14	31	2 370	982	3 383
1993	6	175	2 452	1 561	4 188
1994	9	1 415	551	349	2 315
1995	8	327	676	625	1 628
1996	11	3 055	1 025	669	4 749
1997	4	4 074	191	3 559	7 824
1998	7	1 654	1	1 082	2 737
1999	2	133	0	0	133
2000	1	7 670	0	0	7 670
Total	66	18 552	8 862	9 201	36 615
Telecommunications					
Fixed	4	11 970	0	2 125	14 095
Cellular band A	8	6 974	0	0	6 974
Cellular band B	10	7 613	0	0	7 613
Cellular band D	3	1 334	0	0	1 334
Cellular band E	1	482	0	0	482
Other	4	421	0	0	421
Total	30	28 794	0	2 125	30 919
States					
1996-99	33	25 168	0	6 461	31 629
2000	6	2 751	0	289	3 040
Total	39	27 919	0	6 750	34 669

1. This includes the following issues: SIBR, CP, OFND, DISEC, TDA, DIVEX, CEF, and NTN-M.
2. Includes the sale of minority shareholdings.
Source: BNDES.

at CSN in 1990. Enterprises were sold through public auctions (with a minimum offer price) on the Rio stock exchange, and were sold for discounted public federal debt instruments (Table 36).

... gathering momentum after 1994...

Privatisation accelerated once public utilities and banks (see Chapter III) were put up for sale after 1994. Privatisations also reached down to the level of individual states, as local governments entered into agreements with the finance ministry to restructure their debt on condition that they increase primary surpluses and sell public enterprises to pay down part of their debt. Some important changes were introduced to the PND. The minimum ratio of cash payments was

increased to 40 per cent. The first sealed bid auction took place for CERJ, owned by the Rio de Janeiro state government.

A milestone was passed in May 1997 when a "strategic block" was sold in CVRD, the world's largest iron ore producer, to a private consortium. The government put a 45 per cent ceiling on individual shareholdings, and required the controlling consortium to include at least three firms that could not sell their shares for two years. Political opposition was appeased by maintaining a five-year "golden share" to veto changes in ownership and sharing privatisation receipts between the federal treasury and the *Fundo de Restructuração Econômica* (FRE), created to finance infrastructure projects.

Another important sale took place in July 1998 when the government sold the telecommunication system *Telebras* (Table 37), which has been seen as a particular success in a critical area of infrastructure. A further symbolic step was the sale of shares in *Petrobras* and the elimination of its monopoly in production and drilling. An estimated 7 per cent of national reserves were made available to the private sector, although it is important to note that *Petrobras*, acting alone or in alliance with private companies, bid aggressively in the first auction of oil exploration licenses (Table 38). While the government must hold, by law, a controlling majority in the company, in August 2000 some 250 000 Brazilians bought *Petrobras* shares in the first sale of a state-owned company specifically targeted at retail investors. The government raised US$4 billion and reduced its stake from 81.7 per cent to 55 per cent of the

Table 37. **Privatisation of the Telebrás system**

Company	Price, US$ million
A. Fixed-line telephony	
Telesp	4 967
Telecentro Sul	1 778
Tele Norte Leste	2 949
Embratel	2 276
Total fixed-line telephony	**11 970**
B. Cellular telephony (Servicio Móvel Celular, or "banda A")	
Telesp Celular	3 082
Tele Sudeste Celular	1 168
Telemig Celular	649
Tele Celular Sul	601
Tele Nordeste Celular	567
Tele Leste Celular	368
Tele Centro Oeste Celular	378
Tele Norte Celular	161
Total cellular telephony	**6 974**

Source: BNDES.

Table 38. **Brazil's initial round of privatisation**

Company	Blocks bid		Signature bonus (BRL)	
	Made	Successful	Bid	Successful
Agip	4	4	172 661 222	172 661 222
Amerada Hess	2	1	11 612 926	8 174 414
BG	2	0	40 500 000	0
BP	1	1	3 918 147	3 918 147
British Borneo	2	1	5 930 006	1 632 561
Enterprise Oil	1	0	2 864 963	0
Esso	4	2	40 331 334	222 492 023
Kerr McGee	2	1	11 180 463	5 449 610
Mobil	2	0	19 370 367	0
Petrobrás	7	5	30 375 208	14 066 952
Shell	2	1	10 267 376	2 612 098
Texaco	6	3	70 178 260	44 478 105
Unocal Latin American Ventures	2	1	34 715 720	12 855 808
YPF	4	4	33 315 698	33 315 698

Source: ANP.

voting capital. Another symbolic step was the privatisation in December 2000 of the former bank of the state of S. Paulo (B*anespa*), which opened the way for further privatisation of state level banks. As the Brazilian privatisation programme has not been based on a firm schedule of planned sell-offs, it is only possible to list major companies that remain to be sold (Table 39).

... and has produced positive results

Despite the acceleration of privatisation, the Brazilian program has not been tarnished by any suspicion of irregularities and corruption. The government also made a proper use of the proceeds, recording them "below the line" in the government accounts. They contributed to fiscal consolidation by reducing public debt.[74] In addition, privatisation may contribute to fiscal consolidation through their positive effects on net debt service and primary balances (see Chapter II). Given that the return-on-assets ratio was considerably negative for the SOEs sector during 1988-94, it was profitable for the state to sell its assets to redeem debt (Giambiagi and Pinheiro, 1996).

In terms of performance, for the sample of manufacturing firms sold in the 1980s and early 1990s, the change of ownership had a positive impact on a number of indicators such as production, labour productivity, profitability, and investment (Pinheiro, 1996). Employment generally fell after privatisation (Table 40), although wages and other monetary benefits, profit sharing and training have improved.[75] As in other countries, telecoms privatisation and market opening have resulted in rapid

Table 39. **Outstanding privatisations, end 2000**

Company	Sector
Cesp Paraná	Electricity generation
Furnas	Electricity generation
Eletronorte	Electricity generation
Chesf	Electricity generation
Manaus Energia	Electricity generation
Boa Vista Energia	Electricity generation
Saelpa	Electricity distribution
Cepisa	Electricity distribution
Ceron	Electricity distribution
Eletroacre	Electricity distribution
Ceal	Electricity distribution
Celg	Electricity distribution
Embasa	Water and sanitation
Compesa	Water and sanitation
Caern	Water and sanitation
IRB	Reinsurance
Ceagesp	Warehouses
Codeba	Port
SPU	Real estate

Source: BNDES and OECD.

Table 40. **Employment at selected privatised companies**

Company	Year of privatisation	Sector	Employment at privatisation	Current employment[1]
Acesita	1992	Steel	7 462	4 247
A cominas	1992	Steel	6 479	3 906
Cosipa	1992	Steel	16 757	7 681
CSN	1992	Steel	18 162	9 400
CST	1992	Steel	4 892	3 622
Usiminas	1992	Steel	12 144	8 436
Embraer	1994	Aircraft	6 000	10 000
Cerj	1996	Electricity distribution	4 200	1 400
CRT	1996	Telecommunications	5 700	3 300
Light	1996	Electricity distribution	11 000	5 200
CPFL	1997	Electricity distribution	5 500	3 000
Eletropaulo	1998	Electricity distribution	11 000	5 800
Telefônica	1998	Telecommunications	22 000	14 500
Telemar	1998	Telecommunications	12 000	10 000

1. 2000 estimates, except for the steel companies where figures refer to 1997.

Source: Maria Lúcia Amarante de Andrade, Luiz Maurício da Silva Cunha, and Guilherme Tavares Gandra (2000), "Restructuring the Brazilian Metallurgical Sector", *mimeo*, BNDES; Andrea Goldstein (2000), "From National Champion to Global Player: Explaining the Success of Embraer", *mimeo*, OECD Development Centre; and "Ex-estatais mudam relação trabalhista e concluem cortes", *Valor*, 6 November 2000.

increase in the number of subscribers to fixed-line and cellular telephony, from 22.1 to 35 million and from 7.4 to 21.5 million between 1998 and mid-2000, respectively.

Restructuring of P*etrobras* has been effective. The new management in place since 1999 had a mandate to re-establish control over a company which had been given almost free rein in the past. It has achieved a 24 per cent rise in earning per share, despite large write-offs to clean up the company's balance sheet.[76] The turnaround at Embraer provides further evidence that privatisation has improved efficiency (Box 21).

P*rivatisation led to a hybrid model of corporate control*

Ownership of enterprises privatised between October 1991 and May 1997 was split among non-financial enterprises (39 per cent), financial enterprises (20 per cent), foreign investors (18 per cent), pension funds (13 per cent), and households (10 per cent). It was only in March 1996 that a foreign-led bid won a privatisation, the railways' M*alha Oeste*. The share of foreign investors has risen sharply since late 1997, since they are usually the technical operators in the consortia that have won the control of the utilities. By October 2000, foreign capital accounted for 45.3 per cent of total revenues from privatisation.

Privatisation has had mixed effect on corporate governance. Block trade are the most common type of ownership transfer, which discriminates against minority shareholders (see Chapter III). In terms of GDP share, Brazilian business groups, while important, have played a smaller role than in comparable countries such as India, Korea, and Mexico.[77] Many large Brazilian enterprises remain family-owned. For both political and economic factors, privatisation has led to hybrid corporate governance structures. These are based on coalitions of different investors, domestic and foreign groups, public and private banks, and semi-public pension funds, none of which exercises full control of the firm (Table 41).

Especially in 1997-98, concerns arose in some official circles that the process of economic opening and liberalisation was proceeding too fast and that more state intervention was needed (Goldstein and Schneider, 2000). These pressures led to the reinforcement of the Ministry for Development, Industry and Foreign Trade. The exchange crisis of January 1999 strengthen the hand of those in the in government who opposed renewed intervention. The debate on corporate ownership and the role of domestic capital resurfaced in 2000 around the sale of B*anespa* (see Chapter III). Opponents of the privatisation have argued that B*anespa* is an important driver of growth in the state of S. Paulo, providing credit to small farms and businesses and investing in social and educational projects. Union officials argued that B*anespa*'s priorities could change completely under new ownership. Private domestic business has also suggested that some form of government support should be introduced to prop up the bids by Brazilian banks and to limit the growth of foreign competitors. The government, however, authorised foreign

Box 21. The results of privatisation: the case of Embraer

E*mbraer* (E*mpresa* B*rasileira de* A*eronautica*) was created in 1969 for reasons of national security. By the early 1980s it was designing and manufacturing fuselages and final assembly.* Its two best-selling aircraft were locally designed, with half of their value-added consisting of imported parts. In the 1980s, macroeconomic disruption combined with an excessive attention to engineering, as opposed to marketing, together with a fall in demand for weapons from the Middle East, hit E*mbraer* hard. Delays mounted, orders were cancelled, and some of E*mbraer*'s specialised suppliers went bankrupt.

Privatisation started in December 1994; a consortium bought a controlling 45 per cent stake for US$89 m. The government assumed E*mbraer*'s debt and retained 6.8 per cent of the company's shares. Clauses inserted into the agreement limited foreign ownership to 40 per cent and forced the new owners to wait six months before shedding any labour. The new owners engaged an outside manager and commissioned a foreign consultant to develop leasing contracts. Restructuring involved a substantial cut in the workforce (including management), which fell from a peak of 12 700 in 1990 to 3 600 in 1995. The remaining workers agreed to wage cuts and flexible working.

After redesigning its product line and attracting several European and American aerospace component-suppliers as risk-sharing partners, E*mbraer* became profitable in 1998. Exports accounted for 95 per cent of sales. The 1999 devaluation boosted sales, although it increased the financial cost of raising new debt as well as servicing outstanding dollar-denominated liabilities. By 2000 it had grown into the world's second-ranking regional jet maker after Canada's Bombardier (and the fourth-biggest overall), reporting 1999 sales of US$1.8 billion and net income of US$238 m. Employment increased to over 7 000 people. Although E*mbraer* still imports a substantial portion of its inputs, it has also become Brazil's biggest exporter, accounting for 3.5 per cent of total Brazilian sales abroad in 1999. In November 1999, a French consortium acquired a 20 per cent stake, valuing E*mbraer* at about US$1 billion. In July 2000 Embraer's American Depository Receipts, each representing four non-voting preferred shares, started trading on the New York Stock Exchange.

Better management has played an important part in E*mbraer*'s turnaround, releasing its potential in terms of accumulated know-how and synergies with other large firms, such as Volkswagen, Ford, and General Motors, located in an industrial cluster in the Paraíbo Valley. Public sector institutions such as BNDES and FINEP (part of the Ministry for Science and Technology) have actively supported E*mbraer*'s R&D activities. Another important feature has been the extension of preferential export financing to Embraer by BNDES (through BNDES-Exim) and Banco do Brasil (through the PROEX export credit).

* For background and recent developments in Embraer, see Goldstein (2001).

Table 41. **Ownership of the 100 largest non-financial Brazilian companies**
Number of enterprises, percentage share of total revenues for the 100 largest companies in parenthesis

	Dispersed ownership	Shared control	Family ownership	Government ownership	Foreign ownership	Co-operatives
1990	1	5	27	38	27	2
	(1)	(4)	(23)	(44)	(26)	(2)
1995	3	15	26	23	31	2
	(2)	(11)	(17)	(30)	(38)	(2)
1997	3	19	23	21	33	1
	(2)	(12)	(16)	(32)	(37)	(0)
1998	4	23	26	12	34	1
	(3)	(19)	(17)	(21)	(40)	(0)

Source: Siffert Filho, N. and C. Souza e Silva (1999), "Large Companies in the 1990s: Strategic Responses to a Scenario of Change", *mimeo*, BNDES Economics Department.

banks to bid for B*anespa* and maintained its stance in the face of opposition from a broad alliance ranging from the Left to officials in previous military governments. B*anespa* was finally sold to a Spanish bank, creating an important precedent for those banks remaining in public ownership. This sale also concluded the debt renegotiation between the federal government and the state of S. Paulo.

The government is putting in place a number of programmes to support wider share ownership. These include a BNDES programme to offer credit for share purchases during privatisations, IPOs, and capital increases. There is also the possibility for workers to participate in privatisation by using savings accumulated in the FGTS (F*undos de Garantia do Tempo de Serviço*), a fund where employees compulsorily deposit part of their salary to cover against unemployment risk. Individuals may also buy shares in *ad hoc* mutual funds (F*undos Mútuos de Privatização*), as well as more indirectly through complementary individual pension funds (F*undos de Aposentadoria Programada Individual*, see Chapter II).

Competition policy and the regulatory environment

The experience of OECD countries suggests the importance of ensuring coherence across structural policies. Together with privatisation, competition policy and regulation are indispensable elements in fostering competitiveness of the corporate sector.

The role for competition policy is developing

Brazil's 1994 competition law broadly resembles competition laws in other countries.[78] The independent government agency responsible for enforcing the

law is the CADE (*Conselho Administrativo de Defesa Econômica*) whose members are appointed for a period of two years. Of all Latin American competition regulators, CADE has perhaps the highest profile, both nationally and internationally. According to a multi-country survey of regulatory bodies, this agency was warmly endorsed, although its independence has been questioned.[79]

The Brazilian system is unique in that two other government bodies, SDE in the Ministry of Justice, and SEAE in the Ministry of Finance, are designated in the competition law as having principal advisory and investigative roles in competition enforcement. Cases are begun in SDE, which, with the assistance and advice of SEAE, conducts preliminary investigations and administrative proceedings before submitting the file and its recommendations to CADE, which renders the final judgement.

The substantive provisions of the competition law apply to two types of activities that may restrict competition: mergers, and "conduct". The latter includes anticompetitive agreements or concerted action involving two or more business entities as well as anticompetitive conduct by a single, dominant firm. In the first years after 1994 CADE considered mainly conduct cases involving abusive pricing, but almost all of them were leftover from the competition law that preceded the 1994 Act. More recently, CADE and its sister agencies have begun to apply generally accepted principles of competition analysis to the conduct provisions of their law, and to interpret and enforce their competition law in a manner that is more consistent with competition agencies in other countries. In particular, a new emphasis in all three agencies has been given to prosecuting cartels, paralleling similar initiatives in other countries. However, to date CADE has successfully prosecuted only one cartel case, in the domestic steel industry.

Concerning mergers, the 1994 law requires notification of agreements that exceed certain size thresholds or would result in a company controlling 20 per cent or more of a relevant market in Brazil. However, notification need not be made before a merger, but rather the law specifies notification must take place no later than 15 days after the "occurrence" of the merger. This postmerger notification procedure is unusual and has hampered merger review in Brazil. Although the number of mergers has grown rapidly since 1994, and competition agencies have devoted a majority of their time and resources to merger review, CADE has intervened in less than 5 per cent of all mergers notified. This rate is however, consistent with that in other large countries. CADE should reduce the time and effort expended on reviewing competitively neutral mergers, freeing scarce resources for more productive prosecution of conduct cases.

Overall, competition policy in Brazil needs to be further developed and strengthened. The involvement of three separate agencies in competition enforcement offers some benefits, but at a substantial cost in efficiency and, possibly, in independence. Along these lines, a recent proposal by a special commission

Box 22. Restructuring telecommunications and electricity

The federal government owned the majority of voting stocks in both telecommunications and electricity. The main corporate actors were listed holding companies where the companies were monitored by regulatory departments within the relevant ministries, though differing in some important respects. *Telebrás* controlled the trunk-call operator (Embratel) and all but one regional operator, while *Eletrobrás* only accounted for roughly 50 per cent of total generation (through its subsidiaries *Furnas*, *Chesf*, *Eletronorte*, and *Eletrosul*, and the Brazilian stake in the Itaipú hydroelectric complex) and a fifth of distribution (of which half through *Light* in Rio de Janeiro).

Before privatisation, telecommunications in Brazil lagged behind the rest of Latin America in terms of access lines in service, digitalisation, lines per employee, and quality of service. The system favoured the middle class relative to both business users and the lower class: subscribers were heavily concentrated in urban areas, the backlog for obtaining a new line was so long that a black secondary market had developed and sizeable cross-subsidisation continued despite some rate rebalancing since the early 1990s. In telecommunications, a master plan (PASTE), released in late 1995, pointed to the benefits of competition and privatisation in hitting the target of almost doubling the number of phone lines. The telecommunication law, however, was finally only approved by congress in July 1997. *Telebrás* was completely reorganised by grouping the 27 operators into three separate holdings (one of which serves S. Paulo state); by carving up mobile telephony into nine regional A-band operators competing with B-band private concession-holders; and by establishing the long-distance carrier *Embratel* as a separate holding. Revenue sharing between Embratel and operators in individual states was replaced by a tariff-based interconnection for long-distance calls (subject to an "RPI minus X" formula). Future tariff increases have been set to encourage potential entrants to challenge incumbents. From July 1999, consumers were able to choose a long-distance carrier.

In electricity, the single nation-wide uniform tariff in place between 1977 and 1993 for all companies, and the system of compensation (CRC) to equalise price and cost differentials, amounted in practice to a rate-of-return regulation. This discouraged managers from seeking efficiencies, since the benefits would have to be passed on to other utilities. This discouraged investments to maintain energy supplies and meet growing demand (see Chapter V). Energy losses grew from 13 per cent in 1990 to more than 16 per cent in 1996, and black-outs were frequent. The 1993 reform eliminated the CRC, instead allowing individual companies to set their own prices conditional on approval by the regulatory authority. A transmission system (SINTREL) unifying the national grid was also created in order to provide open access to all suppliers. This allowed *Eletrobras*'s assets to be unbundled.

appointed by the president aims to consolidate competition policy by creating a single agency in charge of competition policy and consumer protection (ANC). Last, but not the least, the agency would also support competition advocacy

within other parts of government, including the executive, legislative and regulatory functions.

New independent regulatory agencies have been established…

After some preparatory restructuring (see Box 22), three new independent regulatory bodies have been created since 1994: ANATEL for telecommunications, ANEEL for electricity, and ANP for oil and gas (Table 42). A positive feature of the Brazilian system is the fact that the regulatory regime is legally entrenched, thus making it difficult to change. However, there are legal shortcomings that relate to regulators' ability to access information, provide firms with efficiency-enhancing incentives, and institute safeguard mechanisms to protect against expropriation. The timescale to unbundle network elements and services is left unspecified, explicit conflict resolution mechanisms are not spelled out clearly, and the introduction of yardstick regulation to put the regional telephone companies in competition has not so far been planned.

In the other sectors, such as civil aviation, transportation, railways and ports, government ministries continue to exert regulatory authority, although proposals are currently being discussed to establish independent agencies. A number of important issues have emerged after the privatisation of the Brazilian rail system, which is otherwise generally viewed as a success (Estache *et al.*, 2000). The co-ordination between regulatory authorities is a final issue which remains to be clarified. Formal relationships between the CADE and other competition agencies, on the one hand, and the sector-level regulators, on the other hand, are being established. Regulatory powers should remain restricted to tariffs and standards, while the enforcement of economy-wide competition law should be left to the CADE.[80] The competition agencies have begun to expand their competition advocacy function – the promotion of competition policy by a competition agency within other parts of government.

Resources for this activity are, however, limited. This will especially be the case if CADE devotes more attention to possible anticompetitive conduct by newly-privatised, potentially dominant firms in network industries, and competitive restraints imposed by state and local governments. The railways illustrate the extent of such problems. While no tight controls were imposed on the ownership structure of the privatised railway, there was a 20 per cent limit on the stake that any single party could own in any concession. However, this did nothing to limit indirect control or cross-holdings that might result in concentration of ownership or conflicts between different rail users.

The case of CVRD is quite illustrative in this respect. This company holds major shares in railways and controls several ports in areas close to its mines. CVRD's competitors in a variety of sectors must use CVRD railways and ports in order for their products to reach their markets. Furthermore, CVRD has

Table 42. **The regulatory agencies in Brazil**

	ANEEL	ANATEL	ANP
A. Characteristics of the regulated sector			
Type	Market	Market	State-sector enterprise and market
Presence of monopolies	In transmission and distribution	Competitive	Vertically-integrated state monopoly
Competition	Generation and distribution	Regulatory asymmetry to favour entrants	Restricted to prospecting concessions. Most competition is in wholesale and distribution.
B. Agency oversight			
Governance contract	Yes	No	No
Interface with society	Ombudsman on the board of directors. Council of consumers	Independent ombudsman. Advisory council in the agency	Ombudsman.
Counterpart ministry	Ministry of Mines and Energy	Ministry of Communications	Ministry of Mines and Energy
C. Agency structure			
Law	No. 9 427, 26 December 1996	No. 9 472, 16 July 1997	No. 9 478, 6 August 1997
Creation	6 October 1997	7 October 1997	14 January 1998
Regime	Independent under special regime	Independent under special regime	Independent under special regime
Objectives	Regulate the electricity sector according to the directives of the federal government	Regulate the telecommunications sector and implement the General Telecommunications Law	Regulate the petroleum sector and implement the national petroleum policy
Board	Director general and four directors		
Super-intendencies	25 regional	5 regional	Functional
Degree of insulation	Prohibition of links to business. Staggered 4-year terms. No exoneration without motives, except in the first four months. Quarantine of 12 months.	Prohibition of links to business. 5-year terms, no re-election. No exoneration without motives. Quarantine of 12 months, except for academics.	Prohibition of links to business, including in the year before appointment. Staggered 4-year terms. Quarantine of 12 months.
Appointment	President after Senate approval	President after Senate approval	President after Senate approval
Budget	Budget law, fees and fines	Budget law, fees and fines, FISTEL	Budget law, fees and fines, FISTEL

Source: Adapted from José Claudio Linhares Pires and Maurício Serrão Piccinini (1999), "A Regulação dos Setores de Infra-Estrutura no Brasil", in Fabio Giambiagi and Maurício Mesquita Moreira (eds.), A *Economia Brasileira nos Anos* 90, BNDES; and Bernardo Mueller and Carlos Pereira (2000), "Credibility and the Design of Regulatory Agencies in Brazil", presented at the Annual Conference of the International Society for New Institutional Economics, Tübingen, September 22-24.

participated in almost all bidding for rail concessions and now holds additional direct controlling stakes in at least three other concessions, and participates indirectly in most of the remaining networks. This has considerable potential to harm competition. The regulatory issue is not only how these problems should be addressed, but who should address them. In principle, problems of price discrimination or predatory behaviour should be dealt with by the competition agency, CADE, as in any other industry.

... although regulatory practice will develop over time

Given an appropriate institutional and legal basis, the actual practice of regulation is important for attracting new investment in regulated companies. For example, the British experience shows that excessive discretion in setting tariffs may lead to share price volatility, investment distortions and regulatory capture (a situation where regulators confuse the public interest with the objectives of the companies they regulate). A different risk is that an adversarial relationship emerges between regulator and regulated, in which regulation is conducted through the media and the courts. It was a pleasant surprise that some investors were prepared to take part in utilities' privatisations before the end of 1997, given that the regulatory framework was not yet in place. However, uncertainty did discourage some foreign investors that had shown an initial interest in the privatisation of electricity distribution companies[81] and created subsequent difficulties.[82] A further difficulty is associated with the introduction of franchising mechanisms for the allocation of water rights, the lack of which would prevent open entry and long-term viability of competition, while also distorting comparisons with other energy sources such as gas. The National Water Agency (ANA) was established in July 2000, with a leading objective to rationalise the use of water.

Another example of regulatory uncertainty is a project to build thermoelectric plants[83] using domestic and Bolivian natural gas (see Chapter V and Annex V.1). Investors are worried that the regulator would not allow them to pass on increases in the cost of gas on a monthly basis. Since gas is purchased in US dollars, this means the investor would bear the risk of a devaluation of the Real. Providing semi-automatic pass-through would however go against the process of de-indexation that has been the key element of disinflation since 1994. While pass-through is consistent with rate of return regulation, it would run counter to the price-cap approach to regulation now being adopted by the Brazilian authorities. The same concerns apply to the possibility of extending the length of upstream contracts for gas delivery, which may jeopardise the introduction of more competitive conditions in the market for energy.[84]

A further worry is that ANP has not been able properly to supervise deregulation of fuel distribution. Industry energy operators complain that regulators are overburdened by the need to process a great number of projects simultaneously.

It is estimated that at least 10 per cent of petrol sold in Brazil is adulterated, containing larger quantities of alcohol than allowed, as well as chemical solvents that have detrimental environmental effects. Annual tax losses due to evasion are estimated at around US$1 billion.[85]

In the telecom sector, the regulatory game is more advanced. Fixed-line operators have generally met performance criteria, not least because this is a requirement in order to bid for the second-generation licenses. Nevertheless, there have been some problems concerning ownership. In August 1998, ANATEL required Telefónica to divest its 85 per cent share in CRT, a regional wire line operator, after it won a tender for the S. Paulo's wire line concession. The regulator repeatedly extended the deadline and appointed a minority shareholder to manage the company, but talks ended in stalemate and the government was obliged to take control of CRT. This unusual situation has shown the costs associated with failing to appoint an arbitrator to settle the dispute. In this regard, discussions are being held to introduce arbitration procedures to solve disputes in the market for energy.

V. Squaring long-term growth with sectoral and social dimensions

The previous chapters have analysed key macro-structural links that are needed to ensure a sustainable growth path in Brazil. Despite the estimation difficulties, due to the lack of long macroeconomic series, recent studies suggest that potential GDP growth is the range of 3.5-4.5 per cent per year, under reasonable assumptions of total factor productivity growth (see for example, BCB, 2000*b*). The upper band of this rate of potential GDP growth was in fact reached in 2000. Maintaining this performance in the medium-term will entail particular challenges in some key sectors that have not been covered in this Survey before now. The first is agriculture, given its weight in economic activity and employment. This sector is bound to play an important part in export revenues and increasing productivity, thus helping to maintain high growth without the emergence of excessive external imbalances. Agrarian development also has implications for the social sphere. The second key sector is energy. The challenge of ensuring sufficient energy supply, in particular electricity, could easily become a constraint on growth. Hitherto Brazil has had a remarkably low-level of carbon emission, but this could change if the pressure from energy demands leads to increased use of more carbon-intensive fuels. This is particularly relevant, since access to electricity is also a social issue. Finally, sustained growth will allow faster social development, but Brazil also needs appropriate social policies to increase its human capital, notably through investment in education and health care.

Reform in the agricultural sector

Agriculture is a key sector in the Brazilian economy, accounting for 10.7 per cent of GDP in 2000 and 22 per cent of employment in 1999. Approximately 35 per cent of merchandise exports are accounted for by agricultural and processed food products. To realise its potential, some of agriculture's growth will have to come from increasing resource use. Brazil possesses abundant land and a diverse climate that is suitable for both temperate and tropical crops; approximately 50 million ha[86] is currently planted to arable crops. It is conservatively estimated that this area could be doubled without encroaching onto the Amazon

rainforest or other environmentally sensitive areas. Such an expansion would increase Brazil's already sizeable presence in world agricultural markets. Brazil is already the world's largest exporter of coffee, sugar and orange juice, the second biggest exporter of soybeans and the third largest of beef and chicken.

