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Volume 2005/2 – February 2005

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2005

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Table of contents

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Boxes

Tables

OECD ECONOMIC SURVEYS: BRAZIL – ISBN 92-64-00747-4 – © OECD 2005

Figures

BASIC STATISTICS OF BRAZIL (2003 unless noted)

Area (thousands sq. km)	8 515.0
POPULATION	
Total (million)	179.0
Inhabitants per sq. km	21
Net average annual increase over previous 10 years, per cent	1.5
EMPLOYMENT	
Total employment (thousands)	57 902.4
In per cent: Agriculture	18.9
Industry	19.0
Services	62.1
GROSS DOMESTIC PRODUCT (GDP)	
GDP at current prices and current exchange rate (USD billion)	506.8
Per capita GDP at current prices and current exchange rate (USD)	2 831.0
Average annual volume growth over previous 5 years (in per cent)	1.8
In per cent of GDP: Agriculture	9.9
Industry	38.8
Services	56.7
INVESTMENT	
Gross fixed capital formation (GFCF) as a percentage of GDP	17.8
Average annual growth of ratio over previous 5 years (per cent)	–4.0
CONSOLIDATED PUBLIC SECTOR (AS A PERCENTAGE OF GDP)	
Revenue	34.9
Primary balance	4.3
Nominal balance	–5.1
Net debt	58.2
INDICATORS OF LIVING STANDARD	
Internet subscribers, per 100 inhabitants (2002)	8.2
Television sets, as a percentage of households (2002)	90.0
Doctors, per 1 000 inhabitants (2001)	2.1
Infant mortality per 1 000 live births (2001)	27.0
FOREIGN TRADE	
Exports of goods (USD billion)	73.1
As a percentage of GDP	14.4
Average annual growth over previous 5 years (per cent)	7.4
Imports of goods (USD billion)	48.3
As a percentage of GDP	9.5
Average annual growth over previous 5 years (per cent)	–3.5
Total official reserves (million SDRs)	33 049.6
As ratio of average monthly imports of goods	12.2

Executive summary

Brazil is reaping the benefits of macroeconomic consolidation, underpinned by a prudent policy stance. Much progress has been made in fiscal consolidation and monetary policy continues to be conducted in a forward-looking manner. The external adjustment has been remarkable, with continued strong export performance, making the economy more resilient to changes in market sentiment. These achievements owe much to the strengthening of institutions, in particular the inflation targeting framework and the Fiscal Responsibility legislation. The economic recovery is now firmly established. But the consolidation of macroeconomic stability remains essential moving forward, coupled with further structural reform, to ensure that the positive outlook ushers in a virtuous circle of improved confidence and resilient, equitable growth.

Improving the quality of fiscal consolidation

The government's record in meeting the budget targets, even in adverse conditions, is commendable. Public debt management has also been strengthened. But fiscal adjustment has been achieved primarily by hiking revenue and compressing public investment. Widespread revenue earmarking and the introduction of minimum expenditure levels over the years, often through constitutional provisions, have curtailed budget flexibility.

A comprehensive assessment of existing revenue earmarking and mandated spending requirements against the achievement of their intended policy objectives could make for more cost-effective spending. The need for continued fiscal consolidation can therefore be reconciled with that of alleviating Brazil's high tax burden, better channelling budgetary resources to meet society's economic and social priorities.

Enhancing the investment climate

Private investment is recovering but the current level of investment, particularly in infrastructure, is insufficient to sustain robust growth over the medium term. There is limited room in the budget to boost public capital spending at the current juncture and private investment is discouraged by a scarcity of credit, high intermediation costs, and regulatory uncertainty in several sectors.

Enhancing the investment climate is therefore crucial to improving the economy's growth performance. New bankruptcy legislation, once approved, is expected to ease constraints on loan recovery, encouraging credit and reducing intermediation costs. The overall approach to regulatory reform in network industries, particularly electricity, is well thought out but the risk of regulatory failure should not be underestimated. Public-private partnerships can encourage investment if carried out in a fiscally sound manner, adequately balancing risks between the government and its private-sector partners.

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Strengthening social policies

Much has been done in the social area over the last decade or so, with unquestionable improvements in key social indicators, particularly in education. The government already spends a high proportion of GDP on social programmes. Public spending on pensions accounts for a higher share of GDP in Brazil than in the average OECD country, despite Brazil's younger population. But spending on means-tested programmes, such as income transfers for the care of children, and elderly and disabled persons, amounts to a relatively small share of public social spending, well below the OECD average.

Social policies will need to be strengthened in pursuit of the government's social agenda, prioritising the social programmes that are deemed to be most cost-effective and conducive to the accumulation of human capital, while maintaining fiscal discipline and galvanising social support for reform. The continued development of Brazil's contributory social insurance should aim to give it a stronger pro-poor profile in the long term.