Equally important is the scope for productivity improvements. Alongside an economically dominant commercial sector there are a large number of traditional (*i.e.* subsistence and semi-subsistence) farms. According to the 1995 census, only 1 per cent of all farms exceed 1 000 ha; yet these farms account for 45 per cent of total acreage. At the other extreme, one-half of all properties (accounting for about 2.5 million households) are under 10 ha in size and account for just 2 per cent of total area. In addition, there are estimated to be up to 5 million landless households,[87] including squatters, renters, sharecroppers and rural salaried employees. A major economic and social priority is development of the non-commercial sector. This would directly benefit agricultural competitiveness, transforming some of Brazil's traditional farm households into commercially viable operations. Yet while Brazil is one of the few countries with the scope to create millions of jobs in rural areas, it is important to recognise that that not all of the extra employment will come directly from agriculture. In general, the share of labour and other resources engaged in agriculture declines with economic growth, even if the absolute size of the sector increases. Accordingly, there is a need not just for agricultural development, but also for adjustment policies that create viable non-farm employment in rural areas and mitigate the costs of transition.

The challenges to agriculture's competitiveness extend beyond the need to develop the subsistence sector. Commercial farming in the southerly states of Rio Grande do Sul, S. Paulo and Paraná is highly mechanised and facilitated by good infrastructure. It is also highly input intensive, with fertiliser use in these areas comparable to rates in Japan and Korea (between 250 and 300 kg per ha). Yet even in these regions, competitiveness has been circumscribed by a number of factors, including macroeconomic shocks, weakness in the financial system and trade protection in other countries. Elsewhere, the constraints on competitiveness are more severe. The less developed north-eastern part of the country, where most of the traditional farms are located, also has inferior natural resources and suffers from basic deficiencies in access to capital and infrastructure. Moreover, the commercial sector is not immune from inefficiencies. Among the large estates (*latifúndia*), speculative land purchases have led to the accumulation of land that has been kept idle, while along the agricultural frontier, land acquisition and squatter settlement have resulted in regular (and sometimes violent) disputes between landowners and landless peasants.

In short, Brazil's agricultural sector has enormous potential. The extent to which this potential is realised will depend on the approach taken to the develop-

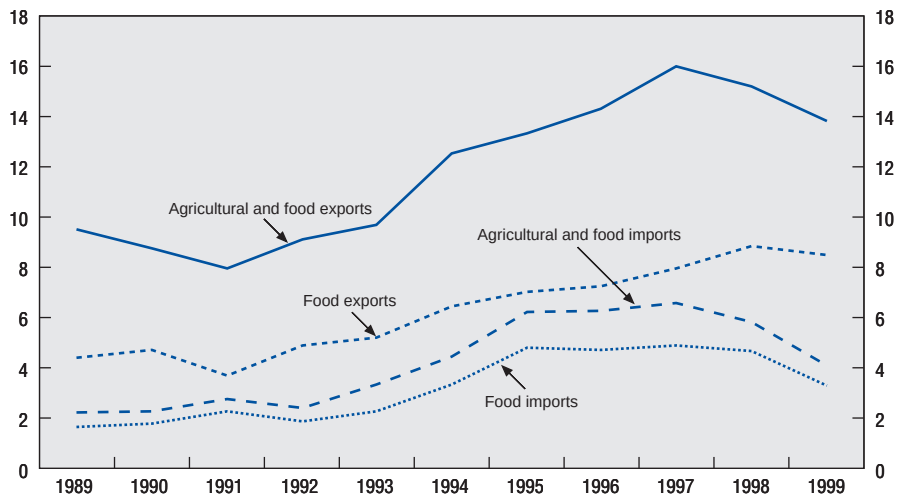
ment needs of the country's traditional farmers and landless poor, and on the broader measures adopted to enhance the sector's competitiveness.

Competitiveness in the agri-food sector

Trade liberalisation in the 1990s has led Brazil to specialise and trade on the basis of its comparative advantage. Soybean production has displaced the production of food staples, notably rice and beans, and transformed Brazil into a substantial importer of wheat. Such reorientation rooted in commercial pressures has been good for the agricultural economy. Despite macroeconomic instability prior to 1994, and the spill-over effects of the Asian crisis (which led to a sharp drop in demand in 1997 and 1998), agricultural output increased by 40 per cent over the decade. And even though international prices have been weak, crop production is expected to increase by between 8 and 10 per cent in 2000-01, with the grain harvest topping 90 million tonnes for the first time. During the 1990s, the growth in livestock production (60 per cent) outpaced that of crop production (30 per cent), with the result that livestock (predominantly beef) now accounts for 40 per cent of the value of production.

Agricultural and food exports displayed generally strong growth throughout the 1990s (Figure 30). The declines of 1998 and 1999 are likely to be partially

Figure 30. **Agricultural and food trade, 1989-1999**
USD billion



Source: FAOSTAT.

offset in 2000 by strong production growth and a recovery in livestock prices. On the import side, more than 80 per cent of Brazil's agricultural and food imports are obtained in the form of processed food products, with wheat now dominating imports of raw agricultural product.

The establishment of more pro-market policies has facilitated a number of positive structural developments. These include an increased variety of traded products (*e.g.* soybeans and beef); the movement into new crops and new regions; and improved international marketing. At the same time, the former recipients of protection have been forced to adapt. As Brazil exposes its agricultural sector to competitive pressures, it is important to examine the specific factors that continue to shape its international competitiveness.

Factors affecting Brazil's competitiveness in agricultural products

In principle, the devaluation of the Real at the beginning of 1999 should have provided a big stimulus to export performance. In practice, this was offset by the decline in commodity prices, by higher imported input costs, and by the fact that foreign importers reportedly bargained for lower prices. Devaluation also had an uneven distributional effect: for smaller producers not selling for export, the biggest impact was via higher input prices. Moreover, farmers holding dollar denominated debt have seen their debt burden increase.

Systemic declines in agriculture's terms of trade with the rest of the economy have adversely affected farm incomes. A parallel impact has been that agriculture has dampened inflationary pressures in the overall economy. Thus agriculture has provided an economic buffer by both limiting the impact of external shocks on output and employment, and constraining inflation.

Domestic agricultural policy

For fifty years the government's agricultural policy was centred around market price intervention (with prices for some commodities supported, but agriculture on balance taxed). Since 1995, however, the government has gradually withdrawn from the process of buying and selling agricultural commodities. The liberalisation of domestic policies has reduced the need for border interventions, enabling a parallel reform of trade policies. The key elements of Brazil's current agricultural policies are now the provision of subsidised official credit, the promotion of agricultural exports, and limited (ad hoc) interventions in domestic markets. The characteristics of these programmes, and their impacts on competitiveness, are set out below.

Rural credit

Subsidised rural credit is the most substantive element of the Brazilian government's agricultural policy interventions. Most of this is channelled officially

through the National Rural Credit System (NRCS). About 30 per cent is allocated under PRONAF (the National Programme to Strengthen Family Farming), the centrepiece of the government's agrarian reform and "family farming" initiatives. The standard rate charged by NRCS is 8.75 per cent, although farmers qualifying for credit under PRONAF pay 4 per cent or less. Other subsidised credit programmes are summarised in Box 23. Total financing to farmers and co-operatives increased from BRL 6.3 billion to an estimated BRL 13.8 billion, between 1996 and 2000. Of this total, 65 per cent was allocated to working capital, 17 per cent to investment and 18 per cent to marketing. One half of the credit came from *exigibilidades*, the requirement that commercial banks allocate 25 per cent of their demand deposits to agricultural lending (see Chapter III).

Official credit is by far the dominant source of finance throughout the agricultural sector, as private credit has virtually dried up. A major reason for the absence of private credit is the overhang of bad debt, which last year totalled BRL 13 billion. Much of this debt was accumulated before policies were liberalised in 1995, although the crisis that preceded devaluation in 1999 aggravated the situation. With an uncertain environment for bank lending in general, the specific risks associated with agriculture stand out all the more. Agricultural markets are inherently unstable, and Brazil exports a number of commodities where world markets are particularly volatile (notably coffee and orange juice). In addition, the diversity of agricultural structures accentuates the problem of asymmetric information (banks knowing less about the creditworthiness of farms than the farmers seeking loans). Banks are also unwilling to lend because they fear that further raising the stock of debt will increase the likelihood of the government forcing them to write off some of the existing burden.

The rationale of these programmes is that they should fill a gap that would not otherwise be met by the private sector. The dangers are that the redirection of credit may harm other sectors, and that the subsidy element may further impede the development of private credit markets. The latter is a lesser worry, since the banks' continued reluctance to lend would appear to stem fundamentally from weakness in the system of agricultural credit, rather than oversubsidisation. The government's policy is to limit the implied drain on competitiveness.

Export promotion

The abolition of ICMS state taxes on primary products in 1997 removed implicit subsidies for downstream processors. Most of Brazil's agricultural exports have some potential for processing prior to export, so this change has required significant restructuring within the agri-food system. The ICMS tax exemption for soybeans was granted two years earlier, in 1995. The removal of what were effectively differential export taxes (under which exports of soybeans were taxed but exports of the oil and meal components were not) has had a major impact on the

soybean sector, with exports shifting from the oil and meal co-products into uncrushed beans. In 1999, 58 per cent of export revenues from the soybean complex came from uncrushed beans, compared with a share of 20 per cent in 1995. The policy change exposed the uncompetitiveness of Brazil's crushing plants. Most facilities are obsolete, falling below the 5 000 tonnes per day which industry experts believe to be the minimum efficient size. Moreover, high internal taxes (compared with Argentina) have reportedly acted as a deterrent to the FDI that could bring crushing facilities up-to-date.

Domestic price intervention

Agricultural prices have largely been liberalised, although a small amount of market price support is still provided under the Guaranteed Minimum Price Policy (PGPM). This programme now amounts to a limited system of *ad hoc* interventions made in response to market "emergencies" and contingent on the availability of central funds. In general, payments are confined to domestic staples (rice and beans, maize, wheat and cassava), where the main beneficiaries are semi-commercial farmers with a marketable surplus. In 2000-01, payments have been concentrated in the rice market, where 2 million tonnes of stocks have accumulated (much of this imported from Argentina). In 2000 the government purchased 517 000 tonnes of rice, 93 000 tonnes of beans and 3 000 tonnes of other crops.

As the PGPM programme has been scaled back, other (small-scale) policy instruments have been introduced. The Subsidy Auction Programme (PEP, see Box 23) establishes a system of minimum prices for each region. When the market price falls below the minimum price, the government intervenes at the margin by holding a subsidy auction which obliges it to pay a premium equal to the difference between the winning auction price and the minimum price. Minimum prices are kept low, while tight limits on official credit volumes limit the benefits to larger farmers. Thus, in 2000, PEP payments totalled BRL 76.4 million and were limited to cotton and maize.

Table 43 reports the *highest* minimum price for the major commodities where PGPM or PEP interventions have occurred in recent years. In 2000, the announced price was well below the prevailing world price in all cases.

Foreign agricultural policies

Brazil's ability to exploit its export potential is constrained by agricultural policies in other (chiefly OECD) countries. The principal problems are trade barriers in potential markets and export subsidisation by potential competitors. Approximately 50 per cent of Brazil's agri-food exports go to the European Union, with the EU the dominant market for soybeans, coffee, orange juice and tobacco,

Box 23. Agricultural and rural credit programmes in Brazil

***Government Commodity Loan Program* (EGF):** This programme facilitates access to commercial credits for farmers and co-operatives. Farm products stored in accredited warehouses function as collateral for these credits. The maximum credit volume is limited to 70 per cent of the value of the products offered, calculated at the relevant minimum price for the various products. The annual interest rate for EGF farm loans is currently fixed at 8.75 per cent.

EGF-*Industry Commodity Loan Program*: The EGF-industry programme is similar to the EGF farm programme but access is limited to processors of agricultural commodities under the Minimum Support Price Programme. Financing is limited to 50 per cent of the production capacity of the processors, and processors are obliged to meet at least the minimum commodity price set by the government. Like for the EGF farm programme, credits are currently available at 8.75 per cent p.a.

***Rural Promissory Note* (NPR):** The NPR presents an extra source of finance for agri-business. It is of particular importance, as the EGF for the agro-industry and co-operatives (see above) is limited to 50 per cent of the production capacity of the processors. Technically, the NPR is a promissory note connected to a commitment of product delivery by farmer/co-operative. It is only available for rice, cotton, wheat and maize. In addition, processors must prove they have paid at least the minimum price to the producer. Like for the EGF programme, credits are currently available at an annual rate of 8.75 per cent.

***Government Commodity Acquisition Program* (AGF):** The AGF programme provides access to credits for farmers who sell their produce directly to the federal government. Eligible products are cotton, rice, beans, maize and cassava. Products must be stored in accredited warehouses, cleaned, dried and graded. The National Food Supply Company (CONAB), an entity of the Ministry of Agriculture (similar to the CCC in the US) purchases products offered at the relevant minimum price.

***Subsidy Auction Program* (PEP):** In principle, the PEP works like the loan deficiency programme (LDP) in the US. The government aims to support farm prices through an intervention at the margin, *e.g.* by paying to wholesalers and processors the difference between the prevailing market price and the minimum price of a given product. Only wheat, maize, rubber and cotton have been eligible for PEP support. The government conducts public auctions to establish the premium for buyers of a given product. These buyers then contact producers interested in selling their produce at the relevant minimum support price. Possible transportation costs to the final destination have to be born by the buyer.

***Options Contracts*:** The federal government offers through CONAB a price for the next harvesting season, at which eligible products (wheat, corn, rice, and cotton) can be sold to the government. These contracts are launched at the beginning of a harvest and are due at the time of the next harvest. So when the supply is becoming short again and prices are supposed to be high again then it's time for repayment. The strike price of this contract is fixed above the corresponding minimum price. The possible difference to the actual futures price is covered by CONAB.

Box 23. **Agricultural and rural credit programmes in Brazil** (*cont.*)

***Product Equivalence*:** Under the Programme to Strengthen Family Farms (PRONAF), small producers are granted access to credits based on the equivalence concept, *i.e.* farmers pay their back loans by delivering an equivalent amount of the produce. The value of the products is calculated on the basis of the government minimum price. Like the PEP, this scheme is limited to only a few commodities, notably cotton, rice, maize and wheat. Interest rates for small family farms are currently as low as 4.0 per cent, carrying a substantive subsidy element even though credit volumes are limited.

***The* BNDES *system*:** All long-term support to producers and processors of agricultural products is centralised under the auspices of the BNDES and the Special Agency for Industrial Financing (FINAME). The two agencies form the so-called BNDES system, although the BNDES system is not agriculture-specific.

Table 43. **Highest announced minimum support prices, 2000**

	1995 (US$/tonne)	Support prices, 2000		World price (US$/tonne)	Support price/ world price (%)
		(BRL/tonne)	(US$/tonne)		
Cotton	705	533 (8 per 15 kg)	291	1 168	25
Edible beans	403	467 (28 per 60 kg)	255	n.a.	n.a.
Maize	101	118 (7.1 per 60 kg)	65	81	80
Rice	202	182 (10.92 per 60 kg)	99	229	43
Soybeans	137	162 (9.7 per 60 kg)	89	198	45
Wheat	127	153	84	107	79

Source: Compania Nacional de Abastecimento, Ministério da Agricultura e do Abastecimento.

i.e. all of the top five commodities except sugar. The second biggest market is the United States, in this case for each of the top five except soybeans. It is protection in these large markets that matters most.

Brazil's agricultural tariffs are lower than the average in OECD countries, and below those in the major markets to which it seeks access. In 1998, the simple average applied tariff across all agricultural product lines was 14 per cent. The prevalence of specific tariffs in OECD countries makes exact comparisons difficult, but if only *ad valorem* rates are counted, the simple average exceeds 30 per cent.

Moreover, a number of OECD countries levy high tariffs on sensitive products, so these averages understate the true extent of protection.

In the case of soybeans, the Producer Support Estimate (which estimates the value of transfers to producers) in the United States (Brazil's major competitor) increased from 4.5 per cent in 1997 to 23.1 per cent in 2000, when expressed as a share of gross farm receipts. Oilseeds enter the European Union duty free, although duties are payable on both vegetable oil and oilseed meal. The sugar market is particularly highly protected in both the European Union and the United States, with PSEs in 2000 of 48.9 per cent and 47.1 per cent respectively. In both cases, producers typically receive more than three times the world price. This combination of support and protection hurts Brazilian exporters in particular, who, as relatively low cost exporters, lose out from the tariff-rate quota (TRQ) allocations being made to higher cost Caribbean producers. A further area in which Brazil sees scope for further trade is the US market for frozen orange juice, where a tariff of 8.32 cents per litre (about half the world price) is imposed to protect producers in Florida.

Brazil has a significant net deficit in its agricultural trade with other MERCOSUL countries. Only 6 per cent of Brazil's exports go to MERCOSUL countries, whereas about 65 per cent of imports come from within MERCOSUL (mostly Argentina). The dominant imports are food staples, wheat and rice, which can be grown more efficiently in Argentina. The net deficit in 1999 was US$2.7 billion, or 19 per cent of the annual surplus on agricultural trade.

The removal of ICMS taxes on primary products has forced a significant restructuring in Brazil's downstream sectors. But for several key exports, the re-balancing may have been exaggerated. This is because tariff reductions on primary products exceeded reductions on processed food products during the Uruguay Round implementation period. Table 44 shows the tariff rates Brazil faces exporting key commodities to its three principal markets (the European Union, Japan and the United States). In only one case (coffee into the United States) is the tariff on the processed product no higher than that on the primary product.

Weak infrastructure

Weak infrastructure is perceived to be a major problem in a number of areas, with particular scope for improvement in maritime transport and port facilities. The southern states that dominate domestic production are generally serviced by effective transport systems, while weak infrastructure in the north-eastern states reflects the region's general underdevelopment. In the central states of the *Cerrado* region, where output is expanding rapidly, the development of infrastructure is proceeding concomitantly. Between US$50 and US$110 billion of investment is earmarked under "PPA Avança Brasil", although the actual funds

Table 44. **Tariffs on major Brazilian exports**
Per cent

Product	Country		
	EU	Japan	United States
Soybeans	0.0	0.0	0.0
Soybean meal	0.0	0.0	2.4
Soybean oil	7.0	25.0	7.0
Coffee beans	3.3	0.0	0.0
Soluble coffee	10.5	12.3	0.0
Leather	6.5	16.0	0.0
Shoes	8.0	52.3	9.0
Tobacco	21.5	0.0	2.7
Cigarettes	63.3	8.5[1]	15.6

1. 8.5 per cent plus 290.7 Japanese yen per 1 000 cigarettes.
Source: National Confederation of Agriculture (CNA).

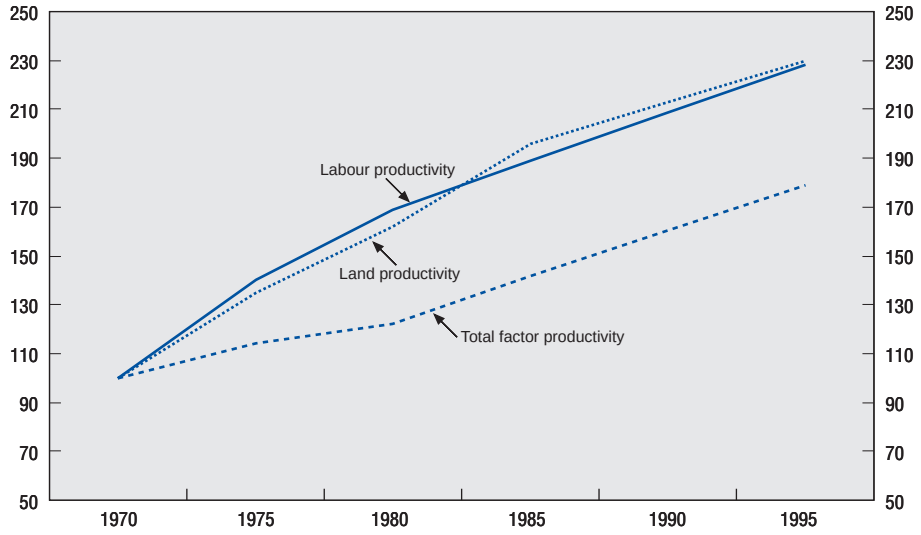
available will depend on money being available in the budget and the extent of private sector co-financing. Deficient infrastructure clearly impedes competitiveness. Yet insofar as new infrastructure also follows commercial development, it is difficult to establish the extent of its causal impact.

Brazil possesses a diverse agricultural sector with wide variations in competitiveness. A major policy challenge is to reduce these imbalances through the creation of broader commercial opportunities. A number of obstacles to competitiveness have been identified above, but where the priorities lie is an empirical question. An examination of changes in agriculture's total factor productivity between 1970 and 1995 suggests that improvements in the productivity of capital have lagged well behind gains in labour and land productivity (Figure 31). This is consistent with the twin policy priorities of pursuing financial reforms at home while seeking liberalisation of international markets.

Agrarian reform policies

Brazil's agrarian reform policies seek to integrate peasant farm households and the landless poor into the general process of economic development. They combine the economic objective of creating economic opportunities in rural areas with the social objective of redressing the country's unequal structure of land ownership. Three main components can be identified: land settlement policies; the provision of discounted credit to small farm households; and, a land tax on economically inactive holdings. Although geared towards poorer households, the specific objectives of these programmes differentiate them from general welfare (pension and retirement) programmes. Welfare payments provide retired

Figure 31. **Total factor productivity in Brazil, 1970-1995**



Source: Gasques and P.R. da Conceição (2000).

rural households with the minimum monthly salary (less than US$100 per month following devaluation). Their total cost (estimated at BRL 10 billion in 2000) exceeds the total cost of agrarian reform initiatives.

A common element of Brazil's agrarian reform programmes is that they use market instruments to rebalance the ownership and use of land. The land settlement programme (see below) kick-starts the process for landless households, but the biggest impact comes via PRONAF, which seeks to expand land-use among small farms by increasing their profitability.

Land settlement policies

The main instrument used to promote land reform has traditionally been land confiscation. In 2000, this enabled the settlement of about 45 000 families (42 per cent of all settlements). However, the Land Bank (in fact a credit facility to promote land reform), which was established under a World Bank programme in 1996, has become increasingly important. The Land Bank has progressed from the pilot phase (which began in 1997) to a fully fledged programme with an annual budget of BRL 350 million, which translates (roughly) into a ten year programme of US$1 billion (which aims to make BRL 200 million loans). Under the programme, a farmer (or group of farmers) puts in a bid to receive land. The successful farmer(s)

qualify for the most favourable terms of support under PRONAF. In principle, the programme is market-oriented and avoids the legal and political difficulties associated with the traditional approach of land appropriation accompanied by compensation. The government estimates that it costs BRL 40 000 to resettle a farm household, but the CNA (*Confederação Nacional da Agricultura*), a lobby group for commercial farmers, claims that only half of these remain on their new land.

Rural credit: the PRONAF *programme*

PRONAF was launched in 1995 and is the cornerstone of Brazil's rural development policy. PRONAF is first and foremost a rural credit scheme, although it also contains some funds for infrastructure development and technical assistance. PRONAF provides loans at subsidised interest rates to small family farmers – owners, tenants and sharecroppers. Small production co-operatives and associations are also included in the programme. Loans can be used both to finance variable costs (particularly planting and harvesting) as well as for investments in machinery, soft infrastructure and off-farm activities (crafts and rural tourism).

In 1999, responsibility for PRONAF was transferred from the Ministry of Agriculture to the Ministry of Agricultural Development (MDA). The objective of this transfer was to improve the programme's capacity to assist small farmers benefiting from the allocation of new property under the land reform programme. Since its inception, PRONAF has increased dramatically in scale. Table 45 shows the level of disbursements for rural credit since 1995, and expenditures on infrastructure and services since they were introduced in 1997. The amount of credit allocated for 2000 was BRL 4.2 billion, benefiting around 800 000.

PRONAF has undergone some major modifications, with the emphasis on increased disaggregation and targeting. Since 1999, farm households have been

Table 45. **PRONAF disbursements, 1995-2000**

	Rural credit		Infrastructure and services		
	No. of contracts (000)	Value (BRL million)	Receiving municipalities	Households benefiting (000)	Resources (BRL million)
1995	32	93	–	–	–
1996	333	650	–	–	–
1997	497	1 637	461	375	9
1998	710	1 815	712	479	88
1999	823	1955	1 006	817	150
2000[1]	1 600	4 240	1 018	828	152

1. Ministry of Land Reform estimates for 2000 based on budgetary allocations.
Source: Ministério do Desenvolvimento Agrário.

divided into four categories, with resources allocated separately for each group. Category A comprises farm households that have received new land under the government's land settlement programme (see above). Category B consists of the smallest (typically subsistence) farms, with C and D representing farms with progressively larger revenues. The precise definitions (*e.g.* area limits) vary from one region to the next. Farmers are eligible for a limited number of payments in each category, after which they are required to step up a group. The terms of the subsidised credit become progressively less favourable. The classification is summarised in Table 46.

The central premise of PRONAF, which was designed with the support of CONTAG (the Confederation of Agricultural Workers), is that it aims to make the smallest farms into commercially sustainable "family" farms. The tight individual restrictions on eligibility are designed to keep the focus on small farms and to avoid fraud. However, the CNA would prefer to see support focused on category D, where they see greater commercial potential. They are concerned that rural credit is in fact a secondary issue for the poorest of the poor and that these households are the least likely to become commercially viable. A further source of concern is the stipulation that the household must receive 80 per cent of its income from farming (although the definition has been extended to include other rural services) and the strict limitations on hired labour. Notwithstanding the requirement that farmers progress through the categories of support, this would appear to act as a disincentive to income diversification and farm employment.

Table 46. **Classification of households qualifying for PRONAF**

	Household category			
	A	B	C	D
Characteristics	Subjects of agrarian reform	Family labour	Family labour with some off-farm income	Family labour with some off farm income and up to 2 employees
Gross annual income	No stipulation	< BRL 1 500	BRL 1 500-8 000	BRL 8 000-27 500
Credit limit	BRL 3 000-9000 35% tied to farm operations	< BRL 500	BRL 500-2 000	< BRL 5 000
Interest rate	1.15%	1%	4%	4%
Rebate	40% of principal	40% of principal	BRL 200	–
Payment period	10 years, 3 year grace period	4 years, 1 year grace period	2 years	2 years

Source: Ministério do Desenvolvimento Agrário.

Only one half of the BRL 4.1 billion credit allocation for PRONAF in 2000-01 was disbursed. The major reason for this incomplete uptake would appear to be the reluctance of farmers to take on more debt, even at an interest rate of 4 per cent. Yet PRONAF remains by far the dominant programme. Commercial credit has virtually dried up, micro-credit schemes (despite limited implementation) are not considered to be appropriate given the scale of intervention desired, and the development of land rental and share-cropping would be seen as a politically retrograde step. Yet there are reasons for optimism. PRONAF has adapted as it has grown. It is now a decentralised programme, tailored to regional circumstances.

The flexibility of the programme means that when the evaluations of its success or otherwise come in, it should be in a position to adapt accordingly. Such evaluations should evaluate PRONAF not just on its own terms, but also in relation to the foregone returns to other sectors that are implied by the obligatory diversion of credit.

The new rural land tax

Under the 1964 Land Statute, the taxes imposed on agricultural holdings increased with the area owned and decreased with the productivity of that land. The impact of this legislation was limited by under-reporting of land and over-reporting of productivity, as well as by direct tax evasion. The 1999 new rural land tax (ITR) taxes the value of land according to the same principles, but tries to close the loopholes. The major elements of the ITR include escalating taxes, rising to a maximum of 20 per cent on properties larger than 5 000 ha with less than 30 per cent utilisation; a common rate irrespective of region; and a provision that makes it difficult for farmers to divide their properties and reduce their tax liability. In addition, the landowner's tax submissions are taken into account by the *Instituto Nacional de Colonização e Reforma Agrária* (INCRA) in the event of the land's appropriation. This gives the landowner an incentive not to under-report his land-ownership or land use.

The ITR has important implications for the environment. Brazil accounts for 30 per cent of the world's remaining tropical forests. The loss of forest to agricultural land has imposed environmental losses, that were highest when speculative land settlement was rife. Policies introduced to limit settlement on unsuitable land and to reduce speculative land purchases on marginal land should reduce this degradation.

The challenge of economic growth for energy and the environment

Energy demand in Brazil has traditionally grown faster than the economy. Growth in electricity demand has been even faster. Given observed income elasticities, if GDP grows, say at 4 per cent per year,[88] total energy demand will grow at above 5 per cent and electricity demand at above 7 per cent. That is if supply and

infrastructure are available to meet demand. The investment needs of the energy sector have been estimated at US$ 10-11 billion per year. The government alone will not be able to sustain this level of investment, and has started to reform the energy sector to allow and attract private capital, and to reduce costs through increased competition.

The recent economic crisis has delayed reforms and hindered the pace of the privatisation programme, especially in the electricity sector (see Annex V.1). Expected investments have not materialised and construction of new power stations is behind schedule. The federal government is concerned that there will be electricity shortages as economic growth recovers in 2001-02, and is actively promoting the construction of new natural gas power plants, by offering incentives to those power plant developers able to start generating before the end of 2003 (the Priority Thermoelectric Programme). The programme is also part of the government's plan to diversify its energy mix away from hydroelectricity and oil, by increasing substantially the share of natural gas over the next 10 years. In the short to medium term, natural gas power plants are essential to absorb the surplus of natural gas imported through the newly opened Bolivia-Brazil pipeline, for which other markets are not yet well developed. While some degree of government intervention may be necessary in the transition period to a fully competitive energy market, the Priority Thermoelectric Programme has introduced unwanted regulatory uncertainty at a time the government strives to attract private investors (see discussion on competition policy and the regulatory environment in Chapter IV).

Another trend, which will have a major impact on the Brazilian energy system, is increased energy integration with its MERCOSUL partners. New crossborder gas pipelines and electricity transmission lines are being built, and regional energy trade is likely to grow steadily in the next decades. Apart from the positive feedback that such links will have on regional political stability and economic integration, energy integration is likely to reduce costs and increase energy security through a more efficient use of the region's natural resources and as a result of increased competition in a wider market.

All in all, it is expected that the environment will benefit from these trends and reforms. Gas penetration will not substantially alter the carbon content of the Brazilian energy mix because the decline in the share of hydro will be balanced by the substitution of gas for coal (see Annex V.1). Total CO_2 emissions and per capita CO_2 emissions will remains well below OECD levels. Local energy-related environmental problems, such as urban pollution from transport and industry, will be attenuated by the substitution of gas for oil. With the introduction of the right market incentives (*e.g.* pricing the environmental externalities of hydrocarbon fuels), renewable energy (hydropower and biomass-derived fuels and electricity) should continue to meet a substantial share of Brazil's energy needs benefiting both the global and the local environment.

The energy system has a low impact on the global environment

Due to its large reliance on hydropower and biomass, Brazil's energy system is one of the least carbon-intensive in the world (Table 47). Brazil emits nearly 30 per cent less carbon per unit of total primary energy supply (TPES) than the average level of OECD countries. CO_2 emissions per unit of electricity generated are more than 10 times lower than in the OECD, and in the road transportation sector, CO_2 emission per Mtoe consumed are 16 per cent lower than in the OECD. In 1998, Brazil's total CO_2 emissions (296 million tonnes) ranked 17th in the world, accounting for less than 2 per cent of total CO_2 emissions. In terms of per capita CO_2 emissions, Brazil ranked 85th with 1.8 tonnes of CO_2 per capita in 1998 (as compared with 10.9 tonnes on average in the OECD and 3.7 in Mexico and 3.9 in Argentina). Despite a relatively energy-intensive GDP structure (*i.e.* a high energy supply per unit of GDP, higher than several European OECD country and at par with Japan[89]), the level of CO_2 emissions per unit of GDP is well below that of the OECD due to Brazil's energy mix low carbon-intensity.

According to the International Energy Agency's (IEA) estimates, total energy-related CO_2 will reach 570 million tonnes by 2020, nearly doubling from its 1998 level. This would bring per capita CO_2 emissions to 2.7 tonnes, still far below the current OECD average of 11 tonnes. The projected changes in the energy mix, with penetration of natural gas and decrease in the share of hydropower and biomass (see Annex V.1), will not substantially alter the carbon content of Brazilian energy demand (CO_2 per unit of energy demand).

Indeed, Brazil's importance as a major player in the ongoing climate change negotiations (see Box 24) goes well beyond its energy-related CO_2 emissions. Depending on the source, annual CO_2 emissions from deforestation in Brazil are estimated to be 1.5 to 3 times the CO_2 emissions from the combustion of fossil fuels.[90] Recognising the Amazon's function as a major carbon sink, as well as home to one tenth of the world's plant and animal species, in 1996 the Brazilian government enacted the Provisional Act to regulate land use in forested areas. Among other measures, the Act provides for the prohibition of further conversion of forested areas to agriculture in the North and in the northern part of the West-Central region. This Act represents a step forward in the right direction, though it may have little practical effect due to the institutional constraints and geographic characteristics of the country.

Local environmental impacts are much more pressing

Despite much international attention devoted to the issues of deforestation and endangered species in Brazil, the country's most pressing environmental problems are local and related to rapid urbanisation and poverty: lack of solid waste collection and proper disposal, absence of sewage systems, poor quality of water supply, local air pollution, noise. S. Paulo, the world's second largest city after Mexico City, is also one of the world's most polluted agglomerations and

Table 47. **Brazil's main energy and CO_2 emission indicators, comparison with selected large countries, 1998**

	Brazil	Argentina	Mexico	India	China	South Korea	Japan	OECD Europe	USA
Total TPES (Mtoe)	**175**	62	148	476	1.031	163	510	1.737	2.182
% *annual growth* 71-98	**3.5%**	2.3%	4.5%	3.6%	3.7%	8.9%	2.4%	1.2%	1.2%
TPES per capita (toe)	**1.1**	1.7	1.5	0.5	0.8	3.5	4.0	3.4	8.1
% *annual growth* 71-98	**1.5%**	0.8%	2.0%	1.5%	2.2%	7.5%	1.7%	0.7%	0.2%
Electricity consumption per capita (kWh)	**1.939**	2.053	1.906	504	942	5.068	8.192	5.893	14.135
% *annual growth* 71-98	**5.0%**	2.8%	4.3%	5.5%	6.7%	10.8%	3.0%	2.4%	2.0%
Energy import dependency (% of TPES)[1]	**28%**	–29%	–54%	13%	1%	83%	78%	35%	22%
Energy intensity (TPES/GDP, toe/'000 US$)	**193**	209	195	320	248	303	198	223	310
CO_2 per capita (tonnes)	**1.8**	3.8	3.7	0.9	2.3	8.0	8.9	7.7	20.1
Carbon intensity (CO_2/GDP, tonnes/'000 US$)	**326**	466	470	611	687	687	437	504	768
Carbon intensity of energy mix (CO_2/TPES, tonnes/toe)	**1.69**	2.23	2.41	1.91	2.77	2.27	2.21	2.26	2.48

1. A negative figure indicates an exporting country.

Source: IEA.

Box 24. Brazil's involvement in the international environmental arena

Brazil is an important participant in discussions regarding the global environment. In June 1992 it hosted the United Nations Convention on Climate Change (UNFCCC) in Rio de Janeiro, which brought together representatives of over 170 nations, 110 heads of state and 1 400 non-governmental organisations. After being the first country to sign the Climate Convention in 1992, it ratified it in 1994. In an effort to resolve issues of equity posed by the very different level of greenhouse gas emissions between developed and developing countries, Brazil was also the only developing country to present a burden-sharing proposal at the Third Conference of the Parties (COP3) held in Kyoto in 1997.* Although the Brazilian proposal was not adopted by the COP, it paved the way for the establishment of the Clean Development Mechanism (CDM) as one of the flexibility mechanisms introduced by the Kyoto Protocol. The Brazilian government has looked especially at how the agricultural and forestry sectors can contribute to the mitigation of climate change, because Brazil contains 16 per cent of the world's forest area.

Brazil is also a signatory of several other international environmental agreements, such as the Antarctic-Environmental Protocol, the Biodiversity Convention, the Desertification Convention, the Ozone Layer Protection Convention.

* See La Rovere, 2001 for a detailed description. In short, the Brazilian proposal calls for a sharing of the burden of carbon mitigation among Annex I countries proportional to their cumulated CO_2 emissions since 1840, instead of their annual CO_2 emission in 1990.

shares all the problems that many other large cities face when the population grows faster than the infrastructure that can support it. Significantly, the transport sector has now taken over from the industrial sector as the major cause for local air pollution. In the late 1980s, 50 per cent of the city smog originated from factories' emissions and 50 per cent from motor vehicles' exhaust fumes. In 2000, the shares were 10 per cent and 90 per cent respectively.

Brazil has implemented some ground-breaking environmental policies and programmes

The somewhat bleak local environmental picture should not obscure the fact that Brazil has been able to devise and successfully implement a few ground-breaking policies and programmes that address the multifaceted challenge of ensuring energy supply while reducing environmental impacts and improving the standard of living of its citizens. Some examples are the use of sugarcane to produce a motor vehicle fuel (the Alcohol Programme); and the design of a model urban planning and mass transportation scheme in Curitiba.

The Alcohol Programme was originally created as a response to the oil shock in 1973 to reduce dependence on imported oil. It has generated foreign exchange savings of US$ 18 billion (in 1990 US$) between 1978 and 1990 (La Rovere, 2001), while generating important environmental and macroeconomic side-benefits (see Box 25). The use of a biomass fuel for transport has helped curb the increase in air pollution in Brazilian cities, while contributing to significant CO_2 emissions forgone.[91] The Programme has also created 720 000 direct jobs and more than 200 000 indirect jobs in the sugar cane sector and in the motor vehicle industry.

Box 25. The Brazilian Alcohol Programme

Since it was first launched in 1975, the Brazilian Ethanol Program has been the world's largest commercial application of biomass for energy production and use. It succeeded in demonstrating the technical feasibility of large-scale ethanol production from sugar cane and its use to fuel car engines. Since 1979, 5.4 million ethanol-powered cars have been manufactured in Brazil. In 1998, ethanol-powered cars consumed 7.6 billion litres of ethanol per year, and another 5.3 billion litres of ethanol were used for the production of gasohol (a blend of 22 per cent ethanol, 78 per cent petrol). The latter is the standard fuel used by the rest of the cars in the country.

After oil prices sharply decreased in the mid-1980s, the programme ran into financial difficulties. In fact, production facilities, even in the region of S. Paulo where distilleries are most efficient, require oil prices to be at least US$30 per bbl for ethanol to be an economically attractive alternative. When this price level was reached in 2000, ethanol again became a cost-effective substitute for gasoline. However, even with a high oil price it would be difficult to resume the mass production of cars powered only by ethanol. Indeed, high sugar prices in the international market make it more profitable to use sugar cane for sugar manufacturing and export, rather than for ethanol production (many distilleries have this flexibility).

The potential impact of oil price increases, and productivity gains in alcohol production (especially through the introduction of improved fermentation technologies and the use of bagasse to generate surplus power for the national grid), improve the prospects for making ethanol economically viable. Adding the negative environmental externalities to the cost of oil would help make ethanol an economic option. As it reduces CO_2 emissions compared with fossil fuels, ethanol could also become eligible under the Clean Development Mechanism of the Kyoto Protocol. Under this mechanism, all corresponding reductions in CO_2emissions could be sold to industrialised countries that could use them to comply with their Kyoto Protocol emission objectives. This would add to the economic value of ethanol production in Brazil.

Curitiba's experience shows that urban development can occur without adversely affecting the environment (Box 26). Curitiba was one of the fastest growing cities in Brazil in the 1970s, but two decades of careful urban planning and the design of a world famous innovative mass transportation system, have succeeded in reducing the population's reliance on cars. Traffic has decreased by 30 per cent, while population doubled, since 1974. Among the positive externalities of this system are significant reduction of energy use in transport, local air pollution and CO_2 emissions.

The energy sector has important social implications

Energy policy in Brazil has always had a strong social component. Increasing rural electrification is still a top government priority in a country where 15 to 20 million people still have no access to electricity. Equalisation of electricity tariffs and cross-subsidisation of oil products, which were a consequence of this approach, have brought the electricity sector close to bankruptcy and substantially reduced the efficiency of the hydrocarbon sector, for example generating distortions in the refining structure of oil. The reform and privatisation of the energy sector should allow the government to refocus its energy policy and provide an opportunity to re-evaluate what economic instruments are best suited to achieve its social objectives. The withdrawal of the state from the energy sector should in principle free up, and possibly generate, public resources that could instead be devoted to expanding access to modern fuels for low-income and/or geographically dispersed communities.

Social and regional objectives, including universal service and support to disadvantaged consumers, can, in principle, be promoted in a liberalised energy market, provided that such objectives are made explicit and that they are financed in ways that do not distort competition. The example of rural electrification programmes in Chile and Argentina (ESMAP/World Bank, 2000) show that innovative and transparent subsidy schemes can go a long way towards increasing electrification in rural areas while minimising the cost to government.

The social dimension: human capital and inequality

Income is unevenly distributed in Latin America, seen in relation both to developed and developing countries. It is especially so in Brazil (Figure 32). In the mid 1990s the Gini coefficient[92] for Brazil stood at nearly 0.6 compared with nearer 0.3 in western Europe and about 0.4 in North America (Székely and Hilgert, 1999). Although overall inequality has been stable over the last 25 years, the Real Plan (see Chapter I) had a significant impact on the incomes of the poorest. Between 1993 and 1995 real incomes in the bottom decile doubled, those of the next decile grew by nearly 50 per cent (Rocha, 2000). This income growth did not, however, persist; real incomes in the bottom decile even fell slightly between 1996

Box 26. The city of Curitiba: a case of sustainable urban development

The first urban plan was developed as early as 1943 by the French urban planner, Alfred Agache. The main idea of this first plan was to prevent anarchic urban development driven by expected high rates of population growth. Indeed, between 1950 and 1990, the number of inhabitants in Curitiba increased from 300,000 to 2.1 million.

In 1960, the city was divided into neighbouring units, each with a comprehensive system of circulation, an elementary school, a green area and a set of rules for land occupation and use. The Institute for Urban Planning (IPPUC) was founded in 1965. The aim of the Institute was to provide a body of local advisors to monitor the implementation of the plan. This policy was facilitated by a certain political stability at the local level.

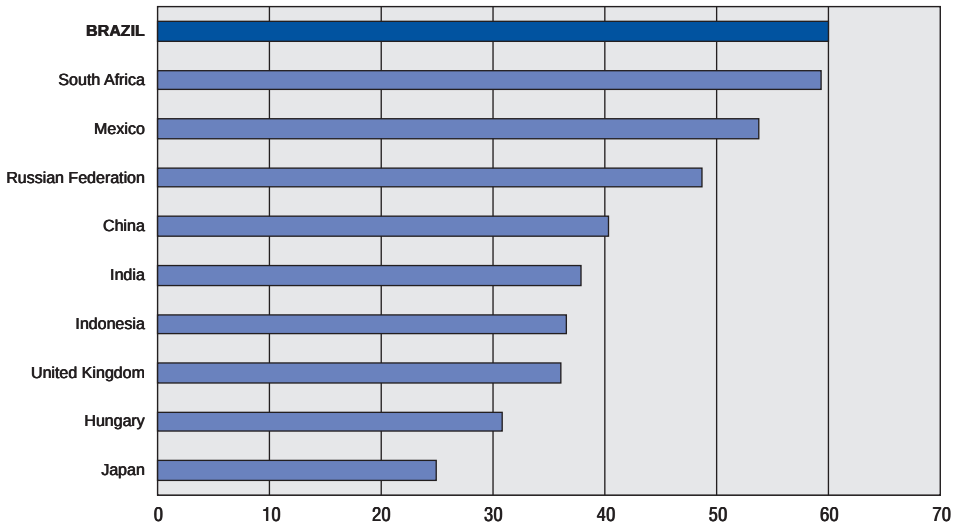
In 1965, the rate of urban (population) growth was around 6 per cent a year. When the central area began to show signs of congestion, the Master Plan aimed to redirect the growth of the city around five structural roads (or development axis). Infrastructure and facilities were created alongside these roads. A central feature of the plan was the creation of an efficient transport system that was able to grow with demand and, therefore, encouraged urban development along the structural roads. Outside these structural axes, construction was regulated. For example, high and large buildings were restricted.

A characteristic feature of this urban planning has been the implementation of low-cost options (using economic incentives) rather than adopting infrastructure investments with large financing needs. For example, instead of constructing costly underground transportation, the city adopted a system of exclusive fast bus lanes with rapid access (tubular stations with advance payments). Since 1974, a single ticket has given access to the entire transport system. Private companies operating within the system are paid by the kilometre rather than by passenger units, giving them an incentive to serve less populated areas.

Another feature has been the development of "Green Exchange" (*Cambio Verde*). Since the collection of waste was rather costly in the less developed areas, the municipality instead decided to swap recyclable rubbish for food baskets or children's school items.

There is also a City Housing Trust that facilitates trade in housing construction permits ("construction potentials"). In certain residential zones, the occupation ratio in apartment blocks can be increased in exchange for land for low-cost housing. In turn, this land is used to provide housing facilities to poor families (less than 3 minimum wages per month). This incentive replaces the former federal state-financing for low-cost housing. Other incentives are provided to preserve buildings with cultural, historic or architectural value. The conservation of green areas is also encouraged by imposing special building ratios and height limits. In larger areas, for example, the height limit can be increased through payments to a Environmental and Welfare Trusts, or donation of part of the green area to the City. These incentives are a way to internalise environmental or social externalities.

Figure 32. **International inequality: the Gini coefficient**



Source: Worl Bank, WEI.

and 1997, though income can broadly be said to have remained stable across all deciles. However, a modest downward trend in aggregate inequality masks quite significant improvements in rural inequality.

Despite the improvement to incomes of the poorest in the wake of the Real Plan, income distribution in absolute terms remains very uneven; in the latest year for which data in available (1999), the wealthiest 10 per cent of the population accounted for nearly half national income. By contrast, the poorest half of the population could muster only a little over 10 per cent of national income. Of these, nearly half (some 46 million people) live below the poverty line. However, a positive characteristic of poverty in Brazil is that those living below the poverty line are not far below it. It would take only an estimated 4 per cent of GDP to lift those below it to the poverty line, roughly equivalent to one-quarter of government social spending.

Poverty and inequality persist in Brazil despite significant public social expenditure. In addition to housing health and education, Brazil incurs social spending on direct poverty relief (nutrition and minimum income programmes), labour market programmes (including unemployment insurance and severance payments, FGTS) and social security (including pensions). But whilst there are some effective programmes that have successfully reduced poverty, they are only

Table 48. **Consolidated social spending, 1996**
BRL billion

	Federal	State and local	Total	Proportion	State share
Social security	63.5	16.6	80.1	51.1%	20.7%
Labour	3.8	0.2	4.0	2.5%	5.0%
Social assistance	1.3	2.4	3.7	2.4%	64.9%
Education	7.3	24.9	32.2	20.5%	77.3%
Health	13.8	11.6	25.4	16.2%	45.7%
Housing	1.7	9.8	11.5	7.3%	85.2%
Total	91.4	65.5	156.9	100.0%	41.7%

Source: IMF (November 2000).

a small part of total spending. Most welfare expenditure goes on pension payments, is regressive and has contributed to the persistence of income inequality (Table 48). This allocation of expenditure has a further drawback. A significant amount of employment in Brazil is informal. Hence, those who are employed in the informal sector do not fully benefit from the majority of welfare spending.

Irrespective of region, reductions in poverty over the last 25 years are best explained by reductions in family size, and most specifically by the reduction in the number of children below the age of 14 (Barros *et al.*, 2000). However, poverty and inequality is concentrated in north and north-eastern Brazil. For example, some 50 per cent of the population in the Northeast is below the poverty line, compared with 15 per cent in the South. This is not a product of demographic differences between the areas. The regional dimension to absolute poverty suggests that any solution will involve transferring funds within the federation. A current example of this is the rural pension scheme. This transfers funds from wealthier states to the Northeast, which receives about 8 times more than it contributes. But extension of this scheme to the urban poor, concentrated in the wealthier states, could give rise to significant fiscal pressures.

Social policy

Brazil has a high level of social expenditure compared with countries at a similar level of development. But high levels of expenditure have not been converted into social outputs. On a number of basic health and education indicators (life expectancy, infant mortality, illiteracy and school enrolment) Brazil, despite recent improvements, has poor outcomes set beside its international comparators. It is acknowledged that comparisons across countries are problematic: the bare numbers take no account of different levels of development, and even where they are adjusted to reflect the differential effect of per capita income, this still leaves out the consequences of differing levels of inequality. A final problem

relates to private spending in these areas. To the extent it is unobservable, and so cannot be adjusted in making the comparisons, private spending biases the aggregate indicators by improving them. Nonetheless, the World Bank has conducted research that attempts to take account of these various biases, which shows that Brazil has an "excess" of infant mortality and youth illiteracy (World Bank, 2000*a*). These two indicators are particularly linked with current, rather than past, levels of expenditures.

This result suggests that Brazil has some room to improve the way in which public expenditure is converted into tangible outcomes. Apart from the intrinsic value in improving the quality of public spending, effort spent on improving delivery of these services would also benefit the poorest and would support the authorities' goal of achieving higher sustainable levels of growth in the future. Indeed there is some degree of interdependence between different areas of social spending (*e.g.* undernourished children do less well at school), and between this type of spending, fertility and ultimately the size and nature of the labour force.

The composition of public welfare spending is skewed towards to social security, particularly pensions. Indeed, public pensions exceed spending on education in Brazil by more than 35 per cent. This is somewhat at odds with the demographic profile: there were some 65 million under-20's compared with less than 10 million over-65's in 1997. Civil service benefits, and public and private sector pensions (RJU and RGPS respectively) dominate spending on social security, itself a little over half of total social spending; less than 2½ per cent of total welfare spending is directed towards social assistance. Responsibility for incurring welfare spending is shared between the federal and state and municipal governments. States and municipalities in fact incur more than 40 per cent of total public social expenditure. The only area which essentially remains the preserve of federal government is the labour market, mostly unemployment insurance.

Income measures

- Pensions

There are appreciable differences between publicly administered pension payments made to the private and public sectors (Chapter II). The average private sector pension during the second half of the 1990s was less than twice the minimum wage. Average pensions during the same period for the executive branch of the federal government were seven times higher, and those in the federal legislature more than 25 times higher (IMF, 2000). And the implicit government subsidy per beneficiary to RJU pensioners is 43 times greater than that to RGPS pensioners. It bears emphasising that this is highly regressive. An added feature is that many people are able to draw pensions from a young age. This is an

important element in explaining why Brazil spends one-third more on public sector pensions than its comparators given its age-structure and level of development (World Bank, 2000*a*).

- Unemployment insurance and severance payments

Brazil is unusual amongst Latin American countries in having a system of unemployment insurance (*seguro desemprego*). In 1998 it made payments to more than 6 per cent of the economically active population, paying benefits averaging 1.6 times the minimum salary. In 1999 it absorbed about 4 per cent of federal social spending. In practice this system is regressive as it covers only the 50 per cent of workers who occupy jobs in the formal sector. This is not unexpected given the insurance nature of the system, but it is worth underling that those, typically poorer, workers in the informal sector are excluded. In some regions, such as the Northeast, the low level of average wages mean that unemployment benefits do in fact have considerable role in poverty relief. This effect is confined to industrial areas since most agricultural workers work under informal contracts.

Workers become entitled to receive unemployment benefits after six months with an employer, providing they lose their job "without just cause" (*sem justa causa*). In 1999 three-quarters of job separations fell into this category, although there is evidence that two-thirds of voluntary separations were certified as a dismissal *sem justa causa* (World Bank, 2000*a*). Indeed if a worker leaves their employer on these terms, they are also entitled to a severance payment amounting to 40 per cent of payments made by their employer into a special fund, the *Fundo de Garantia do Tempo de Serviço* (FGTS).[93] The high replacement rate (between 50 and 80 per cent) combined with this severance payments means that employees typically receive six month's wages over the five months following dismissal, without actively having to search for new employment. This is an obvious incentive to workers to seek dismissal *sem justa causa* where they intend to change employers, and this is reflected in the average age of recipients: 24 years (half of all recipients are under 30). This is somewhat younger than in OECD countries; in the United States the average age is 40. A dismissal *sem justa causa* may not be repeated within 16 months.

Social assistance

Social assistance is based in the 1997 Social Assistance Law (LOAS). It accounts for only a small part of social spending, but is generally targeted and hence is more effective as an instrument of poverty relief. It covers direct income support, as well as disability, rural and old-age pensions. These pensions are considered to be social assistance given, at best, the weak relationship between benefits received and contributions paid. Its share in GDP has recently increased as the government has sought to make its welfare spending more effective; the rural

pensions programme in particular is well-targeted. In addition there are a number of state and municipal programmes that provide direct support to poorer households. Two examples are the *Bolsa Escola* and the federal child labour eradication programme. Both consist of cash transfers to low income households, the former as an incentive to school attendance, the latter to replace income lost to the household when children give up jobs. Other examples include a job creation programme for young workers (*Programa Brasil Jovem*), infant and old age day care (*Servicos de Ação Continuada*), and old age and disability benefits (*Beneficio de Prestacão Continuada*). Expenditure on the last four of these programmes was more than BRL 3 billion in 2000, of which BRL 2 billion was on income support to the old.

Low income households benefit from government investment in better sanitation, and the construction of housing specifically destined for poor households. Infrastructure projects of this sort often also provide, at least temporary, employment, which boosts household income.

Health

The unified health system (SUS) is a result of the 1988 constitution (Box 27). The SUS replaced a highly centralised system in which care was centred on the hospital, and access to care was restricted for different categories of patient. It is a unified network managed mostly by municipal governments. In addition to the state-funded system, there are private health service providers and health insurers. But the SUS provides primary health care to an estimated 95 per cent of the population, as well as 70 per cent of secondary care and 90 per cent of complex care (Pan American Health Organisation, 1998). However, the public health system has faced increasing difficulty in attracting and retaining sufficient numbers of qualified staff.

The system is funded through general taxation (including the CPMF), has universal coverage and is free to all at the point of delivery according to need. For example, in Brazil this includes free comprehensive treatment for AIDS to all those who need it. The federal government contracts healthcare providers in the public and private sectors, and reimburses them for the care they deliver. Fees are, however, set low, obliging sub-national governments to use their own resources to make good budgets of their health service providers. In practice, some 32 per cent of health expenditure is reimbursed in this way (IMF, 2000). The low level of fees, combined with delayed repayment, has also lead private sector institutions to withdraw from delivering publicly financed health care. Constitutional amendment No. 29/2000 requires states and municipalities to earmark 12 and 15 per cent of their net revenues respectively, to health care by 2004.

The system of decentralised delivery that lies at the heart of the SUS has had some teething difficulties. A number of municipal areas were simply too small to benefit from presumed economies of scale. The government has since made

Box 27. Provision of health care and education

The 1988 constitution mandates universal provision of basic health care managed by local governments. In 1990 a Unified Health System (*Sistema Unico de Saúde*, SUS) was created and financed under the responsibility of state, local and federal governments. Laws were enacted defining various levels of health assistance and the corresponding financing instruments. Municipalities can choose the level of assistance they are able to provide (basic or full) and states provide remaining coverage. About 80 per cent of municipalities provide basic health care services, 9 per cent provide full health care, in the rest full provision of services is ensured by the state government. Financial resources come from two types of federal transfers: service-related payments and block grants. There are special committees established to co-ordinate activities among the three levels of government, and between them and private suppliers and citizens. Following a constitutional amendment No. 29 (September 2000), state and municipal governments have to allocate 12 and 15 per cent respectively of their own resources to finance health programmes. In practice, however, there are no earmarked sources of funds for health spending and resources are drawn from both the Social Security and the Treasury. As in most countries aiming at universal coverage, the system has faced problems of sustainability. Moreover, the states often fail to comply with the indicative assignment of 10 per cent of revenues for health care, particularly in those states with small tax bases and large financial constraints. Increasing devolution to local governments entails higher financial burden.

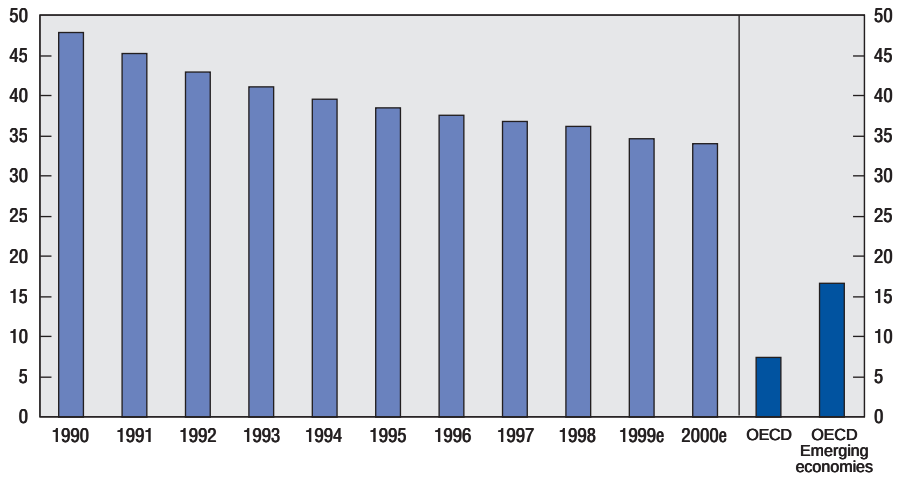
Education services are concurrently provided by the three levels of government, with a gradual trend towards greater responsibilities for primary education by local governments. A fund was created in 1998 with the objective of harmonising the provision of primary education across the territory (*Fundo de Valorização e Desenvolvimento do Ensino Fundamental*, FUNDEF). The fund guarantees availability of minimum funding for education and sets minimum standards for provision of services. The fund receives resources from federal and state governments' shared taxes (15 per cent), federal and local governments' shared taxes (15 per cent), states' VAT revenues (15 per cent), compensatory transfers to states for exports exemptions (15 per cent), and federal revenues from exports of industrial products (15 per cent). Minimum spending per student is guarantied (between BRL 333 and BRL 350 in 2000), so the federal government has to make additional transfers where FUNDEF's resources are insufficient. Funding is distributed by the Ministry of Education and calculated on the basis of total annual enrolment in primary education. This links financial transfers for education to the level of services provided.

provision for smaller administrative areas to operate pooling arrangements that allow them to spread overhead costs and finance specialised care more effectively. In March 2000, these *Consorcios Intermunicipais de Saude* covered around 2000 municipalities under some 150 different arrangements. But reform has not stopped at refin-

ing cost-effectiveness in provision. The government has been keen to promote wider access to healthcare in poorer regions, and so has put in place programmes with financial incentives to meet specific targets for increasing health coverage. At the same time, the federal government has moved to reduce regional health inequalities by ensuring a minimum level of funding (BRL 10 per capita) for basic and preventative healthcare in addition to specific programmes covering maternity and nutrition (*Bolsa Alimentação*).[94] Two important programmes for preventative healthcare are the Community Health Agents (*Programa de Agentes Comunitários da Saúde* – PACS) and the health programme for families (*Programa de Saúde da Família* – PSF). The PACS recruits and trains people from within communities to disseminate information on basic healthcare; this preventative work is complemented by small visiting teams of professionals consisting of one doctor, one nurse, one nurse's assistant and up to seven auxiliary staff. But the bias towards inequality persists in a system that has hitherto rewarded the provision of (more costly) sophisticated healthcare.