This Survey was prepared in the Economics Department by Luiz de Mello and Nanno Mulder, under the supervision of Silvana Malle.

Substantive inputs were received from Vinícius Carvalho-Pinheiro (OECD/DAF) on pension reform and Anders Reutersward (OECD/DELSA) on labour markets. Paul Conway and Véronique Janod (OECD/ECO) participated in the calculation of the product market regulation indicators. Mombert Hoppe (OECD/ECO) participated in the empirical analysis of FUNDEF.

Consultancy support was provided by Edmar de Almeida, Armando Castelar Pinheiro, José Guilherme Reis, and José Cláudio Linhares Pires.

Technical assistance was provided by Anne Legendre and Thomas Chalaux, secretarial assistance by Muriel Duluc and Lillie Kee.

The Survey was discussed at a meeting of the Economic and Development Review Committee on 23 November 2004.

The Survey is published under the responsibility of the Secretary-General of the OECD.

ISBN 92-64-00747-4
OECD Economic Surveys
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Assessment and recommendations

The Brazilian economy is bouncing back

Brazil's growth performance has been erratic in recent years but the foundations for a sustained recovery appear to be broadly in place. The measures implemented by the new administration, which took office in January 2003, have contributed to gradually restoring confidence, which had faltered during and in the aftermath of the presidential election in 2002. These measures have succeeded in stabilizing foreign exchange markets, reducing sovereign credit risk, and taming inflation. At the same time, the remarkable external adjustment since the floating of the *real* in 1999, with continued strong export performance and the ensuing turnaround in the external current account, is making the economy less dependent on foreign financing and, consequently, more resilient to changes in market sentiment. But more is needed, particularly in keeping the momentum of the reform process, to ensure that this positive outlook ushers in a virtuous circle of improved confidence and resilient, equitable growth.

Growth is becoming more balanced across sectors

Having posted anaemic growth in 2001-02 and then stagnated in 2003, following the faltering of confidence in 2002, the economy grew briskly in the first half of 2004, well above market expectations. GDP growth is expected to be about 4½ per cent in 2004, facilitated by the monetary easing that took place from the second half of 2003 to mid-2004, and the restoration of confidence. Domestic demand is strengthening, taking over from a period of strong increase in net exports. Private consumption is recovering, pushed by the expansion of credit and improvements in the labour market. Formal unemployment remains high in the major cities but is trending down and real wages are on the rise, having stagnated or fallen in recent years. An improving climate for business is providing further impetus for private investment, which is showing signs of recovery. Net exports will continue to contribute positively to growth, in addition to keeping the external current account in surplus. This is important for sustained recovery as the external sector has been Brazil's Achilles heel for many years, constraining growth. The gradual reduction in trade restrictions throughout the 1990s has made foreign trade more responsive to external price signals and changes in relative prices. Continued effort to further remove trade restrictions is therefore welcome. It is also important to note that export growth remains constrained in key markets by tariff and non-tariff barriers, particularly in agriculture.

Macroeconomic institutions have strengthened, underpinning the recovery

The improvement in the economic outlook owes much to the strengthening of institutions. The maintenance of macroeconomic discipline and the prompt policy response to adverse

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shocks would probably not have been possible without the reforms in this area. This perception seems to be entrenched in Brazilian society, making the strengthening of institutions an on-going process. Of particular importance in the macro area are the inflation targeting framework for monetary policymaking and the Fiscal Responsibility legislation. These have become the main institutional pillars for macroeconomic management and consolidation. These institutions have been put to the test but have withstood the succession of negative shocks the economy has faced in the past few years. The *2001 OECD Survey of Brazil* had been particularly sceptical about the resilience of Fiscal Responsibility legislation. The authorities should be praised for their continued resolve in defending and strengthening these institutions, even in adverse conditions.

Despite recent achievements, the consolidation of macroeconomic stabilisation should continue

The consolidation of macroeconomic stabilisation, which will require vigilance on the part of the authorities, is of paramount importance in the years to come, anchored by a prudent monetary-fiscal policy mix in pursuit of continued disinflation and a steady reduction in public indebtedness.