The reforms embodied in the SUS have had a measurable impact. In the decade since it was established there have been substantial falls in the rate of maternal and infant mortality (both have fallen by more than 30 per cent), and a dramatic increase in the levels of infant vaccination (Figure 33). But very substantial

Figure 33. **Infant mortality**
Per 1 000 live births



Note: Data for the OECD is an average; OECD emerging economies are: Czech Republic, Hungary, Poland, Mexico, Turkey; data for the OECD countries is for 1997.
e: Official preliminary estimates.
Source: Celso Simões/IBGE, OECD.

regional differences remain, with a clear north-south divide. The focus of government action has more recently been to improve management of the sector at all levels, and ensure that administrative health service units meet the Basic Operating Standards set out in 1996. Another aspect of government policy was put into effect by the law on generic drugs (Law 9787/99). This law has improved access to certain treatments, notably for AIDS. There are presently about 100 generic drugs available in Brazil, and the Minister of Health has declared a target to increase this number to more than 300.

Education

Unlike the health sector, education spending has traditionally been decentralised. Government reforms during the 1990s aimed to give local authorities greater responsibility for setting policy and designing programmes. The federal government has always been responsible for the delivery of higher education, an area which has absorbed a relatively high proportion of the resources available to the sector. Although access to education is universal and state financed, up to one-quarter of spending on education is privately funded (IMF, 2000).

Pre-university education in Brazil is organised into three, roughly equal phases. Primary schooling (the first eight years) is compulsory, and is split evenly between a first and second cycle. This is followed by three years of secondary education. Pupils start primary school aged seven.[95] Brazil historically had very high rates of retention in each grade, which had a deleterious effect on completion rates for primary education since pupils' performance decreases as they fall farther behind the expected grade for their age. This has improved somewhat, as pupils' age-grade gap has fallen from 64 per cent in 1991 to 44 per cent in 1999; the improvement has been concentrated in the lower grades. This is the result of bracketing up to three school years together, and only formally retaining pupils once they leave these wider "bands". Where a pupil would previously have been kept back within one of the new bands, they are now put with their peers into the next class but receive additional tuition to help them catch up. About 40 per cent of pupils fail to complete their primary education. Only one-third of 15-16 year olds in Brazil attend secondary education, though the government's target is to double the number of pupils in secondary education in 1994 by 2003. Between 1994 and 2000, the number of enrolments had already increased by just under 70 per cent, and those successfully completing this cycle of education had doubled. Programmes to develop professional training have also increased.

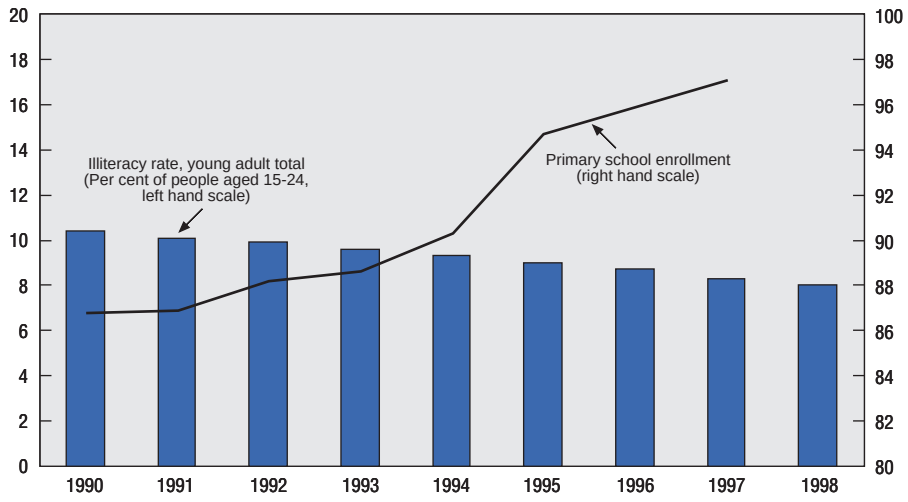
A central plank in the government's reform programme has been the *Fund for the Maintenance and Development of Primary Education and the Teaching Career* (FUNDEF). The programme was designed to ensure a minimum level of spending per student. To this end states and municipalities are obliged to earmark 15 per cent of their revenues to education but, in a new departure, the federal government

tops up spending by the states and municipalities where it does not reach the guaranteed minimum. Since its introduction in 1998 the programme has been developed. Different levels of minimum funding have been introduced between the different cycles, and indeed there is some pressure to vary the minima between urban and rural schools. The government has also used FUNDEF as a mechanism to reduce inequality in teaching pay by earmarking 60 per cent of spending on primary education to wages and salaries. This led to significant pay increases for teachers, particularly in municipalities. As well as reforming the inputs to education, FUNDEF set a minimum national curriculum and included resources to improve teaching quality: in 1999 7 per cent of primary school teachers had not completed secondary school. These are concentrated in the north and north-east, where the proportion is 19 and 14 per cent respectively. Performance of the education system has been monitored since 1990 through the *Sistema Nacional de Avaliação da Educação Básica*. This collects information biennially by questionnaire and through test results.

There have been a number of other initiatives running alongside those associated with the creation of the FUNDEF. These have tended to focus on the poorest regions where access to education is more restricted. Two examples are the Literacy Solidarity Programme and the *Fundescola*. The former is a scheme to help municipalities promote adult literacy, and the latter encourages participation in primary education by channelling resources directly to schools in line with the pupils they attract. In a link with health policy, the *Merenda Escolar* programme provides at least one daily meal for all children in public pre-school and primary education. However, perhaps the most important initiative in this area is the *Bolsa Escola*, which gives "at-risk" families a monthly cash allowance to keep children aged between 6 and 15 at school.

The emphasis placed by the government on the importance of primary education has had an effect. In 1999, about 96 per cent of 7-14 year olds were enrolled in schools compared with 86 per cent in 1991. Over the same period, according to the World Education Indicators programme, the duration of expected schooling rose from 10 to 12.7 years (OECD, 2000*a*).[96] In both cases schools with more autonomy seem to have improved most. Illiteracy, however, remains a problem despite improvements made during the first half of the decade. For those over 15, illiteracy decreased from 20 per cent to 13 per cent, though that still equated to 15 million illiterate adults (Figure 34). This matters: half of earnings inequality can be explained by differences in level of education, since employers are prepared to pay a premium for skilled labour (Barros and Mendonça, 1999). And undereducated workers are particularly prone to fall into poverty. The *Recomeço* (Fresh Start) programme, launched in 2001 aims to increase enrolment in youth and adult education using supplementary funding to states and municipalities with low human development indicators.

Figure 34. **Education indicators**
Per cent



Source: World Bank.

The way ahead

Although Brazil faces a depth of social challenges, significant progress has been made during the 1990s. Indeed, in an outcome that augurs well for the future, social improvements have been greatest where current spending should have the greatest impact. Social policy in Brazil has been transformed though an accumulation of incremental steps. As a result, Brazil's social indicators are now more in line with those expected of a country with its level of per capita income. This needs to be pushed further. Despite the rigidities in budgeting procedure, resources must be shifted towards successful programmes. Yet significant inter-regional differences and income disparities mean that Brazil cannot afford to ease up on development of its social policy. Neither can it simply grow its way out of poverty, given the regressive nature of a large part of its social outlays. The *Alvorada* project started in 2000 acknowledges this, with an explicit focus on Brazil's poorer states and regions.[97] It is an integrated human development programme that focuses its effort on health care, education and income support. The federal government expects to finance more than half: a total expected expenditure of some BRL 13.3 billion. As things stand, social assistance programmes do not provide adequate social protection. The main culprit is a misallocation across the various sectors of welfare spending, particularly in the shape of expenditure on

public sector pensions. There needs to be a fundamental reform of the social security system.

Sub-national governments are big welfare providers but have few targeted programmes (health and education are universal). Where means-tested programmes do exist, they often miss out people employed in the informal sector who are unable to produce adequate evidence of their earnings. The government needs to consider how to draw these workers into formal employment. This suggests that reforms could concentrate on lowering tax and fee incentives to employers to engage informal workers. The evidence is that workers prefer formal jobs, but are prepared to take informal jobs rather than be out of work. There is also scope to improve the way unemployment insurance operates.

Notes

1. Official estimates for 1999.
2. The Gini coefficient increased from 0.50 to 0.59.
3. In 1979, when inflation hit 100 per cent, wages started to be indexed half-yearly and with a proportion of indexation according to its share of minimum wages.
4. This underlined the need for better monitoring of the fiscal position, which led to the creation of indicators with a broader coverage of the public sector, including state enterprises and sub-national levels of government. This is now a positive advantage of the fiscal accounts in Brazil.
5. There was no household survey in 1994.
6. According to company interviews carried out by the OECD, the wage gap in the footwear industry was in the order of 1 to 3 between the southern and northern states.
7. Based on the Monthly Labour Surveys (*Pesquisa Mensual de Emprego*, PME).
8. The main measures were: introduction of limits on personnel expenditure by states (Complementary Law No. 82/95); initial pension reforms for civil servants (Constitutional Amendment No. 20 and the Social Security Law for Public Servants, No. 9717/98); controls on current and capital expenditure by the executive (Decree 2773/98).
9. The shortest period for expenditures indexation was one month, while inflation sometimes ran at more than 1 per cent per day.
10. This legislation was revised in MP No. 2139-34 of 27 March 2001.
11. At one point, Brazil was rolling over BRL 30 billion (5 per cent of GDP), about 10 per cent of the stock of internal debt, in the overnight market.
12. The stock of net foreign debt is captured by cumulative current account balances, also normalised by GDP. This measure excludes revaluation of debt stocks that derive from exchange rate changes. This is desirable since it focuses the analysis on actual financial transfers consistent with the current account, and not on changes in the level of debt induced by exchange rate movements.
13. See Howard (1989) and Reisen (1998) for a discussion.
14. The federal treasury decided to make the payment on behalf of Minas Gerais and withhold transfers to the state in order to guarantee reimbursement. Indeed, the move was not motivated by the lack of funds: given existing debt repayment arrangements between the state and the federal government (see Chapter II), Minas Gerais had deposited more than was needed to make its next payment in escrow accounts.
15. Original targets were 2.6 per cent of GDP in 1999, 2.8 per cent in 2000 and 3 per cent in 2001.

16. This law had its origins in the Emergency Social Fund (FES) temporarily created in 1993 to provide some flexibility to the federal budget and later extended under the name of Fiscal Stabilisation Fund (FEF). It allowed the federal government to retain 20 per cent of the constitutionally mandated transfers to sub-national governments and 100 per cent of income tax revenues from federal civil servants to fund other programme expenditure, such as public employee pensions. The FEF expired on December 1999.
17. The enabling law sets out in great detail the order of priority for dismissing civil servants when redundancy is necessary. Higher rank non-statutory advisors come first, then lower level non-statutory workers, and among civil servants priority for dismissal goes from less to more seniority.
18. Specifically, an amendment to article 192 of the constitution, which sets rules of conduct in the financial sector.
19. The target is to bring the public debt of GDP ratio down to 40 per cent over the long run.
20. The results are for the long run steady state. They assume that the primary deficit plus interest payments is equal to the increase in the aggregate debt stock plus increase in money supply.
21. The correlation between current monthly trade balance and 4-month lagged industrial output is about 0.72 during the period 1995 to 2000.
22. States are often grouped in five regions: North, Northeast, Centre-West, South and Southeast. However, these are not administrative entities.
23. States fix rates for intrastate transactions, though these must be at least as high as rates applied on interstate trade fixed by the federal senate. This restriction is related to a policy of tax revenue equalisation.
24. The funds are as follows: a fund for tax re-distribution among the states (*Fundo de Participação dos Estados*, FPE); a fund for tax re-distribution among municipalities (*Fundo de Participação dos Munícipios*, FPM); a fund for compensation of revenue losses after the 1996-reform exempting exports from ICMS (*Fundo Compensação das Exportações*, FPEX); and three funds to finance credit for private investment in the poorest regions of the North, Northwest and Centre-West (*Fundos de Financiamento da Região Norte*, FNO; *da Região Nordeste*, FNE; *da Região Centro-Oeste*, FCO).
25. See Serra and J.R.R. Afonso (1999).
26. The Senate sets public borrowing conditions and authorises exceptions. In principle, decisions should be taken on the basis of creditworthiness assessed by the central bank. External borrowing requires authorisation only when there is a federal guarantee. Some limits on credit supply by private financial institutions were already introduced in 1983 and credit operations between state public banks and their owners were prohibited in 1986.
27. De Almeida Rangel, M. (1999).
28. See Reis and Blanco (1996), and Schwengber and Ribeiro (1999).
29. The 1988 constitution specified that the conditions for creating municipalities should be regulated by law. In the absence of the required federal legislation, some states have introduced restrictions on the creation of municipalities in their territory.
30. For instance, goods are exported' incurring tax at a lower rate but never arrive at their destination and are in fact consumed locally. Existence of this evasion is supported by the fact that there are large discrepancies in interstate trade statistics.

31. See Fukasaku and De Mello (1999) for a discussion on this issue for emerging market economies.
32. In January 2001, 25 out of 27 states had signed bilateral debt restructuring contracts.
33. In March 2001 the federal senate was still considering the draft legislation that will set the precise limits. Indicative limits are 2 for states and 1.2 for local administrations. In any case, bilateral contracts signed between federal and state governments in the context of the last debt restructuring may contain stricter limits than those in the legislation.
34. Tighter limits might follow from bilateral federal-state debt restructuring contracts.
35. The five states with the highest debt: S. Paulo, Rio de Janeiro, Minas Gerais, Rio Grande do Sul and Paraná.
36. For a summary of the Stability and Growth Pact see section "Fiscal Policy: complying with the Stability and Growth Pact", in OECD (1999*b*).
37. Vast information concerning proposals for reform and their current status can be found in B*iblioteca Virtual* (at *federative.bndes.gov.br*) of B*anco Federativo* from the National Development Bank (BNDES).
38. Acknowledging the complexity of the tax system, the government introduced a unified tax for small enterprises (S*istema Integrado de Pagamento de Impostos e Contribuições das Micro-empresas e das Empresas de Pequeno Porte*, SIMPLES) in January 1997. However, the palliative solution provided by the SIMPLES is likely to affect the organisational structure of enterprises and foster fragmentation of activities into small units. An additional problem is that it breaks the federal VAT chain and fosters evasion.
39. See also Bird (1999) and Joumard (2001).
40. See section on Progress in Structural Reform in OECD (2000*d*).
41. See special chapter "Towards more efficient government: reforming federal fiscal relations" in OECD (1998).
42. Of the total deficit of civil servants' pension schemes, 43 per cent derived from the state-wide schemes and 7 per cent from municipality-wide schemes. This refers to the system's financing requirements and not to its actuarially based accounts, which would need to include the notional employer contribution. If this notional contribution is incorporated at a 2 to 1 ratio (i.e. if governments contributed at a rate twice that of civil servants'), the deficit would have amounted to 2.5 per cent of GDP in 1999.
43. Pension expenditures include survivors' pensions. Calculations are made using the IGP-DI of the F*undação Getúlio Vargas* (FGV) as a deflator.
44. See World Bank (2000*b*).
45. At the federal level, employees contribute with a flat 11 per cent, whereas states levy a contribution ranging from 4 to 14 per cent. Several states have raised rates in recent years. Some states also levy contributions from retired civil servants (and their survivors), pending a supreme court decision on the constitutionality of the matter. In most cases, the employer contribution is only notional.
46. If this requirement is not met, the pension entitlement will be based on the salary of the post the civil servant occupied five years before. This recently introduced provision limits the possibility for certain practices artificially increasing entitlement benefits.
47. The main differences between the Brazilian government and World Bank estimates concern GDP growth (respectively 4.5 per cent until 2004 and 3.5 per cent thereafter, and a flat 3 per cent); real wage and benefit growth (1.5 and 2.5 per cent respectively);

and the number of new entrants to the special schemes. Concerning this last category, the government expects that only 20 per cent of civilian entrants will join special schemes, with the rest going to the general system. World Bank projections assume that all new civil servants will join the special schemes. For further details on the projections, see World Bank (2000*b*) and the Brazilian Social Security Bulletin (*www.previdenciasocial.gov.br*/07_11.*htm*).

48. See Scarpetta and Blondal (1998) for the construction and main assumptions of this indicator. In the case of Brazil, it is assumed that real earnings increase by 3 per cent per year and that the average private sector worker does not hit the social security ceiling. The Brazilian authorities use a working assumption that wage increases followed inflation plus half GDP volume growth.
49. The main exceptions are France, Belgium (for both sexes) and Italy (for women only), where the statutory retirement age is 60. Italian men's statutory retirement age is 65.
50. See Blöndal and Scarpetta (1998).
51. Central Bank resolution (*Resolução* 2 099) of August 1994.
52. This basically consisted of *a*) assigning personal responsibility in criminal cases; *b*) a system designed to provide continuous evaluation of the different kinds of risk associated with each of an institution's activities; *c*) separation within an institution of different activities; *d*) a means of identifying internal and external factors which may hinder the achievement of institutional objectives; *e*) creating the channels necessary to give employees the information they need to do their job; *f*) systematic monitoring of new activities; *g*) periodic information systems safety tests.
53. *Resolução* 2606 and *Resolução* 2692 for foreign exchange risk and interest rate risk, respectively.
54. Because of their growing importance, the Committee on Payment and Settlement Systems (CPSS) of the G10 central bank governors at the BIS has set up a study group to analyse the major issues related to the operation of such systems (CPSS, 1997 and 2000).
55. In one case, the Korea Exchange Bank, a foreign bank was authorised to set up a new operation.
56. The comparison does not take account of different maturities, which may explain some of the differences.
57. Different indicators of financial development are used. The results appear to be strongest for stock market capitalisation, although the contribution of private credit issued by deposit money banks is also significant.
58. Law No. 6385 (7 December 1976) created the Securities and Exchange Commission (CVM), and Law No. 6404 (15 December 1976) known as *Lei das* S.A. reformed corporate law.
59. See Stiglitz (1993) for a discussion on the role of the state in financial markets.
60. Special funds, managed by Brazilian investment firms, were created for the purpose.
61. Debentures, equity and notes.
62. Disclosure and transparency are mainly covered in Instruction No. 202 (1993), which amends and restates the rules governing registration with CVM and provides for periodic and occasional reporting requirements; Instruction No. 31 (1984) deals with insider trading, but also covers disclosure and use of information on material acts and facts; Instructions Nos. 69 (1987) and 299 (1999) cover disclosure on acquisition of relevant

blocks of shares. Instruction No. 345 (2000) added some further protection of minority shareholders.

63. More precisely, the RCA was computed as follows:

$$RCA_i = \left(\frac{X}{\sum X_i} - \frac{M_i}{\sum M_i} \right) \cdot 100, \quad \textit{by definition} \quad \sum_i RCA_i = 0$$

where X*i* and M*i* are respectively the exports and imports for a given sector *i*. This indicator corrects for the overall trade imbalance and, contrary to the often used Balassa indicator, it takes into account both exports and imports. This is an important property given the increasing role of intra-industry trade at the sectoral level, although in Brazil's case the two indicators produce rather similar results. This outcome is not unexpected given that Brazil is a relatively closed economy. The results for RCA computed using the Balassa indicator:

$$\left(X_{ij} / \sum_j X_{ik} \right) / \left(\sum_i X_{kj} / \sum_i \sum_j X_{ij} \right)$$

where *j* stands for country, are available on request.

64. See Pinheiro and Moreira (2000).

65. See Giordano and Santiso (2000).

66. In this regard, there are examples of successful globalisation strategies of Brazilian firms, such as in the steel sector (see Financial Times article "Breaking from the traditional Brazilian mould", 12 Sept. 2000)

67. Constitutional Amendment No. 6, 15 August 1995.

68. The required proportion of national content was first reduced from 85 to 70 per cent, and later to 60 per cent for all credit granted by official lenders and for government purchases.

69. This level has actually increased after the 1999 devaluation. In 1998, the ratio was equal to 14 per cent. For the period 1970-99, the average is 15 per cent. As a point of comparison, Brazil's openness to trade ratio in the 1920s was about 24 per cent (Abreu and Werner, 1997).

70. This mechanism provided up to a 3.5 per cent cut in interest rates on loans to purchasers of exported Brazilian aircraft.

71. Of this amount, nearly four-fifths went to agricultural producers individually. Another 15 per cent paid for general services provided collectively to agriculture, such as infrastructure, research, marketing and promotion, and public stockholding. Despite consumer subsidies being provided in a few countries, OECD consumers of primary farm commodities were implicitly taxed through the surcharge created by market price support policies. Two-thirds of total support to agriculture was financed by consumers, with taxpayers picking up the remainder of the bill.

72. To counteract this problem, ANEEL took measures to reduce uncertainty without prejudicing contracts that had already been signed.

73. "None of them reaching the hard core of state's problems, associated to clientelism and political patronage" see Sergio Abranches (1992).

74. See Pêgo Filho *et al.* (1999).

75. "Ex-estatais mudam relação trabalhista e concluem cortes", *Valor*, 6 November 2000.

76. The firm admitted undisclosed liabilities of BRL 5.6 billion to its pension fund and BRL 2.2 billion to its employee health-plan. It wrote down the value of its shipping fleet by BRL 1.2 billion. But it also revealed oil wells that were undervalued by some BRL 5.6 billion. As *Petrobras* adopts American accounting standards (see Annex IV.1), more liabilities may emerge, perhaps in the pension fund. See "Making it shine", *The Economist*, 20 April 2000.

77. There was no private Brazilian presence in the 1995 ranking of the 500 world's largest enterprises, whereas there were six Korean private groups and one each from Mexico and Turkey (*Fortune*, 7 August 1995). See also Singh (1995).

78. For an analysis of the competition policy framework in Brazil see Clark (2000).

79. See Global Competition Review (2000), *Rating The Regulators*, available on-line at *http://www.global-competition.com/rating/rtng_fs.htm*.

80. ANATEL and ANEEL had signed special understandings (*convênios*) with the CADE (and the SDE), and also with SEAE in the case of ANEEL. Concentrations (mergers) in these sectors are subject to competition law. The responsibility for conducting the investigation of telecommunications mergers is with ANATEL, while the responsibility for the final decision rests with CADE.

81. "EDF a remporté la privatisation de l'électricité dans l'Etat de Rio de Janeiro", *Le Monde*, 22 May 1996.

82. Ownership transfer occurred before the new regulatory framework was in place and the new owners of Light and Cerj protested when the regulator (ANEEL) fined them for failing to fulfil their contracts following power cuts in the summer of 1998. Due to non-fulfilment of contractual obligations, in May 2000 ANEEL intervened in the electricity distributor, Coelce. Its Spanish owner risked losing both the concession and the opportunity to bid for generators elsewhere in the country. In November 2000 ANEEL declared itself satisfied with the actions taken by Coelce, in particular in redressing practices of market segmentation that were unjustly punishing low-income consumers.

83. At this stage the only viable use of natural gas is in thermopower generation, since pipelines for distribution to residential users is not sufficiently developed.

84. For a in-depth analysis of these issues, see Linhares Pires (2000).

85. See "Brazil taxed by rogue fuel distribution problem", *Financial Times*, 7 August 2000 and "Sparks start to fly in Brazil's power plan", *ibid.*, 14 September 2000.

86. This represents about two-thirds of the area planted in the European Union and 30 per cent of the area harvested in the United States.

87. See MDA, "Agrarian reform: Brazil's commitment", 2000.

88. For further details on the calculations of potential GDP see BCB (2000*b*), and Bonelli and Fonseca (1998).

89. Comparisons made using the GDP adjusted for purchasing power parities.

90. While deforestation rates are more or less known, the main source of uncertainty is due to the wide range of biomass densities (hence carbon contents) of the different ecosystems that are being affected by deforestation (La Rovere, 2001).

91. Accounting only for the substitution of petrol, the use of ethanol has avoided the release in the atmosphere of an average of 28 Mt CO_2 per year between 1984 and 1999, or a total of 450 Mt CO_2.

92. The Gini coefficient measures deviation from a situation where income is equally distributed throughout the population. A higher number indicates greater deviation, and hence greater inequality.
93. The employer pays a levy of 8 per cent of the employees wages into the FGTS.
94. This includes vaccination, dental pre-natal care. The nutrition programme is expected to cover practically all children aged six and under who are at risk of malnutrition.
95. See Instituto Nacional de Estudos e Pesquisas Educacionais (1999).
96. Primary and secondary schools.
97. This is a multi-faceted project that includes programmes referred to in the text (such as *Recomeço*, *Bolsa Escola*) as well as other programmes on literacy, health and poverty. The full list is: *Alfabetização Solidária*; *Alfabetização de Jovens e Adultos* (*Recomeço*); *Ensino Médio*; *Bolsa Escola*; *Programa de Erradicação do Trabalho Infantil*; *Água na Escola*; *Saneamento Básico*; *Saúde da Família/Agentes Comunitários de Saúde*; *Redução da Mortalidade Materna e Neonatal*; *Programa de Desenvolviemtno do Turismo no Nordeste* II; *Programa de Combate à Pobreza Rural nos Estados do Nordeste*; *Programa Nacional de Fortalecimento da Agricultura Familiar*; *Programa Nacional de Geração de Emprego e Renda*; *Energia nas Pequenas Comunidades*; *Promoção do Desenvolvimento do Estado de Tocantins*.

Glossary of Acronyms

ANATEL	Agência Nacional de Telecomunicações
ANEEL	Agência Nacional de Energia Eléctrica
ANP	Agência Nacional do Petróleo
BCB	Banco Central do Brasil
BNDES	Banco Nacional de Desenvolvimento Econômico e Social
CADE	Conselho Administrativo de Defesa do Consumidor
CMN	Conselho Monetário Nacional
CVM	Comissão de Valores Mobiliários
DIEESE	Departamento Intersindical de Estatística e Estudos Sócio-Econômicos
IBGE	Instituto Brasileiro de Geografia e Estatistica
INSS	Instituto Nacional de Seguridade Nacional
IPEA	Instituto de Pesquisa Econômica Aplicada
FUNCEX	Fundação Centro de Estudos do Comércio Exterior
MDIC	Ministério do Desenvolvimento, Indústria e Comércio
STN	Secretaria do Tesouro Nacional

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Annex I.1
MERCOSUL: a brief background

MERCOSUL consists of the two largest countries in South America (Argentina and Brazil), plus Paraguay and Uruguay; Bolivia and Chile are associate members. It was established by the Treaty of A*sunción* in 1991, and took effect in 1994. It was envisaged that MERCOSUL would initially be a free-trade zone, and subsequently a customs union, and ultimately, a common market.* It has increased trade and foreign direct investment (FDI) flows. It may expand to other countries in the region (Bolivia and Chile), and there are on-going negotiations to reach a bilateral trade agreement with the European Union. It is not clear from the empirical literature whether these changes have led to genuine creation of trade, or whether preferential trade policies have modified the direction of trade flows to the detriment of third parties. The protective barriers still surrounding the car industry remain a concern, despite an agreement in 2000 to lift its exclusion from MERCOSUL by 2006.

Integration is still far from complete: important markets remain partly or fully closed (*e.g.* sugar), common sets of rules are lacking in key policy areas, and infrastructure bottlenecks have prevented fuller integration of markets. MERCOSUL was given international legal status, allowing it to negotiate with other countries and supranational bodies, by the 1994 Protocol of O*uro* P*reto*. However, it remains an inter-governmental institution with a bare minimum of supranational authority. Dispute settlement and other formal mechanisms are still developing. In this regard, it needs to make predictable and consistent decisions in order to enable economic agents to take long-term investment decisions.

The currency crisis in 1999 highlighted the need to improve the process of macroeconomic policy co-ordination within MERCOSUL. Common convergence criteria in terms of fiscal balance, public debt, and inflation were set in 2000; definitions of public sector debt and deficit have been harmonised and statistics prepared on the new basis will be published. Common goals have been set from 2002 onwards. The institutional framework to manage the monitoring process is provided by the Macroeconomic Monitoring Group (G*rupo de* M*onitoramento* M*acroeconomico*, GMM), composed of senior officials. The country Presidents set convergence criteria in December 2000. Countries unable to meet the criteria will have to present to the GMM the measures they intend to take in order to ensure that adjustment takes place.

* See Andrea Goldstein (1998).

Annex II.1

Reform of the general pension regime: an assessment

The national social security system (RGPS) has its origins in the unification during the 1960s of multiple independent regimes for professionals. Since then, its coverage has been gradually extended to include, *inter alia*, domestic employees and rural workers (see Box A1). In 2000, about 27 million workers contributed to the system, equivalent to less than half the private sector labour force. The great majority of self-employed workers, as well as most of the informal sector, fall outside this system.

Box A1. Rural pensions

Social security benefits equivalent to the minimum wage are paid out to rural workers from the age of 60 (men) and 55 (women), on condition they can prove at least 10 years of rural activities (and whether or not they have previously contributed to the system). In March 2001, 6.5 million rural benefits were granted (33.2% of the total), which represents an annual expenditure of about 1% of GDP. The only revenue counterpart to this benefit is a "rural contribution", based on the commercialisation of agricultural products, which covers only about 8% of the programme's expenditure.

The social impact of this programme is significant. Authorities estimate that rural transfers have a significant social impact, as well as a role in stimulating the local economy and generating jobs. In 61% of Brazilian municipalities, social security payments are the main source of income. According to IPEA, a public economic research institute, the effect is largest in the rural Northeast, one of the poorest parts of the country. There, rural pensions represent on average 71% of recipients' household income.

The extension of coverage has been one of the main factors behind the sharp jump in the number of pensioners, which rose from 9.7 million in 1988 to an estimated 16 million in 1999.[1] Partly as a result, expenditure jumped from a low of 2.5 per cent of GDP in 1988 to close to 6 per cent in 1998/99. This has not, however, been accompanied by measures to increase funding. Pension benefits were extended to new entrants, regardless of whether

they had previously contributed to the system. In practice, workers close (or at) retirement age joined the system, while younger workers in the recently franchised categories tended to remain in the informal sector. As a result, the ratio between contributors and beneficiaries fell from about 4.5:1 in 1970, to 1.7:1 in 1997. With social security revenues remaining roughly constant at about 5 per cent of GDP, the system's financial balance deteriorated steadily.

This deterioration in social security accounts is also partly related to demographics, even though population ageing is still at its early stages. The share of the population over 65 years of age has increased from 3 to 5 per cent of the total since the 1970s. This compares with an average of almost 15 per cent in the OECD at present. Life expectancy at birth has also increased sharply, by 10 years in less than two decades. Nonetheless, at 64 for men and 72 for women, it still trails most OECD countries, by about 8 to 10 years. In fact, Brazil is still undergoing the effects of a classic demographic transition, including a recent sharp drop in fertility rates (Figure A1). The number of children per woman of child-bearing age has fallen sharply, from 5.8 in 1970 to an estimated 2.2 in 2000. As a result, the young age dependency ratio has fallen steadily. This downward trend is expected to persist for approximately another 20 years, more than offsetting the gradual increase in the old age dependency ratio. Accordingly, the share of the working age population (20 to 64) in total will continue to move up until 2015/2020 (Figure A2). After 2020, however, the relative size of the working age population is expected to decline, with total dependency ratio converging gradually towards the OECD average (Figure A3).

The pension system since the 1998 reforms: towards sustainability

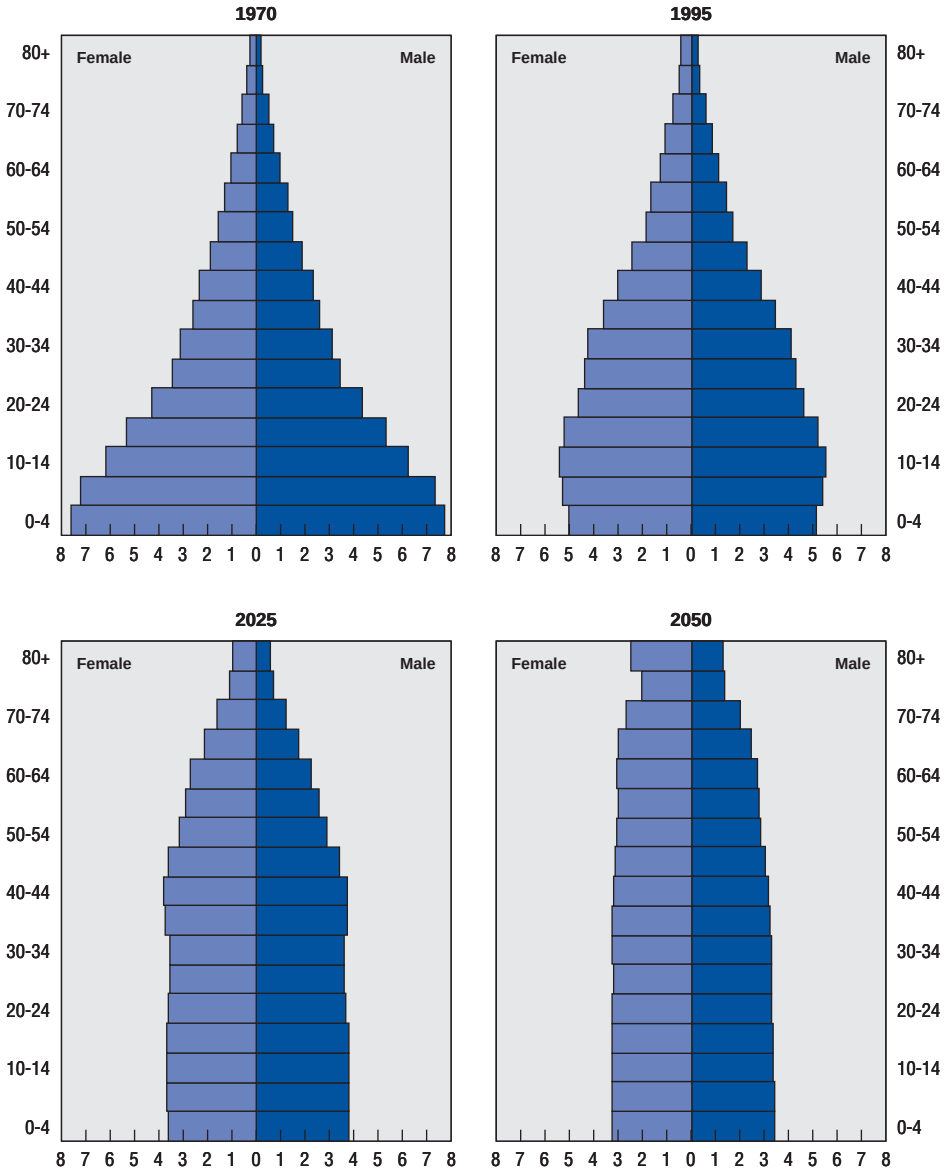
By the mid-1990s it was clear that a combination of the non-funded extension of benefits, growing pressure from an ageing population, and perverse incentives in the system's original design was leading to an explosive widening of the social security deficit. This threatened macroeconomic stability. After several years of discussion, a major reform was approved in 1998. The main plank of reforms consisted of a new methodology for calculating pension benefits. By introducing an adjustable formula (*fator previdenciário*) based on actuarial rules, this new methodology has gone a long way to correcting distortions in the system and ensuring its long-term financial viability. Other reforms have included the abolition of contribution scales and the extension of the contribution period over which benefits are calculated.

Eligibility

Recent reform of the social security system has introduced tighter eligibility requirement for full pension entitlement. This is now conditional on a minimum length of contribution to the social security system (35 years for men and 30 for women). In practice this means that it is no longer possible to count years of undeclared work towards retirement (see Box A2). A reduced entitlement continues to be available to those who reach the pensionable age of 65/60 (60/55 for rural workers), so long as they have contributed for at least ten years (this figure will increase gradually to 15 years by 2005).[2] A reduced entitlement may also be granted to men/women who joined the general social security regime before the reforms and who have contributed for at least 30/25 years.

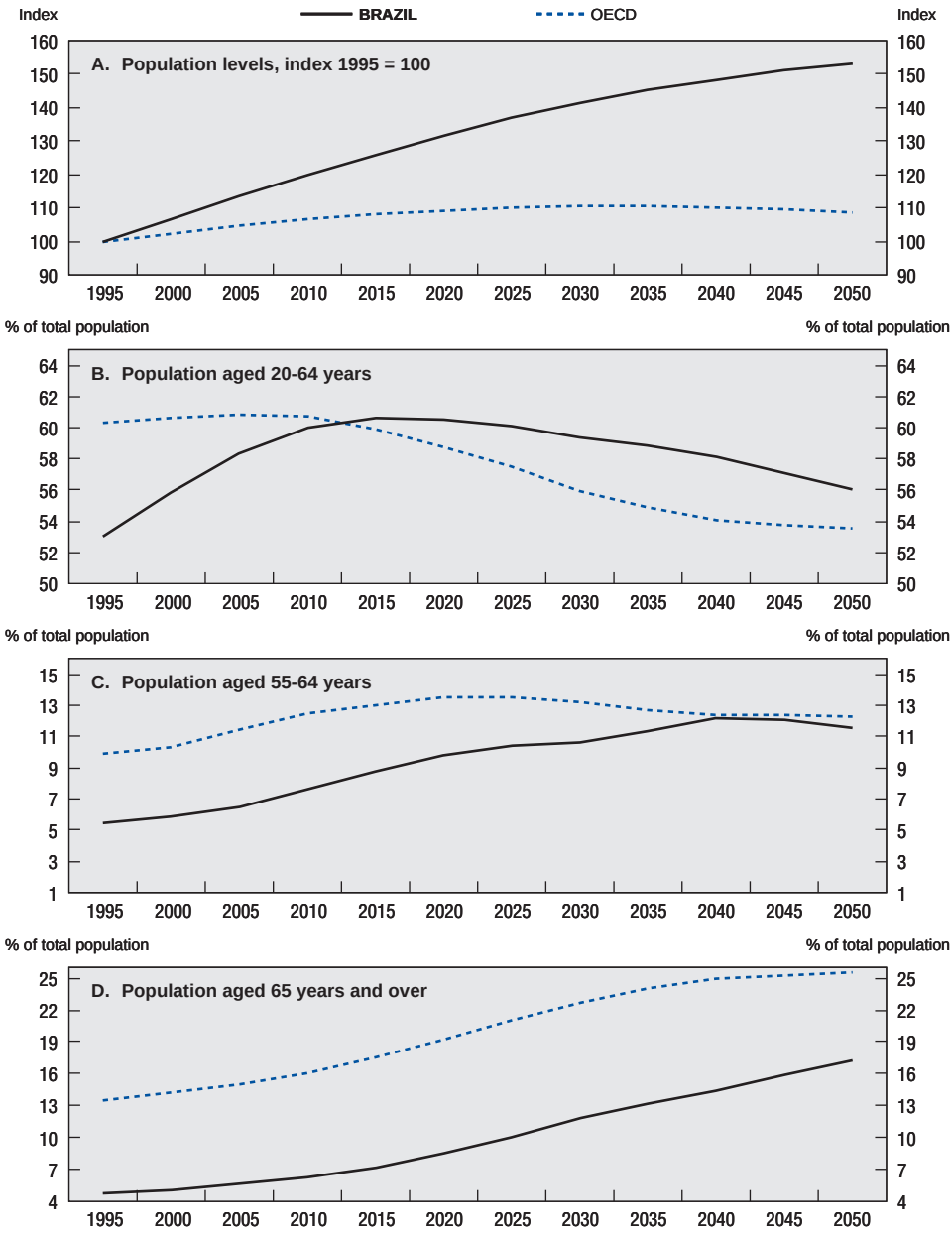
Proposals to introduce a minimum retirement age have been defeated in Congress. Tighter eligibility requirements are anyway likely to lead to an increase in the average age of transition to inactivity, which averaged 49 years in 1998, as middle-aged workers delay

Figure A1. **Demographic structure**
Per cent of total population



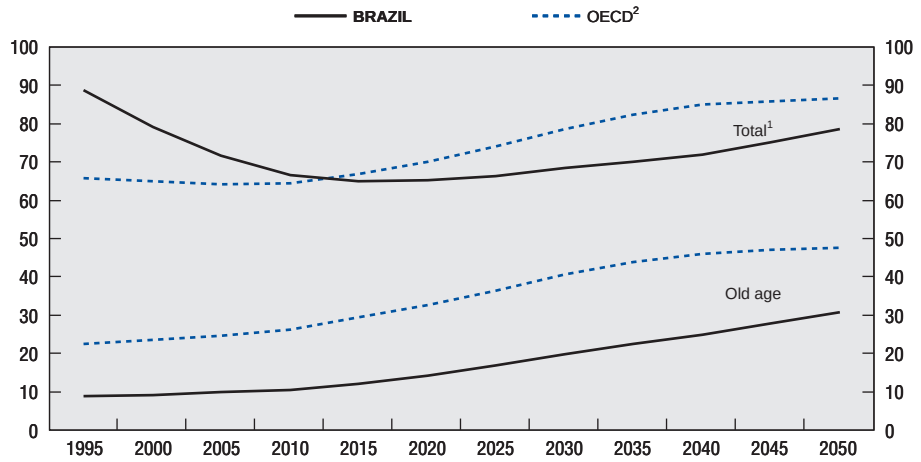
Source: United Nations' "World Population Prospects 1950-2050 (The 1998 revision)".

Figure A2. **Population trends: 1995-2050**



Source: Eurostat for EU countries, United Nations for others.

Figure A3. **Total and old-age dependency ratio**
Group relative to population aged 20 to 64 years in per cent



1. The total dependency group refers to young population (0-19 years) and old-age population (65 years and over).
2. Data are calculated as the average of the rates of individual countries (excluding Turkey and Mexico).
Source: Eurostat for EU countries, United Nations for others.

retirement in order to acquire right to a full pension. In fact, by 2000 the average age of transition to inactivity had already increased to more than 54 years. More importantly, the design of the system itself should lead to a general increase in retirement age. One of the main features of the reformed Brazilian system is that it provides workers with enhanced flexibility in choosing when to retire, as well as with large incentives to remain active for longer. Based on cross-section data for different categories of workers,[3] the OECD Secretariat estimates a marginal increase in pension benefits of between 5 and 8 per cent for every additional year of activity (Figure A4 and Figure A7 below).

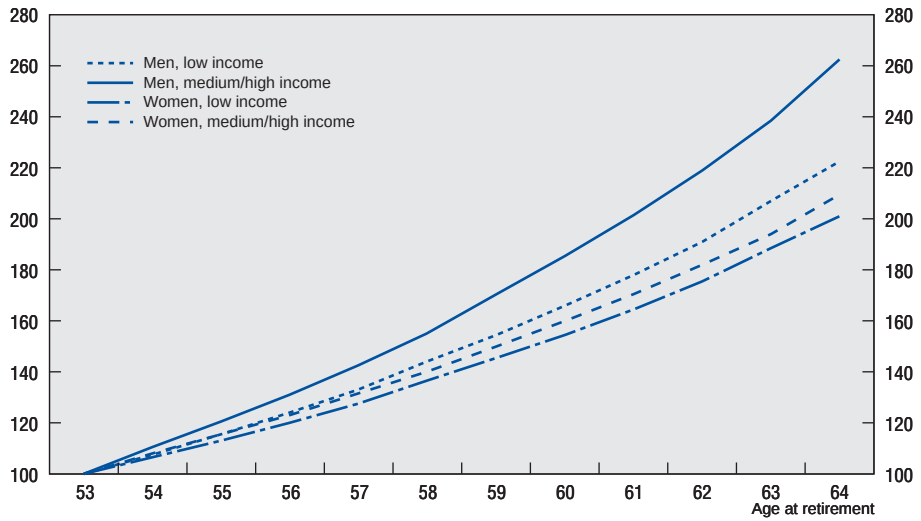
Contribution rates

Employees' marginal contribution rates to the general social security system were edged up from 8 to 11 per cent, subject to a cap.[4] In effect, for salaries above the cap (BRL 1 328 per month, equivalent to about 700 dollars in early 2001) the marginal employee contribution rate falls to zero. Employers contribute a flat 20 per cent rate regardless of the cap. Benefits are capped at the same level, with the effect that higher income workers are encouraged to join complementary insurance schemes. However, in a country with a very unequal distribution of income, the number of workers with salaries above the social security cap is relatively small: less than 20 per cent of total. Finally, the absence of a cap for employer contributions enhances the system's internal redistributive role (see below).

Box A2. The general social security regime before reforms

Until the 1998 reforms, full pension rights were granted to those that had either contributed for ten years, or reached statutory retirement age (65 for men and 60 for women) or could prove they had worked (without necessarily contributing to the social security system) for a certain number of years (35 for men and 30 for women). Through early retirement schemes, proportional pensions were also available to men/women who had worked for at least 30/25 years. Given that the average worker entered the labour force at the age of 18, it was not uncommon for people to retire in the mid-forties. Benefits were calculated based on the last 36 months of activity, subject to a cap. This encouraged workers (either those for whom the system was optional or those in the informal sector) either to enter the system close to retirement age, or sharply to increase their declared income in the last few years of activity. To prevent the worst abuses, a complicated system of contribution scales was put in place so that workers could not immediately declare higher incomes when close to retirement age. Moreover, a minimum period of contribution was introduced for eligibility to pension benefits. This was gradually increased, from five years in 1991 to nine years immediately before the approval of reforms in December 1998.

Figure A4. **The marginal increase in pension benefits**



Source: OECD, based on IPEA survey data.

Entitlements

Pension benefits are based on the average of the highest 80 per cent of monthly wages over the whole contribution period, subject to a floor and a cap.[5] Entitlements are then calculated by multiplying this average by the *fator previdenciário* (FP, social security factor), which depends, *inter alia*, on the length of contribution to the system and life expectancy at the time of transition to inactivity (see Chapter II). Based on life expectancy in 1999, an average male worker would have an FP equal to one at age 56½; female workers, who receive a bonus, reach this level two years earlier. The formula is adjusted annually for changes in life expectancy, so the system is designed to cope with expected ageing of the Brazilian population. A linear increase of five years in life expectancy would entail extending the working life (and length of contribution) of the average worker by three years. Alternatively, pensions would be reduced by approximately 20 per cent.[6]

The calculation of pension entitlement through the use of the FP formula described above is designed to mirror an individual system of capitalisation. In fact, the first part of the formula is an individual-specific actuarial indicator, whereas the second part can be thought of as a bonus for delaying the transition to inactivity. Contrary to a traditional capitalised system, however, there is a strong element of internal redistribution of income incorporated in the system. This redistribution is achieved through a number of instruments:

- Women and primary and secondary school teachers benefit from bonus years in the calculation of the length of contribution.
- A single life expectancy table is used; hence gender differences are ignored, benefiting women, who have on average lower incomes and higher life expectancies than men.
- A single contribution rate of 31 per cent is used (11 per cent for employees and 20 per cent for employers). Workers with lower wages – who contribute at the lower marginal rates of 8 or 9 per cent – get an indirect subsidy.
- Even though pension benefits are capped, employers contribute at 20 per cent without any cap. Implicitly, higher wages are subsidising the system.

The challenges ahead

The reform of the general regime for private sector workers has represented an important step towards the long-term actuarial and financial balance of social security for two main reasons. First, it curbs the worse inequities of the old scheme by creating a fair, simple, transparent and actuarially based system of incentives/disincentives to influence retirement decisions. The OECD Secretariat calculates the internal equilibrium rate of the pension system (defined as the internal rate of return to contributions) at between 2.5 and 4 per cent per year, depending on the category of worker. This is prudent even under conservative assumptions about rates of return. Second, it introduces a large degree of in-built flexibility, which is crucial to face the likely demographic challenges in the future.

It is not clear, however, if the recent changes will indeed bring the system towards financial balance in the medium to longer-run. The Ministry of Social Security (MPAS, Ministério da Previdência e Assistência Social) and the Ministry of Finance (MF, Ministério da Fazenda) have three scenarios for the general regime's deficit until 2020, the main difference between which is the assumption for real output growth (3, 3.5 and 4 per cent). In the least optimistic scenario, the system's deficit would reach 1.8 per cent of GDP in 2020, up from about 1 per cent in 2000, but below the 2.5 per cent that would have been expected if reforms had not been implemented. In the central scenario, considered by authorities to be the most likely,

the deficit would stabilise at 1 per cent of GDP. These scenarios also hinge on other assumptions, including wage bill growth, the growth of non-pension expenditures, and the annual readjustment of benefit levels. These variables, however, depend on a series of factors that have not been addressed by recent reforms. Indeed, future challenges to social security finances are likely to come from factors affecting these variables: the growing share of informal employment (which affects growth of the formal wage bill), the growth of social assistance expenditures imputed to the system, and the present link between the minimum wage and the level of benefits.[7]

The growth of informal activities

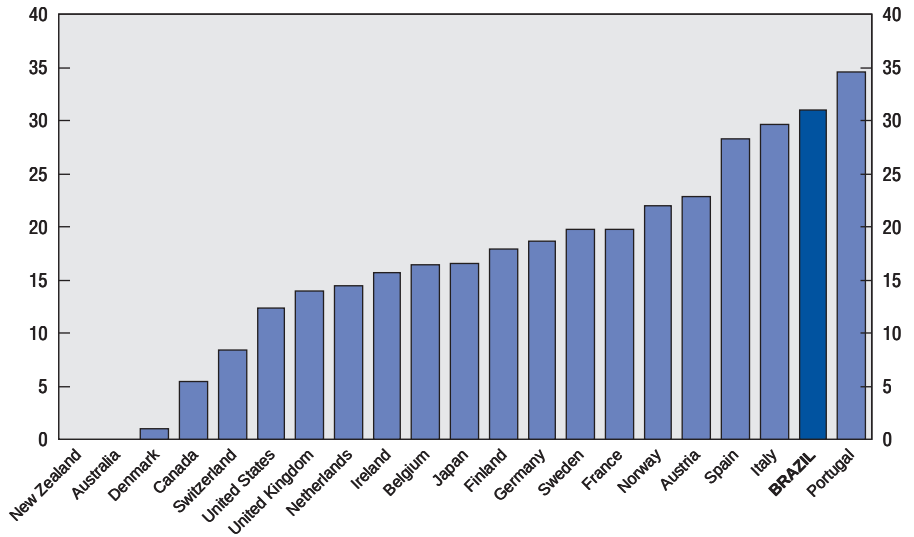
As a result of, *inter alia*, a growing tax burden, the increased use of sub-contracting in industry and insufficient flexibility in labour legislation,[8] the informal sector has expanded faster than the formal economy in the past ten years. In the decade to 1999, the share of formal employment in total employment fell steadily from 59 to 45 per cent.[9] As far as pensions are concerned, this trend has also been shaped by the design of the old-age social assistance programme. This means-tested programme benefits all residents over the age of 67 regardless of whether they have ever contributed to the social security system, discouraging older informal sector workers from joining the formal sector.[10] By reducing the number of active contributors, this trend poses an important threat to the system's financial balance. In 1998, there were an estimated 38.7 million workers outside the social security scheme. Most were either self-employed, a category that includes a large number of street vendors, or domestic employees. In these two categories, only a fraction of workers contributed to the system: about a sixth and a quarter respectively. Low coverage rates were also prevalent in the construction and agricultural sectors. Raising coverage among these categories would significantly increase social security revenues.[11] The authorities have thus identified a number of target groups for increasing coverage rates and designed specific policy measures to reach them. Some of these measures also serve wider policy objectives such as incentives to SMEs and other social goals, but their direct effect on social security is through coverage rates. Several special regimes are now in place, including:

- Domestic employees: the employer's rate has been reduced from 20 to 12 per cent. The employee contributes at the normal rate (8 to 11 per cent).
- Rural workers: rural enterprises contribute 2.6 per cent of turnover, independent farmers contribute 2.1 per cent of sales. No other employee contribution is required.
- Small and medium enterprises: employers' contribution rate fixed between 3 and 7 per cent of turnover (progressively). Employees contribute at the normal rate.

This strategy has its limits, however. The National Institute of Social Security (*Instituto Nacional de Seguro Social*, INSS) estimates that these various exemptions and reduced contribution rates cost close to 0.7 per cent of GDP annually through revenue losses.[12] Moreover, taxing turnover is inefficient since it cumulates through the production chain and complicates on-going discussion of tax reform (see Chapter II). Finally, special regimes greatly complicate collection and facilitate evasion. For instance, the rural worker's contribution of 2.1 per cent of sales is theoretically imputable to first purchasers of farm products, but is hardly collectable.

Recognising this fact, other steps have been taken to expand coverage, including the creation of mechanisms to prevent losses from the introduction of sub-contracting and increased flexibility and simplification of procedures. Education campaigns have been stepped up and a law codifying crimes against Social Security (*Lei de Crimes contra a Previdência Social*) was approved in mid-2000. This new law strengthens the ministry's legal authority

Figure A5. **Pension contribution rates**
Per cent



Source: United States Department of Health and Human Resources, Social Security Programs Throughout the World (various issues).

to prosecute fraud and evasion. A number of measures were also taken in the context of the programmes to generate employment and income (*Programas de Geração de Emprego e Renda*). All these measures all go in the right direction, but are unlikely to halt the increase in informal employment. This calls for a broader strategy that should include a deeper review of labour legislation and the tax system – and more specifically, the reduction of payroll taxes. Brazil's pension contribution rates remain among the highest in the world (Figure A5).

The weight of non-pension benefits

The social security system is also responsible for the payment of non-pension benefits such as maternity and sick pay, accident insurance and old age assistance. In the first half of 2000, there were approximately 3.2 million beneficiaries of these types of social assistance, compared with over 15 million pensioners. As the average non-pension benefit is modest (close to one minimum wage, or BRL 151), their share of overall social security expenditures remains small (less than 5 per cent). Still, both the scope and scale of these benefits have increased steadily in the past few years as the social safety net has been gradually extended. If this trend persists, social assistance transfers may threaten the long-term financial balance of the social security system no matter how actuarially-balanced its pension segment is. It would be desirable, therefore, to segment social security accounts more clearly

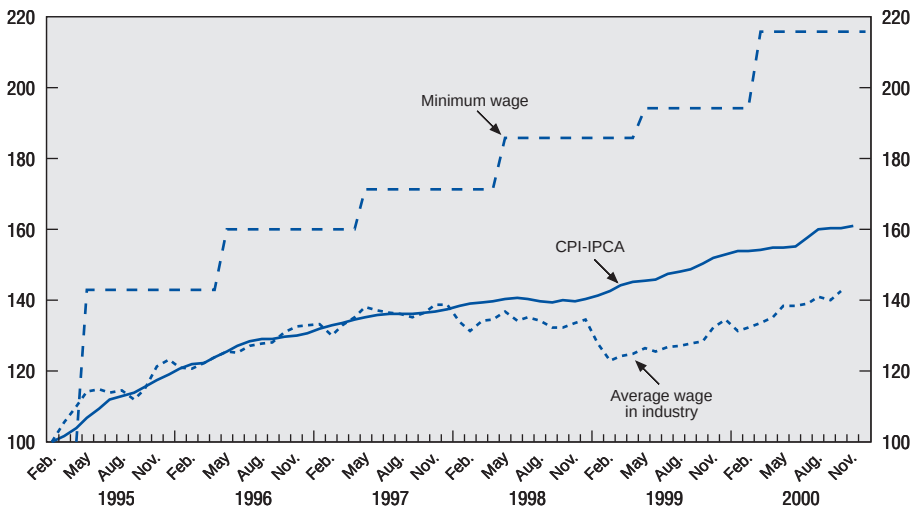
isolating non-pension expenditures and funding. This would enhance the transparency of policy choices and could lead to a more efficient and progressive system of financing social expenditures, relieving the pressure on payroll taxes.

The link between minimum pension benefits and the minimum wage

The minimum wage is proposed by the executive, but subject to congressional approval. It is usually adjusted in line with the forward-looking CPI, plus an additional, often politically determined, real increase. In the recent past, this adjustment has significantly exceeded the growth of average earnings (Figure A6).[13] The value of the minimum wage affects social security benefits, since it serves as a floor for pensions. The significance of this institutional link is large, since about two-thirds of all benefits are at present equal to the social security floor, including almost all rural workers' pensions. As a result, continuous real increases in the minimum wage could threaten the social security system's financial balance.[14]

The use of the minimum wage as a floor for benefits, is mandated by the constitution.[15] A constitutional amendment to de-link the minimum wage and the pension benefit's floor would be desirable, since it would also allow authorities more freedom in setting the former; about 75 per cent of the impact of a minimum wage increase on the federal budget derives from its social security component. De-linking would also serve to reinforce the incentives for later retirement built into the *fator previdenciario*. At present, the marginal increase in pension benefits for an additional year of activity for workers earning the minimum wage is close to zero.