- On the *fiscal side*, high public indebtedness remains an important source of vulnerability. In the years to come, a consolidated primary surplus of at least 4¼ per cent of GDP will need to be maintained to ensure a steady decline in the debt-to-GDP ratio, reinforcing the recent trend with an estimated reduction of almost five percentage points in the debt-to-GDP ratio in 2004 relative to 2003. An increase in the primary surplus target – not only in 2004 as recently announced in the wake of higher-than-expected GDP growth, but over the medium term – would be welcome to allow for a faster reduction in the public debt ratio. This is desirable because high indebtedness introduces a pro-cyclical bias in the fiscal stance, making corrective tightening in "bad" times and loosening in "good" times difficult to avoid. *Against this backdrop, a reasonable medium-term objective would be to bring the public sector borrowing requirement into balance over the business cycle, underpinned by robust primary surpluses and resulting in a sustainable decline in real interest rates. This would create room for manoeuvre as economic conditions change, allowing the fiscal policy to be more counter-cyclical while ensuring a steady reduction in indebtedness*.
- *Public debt management* needs to remain prudent. Much progress has been made to strengthen the institutional framework for public debt management, including measures to increase liquidity in secondary markets and to clarify the roles of the Central Bank and the Treasury in issuing public debt securities in domestic and foreign markets. But the relatively high, although falling, share in public debt of instruments paying floating interest rates and securities indexed to the exchange rate makes the debt dynamics overly sensitive to financial volatility. *Public debt management should therefore continue to focus on mitigating rollover risks in "bad" times and reducing exposure to foreign exchange and interest rate volatility in "good" times*. In doing so, the debt dynamics would become less vulnerable to changes in market sentiment, allaying concern over the sustainability of Brazil's public debt dynamics and, thereby, contributing to further reducing risk premia. At the same time, pressure for renegotiating the debt restructuring arrangements between the Treasury and the regional governments (states and municipalities) should also continue to be firmly resisted, which will continue to require strong political resolve.

- *Monetary policy* will need to carry on responding swiftly to inflationary pressures. The Brazilian authorities should be praised for setting up a fully-fledged institutional framework for inflation targeting following the floating of the real in 1999. The policy regime is working well – although targets have been missed a number of times, due essentially to adverse supply shocks – and has been instrumental in anchoring medium-term inflation expectations, particularly in situations of financial stress. In a volatile macroeconomic environment, the monetary authorities have been successful in communicating to markets their policy response to adverse shocks, consisting of accommodating the first-round effects of these shocks, while acting to mitigate their secondary effects on prices and economic activity. In 2004, market expectations have consistently placed inflation within the bands set by the government, despite movements in commodity prices. There also seems to be broad agreement that the ultimate goal of inflation targeting is to deliver low, stable inflation over the longer term to reduce risk premia and to encourage longer-term investment by the private sector. *Improvements are welcome, possibly including a strong commitment to achieving the second-year target, without losing sight of the importance of meeting the easier-to-verify first-year target. But drastic institutional changes, such as a formal extension of the time horizon for achieving the inflation target, should be avoided in the course of disinflation. At the same time, while the Central Bank is broadly perceived as being de facto independent, granting it de jure operational autonomy would contribute further to enhancing credibility in macroeconomic institutions.*

The main challenges for Brazil are to improve the quality of fiscal consolidation, enhance the investment climate, and improving the cost effectiveness of social programmes

Notwithstanding several accomplishments, there are three main challenges identified in the *Survey* which need to be addressed. These are:

- Improving the quality of fiscal consolidation,
- enhancing the investment climate, and
- improving the cost effectiveness of social programmes.

These challenges are interrelated. They also require a comprehensive set of measures in order to consolidate recent achievements, boosting the economy's resilience to shocks and paving the way for sustainable, more resilient growth and for a faster catch-up in relative living standards.

The quality of fiscal adjustment needs to be improved, focusing on retrenching expenditure rather than hiking taxes

On the fiscal side, the government's record in meeting the annual budget targets is commendable, even in adverse conditions, making the fiscal effort all the more impressive. But fiscal adjustment has been achieved in recent years primarily by hiking revenue and compressing public investment, against a backdrop of rising primary current expenditure. Non-mandatory spending has at times been curbed through the *ad hoc* sequestration of funds during the fiscal year, making budget execution more difficult, in part to accommodate higher-than-expected increases in commitments. This is because the retrenchment of current spending has become increasingly difficult owing predominantly to downward rigidities in the budget. Revenue earmarking is widespread and minimum expenditure levels have been introduced over the years, often through constitutional provisions, severely curtailing budget flexibility. Also, until 2003, reform of the social security regime for civil servants had lagged behind that of the private-sector regime, placing a heavy burden on the budget. The authorities should be praised for avoiding increases in the minimum wage above inflation, which would have had a detrimental impact on the budget, underscoring their commitment to fiscal rectitude. *In spite of recent progress, more emphasis should be put on rationalizing the largest items of current spending to improve the quality of on-going fiscal consolidation.*

Fiscal consolidation will pave the way for reducing Brazil's already high tax burden