Figure A6. **Average earnings and the minimum wage**
February 1995 = 100



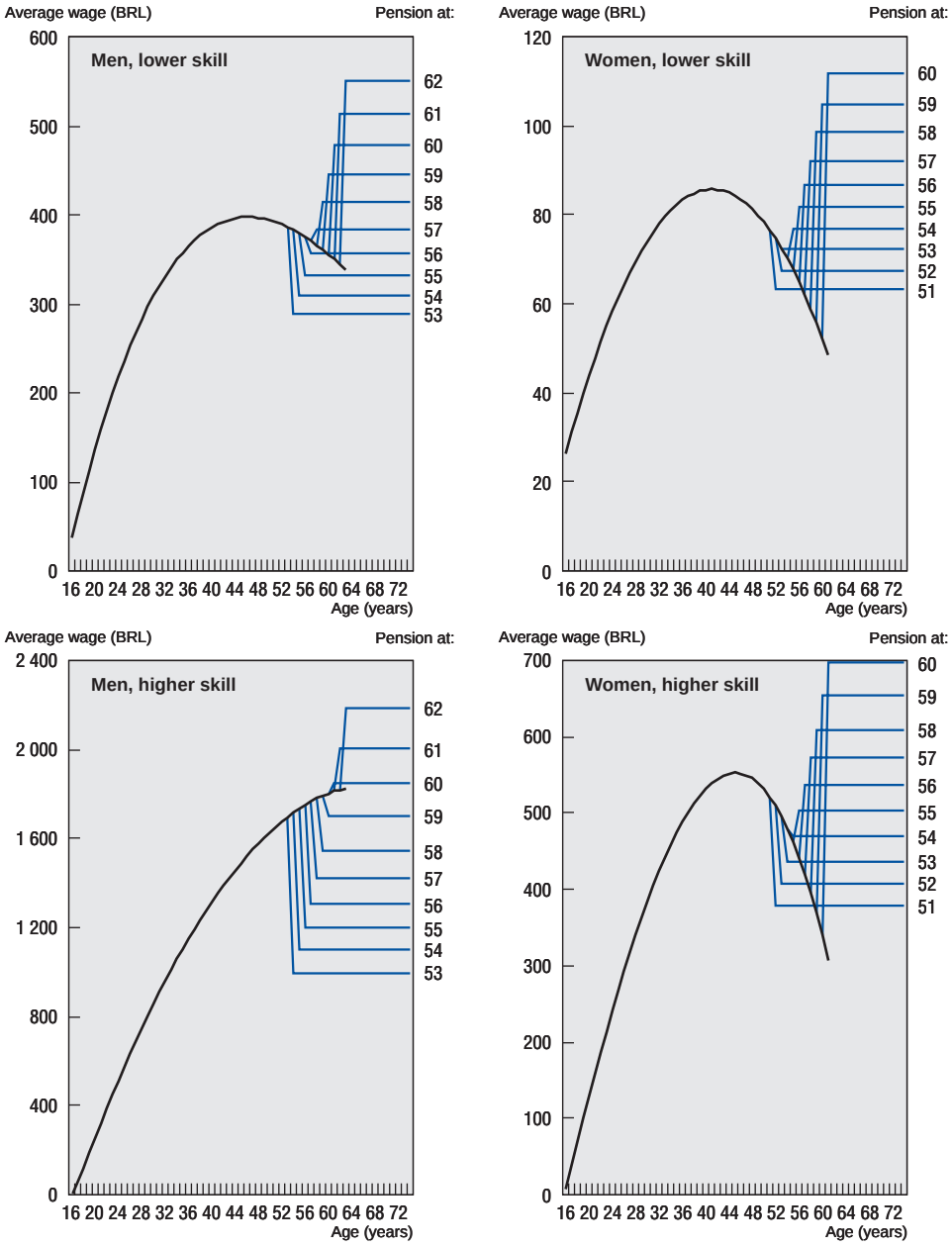
Source: IBGE, IPEA.

Box A3. Calculating the marginal pension benefit of delaying retirement

Based on the 1997 household survey data published by the National Statistics Institute (IBGE, Instituto Brasileiro de Estatísticas), IPEA (Instituto de Pesquisa Econômica Aplicada) has calculated wage income curves for different categories of workers. Private sector workers between the ages of 16 and 70 have been divided by gender, age and skill level (defined as years of schooling). General system (RGPS) pensioners who remained in the labour force were excluded from the sample. In the absence of a complete time-series set, this cross-section data can be used as proxy for a life-cycle income curve.

The shape of these earning curves helps determine the marginal increase in pension benefits for every additional year of activity and thus the effect of the *fator previdenciário* (FP) on retirement decisions. In fact, pensions are determined by multiplying the FP by the average of the highest 80 per cent contribution wages over the entire working life of a worker. Workers who arrive in their early 50s with a (still) upward sloping earnings curve will have a higher incentive to remain in the labour force, so as to increase their average life-cycle average earning to which the FP is applied. Conversely, workers with a downward sloping earnings curve will find that a higher FP is partly offset by a declining average earning. For instance, IBGE/IPEA data show that on average, higher-skill (more than 8 years of schooling) men reach their peak earnings much later than lower-skill workers and/or women, explaining why the introduction of the FP is expected to have a stronger effect on the former (Figure A7).

Figure A7. **The increase in pension benefits for an additional year of activity**



Source: OECD, based on IBGE/IPEA data.

Notes

1. Including other social security benefits, such as maternity and sick leave benefits, accident insurance and old age assistance, there were close to 18 million recipients of social security transfers in 1999.
2. This often overlaps with social assistance programmes, especially the means-tested old-age assistance, available to all residents older than 65.
3. For methodology see Box A3. A time series for income by age, gender and skill-level is derived by IPEA (Instituto de Política Econômica Aplicada) from household survey data published by IBGE (Instituto Brasileiro de Geografia e Estatística).
4. Certain contributors are subject to a special regime. This includes agricultural producers, football clubs, small and medium enterprises adhering to the "SIMPLES" tax system, domestic employees and philanthropic (charity) institutions.
5. Pension benefits are subject to a ceiling and a floor. The ceiling is equivalent to the social security cap, the same that applies to contribution rates (BRL 1 328.25). The floor is equal to the minimum wage (BRL 151). In late 1999, the average pension paid by the general system was less than BRL 300. Benefits are indexed to the minimum wage. Survivor's pensions are calculated at 100 per cent of the original pension benefit, payable to a spouse or companion, regardless of his/her age or the duration of their union.
6. The average worker is defined as joining the system at the age of 18.
7. Health expenditure (and revenues earmarked for this, mostly the CPMF) are also part of the social security sub-sector, creating problems of cross-subsidisation between the different components of social spending (see Chapter II). This section deals only with the narrower definition of social security, which includes most social assistance but not health spending.
8. In this regard, there are a number of initiatives taken recently by the government to overcome these rigidities. Among others, they cover speeding-up procedures, streamlining the Labour Courts, introduction of new fixed-term contracts, opening the possibility for training periods in the labour contracts.
9. Between 1989 and 1999, the number of informal employees rose from 20 to 26.5 per cent of total employment. The share of the self-employed and employers has also increased.
10. Transfers related to the old-age assistance programme are of a similar amount to the minimum pension granted under present rules, which requires a minimum of ten years' contribution to the social security system, rising to 15 years by 2005. Entitlement is subject to a maximum household per capita income of ¼ of the minimum wage.
11. About half of non-covered workers were either without income or with incomes below the minimum wage, making them hard to target. If public sector employees were also

excluded from the count, the number of potential new contributors would fall to a still significant 18.5 million. Of these, 8.4 million are self-employed and 2 million are domestic employees.

12. This figure includes losses from all special regimes, including those applying to philanthropic (charity) institutions.

13. The effect of increases in the real minimum wage can be substantial. The large re-adjustment of the minimum wage in 1995 has had an annual impact equivalent to 0.6 per cent of GDP on social security accounts, according to MPAS's calculations.

14. In early 1999, benefits equal to the minimum wage represented 35 per cent of total social security transfers.

15. Note that the majority of OECD countries have indexation mechanism based on prices, or a combination of prices and average (not minimum) wages. This should be considered in Brazil.

Annex III.1

Accounting standards in Brazil: a comparison with IAS

Legislative requirements in Brazil are set out in the 1976 Corporate Law, complemented by regulations from the Securities Commission for listed companies (GAAP, 2000). In fact, there are two competing accounting frameworks in Brazil: one detailed in the Corporate Law and the other defined by the Conselho Federal de Contabilidade* (CFC). The main difference between them relates to accounting for inflation. Under CFC rules financial statements must be adjusted for inflation where this has a *material* effect, though the rules fail to specify how to establish materiality. By contrast, the Corporate Law does not allow adjustment for the effects of inflation after 1 January 1996. Under the Corporate Law all companies must prepare financial statements in line with the accounting framework in the legislation, but companies may additionally prepare financial statements under CFC rules if they wish.

There are some International Accounting Standards that do not, either partly or wholly, have counterparts in Brazil's accounting rules. These are:

- Disclosures of cash flow statements (IAS 7);
- Segmental reporting (IAS 14);
- Leases (IAS 17)
- Employee benefit obligations (IAS 19);
- Provisions made in accounting for acquisitions (IAS 22.31);
- Calculation of diluted earnings per share (IAS 33.24).
- Discontinued operations (IAS 35);
- Impairment of assets (IAS 36);
- Intangible assets (IAS 38);

In addition to those areas where Brazil lacks rules for areas covered in the IAS, there are areas where existing rules conflict. This could potentially lead to differences for many enterprises. Under Brazilian rules:

- Proposed dividends are accrued (IAS 10.11);
- Contract revenues and costs may be recognised on bases different from the stage of completion (IAS 11.22);
- Revaluation reserves are reversed against the carrying value of the assets before the calculation of gains and losses on the disposal of discontinuing assets (IAS 16.56);
- Leased assets are not capitalised (IAS 17.12);

* The Federal Council of Accountants.

- Tax grants related to investment incentives are credited to equity (IAS 20.24);
- Certain combinations are not treated as acquisitions that would be under IAS (IAS 22.5/8);
- Goodwill is calculated on the basis of book values rather than fair values of the acquired net assets (IAS 22.40);
- Enterprises (not being subsidiaries) in which an investor holds more than 10 per cent of share capital are treated as associates (IAS 28.4);
- An issuer's financial instruments are accounted for on the legal basis of their precise legal status and may not be classified on the basis of whether they are in substance liabilities; compound instruments are not split on this basis (IAS 32.18/23);
- Earnings per share calculations are not based on the average number of shares outstanding during the period (IAS 33.24);
- Provisions may be made on the basis of the probability of outflow rather than requiring a formal obligation (IAS 37.14);
- Provisions are not discounted (IAS 37.45);
- Certain research costs can be capitalised (IAS 38.42);

There are other Brazilian conventions that could lead to differences with IAS, though perhaps with less widespread impact:

- Operating lease payments are recognised in line with legal arrangements rather than on a straight line basis, and there are no rules on the recognition of lease incentives (IAS 17.25, SIC 15);
- The financial statements of hyperinflationary foreign subsidiaries may be expressed in a stable currency, and translated using year end exchange rates (IAS 21.36);
- Subsidiaries held for sale might be excluded from consolidation even when they had previously been consolidated (IAS 27.13).

Annex III.2

Brazilian foreign exchange regulations

The ultimate authority for foreign exchange policy is the National Monetary Council, but responsibility for regulations affecting cross-border capital flows, as well as the management of international reserves, is delegated to the central bank, the Banco Central do Brasil (BCB).[1] There is an elaborate system for monitoring and registering many categories of foreign exchange operation, based on detailed compulsory reporting from all banks and brokerage houses authorised to operate in the market. This depth of this information on foreign exchange transactions has been very valuable to the BCB in managing crises in the market. However, since January 1999, the BCB has only intervened occasionally, and only in a limited way designed to counteract disorderly market conditions.

Brazil accepted the obligations under Article VIII of the IMF in November 1999, following the elimination of some restrictions related to credit card operations and forward foreign exchange contracts for imports. In early 1999 Brazil had abolished its system of dual exchange rates at the time it floated the real (see Chapter I). The dual exchange rate arrangement had consisted of an official (commercial) market for most current and capital transactions, and a fluctuating market for tourism, some non-trade related services, private unilateral transfers and non-registered capital account transactions. Although the dual rates have become unified they still exist in a procedural sense, awaiting congressional approval of amendments to the underlying legislation.

Brazil is a member of the Latin American Integration Association (LAIA), which operates a clearing system based on special central bank accounts for its member countries.[2]

Payments on the current account

There is no formal bar to foreign exchange transactions on the current account, but Brazil has a legacy of complex procedures with which it can be difficult to comply. Proceeds from export sales must be repatriated. The full foreign currency value of the sale must be surrendered to the BCB within 360 days of the goods being dispatched or 20 days after the invoice is paid, whichever is the earlier. The BCB Foreign Capital and Exchange Department (DECEC) must also approve payment for imports of current account invisibles that are not specifically exempted.

There are no restrictions on investment related remittances such as dividends, interest payments, capital gains and repatriation of capital, so long as the initial capital investment was duly registered with the DECEC.

Payments on the capital account

The macroeconomic setting during 1993 gave rise to high capital inflows (see Chapter III) that were further stimulated by regulatory changes offering foreign investors exemption from

capital gains tax. In mid-1993 the Brazilian authorities sought to influence the composition of these inflows by implementing a number of direct and price-based controls. These were intended to reduce upward pressure on the exchange rate and minimise the cost of sterilisation in the situation where other policy constraints prevented the authorities from lowering interest rates. Specifically, the measures encouraged inflows of FDI and portfolio investment rather than purchases of fixed income securities that were typically used to arbitrage short term interest rates. At the same time, capital outflows were further liberalised, in particular through a number of measures introduced from 1995.

However, it seems the sophistication of the Brazilian money and derivatives markets enabled market participants to circumvent most controls despite repeated adjustment of the measures by the BCB. In the mid-1990s, the authorities resorted to outright prohibition of most short-term inflows into fixed income instruments, and denied non-residents access to the Brazilian derivatives market. They also became uneasy about the surprisingly large simultaneous rise in benign inflows, such as FDI, following allegations in the financial press that these were being used only as vehicles to disguise fixed income investments.

Trade credits

The situation for private sector entities is that they may negotiate any terms they wish for trade-related credits; public sector entities, or any contract carrying a public guarantee, are subject to some constraints.

Foreign direct investment

Liberalisation of the FDI regime took place in the early 1990s. Prohibition on FDI into certain sectors was lifted and bureaucratic obstacles, including those relating to registration procedures, were reduced. The position of transnational enterprises (foreign invested firms with majority foreign ownership) was significantly improved by the introduction of national treatment for access to preferential domestic investment finance. The last reform was important, though it did not lead immediately to a dramatic increase in FDI inflows since the largest initial beneficiaries were already well established in Brazil. But after a process of restructuring and modernisation spurred by these reforms FDI inflows rose sharply in the second half of the 1990s.

Currently no prior approval is required for inward FDI, although sectoral restrictions still apply in some cases.[3] In a bid to stimulate foreign acquisition of domestic banks, financial institutions domiciled abroad may not establish branches in Brazil, and presidential authorisation is needed to increase branches of domestic financial institutions in foreign ownership. Outward FDI is not restricted, except that investment in excess of US$ 5 million require prior authorisation by the BCB (normally freely given without delay). The BCB must also approve investments by Brazilian non-financial companies in banks or other financial institutions abroad.

Portfolio and fixed income flows

As the interest rate differential with the US declined in the late 1990s, many of the controls on these flows were dismantled. One such was the system that set out detailed regulations for inward portfolio investment in Annexes I-V. Since March 2000, only Annexes III and V remain in force. The result is that foreign investors are now able to migrate directly between fixed and variable-income funds and the derivatives market, without resorting to circumventing schemes. The remaining parts of the regulatory system cover investment abroad by Brazilian residents. Taxes on transactions in financial instruments (IOF) that apply

exclusively to cross-border transactions persist, although rates have been reduced in several cases.

Since March 2000 non-residents have been freely able to buy listed shares and debt securities. These purchases must be made though a Brazilian intermediary, which is responsible for ensuring regulatory compliance of the transaction. An exception is that companies or individuals domiciled in MERCOSUL may make purchases through their local dealers. Foreigners have been subject to "national treatment" since 2001. As of March 2000 foreigners have also had free access to the derivatives market. Inflows resulting from the sale or issue of securities abroad by Brazilian residents require prior approval by DECEC; a mandatory minimum maturity was lifted at the end of 1999, and has been replaced by a 5 per cent tax on remittances in respect of securities with a maturity of less than 90 days.

There are still a number of regulations on capital outflows. Non-residents issuers may not list their shares directly on a Brazilian stock exchange, but can do so only by issuing depositary receipts that require regulatory approval. Brazilian residents themselves may only buy depository receipts outside MERCOSUL where they are based on shares issued in Brazil by a Brazilian company. Brazilian residents may also only buy shares, or other participatory instruments, of companies headquartered in MERCOSUL countries via custody certificates purchased on a Brazilian stock exchange. Residents do have access to foreign bonds and debt, money market and collective investment securities through dedicated offshore open-ended mutual investment funds (FIEX). Until February 1999 a minimum of 60 per cent of these funds assets had to be held in Brazilian federal external debt (Brady bonds) with the rest in other securities traded in international markets. In February 1999 this floor was raised to 80 per cent. Finally, credits granted by Brazilians to non-residents must be registered with the BCB, and are subject to the same 5 per cent tax mentioned in the preceding paragraph.

The effect of non-MERCOSUL residency

Until February 2000 only authorised foreign exchange dealers, certain institutional investors and Brazilian residents living abroad were entitled to hold foreign currency accounts with domestic banks. Since then the scope has been widened to include companies responsible for project development and execution in the energy sector. The BCB may widen the coverage further to reduce the incentive to Brazilian nationals to hold illegal offshore accounts.

Domestic currency accounts held by non-residents are not fully convertible, unless they are held in a non-resident financial institution.

Special rules for commercial banks and institutional investors

Banks' foreign borrowings of more than 360 days duration are subject to authorisation and registration by the BCB. Since January 2000, funds borrowed abroad may be on-lent freely in the domestic market within the limits relating to banks' open foreign exchange positions.

There are percentage limits (in terms of technical reserves) on the funds institutional investors may hold in off-shore investment trusts (FIEX), as there are for different categories of equity and debt issued by companies headquartered in the MERCOSUL area.

Notes

1. The BCB's authority derives from laws (as amended) 4131 of September 1962 and 4390 of August 1964.
2. LAIA membership comprises all of South America, plus Mexico and the Dominican Republic.
3. The sectors where restrictions still exist are: investment in banks and other financial institutions, highway freight transportation, domestic flight concessions, acquisition of rural agricultural property and business in border areas, the development of atomic power, the aerospace industry, fishing, broadcasting and newspaper publication, postal services and the health sector.

Annex III.3

Corporate governance in Brazil

The 1976 company law "Lei das SA"

Brazilian law does not adequately protect minority shareholders. The 1976 Corporate Law enables groups or individuals holding relatively small amounts of a firm's capital to exercise control, mainly through a system of dual shares. Ordinary shares come with voting rights, "preferred" shares do not. A company may issue up to two-thirds of its total capital as preferred shares. As a result, control can be exercised by shareholders with as little as one-sixth of a firms capital.[1] There is use of cross-shareholding, which may further reduce the proportion of a firm's capital that is needed effectively to exercise control.

As a rule, only ordinary shareholders may vote on the appointment of directors to a public company's board. Company law allows bylaws granting voting rights to preferred shareholders, although there is little evidence that this takes place. Composition of the board is set out in the company statutes. The method of electing the directors reinforces the dominance of ordinary shareholders, though the minority (of voting shares) is entitled to one seat on the board through multiple voting. The board is elected in a single vote.[2] Shareholders may split their voting entitlement between different candidates, but they can also vote for only one candidate. The number of votes they may cast is linked to the size of the board. In addition to the main board, public companies may have an audit committee if shareholders request it. The committee's role is to monitor the company's financial statements, and to draw the attention of the main board to any irregularities. The audit committee has no right to veto main board decisions. Minority shareholders having at least 10 per cent of ordinary shares, and shareholders without voting rights, are each entitled each to elect one member of the audit committee.

These arrangements are not sufficient to give minority shareholders, with either voting or non-voting rights, an effective voice. Indeed the right to representation makes no difference to the ability of small groups of owners to exercise control.

Ownership is concentrated…

Enterprise ownership in Brazil is concentrated either in the hands of the state or families. The state retains significant holdings in the infrastructure sector. Families, through business groups, ultimately control most private companies. Cross-shareholdings effectively further reduce the amount of capital that has to be held to exercise control over a company. Banks are not major shareholders, since government regulations limit the shareholdings of banks in non-financial companies. There are exceptions to the general pattern of ownership. Certain sectors of the Brazilian economy are almost entirely dominated by multinational corporations; for instance, motor vehicles, food and pharmaceuticals. These foreign companies

tend not to be listed in Brazil, and are therefore not subject to Brazilian company law (Rabelo and Coutinho, 2000).

Valadares and Leal (2000) give an overview of the ownership and control of Brazilian companies listed on the main *Bolsa de Valores de* S. *Paulo* (BOVESPA, the S. Paulo stock exchange) in 1998.[3] The prevailing structure of ownership and control is similar to that of some European countries. The study showed that 69 per cent of companies listed had a single shareholder holding more than 50 per cent of the voting capital. This compares with a figure of 57 per cent in Germany (Franks and Mayer, 1994) and 95 per cent for Italy (Bianchi and Casavola, 1995).[4] Of the Brazilian companies, the single shareholder held on average 74 per cent of the voting capital, but only 53 per cent of the total capital. For those companies where there was no majority shareholder, the largest holding was on average 31 per cent of the voting capital, representing 22 per cent of the total capital. For the sample as a whole, the five largest shareholders held 84 per cent of the votes and 58 per cent of the total capital. On average, companies are controlled by the three largest shareholders, one of whom holds a large stake. This contrasts with countries that have adopted a market-centred approach to corporate governance.[5]

Concentrated direct shareholdings are reinforced by the presence of significant cross-shareholdings. Where companies have a majority shareholder, 55 per cent of the voting capital is indirectly held (Table A1). The same result holds for all categories of shareholding, except for companies with no single majority shareholder.

Table A1. **Direct and indirect shareholdings in Brazilian companies, 1998**

	Companies with a majority shareholder (155)		Companies without a majority shareholder (70)		Total sample (225)	
	Voting capital	Total capital	Voting capital	Total capital	Voting capital	Total capital
Direct shareholding						
Average largest shareholder (median)	74% (75%)	53% (50%)	31% (30%)	22% (18%)	61% (59%)	43% (37%)
Average 3 largest shareholders (median)	86% (89%)	62% (60%)	65% (69%)	44% (43%)	79% (84%)	56% (55%)
Average 5 largest shareholders (median)	87% (90%)	62% (62%)	76% (78%)	49% (48%)	84% (88%)	58% (59%)
Indirect shareholding						
Average largest shareholder (median)	55% (54%)	37% (31%)	34% (29%)	23% (18%)	48% (47%)	33% (26%)
Average 3 largest shareholders (median)	71% (76%)	48% (45%)	61% (62%)	40% (37%)	68% (71%)	46% (43%)
Average 5 largest shareholders (median)	75% (79%)	50% (49%)	70% (74%)	46% (41%)	73% (78%)	49% (47%)

Source: Valadares and Leal (2000).

Table A2. **Indirect participation of controlling shareholders, 1998**

		Direct participation of majority shareholder		Indirect participation of majority shareholder	
		Voting capital	Total capital	Voting capital	Total capital
Do not maintain control (53)		75%	54%	26%	16%
Maintain Control (68)	Concentration (15)	64%	40%	81%	51%
	Maintenance (17)	74%	52%	74%	52%
	Diversification (36)	77%	54%	59%	35%
	Average	73%	50%	68%	43%
Average of four groups		74%	52%	50%	31%
Same composition (34)		74%	56%	74%	56%

Source: Valadares and Leal (2000).

Extensive cross-shareholdings do not seem to affect who controls an enterprise. Only 36 companies have a shareholder that uses indirect holdings to maintain control (Table A2). This is largely explained by the widespread use of preferred shares, which means shareholders have no need to resort to cross-shareholdings to establish or maintain control. This situation still allows for the possibility that a small number of large companies may use indirect holdings to achieve management control, as is commonly found in some EU countries.

Corporate governance in Brazil follows an "insider" model rather than the approach in which management is disciplined by capital markets (OECD, 1995). It is also distinct from the countries where the banking sector plays an important role in the governance of companies. Given its concentrated ownership structure, the separation of management from ownership is not the most important agency issue in Brazil. The most crucial issue is how to offer minority shareholders protection. The dual share structure established in the law allowed companies to increase their capital without having to cede control or change their management teams.

… and is only changing slowly

Privatisation and inflows of foreign investment have begun to change the structure of Brazilian enterprise, as has the growth of private pension schemes (Filho, 2000). Foreign companies have bought into a growing number of sectors, such as telecommunications, banking and energy. Foreign investors have taken control of some large Brazilian enterprises. Domestic pension funds together with other investors have also played a larger role in this respect. At the same time, private family-controlled companies have had to adjust to a more competitive environment whilst changing their capital structure in order to take advantage of the opportunities offered by privatisation.

Foreign investment has had a big impact. In 1997, thirty-three of Brazil's largest companies were owned by foreigners. In number, that puts Brazil second globally, after Belgium. However, this has equally lead to a reduction of listings in the stockmarket, particularly in the energy and telecommunication sectors. Privatisation has been far-reaching; there has been a 45 per cent reduction in the number of state companies.[6] State owned companies in sectors such as steel, paper and pulp, rail freight and mining, petrochemical, telecommunications and energy were transferred to the private sector. This has affected the pattern of trade (Chapter IV). The government has mainly sold controlling blocks of shares, rather than dis-

persing ownership more widely. This had the disadvantage of entrenching discrimination against minority shareholders, even though it added a premium to the sale price in privatisation. Indeed, the government had to pass an amendment to company law in 1997 revoking the minority's right to sell their holding to an acquirer at the same price as the majority, thus allowing companies to buy back shares from minority shareholders at any value, usually well below the value of the controlling shares. In parallel, several companies have taken advantage of low market prices for non-voting shares to buy back their shares. Prior to this amendment, ordinary shareholders had to be offered the same price. Now, minority shareholders have to decide whether to accept a (low) offer or risk being left with totally illiquid shares in the market (see below).

A positive change has been an increase in the "dominant minority" category of ownership as private control has been increasingly shared through the creation of consortiums between pension funds, domestic companies and foreign investors. This new form of corporate control has been the standard form to emerge out of the privatisation process (see Chapter IV). Partnerships had to be built in order to exploit privatisation, and the distribution of shares has become more balanced between different shareholders, leading to more representative boards. In particular, the emergence of pension funds as large minority shareholders will shape the development of corporate governance in the coming years.

Company law has to match the evolving structure of enterprise

The emergence of powerful minority interests in Brazilian enterprise will exert pressure for improvements in the protection of minorities. Minority shareholders have complained to the CVM about the different price offered for controlling and minority stakes in companies. Competition from overseas capital markets, sharpened by the sale of enterprises to foreigners during the privatisation process, provides incentives to improve the function and regulation of the capital market. As well as lagging behind in terms of its content, the law is of little help in many cases since recourse to the courts is expensive and slow.

Lack of publicly available information is an important weakness. For example, companies do not have to provide quarterly cash flows, which makes valuing the company difficult. Auditing is of limited value, since it is generally carried out for individual companies and not for the consolidated business group.[7] This makes it hard to establish the value and prospects of both companies and groups. To address some of these points, the government has proposed a reform of company law, which is currently with the Congress. If passed, this reform would improve protection of minority shareholders and strengthen the regulatory capacity of the CVM, although elements of the reform proposal are opposed by several interest groups.[8]

The New Market

Whilst government continues to press forward with legal changes, BOVESPA has initiated its own reforms to deepen the capital market and improve protection of minorities. An integrated clearing system has been set up with major foreign markets in order to create a liquid secondary market in Brazilian corporate bonds. BOVESPA is also encouraging companies to put in place a series of private contracts between themselves and their most important stakeholders. This is *de facto* a way to overcome perceived shortcomings in national legislation. It is modelled on Germany's *Neuer Markt*, where such contracts have been central to its development. Even where national legislation is gradually brought in line with developments in the market, this approach could bolster the changes. BOVESPA would act as a neutral intermediary in establishing the contracts. The main characteristic of the new market is private contracts to enhance minority shareholders and improve disclosure standards. Spe-

cifically this would mean: disclosure standards following US GAAP or IAS (see Annex III.1); on take-over, the same price per share has to be offered to all shareholders; conflicts between controlling and minority shareholders to be solved by an arbitrage court; and, minority shareholders to have a majority on firms' audit committees.

The New Market is, like its German counterpart, intended to encourage companies from all sectors to go public, and simultaneously to attract small investors to channel their savings to stock markets. Unlike the N*euer Markt*, the New Market includes companies from all sectors. To encourage migration of companies from BOVESPA to the new market, companies will be able to choose between two quality levels of corporate governance (acceptable and high). These differ in terms of the price paid to minority shareholders on acquisition and the allowable proportion of non-voting shares.

The government is also encouraging companies to adopt better standards of corporate practice by offering official credit to small and medium sized enterprises that go public and comply with the corporate governance standards of the New Market.[9] BNDESPAR stimulates good governance by forming coalitions of minority shareholders in order to increase representation on boards of directors and audit committees.[10] Moreover, the government is changing the rules governing the allocation of pension fund assets to favour companies with high standards of corporate governance.

Notes

1. Half (plus one share) of one-third of the firms capital: one-sixth or 16.7 per cent.
2. In some countries, cumulative voting (in several voting rounds) has been used as a way to increase the weight of minority shareholders in decision making.
3. The sample included 225 financial and non-financial private companies, representing about 70 per cent of total BOVESPA market capitalisation, and more than 90 per cent of it excluding government-controlled companies.
4. The sample covered the 171 largest listed firms in Germany and the 500 largest non-financial companies in Italy.
5. Scheifer and Vishny (1986) and Demsetz and Lehn (1985) show that the five largest shareholders own an average of 28 per cent of the Fortune 500 companies, and that 23 per cent of these firms have no shareholder with more than 5 per cent.
6. Assets of US$ 37.6 billion were transferred to the private sector.
7. According to the BCB regulations, financial institutions have had to produce consolidated financial statements since 1997 (see Box IV.3).
8. These include the National Industry Confederation (CNI), the Brazilian Association of Open Companies (ABRASCA) and FIESP (São Paulo Industry Federation). Their agreement was successfully sought for the measures in the Company Law passed by the lower house in March 2001. Proposals are now being considered by the senate.
9. The *Plano Estratégico do Sistema* BNDES (2001-05) has a principal objective of providing credit to small and medium size enterprises going public through the *Programa de Apoio às Novas Sociedades Anônimas* (Support Programme for newly incorporated companies).
10. The main vehicle for this is the *Fundos de Liquidez ou Governança*.

Annex IV.1

Classification of trade products

Primary	Basic manufacturing	Intermediate goods and equipment	Consumption goods and other
Iron ores	Cement	Tubes	Leather
Non-ferrous ores	Ceramics	Yarns fabrics	Furniture
Unprocessed minerals n.e.s.	Glass	Wood articles	Printing
Coals	Iron steel	Paper	Plastic articles
Crude oil	Non-ferrous metals	Metallic structures	Refined petroleum products
Natural gas	Basic inorganic chemicals	Miscellaneous hardware	Electricity
Cereals	Basic organic chemicals	Engines	Fats
Other edible agricultural prod.	Coke	Electronic components	Meat
Non-edible agricultural prod.		Vehicles components	Sugar
Jewellery, works of art		Fertilizers	Animal food
Non-monetary gold		Paints	Mixed products
n.e.s. products		Plastics	Clothing
		Rubber articles (incl. tyres)	Knitwear
		Agricultural equipment	Carpets
		Machine tools	Miscellaneous manuf. articles
		Construction equipment	Clockmaking
		Specialized machines	Optics
		Arms	Consumer electronics
		Precision instruments	Domestic electrical appliances
		Telecommunications equipment	Cars and cycles
		Computer equipment	Toiletries
		Electrical equipment	Pharmaceuticals
		Electrical apparatus	Cereal products
		Commercial vehicles	Preserved meat/fish
		Ships	Preserved fruits
		Aeronautics	Beverages
			Manufactured tobaccos

Source: CHELEM, CEPII (see Lafay, *et al.*, 1999).

Annex V.1

Energy sector: current trends and status of reforms

Brazil is rich in energy resources but consumes more energy than it produces

As the largest economy and most populous country in South America, Brazil has the highest consumption of energy in the region. In 1998, Brazil's total primary energy supply (TPES), including biomass, amounted to 175 million tonnes of oil equivalent (Mtoe), roughly equivalent to about 40 per cent of all South America. With a TPES just above that of Italy or Korea, Brazil is the world's tenth largest energy consumer, and the fourth largest non-International Energy Agency (IEA) energy consumer after China, Russia and India. Despite large and varied energy resources (hydropower, biomass, oil, gas and some coal), Brazil consumes more energy than it produces. In 1998, total energy production reached 126 Mtoe; energy imports, mainly of crude oil, oil products, and coal, made up for the remaining 49 Mtoe: an energy import dependence ratio of 28 per cent. This is set to increase as gas imports are expected to rise in the coming years.

Imported oil weighs heavily on the trade balance

Oil accounts for half of Brazilian TPES. Some 40 per cent of it is imported, making Brazil vulnerable to oil price increases. In 1999, the import bill for oil and its derivatives reached US$4.3 billion, about one tenth of the total import bill. Preliminary figures indicate that the cost of oil imports increased by 50 per cent in 2000. Reducing dependence on oil imports has long being a political priority in Brazil, where oil dependence was as high as 85 per cent in 1979 when international oil prices tripled. The Alcohol Programme, launched in 1975, represents the most successful effort worldwide to replace petroleum products with a renewable fuel. Other oil substitution policies included encouraging the use of local coal and, more recently, natural gas, in industry and power generation. At the same time, Brazil has developed sophisticated offshore drilling techniques, which increased domestic oil production significantly. Rising domestic production and oil substitution policies have proved successful, more then halving the oil dependency ratio.

The recent, important upward revision[1] of the estimated undiscovered oil resources in Brazil's offshore fields and the liberalisation of exploration and production (E&P) activities should significantly boost domestic oil production. Over the next two decades Brazil is driving towards oil self-sufficiency and might become a minor net exporter.

No other large country relies on renewable energy to such a degree

Brazilian primary energy supply is characterised by the dominance of three sources: oil, biomass and hydroelectricity. While hydroelectricity covers 90 per cent of the country's electricity needs, oil and biomass provide 64 per cent and 29 per cent respectively of the fuel

Table A3. **Brazil's energy mix, 1998**

	Total primary energy supply (TPES)		Imports	
			Mtoe	% of TPES
Oil	87.1	50%	35.1	40%
Gas	4.7	3%		
Coal	12.6	7%	10.5	83%
Biomass	41.3	24%		
Primary electricity	29.3	17%	3.4	12%
Total	**175.0**	**100%**	**48.9**	**28%**
	Electricity generation			
	TWh[2]	%		
Oil	12.5	4%		
Gas	0.0	0%		
Coal	7.0	2%		
Biomass	7.5	2%		
Hydro	291.4	91%		
Nuclear	3.3	1%		
Total	**321.6**	**100%**		

1. Mtoe: Million tons oil equivalent.
2. TWh: Tera Watts/hour.

Source: IEA.

needs of the industry, transport and household/commercial/service sectors (Table A3). Brazil is one of the three largest producers of hydroelectricity in the world, with roughly the same level of hydropower generation as the US and Canada. Brazil still has large untapped hydro resources: its potential is estimated at 260 GW, compared with existing hydropower capacity of 59 GW (MME, 2000). However, the hydro resources in the South and Southeast of the country are largely exploited, and most of the remaining reserves are located in the Amazon basin, far from the industrial and population centres.

Environmental considerations, reform and privatisation of the electricity sector, and the cost and challenge of building transmission lines over long distances, will in all likelihood prevent construction of any new large hydro power stations. Much of the increase in hydro capacity will come from upgrading existing large power stations, installing medium-sized ones (30-200 MW) and reactivating or building small hydro plants (up to 30 MW). These options can help deal with environmental concerns and will more easily attract private investors. Hydropower generation will continue to increase in absolute terms, but its share in total electricity, which has remained above 90 per cent for the last 25 years, is set to decrease slowly in the future, as new gas-fired power plants enter the power mix.

Brazil makes extensive use of its biomass resources. Sugar cane products play a major role as renewable resources: sugar cane-based ethanol is used in the transport sector and bagasse, the residual product from sugar cane processing, is used for power generation and is major fuel input for the food and beverage industries. Firewood and charcoal are important fuels in rural areas and the industrial sectors, although their use is decreasing. Taking into

account hydropower and biomass, no other large country relies on renewable energy to such a degree.

Gas is set to gain a much larger share in* Brazil's *energy supply mix

Coal, nuclear power and natural gas play a minor role in the Brazilian energy mix. Brazilian coal is of poor quality and all the coking coal used in the steel industry is imported. Nevertheless, the use of local coal for power generation is increasing. Nuclear electricity has never accounted for more than 1 per cent of total electricity generation. Power production from Brazil's first nuclear power plant, the 657 MW Angra I located near Rio de Janeiro, has been unreliable since it came on stream in 1984. A second 1300 MW unit, at the Angra station is now ready to start commercial operation in 2001, after construction was stopped for 17 years. Construction of a third 1300 MW unit started in 1981, but no decision has been made about its completion. The risks of energy shortages have revived the debate on nuclear energy.

Natural gas currently represents only 3 per cent of Brazil's energy supply mix, a share which is amongst the lowest in the region. However, it is expected to gain a much larger share in the coming years as a result of reforms in the electricity and gas sectors and the opening of pipeline connections with gas-rich Bolivia and Argentina. The federal government has unveiled plans to increase the gas share from 3 per cent to 12 per cent by 2010. Initially, natural gas will be used mainly in the power generation sector to meet the country's rapidly increasing power needs and to diversify the power mix away from hydroelectricity (see below). In the medium-term, however, gas is expected to displace oil products in the industry and transport sectors, and to penetrate in the residential/commercial sector for heating and cooling applications.

Domestic production of natural gas is likely to increase as a result of reforms in the hydrocarbons sector, but the bulk of the expected increase in gas supply will come from imports: Bolivian gas is already flowing to the country, and Argentinian gas will not be far behind. Depending on the volume of gas reserves found in Bolivia, Peruvian gas may one day flow to Brazil through the Bolivian network. Other plans include bringing liquid natural gas (LNG) to the North East coast of Brazil from Nigeria, Trinidad and Tobago or Venezuela.

Energy demand is growing faster than GDP

Energy demand, especially for non-biomass energy, grew rapidly during the 1970s, due to rapid economic growth and industrialisation geared towards the development of energy-intensive export industries (steel, aluminium and iron-alloy). Despite a slowdown in the 1980s and in the 1990s, growth in primary energy demand has always been faster than economic growth.[2] The upward trend in electricity demand has been an even more impressive, continuing to grow even during years of recession.

In terms of sectoral growth, energy used in industry grew faster then in other sectors and industry's share of final energy consumption rose from 28 per cent to 41 per cent between 1971 and 1998 (Table A4). Economic growth and urbanisation have also increased the energy used in the transport sector, whose share has risen from 23 per cent in 1971 to 33 per cent in 1998. Conversely, the share of energy use in the residential and agriculture sectors has gradually declined during the last three decades as liquefied petroleum gas (LPG) replaced much less efficient firewood, and rural electrification progressed. Today, these two sectors account for 18 per cent of total energy consumption as opposed to 44 per cent 30 years ago. The remaining 5 per cent is used in the public and commercial sectors.

Despite high total energy growth, Brazil's per capita energy use is still comparatively low. Brazilians consume twice as much as people in India and 20 per cent more than the average

Table A4. **Brazil's past energy trends, 1971-98**

	1971		1998		Average annual growth 1971-98
	Ktoe[1]	%	Ktoe[1]	%	
Final energy consumption	62 300	100%	148 684	100%	3.3%
– Fossil fuels	41%		59%		4.7%
– Electricity	6%		17%		7.5%
– Biomass	53%		24%		0.3%
Industry	17 706	28%	60 972	41%	4.7%
– Fossil fuels	41%		47%		5.2%
– Electricity	11%		19%		6.9%
– Biomass	48%		34%		3.3%
Transport	14 416	23%	48 848	33%	4.6%
– Fossil fuels	98%		86%		4.1%
– Biomass	1%		14%		14.5%
Residential	22 250	36%	19 801	13%	
– Fossil fuels	9%		32%		4.5%
– Electricity	4%		34%		8.3%
– Biomass	88%		34%		–3.9%
Commercial/public	1 403	2%	7 347	5%	6.3%
– Fossil fuels	23%		17%		5.3%
– Electricity	60%		81%		7.5%
– Biomass	17%		2%		–1.7%
Agriculture	5 318	9%	7 285	5%	1.2%
– Fossil fuels	10%		62%		8.1%
– Electricity	1%		14%		13.4%
– Biomass	89%		24%		–3.5%

1. Ktoe: Thousand tons oil equivalent.
Source: IEA.

Chinese, but only 60 per cent as much as Argentinians and 30 per cent of the energy consumed by the average European. Moreover, the national average hides significant differences between the rich and populated South and Southeast regions and the North and Northeast262 regions: the average levels of per capita energy demand can differ as much as 1:6 between the richest and poorest regions (see Table A5). Access to electricity and modern fuels is still limited in remote rural areas due to the lack of transmission networks. Government surveys indicate that some 100 000 communities and over 3 million rural properties, representing approximately 15 to 20 million people, still have no access to electricity.

Brazil's energy demand could grow 3 per cent per year in the next two decades

Brazil's conventional energy demand is projected to increase by an average of 2.8 per cent per year in the next two decades, as compared with 5.2 per cent in the period from 1971 to 1997 (IEA, 2000*a*). In contrast, demand for biomass energy is expected to increase only slowly at 0.8 per cent per year to 2020.[3]

The projections are based on a reference scenario which assumes an average annual rate of GDP growth for Brazil of 3 per cent between 2000 and 2010, slowing to 2 per cent in the

Table A5. **Differences across regions, 1984 and 1996**

	Electricity consumption			
	Percentage of total Brazil		kWh per capita	
	1984	1996	1984	1996
Brazil	100.0	100.0	1 195	1 768
North	2.1	5.1	464	1 304
North-East	14.3	15.8	589	990
South-East	66.8	59.1	1 828	2 452
South	13.3	15.1	1 033	1 751
Middle-West	3.6	4.8	640	1 257

Source: MME, 2000 and IBGE.

following decade. In the short and medium term, both private consumption and investment should support somewhat faster growth, but as the economy matures they will be less buoyant. Stronger economic performance than assumed in these projections could induce higher energy consumption. Population growth is expected to be 1.1 per cent per year to reach 209 million by 2020. Energy prices in Brazil are expected to become more market-oriented as reforms proceed and, consequently, the price for all energy products is assumed to converge on international prices.[4]

Per capita energy consumption is expected to increase from 0.8 toe to 1.2 toe, still only one-third of the current average for OECD Europe. Energy intensity, which grew by 1.5 per cent per year from 1990 to 1997, will increase by a slower 0.8 per cent a year to 2010, then reverse its trend to decline by 0.3 per cent per year in the second decade of the projections.

As shown in Table A6, natural gas is expected to be the fastest growing fuel in TPES, with average growth of 8.2 per cent per year. Under this scenario the bulk of expected gas demand will come from power generation. By 2020, gas will account for 13 per cent of TPES, tripling its

Table A6. **Actual and projected primary energy supply, by fuel, 1971 to 2020**

	Mtoe[1]			Shares			Annual growth rates	
	1971	1997	2020	1971	1997	2020	1971-97	1997-2020
Oil	29	86	148	41%	50%	49%	4.3%	2.4%
Gas	0	5	32	0%	3%	11%	15.5%	8.2%
Coal	2	12	20	3%	7%	7%	6.5%	2.1%
Biomass	35	40	49	50%	23%	17%	0.5%	0.8%
Hydro[2]	4	27	47	6%	16%	16%	7.4%	2.6%
Nuclear	0	1	3	0%	0%	1%	–	5.8%
Other renewables	0	0	0	0%	0%	0%	–	–
Total	**70**	**172**	**299**	**100%**	**100%**	**100%**	**3.5%**	**2.4%**

1. Mtoe: Million tons oil equivalent.
2. Includes electricity imports from the Paraguayan portion of Itaipu.

Source: IEA, 2000.

Table A7. **Actual and projected final energy demand, by sector, 1971 to 2020**

	Mtoe[1]			Shares			Annual growth rates	
	1971	1997	2020	1971	1997	2020	1971-97	1997-2020
Industry	18	58	96	29%	42%	42%	4.7%	2.2%
Transport	13	44	79	22%	32%	34%	4.8%	2.5%
Other sectors[2]	29	33	51	48%	24%	22%	0.5%	1.9%
Non-energy use	1	4	5	2%	3%	2%	4.5%	0.9%
Total final energy	61	139	231	100%	100%	100%	3.2%	2.2%

1. Mtoe: Million tons oil equivalent.
2. Includes the residential, commercial/public sectors and agriculture.
Source: IEA, 2000.

current share of 4 per cent.[5] Oil's share will drop modestly but still take almost 60 per cent of TPES in 2020. Coal (2.1 per cent growth) and hydro (2.6 per cent) will also contribute slightly less to TPES by 2020. Electricity demand will grow by 3.7 per cent per year between 2000 and 2010, slowing to 2.3 per cent in 2010-20.

Expected total final consumption will increase by 2.7 per cent per year. Growth of energy consumption in industry, at 2.7 per cent per year, will closely follow GDP growth. Oil will still dominate industrial energy use, although gas is expected to double its share from 9 per cent in 1997 to 19 per cent in 2020.

Increased transport demand will push up oil demand. Substantial potential remains for vehicle ownership to rise with incomes. Brazil had 77 vehicles per 1 000 people in 1996, well below 172 in Argentina, 137 in Mexico and an average of 92 among the MERCOSUL countries. For comparison in the same year the figure was 769 for the US, 552 for Japan and 574 for Italy.[6]

Expected consumption in Other Sectors will almost double in 20 years (Table A7).[7] Increases in per capita incomes will spur the number of electric appliances per household. Growth is also expected to be strong in the commercial and services sector where, for example, rising tourism-related activities will boost electricity demand. Electricity consumption in these two sectors will double, and its share will reach 57 per cent in 2020, up from 52 per cent in 1997.

Investment needs are enormous and cannot be met by the public sector alone

Energy is a critical ingredient of economic development. Supplying enough energy at the appropriate price to support economic growth and improve living standards, remains a central objective of the Brazilian government. However, the level of investment needed is enormous and in the past years it has become evident that the public sector alone cannot provide the finance needed to maintain and expand the country's energy infrastructure and supply.

When the present government took office in 1995, 23 large power plants with a joint potential of 10 000 MW (one fifth of the system's total capacity) were lying unfinished for lack of funds, and another 33 projects had not been started. Between 1995 and the end of 1999, 9.1 GW of hydroelectric capacity and 1.5 GW of thermal plant were added to the system. However, these additions were not sufficient to keep up with electricity demand that has been growing at nearly 6 per cent per year. To avoid breakdowns, it was estimated that an

annual addition of 3 500 MW would have been necessary. To make things worse, lower than average rainfall has reduced the water level in all major hydropower basins, and the risk of power shortages has become very real.

In the hydrocarbon sector, despite an annual investment of some US$2.5 billion and US$3 billion in the upstream and refining sectors in the late 1990s, the goal of oil self-sufficiency remained elusive, and the state-owned P*etrobas* has failed to develop gas production. The recent surge of international oil prices has revived concerns about dependency on oil imports.

Investment needs for the coming years have been estimated to be in the order of US$10-11 billion, divided as follows: US$3-4 billion in oil, US$1 billion in gas pipelines, US$2.5-3.5 billion in power generation and US$2.5-3 billion in transmission and distribution networks.[8]

Reforms are underway to promote private sector participation

Against this background, comprehensive and far-reaching institutional and regulatory reforms of the electricity and hydrocarbon sectors were launched in the mid-1990s. Although the modalities and pace were different for the two sectors, the objectives were similar: to ensure security of supply at minimum cost; to reduce the role of the state in the sector; to finance a significant portion of the industry's expansion with private capital; and to spur efficiency gains and cost reductions through increased competition. The energy sector's reforms were an integral part of wider economic reforms put in place by the current government, and also a reflection of the transformation of energy markets abroad. Most OECD countries, and many countries outside the OECD, are restructuring their energy industries to introduce competition and improve the economic efficiency of the sector. In some case, this has involved privatisation of previously state-owned assets, but privatisation alone does not guarantee increased competition and it has not been a major priority in OECD countries. Most countries however have passed legislation requiring the unbundling of the potentially competitive parts of the industry (*e.g.* production and retail) from the network parts, which are natural monopolies in need of regulation. Providing mechanisms for new entrants to access existing network infrastructure, and reforming energy pricing so that price reflects costs, have proven crucial to foster competition and attract new investments.[9]

The electricity sector prior to reform

Prior to reform, the electricity sector was controlled by the vertically-integrated federal state-owned utility, E*lectrobras*, and some thirty state-owned distribution companies. Some of the larger ones, such as CESP (S. Paulo), CEMIG (Minas Gerais) and COPEL (Paraná) also own important generation capacity (in 1995, they owned 35 per cent of the country's total generation capacity).

Nation-wide tariff equalisation and the system of cross-subsidies put in place to compensate companies with higher costs by extracting revenues from companies with lower costs, constituted a strong disincentive to efficiency improvements. The financial situation of the Brazilian electricity sector gradually worsened in the 1980s. Anti-inflationary policies blocked tariffs adjustments, while the overestimation of electricity demand had led to unprofitable capacity investments. In 1993, with debts of around US$20 billion, the Brazilian electricity sector was so close to bankruptcy that the federal government had to intervene.

Restructuring the electricity sector

In 1993, Law 8631 eliminated tariff equalisation and the compensation system, allowing each company to propose its own tariff structure to reflect costs, and to retain profits from efficiency gains. Tariffs increased by 70 per cent. If the financial situation of the sector improved, the problems of under-investment (in both generation and transmission) remained, aggravated by a rapid increase in demand. To ease these problems, the federal constitution was amended in 1995 to remove restrictions on participation of foreign private investors in the energy sector.

Two subsequent laws enacted in 1995 (8987 and 9074) established the main features of the new system. They defined two new legal figures, that of the independent power producers (IPPs) and that of the eligible consumer, who was allowed to chose freely their electricity supplier (initially, a consumer of more than 10 MW). They also established a mandatory bidding process to award generation, transmission and distribution concessions, and opened access to the transmission and distribution grids. In December 1996, Law 9427 established a new regulatory agency for the electricity sector, the *Agencia Nacional de Energia Eletrica* (ANEEL), the second regulatory agency to be created after ANATEL for telecommunication (see Chapter IV). ANEEL's mission is to promote competition in the industry, and to regulate and control those segments that are natural monopolies. Its main objectives are to: ensure fair tariffs; assure the quality of the service being provided; promote competitive bidding for system expansion; arbitrate disputes; and carry out comprehensive inspections. ANEEL is also responsible for granting concession, contracts and authorisations.

The final step in completing the restructuring of the electricity sector was taken in 1998 with Law 9648, which mandated the unbundling of the state-owned utilities' generation, transmission, distribution, and sales activities into distinct segments. The law also created two new entities: the National System Operator (ONS), a private non-profit body in charge of co-ordinating and controlling the operation of electricity generation and transmission facilities; and the Wholesale Energy Market (MAE) where short-term electricity transactions not covered by bilateral contracts take place. Finally, the law set out the rules and the timetable for transition to a competitive market.

Privatisation of electricity assets

In parallel to these regulatory reforms, the government launched the divestment of publicly-owned assets in 1995. Federal and state-owned electricity generation and distribution assets were set to be totally privatised, while *Electrobras*' nuclear and transmission assets will remain, at least for the time being, in public hands.

The first to be privatised were the distribution companies. In general their sales have proved easier than that of generating companies because the economic risk is lower, and the potential to improve productivity is larger, for these assets. The financial crisis slowed the pace of privatisation in 1998 and 1999: the sale of publicly owned electricity sector assets generated revenues of about US$10 billion in 1997, but only US$6 billion in 1998 and US$1.2 billion in 1999.

By the end of 1999, 17 distribution companies and four generation companies had been privatised, generating accumulated revenues of US$21 billion. Currently private investors own 26 per cent of generation and 64 per cent of distribution (compared with 0.3 per cent and 2.3 per cent respectively in 1995). It is interesting to note that most of the concessions went to consortia composed of the same companies that invest in the energy sector worldwide, forming an intricate network of interests among the different energy sectors (electricity, gas, petroleum), in Brazil and in the neighbouring countries: EdF, Houston Energy Industries,

AES Corporation, Southern Electric, Enersis, Endesa, Iberdrola, Chilectra, and Enron. The economic recovery now under way should raise investor confidence and re-launch privatisation at a faster pace.

The biggest challenge involves the privatisation of the big federal electricity generation assets. Although the privatisation of the federal generators was mentioned in the agreement Brazil signed in late 1998 with the IMF, so far only Gerasul (the generating company spun off Electrosul) has been sold. As part of the privatisation programme, the remaining three regional generation and transmission utilities, Furnas, Chesf, and ElectroNorte (three large hydro companies which together account for more than 50 per cent of the energy generated in Brazil) have been split into several smaller generating and distributing companies. However so far progress on their privatisation has been delayed by disputes concerning water rights, pension funds and the method of sale. Despite these difficulties ANEEL has announced that they would be privatised in 2001.

In summary, it can be said that the Brazilian electricity sector reform and privatisation programme has suffered from both "internal" and "external" problems. On the internal side, an incomplete/uncertain reform design and slow implementation increased regulatory uncertainty and many companies decided to delay investment in Brazil or to re-direct their investments to more secure options. On the external side, timing has worked against Brazil's power reform. In particular, the Real devaluation in 1999 renewed concern about currency risk in an industry where much of the investments are made in US dollars while sales are in local currency. Supply constraints in the global gas turbine market have also contributed to delay new gas-fired generation investments in Brazil. The prospect of blackouts and power rationing caused by insufficient investments and several seasons of below-average rainfalls is putting pressure on the government to solve the design and implementation problems. Emergency measures, such as the Priority Thermoelectric Program (see below), may help reduce the immediate impact of a power crisis, but sight should not be lost of the need to put in place longer-term solutions that are likely to involve private investment in this sector.

Opening of the oil and gas sectors

In the context of the general trend towards a more market-oriented economic policy, in November 1995, the Brazilian Congress approved an amendment (No. 9) to the federal constitution removing restrictions to participation of private capital in the hydrocarbon sector. This effectively ended P*etrobras*' 42-year old exclusive rights to all *upstream* (exploration, development and production) and *midstream* (imports and exports, refining, and transportation) oil and gas activities in the country. The *downstream* activities (distribution and commercialisation of oil products and natural gas) were already open to other companies, though heavily regulated and dominated by P*etrobras*.

The new Petroleum Law (Law 9478), enacted in August 1997 after nearly two years of contentious political debate, set out new rules and created the A*gência* N*acional do* P*etróleo* (ANP), responsible for overseeing the process of transition from a regulated, state-controlled sector to a competitive sector able to attract private investment.

The 1995 constitutional amendment and the new Petroleum Law did not, strictly speaking, abolish the federal state's monopoly over petroleum activities. The state monopoly is maintained, but P*etrobras* no longer has special rights and will have to compete on equal footing with all other players in the market. The ANP has the authority to award E&P rights, through concessions or authorisations depending on the activity, to public and private companies (both domestic and foreign), including P*etrobras*. Thus, ANP's first step was to decide which fields and production areas would be left to P*etrobras* and which would be auctioned.[10]

This is a process the Brazilians have termed "flexibilisation of the monopoly" rather than "opening" the hydrocarbon sector.

The aims of the Brazilian petroleum industry reform were threefold: to reduce the role of the state in the sector; to finance a significant portion of the industry's expansion with private capital; and to spur efficiency gains through increased competition. The government's wide-ranging reform programme aimed to dismantle costly and inefficient monopolies, and *Petrobras* met both criteria. The need to reduce fiscal expenditure also meant that the government would be unable to fund *Petrobras*'s large investment projects, notably its E&P programme and its portion of the Bolivia-Brazil gas pipeline. Ultimately, it was hoped that private investment in E&P would help to bring about self-sufficiency in oil production, a long-term strategic policy goal, as well as give a decisive boost to the development of gas production and consumption in the country.

In its first three years of activity, the ANP has conducted two E&P licensing rounds and is preparing a third, scheduled to take place in mid 2001. It has enacted regulation giving open access to oil and gas pipelines, and issued several authorisations for transportation, import and storage of hydrocarbons to private investors.

In May 1999 *Petrobras* relinquished 28 of its 115 exploration blocks to the ANP in exchange for a five-year extension of the exploration period for the remaining blocks, a move prompted by budgetary limitations. Even so, *Petrobras* does not intend to explore and develop all of its blocks by itself. During most of 1998 and part of 1999, its cash flow suffered as oil prices fell. Hence, financial constraints have led *Petrobras* to seek partnerships for 125 of the 369 blocks it holds, namely for 58 blocks under production, 23 blocks to be developed, and 44 blocks under exploration. A number of joint ventures have been signed. In addition, a new form of partnership is emerging, whereby *Petrobras* swaps a percentage of interest in one of its blocks against another's company assets abroad (the first such asset swaps was signed in July 2000 with Repsol-YPF). This allows *Petrobras* to diversify its portfolio into the international market, while reducing financial risk at home.

Liberalisation of oil imports and open access to pipelines will spur competition

Starting in April 1998 and through 1999, ANP has introduced legislation to allow for the free import and export of crude oil and petroleum products. As new investment in E&P and in refining will take some time to give results, the quickest way to introduce competition in the refined products market is through liberalisation of imports that were previously controlled by *Petrobras*. The Petroleum Law stated that imports of refined products should be fully liberalised by August 2000. However, by the end of 2000 only imports of LPG, aviation kerosene and fuel oil have been authorised, while imports of naphtha diesel oil and gasoline remain controlled by *Petrobras*. After a first postponement to January 2001, the final opening of the fuel retail market has now been postponed until January 2002. The delay is a result of the constitutional changes needed to eliminate the specific price instalment (*Parcela de Preço Especifica*, PPE), a tax currently charged on *Petrobras* via the "oil account" (see Chapter II). This in practice amounts to a system of cross-subsidisation between different refined products. The energy ministry wants to replace the PPE by a single fuel tax to be charged on all oil companies, but Article 155 of the constitution restricts the imposition of new taxes on refined products. Thus replacing the PPE requires a constitutional amendment, which in turn has to be approved by a two-thirds majority in both congressional houses. Liberalising refined products will allow Brazil to import products from its MERCOSUL partners, primarily Argentina and to a lesser extent Uruguay, as these countries have a tariff advantage over non-MERCOSUL countries.

As a consequence of its previous status as the monopoly operator in the petroleum sector, P*etrobras* now owns most of the storage and transportation infrastructure in the country. While the construction and operation of new pipelines and terminals is open to any Brazilian company (with authorisation from the ANP). Open access to existing pipelines and maritime terminals (owned by P*etrobras*) is essential to allow new entrants to operate in the market. Open access is therefore granted at a negotiated fee providing capacity is not fully utilised. Tariffs for pipeline transportation of natural gas and oil products must be negotiated with the pipeline operator. ANP establishes the criteria to calculate such tariffs and arbitrates in case the parties do not reach an agreement.

Whether P*etrobras* will have to sell some of its refineries and pipelines is under discussion. Proponents see this as an urgent priority to make Brazil's oil sector more competitive. P*etrobras* owns 11 of Brazil's 13 refineries and most of the pipeline network.[11] According to ANP, the average fee for transporting oil products in the United States is about one-third lower than it is in Brazil.[12] Proponents thus consider that open access to the P*etrobras* transportation and logistical infrastructure is essential not only for market opening after 2001, but also to reduce costs through more competition. Nevertheless, there is strong opposition to splitting off P*etrobras*' downstream activities in the new global oil world where mergers and acquisitions prevail.

Petrobras is being restructured

P*etrobas* has adapted to the new institutional model, and despite the uncertainties regarding evolution of the oil market, will certainly retain its leading role in the Brazilian economy. Since it lost its monopoly, P*etrobras* has been restructuring to meet new competition, taking steps to transform itself from a monopolistic national oil producer to a diversified and international energy company. A new CEO and Board where nominated in March 1999, with an objective to improve P*etrobas*' efficiency and increase shareholder value. The company plans to invest US$32.9 billion in the period to 2005.[13] Some 70 per cent of P*etrobras* outlays will go on E&P, focusing on deep water, for which P*etrobras* maintains the world's drilling record. The company plans to increase its domestic oil production from 1.3 million of barrels per day (mbd) in 2000 to 1.85 mbd by 2005. In the second round of concession auctions, P*etrobras* bought seven of the 23 blocks offered and participated in an eighth. The company expects to decrease operating costs from US$1.08 to US$0.80 per barrel by 2005, and to cut the cost of oil extraction to US$2.80 from US$5.10 per barrel.[14]

Legislation does not call for P*etrobras*'s privatisation, which is barred by the constitution and would in any case be vehemently opposed by congress and the public. Nevertheless, in July 2000 the government sold 30 per cent of P*etrobras* shares on the national and international capital markets, reducing its stake from 82 per cent to the compulsory 50 per cent + 1 share. It should be noted that P*etrobras* may create affiliates in which it is a minority shareholder.

Natural gas is the key to increase electricity production and diversify the energy mix

In order to diversify the energy mix from hydroelectricity and oil, the federal government hopes to increase the gas share from today's level of 3 per cent to 12 per cent in a decade, with the bulk of gas supply coming from imports from the region. In February 2000, the Brazilian government announced ambitious plans to build 49 gas-fired power stations by 2009 in order to avoid serious energy shortages during the next few years. The new plants would add an estimated 15 GW to total installed capacity, and consume around 70 million cubic metres per day (cmd) of natural gas. But the currency crisis of 1999 slowed privatisation

and increased uncertainties about the availability of markets for new plants. Initially, natural gas will be used mainly in power generation to meet the country's rapidly increasing electricity demand and to diversify the power mix away from hydropower. In the medium-term, however, gas is expected to displace oil products in the industrial sector, and to penetrate the residential/commercial sector for heating and cooling applications. Use in the transport sector is also being promoted.

In June 2000, the government decided to accelerate construction of some of the new stations since it was worried about the expected increase in electricity demand due to recovering economic growth. Under its Priority Thermoelectric Plan, the government will offer special incentives and advantages to those plants able to produce electricity by 2004. At least ten of them (approximately 2 500 MW) should be built by the end of 2001 or the beginning of 2002. *Petrobas* is a shareholder in five of them.

Through state-owned *Electrobas*, the government is offering power-purchase agreements and assuming the role of ultimate buyer of electricity generated by private generators. To reassure investors concerned about gas-price fluctuations, the government, through *Petrobras*, will set price ceilings in 20-year fuel-supply contracts signed with developers before 2003. Although prices are subject to changes, the current proposal offers US$1.94/MBtu for domestic gas and US$2.26/MBtu for imported gas, not including taxation or margins for local gas distributors. The state-owned national development bank, BNDES, will offer a special loan program to developers of thermal and small hydro plants contracted before 2003. It is somewhat ironic that at a moment when Brazil is trying to reduce direct government intervention in the electricity sector, it is re-entering the arena and calling on state companies *Electrobas* and *Petrobas* to accelerate the use of gas and push forward electricity projects that the private sector is not picking up.

Despite the availability of gas and the high potential for major natural gas projects between Brazil, Argentina and Bolivia, several problems can still endanger plans to boost gas-fired power generation. Obstacles include project financing, bureaucratic delays in getting the necessary environmental permits, the shortage of turbines in the international market and the lack of trained manpower to operate the planned power stations. Considering all these potential difficulties, the increase of power-sector gas consumption planned by the government appears ambitious.

The pace of any increase in gas consumption in industry and other sectors depends mostly on the availability of resources to build the necessary infrastructure. At the moment, only Comgas (the largest S. Paulo natural-gas distributor), CEG and Riogas (Rio de Janeiro's distributors) and Bahiagas (Bahia's distributor) have significant distribution infrastructure in place. Current Comgas customers comprise some 500 industrial users and roughly 300 000 residential customers.

Regional integration of energy markets will reinforce competition and reduce costs

Brazil, with its large energy resources and huge energy needs, should play an important role in the creation of a regional energy market. Brazil has long been trading energy with its neighbours, but until the 1980s there was no real integration. In the electricity sector, bilateral co-operation was limited to the exploitation of large crossborder hydropower resources, such as in the case of Itaipu at the border between Brazil and Paraguay. In the hydrocarbon sector, Brazil imported most of its oil from the Middle East.

The creation of regional trade blocks such as MERCOSUL and the Andean Pact,[15] marked a starting point for economic integration, but also contributed to an increase in crossborder energy trade. The trade blocks have not only facilitated crossborder energy trade through

the gradual elimination of tariffs, but have also fostered greater stability and growth throughout the region, thereby resulting in growing energy demand. In the gas sector, Brazil has gradually reoriented its oil imports towards Argentina and Venezuela. In the case of electricity, interconnection of the neighbouring electricity networks is slowly taking place.

Gas is now flowing from Bolivia to Brazil and will, in the near future, flow from Argentina to Brazil. An electricity link is under construction to link Brazil's northernmost state with Venezuela, while in the south Brazil is increasing interconnections with Argentina and Uruguay. But integration is not confined to physical interconnection. Cross-border investment is taking place, for example with P*etrobras* holding a significant share of Bolivian gas reserves. Another example is the recent asset swap between P*etrobras* and YPF-Repsol. There is also increased co-operation between government agencies and regulators to harmonise regulatory and fiscal frameworks, facilitate cross-border infrastructure projects and promote the smooth circulation of petroleum products, natural gas and electricity within the region.[16]

Regional integration has multiple advantages. First, it allows the exploitation of complementarities between hydro-based systems (Brazil, Paraguay, Uruguay and Chile) and thermal-based systems (Argentina, Bolivia), promoting a more efficient use of natural resources across the region and reducing costs by reducing spare capacity. Cost reductions are also obtained because competition is more efficient in a wider market where the market power of national incumbents is diluted. Secondly, energy integration increases security of supply because the interdependence that comes with expanded trade promotes other forms of regional co-operation.

Energy integration also has advantages in terms of attracting foreign investment. Brazil, and other South American countries, are still perceived as countries with high political and economic risks. While a company may be put off by the high country risk attached to a particular investment, they may be willing to invest in it as part of a regional strategy and/or to diversify their portfolio along the energy chain.

Notes

1. US Geological Survey, 2000.
2. Typical industrialised countries have values close to or less than 1 for energy and electricity demand. The ratios are higher for industrialising countries, averaging 1.2 for elasticity of energy demand and 1.3 or higher for elasticity of electricity demand.
3. Conventional energy is defined as including all energy excluding biomass.
4. IEA (2000*a*), Chapter 1.
5. All percentages and growth rates refer to conventional energy only, unless specified.
6. International Road Federation, 2000.
7. Other Sectors include the residential, commercial/services and agricultural sectors.
8. According to official estimates.
9. See IEA (2000*b*) and IEA (2001).
10. Petrobras put forward a proposal, but ANP's final decision, based on an evaluation of the company's financial capabilities, only granted Petrobras 92 per cent of the acreage it had requested. This included 231 blocks under production (96 per cent of Petrobras' request), 51 blocks where Petrobras had commercial discoveries (82 per cent) and 115 blocks under exploration (86 per cent). Still, these 397 blocks comprised 458 500 km^2 or 7.1 per cent of the country's total acreage.
11. The new law establishes that the ownership and operation of the pipelines and the production facilities must be split into separate legal entities, though cross-ownership of such entities is not prohibited. Thus, *Petrobras* continues to control both.
12. *Oil and Gas Journal*, 1999.
13. ANP estimates that the petroleum industry as a whole, including numerous new players, will invest US$ 40 billion over the next five years.
14. Brazil Energy, 1999.
15. Andean Pact: Bolivia, Peru, Ecuador, Colombia and Venezuela. Brazil signed an agreement on preferential fixed tariffs with the Andean Community in July 1999.
16. In 1999, Brazil and Argentina signed a co-operation agreement aimed at harmonising their regulations on oil, natural gas and the electricity industry within three years.

A*nnex* VI

Statistical Annex

Table A8. **FDI by sector 1995-99**
US$ million

Sector	1995	(%)	1999	(%)
Agriculture and raw-materials	5 189.3	4.49	6 326.5	3.33
of which:				
Metalliferous ores	2 729.3	2.36	3 193.0	1.68
Agriculture	1 419.8	1.23	1 477.7	0.78
Industry	74 785.1	64.70	89 167.0	46.90
of which:				
Chemical products	14 657.6	12.69	17 099.5	8.99
Road vehicles	8 374.6	7.25	12 141.5	6.38
Food and beverages	8 205.0	7.10	10 116.8	5.32
Pulp and paper	8 583.9	7.43	8 618.3	4.53
Iron and steel	8 318.5	7.20	8 607.5	4.52
Machinery and equipment	5 883.1	5.09	6 544.0	3.44
Non-ferrous metals	3 082.1	2.67	3 858.3	2.03
Electronics and communication equipment	2 825.7	2.45	3 856.5	2.03
Services	35 542.1	30.80	94 749.9	49.80
of which:				
Business services	13 494.0	11.68	30 422.0	15.99
Financial intermediaries	5 836.2	5.05	15 405.2	8.10
Post and telecommunications	839.3	0.73	12 681.0	6.67
Electricity, water and heating	788.9	0.68	11 140.8	5.86
Wholesale trade	5 077.6	4.40	8 633.1	4.54
Retail trade and repairing	1 866.7	1.62	4 579.6	2.41
Real estate	2 841.8	2.46	3 074.4	1.62
Total	**115 516.4**	**100.00**	**190 243.3**	**100.00**

Source: FIRCE-BACEN; DEPEC-DIBAP BACEN.

Table A9. **FDI by countries of origin**

US$ million

	31/121995		1996		1997		1998		1999		Jan.-July 2000		1995-2000	
	Stock	%	Flow	%	Flow	%	Flow	%	Flow	%	Flow	%	Sum	%
Argentina	371.4	0.5	30.1	0.4	186.9	1.2	113.3	0.5	93.4	0.3	–	–	423.7	0.5
Belgium	1 000.9	1.3	111.5	1.5	135.6	0.9	950.4	4.1	62.2	0.2	318.0	2.0	1 577.7	1.7
Canada	2 584.1	3.3	118.5	1.6	66.2	0.4	278.6	1.2	445.4	1.6	105.0	0.7	1 013.7	1.1
France	3 384.6	4.3	970.0	12.7	1 235.2	8.1	1 805.4	7.8	1 986.3	7.0	1 343.0	8.6	7 339.9	8.1
Germany	8 395.1	10.8	212.0	2.8	195.9	1.3	412.8	1.8	487.8	1.7	251.0	1.6	1 559.5	1.7
Italy	2 771.8	3.6	12.3	0.2	57.4	0.4	646.6	2.8	408.5	1.4	157.0	1.0	1 281.8	1.4
Japan	7 501.9	9.6	192.2	2.5	342.1	2.2	277.8	1.2	274.3	1.0	66.0	0.4	1 152.4	1.3
Netherlands	4 906.6	6.3	526.8	6.9	1 487.9	9.7	3 365.0	14.5	2 055.5	7.2	1 061.0	6.8	8 496.2	9.4
Portugal	137.0	0.2	202.7	2.6	681.0	4.5	1 755.1	7.5	2 621.4	9.2	1 370.0	8.7	6 630.2	7.3
Spain	133.2	0.2	586.6	7.7	545.8	3.6	5 120.2	22.0	5 702.2	20.0	3 686.0	23.5	15 640.8	17.3
Sweden	1 437.3	1.8	126.0	1.6	268.6	1.8	239.2	1.0	381.5	1.3	100.0	0.6	1 115.3	1.2
Switzerland	5 106.5	6.5	108.8	1.4	81.2	0.5	217.0	0.9	516.3	1.8	–	–	923.3	1.0
United Kingdom	3 820.4	5.0	91.5	1.2	182.5	1.2	127.9	0.6	1 268.8	4.5	206.0	1.3	1 876.7	2.1
United States	21 810.9	28.0	1 975.4	25.8	4 382.3	28.6	4 692.5	20.2	8 370.8	29.4	3 744.0	23.8	23 165.0	25.6
Tax havens[1]	5 450.5	7.0	1 125.2	14.7	4 086.5	26.7	2 161.6	9.3	2 780.4	9.8	1 847.0	11.8	12 000.7	13.3
Other countries	9 145.0	11.7	1 275.8	16.6	1 376.0	9.0	1 107.3	4.8	1 025.0	3.6	1 452.0	9.2	6 236.1	6.9
Total	**77 957.2**	**100.0**	**7 665.4**	**100.0**	**15 311.1**	**100.0**	**23 270.7**	**100.0**	**28 479.8**	**100.0**	**15 706.0**	**100.0**	**90 433.0**	**100.0**

1. Tax havens: Cayman islands, Virgin islands, Bahamas and Bermuda.

Source: FIRCE-BACEN; DEPEC-DIBAP BACEN.

Table A10. **GDP by expenditure**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Current prices (BRL million)										
Gross domestic product	11.5	60.3	641.0	14 097.1	349 204.7	646 191.5	778 886.7	870 743.0	913 735.0	960 857.7
Final consumption	9.1	47.9	503.7	10 960.0	270 644.3	513 561.7	630 813.7	704 200.0	738 747.1	775 097.8
Private consumption	6.8	37.1	394.3	8 469.9	208 256.3	386 909.6	486 812.6	545 698.0	566 990.9	593 926.2
Public consumption	2.2	10.8	109.4	2 490.1	62 387.9	126 652.1	144 001.1	158 502.0	171 756.3	181 171.6
Gross capital formation	2.3	11.9	121.4	2 938.7	77 333.3	144 027.2	162 953.5	187 187.0	193 435.5	196 452.3
Gross fixed capital formation	2.4	10.9	118.1	2 718.4	72 453.3	132 753.4	150 050.3	172 939.0	179 484.0	181 813.0
Change in stocks	–0.1	1.0	3.3	220.4	4 880.1	11 273.7	12 903.2	14 248.0	13 951.5	14 639.3
Net exports	0.1	0.5	15.9	198.4	1 227.1	–11 397.4	–14 880.5	–20 644.0	–18 447.6	–10 692.4
Exports of goods and services	0.9	5.2	69.7	1 480.7	33 220.1	49 916.7	54 430.1	65 356.0	69 726.6	101 808.9
Imports of goods and services	0.8	4.8	53.7	1 282.3	31 993.0	61 314.1	69 310.6	86 000.0	88 174.2	112 501.3
Real growth (%)										
Gross domestic product		1.0	–0.5	4.9	5.9	4.2	2.7	3.3	0.2	0.8
Final consumption		0.5	0.1	4.1	5.9	7.0	3.1	2.9	0.1	–0.3
Private consumption		–0.1	–0.7	4.6	7.5	8.7	3.7	3.1	–0.5	–1.0
Public consumption		2.3	2.8	2.3	0.3	1.3	1.4	2.1	2.4	2.3
Gross capital formation		9.0	–8.6	14.3	13.0	8.1	2.8	8.3	–0.6	–6.4
Gross fixed capital formation		–4.7	–6.6	6.3	14.3	7.3	1.2	9.3	–0.7	–7.7
Exports of goods and services		–4.8	16.5	11.7	4.0	–2.0	0.6	11.2	6.6	12.0
Imports of goods and services		11.1	4.5	26.8	20.3	30.7	5.4	17.8	2.6	–14.8

Source: IBGE.

Table A11. **Balance of payments**

US$ million

	1993	1994	1995	1996	1997	1998	1999	2000
Trade balance	13 307	10 467	–3 351	–5 554	–6 848	–6 604	–1 260	–698
Exports	38 563	43 545	46 506	47 747	52 990	51 140	48 011	55 086
Imports	25 256	33 079	49 858	53 301	59 838	57 743	49 272	55 783
Services balance	–5 374	–5 839	–7 463	–8 405	–10 146	–9 548	–6 493	–7 029
Travel	–799	–1 181	–2 420	–3 598	–4 377	–4 146	–1 457	–2 086
Transportation	–2 091	–2 441	–3 011	–2 755	–3 509	–3 261	–3 071	–3 308
Other services	–2 484	–2 217	–2 032	–2 052	–2 260	–2 141	–1 965	–1 635
Income balance	–10 210	–8 903	–11 132	–12 078	–16 138	–19 252	–19 336	–18 677
Income	1 270	2 202	3 396	5 058	4 930	4 384	3 663	3 419
Payments	11 480	11 105	14 527	17 136	21 068	23 635	22 999	22 097
Current transfers	1 686	2 588	3 974	2 900	2 216	1 778	2 027	1 796
Private	1 703	2 552	4 015	2 933	2 243	1 806	2 072	1 826
Official	–18	36	–41	–33	–27	–28	–45	–29
Current account	–592	–1 688	–17 972	–23 136	–30 916	–33 625	–25 062	–24 608
Capital balance	8 612	–25 071	29 812	33 626	25 855	20 538	14 117	30 215
Net investment	6 170	8 131	4 663	15 540	20 662	20 498	30 042	29 559
of which:								
Net foreign direct investment	614	1 888	3 928	9 445	16 932	25 747	29 987	30 563
Net portfolio investment	6 650	7 280	2 294	6 040	5 300	–1 851	1 360	2 722
Debt amortization	–9 780	–46 078	–10 624	–14 258	–28 479	–30 127	–48 304	–34 093
Other long-term capital	11 587	11 826	16 560	26 449	50 332	63 502	43 448	41 896
Foreign commercial banks	834	2 034	1 427	565	2 434	5 752	2 735	5 982
Intra-firm	1 064	632	1 133	1 578	3 062	6 339	3 480	5 866
Int.org.,gov. ag.,and supplier's	1 435	2 389	3 513	4 518	20 185	24 911	16 690	11 734
Short-term capital and other	536	967	18 830	5 364	–16 811	–33 459	–11 069	–7 148
Net errors and omission	–1 119	334	2 093	–1 715	–2 811	–4 207	157	2 454
Change in reserves (–, increase)	–6 902	26 425	–13 933	–8 774	7 873	17 294	10 788	–8 061
Memorandum items:								
Total external debt	145 726	148 295	159 256	179 935	199 998	241 644	241 468	236 151
International reserves	32 211	38 806	51 840	60 110	52 173	44 556	36 342	33 011

Source: BCB.

Table A12. **Trade by partner country**

US$ million

	1993		1995		1997		1999		2000	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
Total	38 554.8	25 256.0	46 506.3	49 971.9	52 994.3	59 742.2	48 011.4	49 271.9	55 085.6	55 783.3
ALADI[1]	8 744.7	4 360.3	9 494.4	9 148.5	12 833.4	12 014.9	10 023.8	8 485.0	12 150.6	10 330.4
of which: Mercosur	5 386.9	3 378.3	6 153.8	6 843.9	9 046.6	9 425.3	6 777.9	6 721.1	7 733.1	7 796.1
of which:										
Argentina	3 658.8	2 717.3	4 041.1	5 591.4	6 769.9	7 940.6	5 364.0	5 814.0	6 232.7	6 843.5
Chile	1 110.3	435.6	1 210.5	1 093.8	1 196.6	973.6	896.3	719.4	1 246.3	974.2
Mexico	995.4	318.0	496.1	818.2	828.4	1 172.5	1 068.1	617.6	1 711.3	753.8
Asia[2]	5 855.5	3 612.0	7 825.8	8 031.5	7 381.9	8 782.5	5 511.5	6 281.3	6 105.4	8 343.9
of which:										
China	779.4	304.9	1 203.8	1 041.7	1 088.2	1 166.5	676.1	865.2	1 085.2	1 221.7
Korea	537.6	373.7	827.5	1 334.8	736.8	1 355.3	627.5	1 019.1	580.8	1 429.5
Japan	2 313.0	1 918.8	3 101.6	3 300.9	3 068.1	3 531.0	2 192.6	2 575.9	2 472.4	2 959.5
Canada	455.5	692.1	460.9	1 128.6	583.8	1 416.4	513.2	973.6	565.6	1 085.6
European Union	10 190.4	5 944.8	12 912.0	13 847.6	14 514.1	15 881.0	13 736.2	15 022.4	14 784.1	14 048.4
United States	7 989.2	5 163.2	8 798.0	10 664.2	9 407.6	13 901.3	10 848.6	11 880.2	13 366.1	13 002.3
OPEC	1 849.8	3 411.0	2 033.7	3 314.7	2 479.4	4 040.3	2 269.2	3 745.3	2 324.1	4 985.9
Other	3 469.6	2 072.6	4 981.6	3 836.9	5 794.1	3 705.8	5 109.1	2 884.0	5 789.7	3 986.9
Share in total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
ALADI[1]	22.7	17.3	20.4	18.3	24.2	20.1	20.9	17.2	22.1	18.5
of which: Mercosur	14.0	13.4	13.2	13.7	17.1	15.8	14.1	13.6	14.0	14.0
of which:										
Argentina	9.5	10.8	8.7	11.2	12.8	13.3	11.2	11.8	11.3	12.3
Chile	2.9	1.7	2.6	2.2	2.3	1.6	1.9	1.5	2.3	1.7
Mexico	2.6	1.3	1.1	1.6	1.6	2.0	2.2	1.3	3.1	1.4
Asia[2]	15.2	14.3	16.8	16.1	13.9	14.7	11.5	12.7	11.1	15.0
of which:										
China	2.0	1.2	2.6	2.1	2.1	2.0	1.4	1.8	2.0	2.2
Korea	1.4	1.5	1.8	2.7	1.4	2.3	1.3	2.1	1.1	2.6
Japan	6.0	7.6	6.7	6.6	5.8	5.9	4.6	5.2	4.5	5.3
Canada	1.2	2.7	1.0	2.3	1.1	2.4	1.1	2.0	1.0	1.9
European Union	26.4	23.5	27.8	27.7	27.4	26.6	28.6	30.5	26.8	25.2
United States	20.7	20.4	18.9	21.3	17.8	23.3	22.6	24.1	24.3	23.3
OPEC	4.8	13.5	4.4	6.6	4.7	6.8	4.7	7.6	4.2	8.9
Other	9.0	8.2	10.7	7.7	10.9	6.2	10.6	5.9	10.5	7.1

1. Venezuela is included in the OPEC.
2. Indonesia is included in the OPEC.

Source: MDIC

Table A13. **Industrial production**

Per cent

	Year-on-year growth rate						Share in total value-added	
	1994	1995	1996	1997	1998	1999	1991	1999
Industry	6.7	1.9	3.3	4.7	–1.5	–1.6	36.2	35.5
Mining and quarrying (except fuels)	4.7	5.2	1.0	3.3	–0.4	–2.13	0.7	0.5
Crude petroleum, natural gas production and coal mining	7.4	2.4	11.0	6.6	13.5	13.55	0.9	1.1
Manufacturing industry	6.9	2.0	2.1	4.5	–3.7	–1.58	24.9	21.5
Manufacture of non-metallic mineral products	4.6	3.2	5.5	6.2	–1.4	–2.26	1.4	1.0
Iron manufacture	9.2	–4.9	4.0	2.8	–4.2	1.58	1.0	0.9
Metallurgy	17.8	1.8	6.3	0.2	–6.8	4.51	0.5	0.5
Manufacture of other metallic products	10.3	–0.7	4.2	7.7	–5.7	–4.33	1.4	1.0
Manufacture of machinery and equipment n.e.c.	13.4	–2.1	0.5	4.9	–4.7	–3.42	2.0	1.9
Manufacture of electrical machinery and apparatus n.e.c.	14.5	9.0	–1.5	3.5	–4.9	–5.67	0.8	0.4
Manufacture of electronic machinery and apparatus n.e.c.	32.5	15.1	7.1	–6.1	–22.4	–17.26	1.0	0.5
Manufacture of motor vehicles, trailers and buses	13.2	3.9	0.7	15.2	–20.9	–11.51	0.7	0.6
Manufacture of other transport equipment, parts and accessories	13.4	1.1	0.7	5.2	–11.1	0.7	1.0	0.7
Manufacturing of wood, wood products and furniture	0.6	1.5	3.7	1.0	–3.9	–0.19	0.9	0.7
Manufacture of paper and paper products, printing	3.7	1.3	1.9	1.4	0.0	3	1.5	1.0
Manufacture of rubber	2.7	–1.4	0.8	2.6	–5.5	3.28	0.4	0.4
Manufacture of chemicals and chemical products	3.8	0.0	5.8	9.0	–10.5	–0.91	0.9	0.9
Manufacture of refined petroleum and petroleum products	5.0	–2.5	1.4	7.3	5.7	–0.41	2.3	3.2
Manufacture of chemical products n.e.c.	5.7	0.1	5.2	1.7	–2.4	2.08	1.3	1.0
Manufacture of pharmaceutical products and perfume	–0.8	11.9	–2.0	6.5	0.6	2.68	0.5	0.9
Manufacture of plastics products	1.8	8.9	9.7	1.3	–5.1	–5.41	0.7	0.5
Manufacture of textiles	1.9	–5.8	–5.6	–6.7	–1.4	–1.47	1.2	0.6
Manufacture of wearing apparel and accessories	2.9	1.5	–1.7	–7.7	–3.5	–3.69	0.8	0.4
Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear	–8.2	–6.2	2.3	–7.3	–3.1	–1.64	0.4	0.3
Manufacture of coffee	–3.7	–7.9	0.5	–1.9	–12.2	25.17	0.2	0.3
Manufacture of other products of vegetable origin, including tobacco	4.0	3.6	3.3	9.2	0.8	–9.4	0.9	0.7
Production, processing and preservation of meat	–5.1	14.5	1.3	–1.1	–1.4	–0.36	0.5	0.6
Manufacture of milk and dairy products	–2.8	22.6	6.1	0.3	–1.6	–6.55	0.2	0.3
Manufacture of sugar	8.8	11.5	–0.7	7.9	–6.8	13.83	0.2	0.2
Production, processing and preservation of oils and fats for food	4.0	8.0	–1.6	–3.5	7.9	–2.14	0.3	0.5
Manufacture of other food products and beverages	9.3	10.5	1.6	–2.4	2.8	–0.72	1.2	1.2
Manufacturing n.e.c.	7.2	0.1	–0.6	2.4	0.8	4.82	0.7	0.4
Public utilities	4.2	7.6	6.0	5.9	3.8	2.49	2.6	2.9
Construction	7.0	–0.4	5.2	7.6	1.4	–3.22	7.1	9.5

Source: IBGE.

Table A14. **Monetary survey**[1]
End of period, BRL million

	1995	1996	1997	1998	1999	2000
Assets	281 415	349 523	393 382	485 052	492 069	557 624
Foreign assets (net)	44 690	53 375	44 849	36 640	33 504	47 725
Domestic credit	236 725	296 148	348 533	448 412	458 565	509 899
Claims on central government (net)	10 430	15 720	74 220	150 659	154 610	155 027
Claims on state and local governments	20 284	55 986	39 229	20 007	10 437	4 830
Claims on nonfinancial public enterprises	6 093	18 669	5 620	12 553	15 193	3 715
Claims on the private sector	199 143	204 686	225 202	259 983	273 380	341 794
Claims on other banking institutions	775	1 081	4 255	3 284	2 909	3 160
Claims on nonbanking financial institutions	0	6	7	1 926	2 036	1 373
Liabilities	281 415	349 523	393 382	485 052	492 069	557 624
Money	32 094	41 683	50 999	54 819	62 287	73 681
Quasi-money	159 901	173 714	203 992	225 619	238 851	240 117
Money market instruments	4 744	7 029	10 283	8 936	9 627	11 286
Central bank securities	45 879	64 174	54 121	67 164	33 228	42 904
Restricted deposits	1 996	352	12	10	13	427
Long-term foreign liabilities	18 211	19 268	25 704	37 233	34 418	28 119
Liabilities to other banking institutions	9 396	22 017	21 973	26 774	29 140	30 322
Liabilities to nonbanking financial institutions	111	60	234	159	269	366
Capital accounts	59 112	78 317	100 174	118 923	127 729	125 531
Other items (net)	–50 029	–57 090	–74 110	–54 585	–43 493	4 871

1. Consolidation of figures for the monetary authority and deposit money banks.
Source: BCB.

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