By tackling these problems, the need for fiscal consolidation can be reconciled with that of alleviating Brazil's already high tax burden in the years to come, better channelling budgetary resources to meet society's economic and social priorities. Brazil's revenue ratio, at close to 35 per cent of GDP, is already high by international comparison and close to the OECD average. It is detrimental not only to growth but also to the labour market, encouraging informality. This is confirmed by international comparison, based on the OECD methodology for assessing the rigidity of employment protection legislation, which suggests that informality in Brazil appears to be more of a fiscal, rather than legal, problem. Alleviating the tax burden on labour would make social security more affordable to lower-productivity workers in the informal sector, while making it more attractive for employers to hire them with a formal contract. Nevertheless, there appears to be limited agreement on how this can be achieved, underscoring the need for a comprehensive labour reform. Options for making social insurance affordable to those with low incomes include, for example, variable contribution rates, either by making them progressive or by allowing individuals to choose between alternative levels of protection. By the same token, discussion on the gradual replacement of at least part of employers' social security contributions by levies on value added could be encouraged. Brazil's indirect tax system has become more efficient in recent years through the conversion of federal levies on enterprise turnover (starting with PIS/Pasep in 2002 and COFINS in 2003) into value added-type taxes. Against this background, *policy effort is needed to reduce the tax burden over time, once public finances have strengthened, and to gradually increase reliance on direct, rather than indirect, taxes. This would require an assessment of corporate income taxation, including the tax on net profits (CSLL).*

Downward rigidities in current spending need to be tackled

There appears to be widespread recognition that rigidities in the budget adversely affect the quality of fiscal adjustment. Of particular importance is the on-going policy debate about the constitutional provision linking adjustments in the minimum pension to those in the minimum wage. The option of severing this link while preserving the purchasing power of pensions should therefore be considered. In health care, a constitutional amendment enacted in 2000 sets a floor for aggregate federal spending, while the earmarking of federal transfers also increases sub-national spending, placing Brazil among the countries with high levels of public expenditure on health care in relation to GDP. In education, minimum spending levels per student enrolled in primary and lower-secondary education (1st to 8th grades) have been established, requiring the federal government to top up outlays in the states that cannot afford the national spending floor. In this context, *a comprehensive assessment of existing revenue earmarking and mandated spending requirements against the achievement of their intended policy objectives could pave the way for more cost-effective spending.*

Further reform is needed to put the social security system on a sounder financial footing

Further social security reform will be needed to ensure that the social security system is financially sustainable over time. This is a pre-requisite for making room in the budget for higher spending on more cost-effective programmes, and for increasing Brazil's preparedness to cope in the years to come with the spending pressures associated with a fairly rapidly ageing population. The share of population aged 65 and over is projected to nearly double to about 9 per cent by 2020, a rapid pace of demographic change in comparison with OECD countries. An important problem in this area is that the social security regime for civil servants acts as a drain on the budget, accounting for two-thirds of the overall social security deficit. And civil servants continue to benefit from more advantageous pension entitlements than their counterparts in the private sector. These distortions underscore the need for reform, which is under way. *The main pending issues in this regard are twofold: i) to create defined-contribution complementary pension funds for civil servants subject to the same prudential regulations and operational rules as those for private-sector workers; and ii) at a later stage, to aim at unifying the pension regimes for federal, state, and municipal civil servants, and standardizing entitlements between the regimes for private- and public-sector workers. Further reform in the social security regime for private-sector workers is also needed and could focus on the introduction of a minimum retirement age, further elimination of exemptions and increasing the contribution period.*

Enhancing the investment climate is critical to improving the economy's growth performance and resilience

The current level of investment, particularly in infrastructure, is insufficient to sustain robust growth over the medium term. On the one hand, there is limited room in the budget to boost public capital spending at the current juncture. On the other, private investment is discouraged by a scarcity of credit, high intermediation costs, and regulatory uncertainty in several sectors. Macroeconomic volatility also weighs heavily on private investment. This is despite the fact that Brazil appears to offer a reasonably investor-friendly environment for business, based on OECD work on the restrictiveness of product market regulations and legislation on foreign direct investment (FDI). In this respect, policies that promote investment and reduce firms' costs of doing business more generally would also contribute to tackling informality. *Enhancing the investment climate will therefore be critical to improving the economy's growth performance and resilience.*

Fiscal consolidation will restore the government's ability to invest, and public-private partnerships should be encouraged

The rationalization of current public expenditure would free budgetary resources which could be channelled to finance higher, externality-rich public investment. At the same time, the reduction in indebtedness, as discussed above, should help reduce the crowding out of private investment. New legislation on public-private partnerships (PPPs), which have hitherto been confined predominantly to leasing operations and concessions, will complement the current legal framework for public procurement, thereby militating to encourage private investment, particularly in infrastructure. Public-private partnerships will need to be encouraged in a fiscally-sound manner, adequately balancing risks between the government and its private-sector partners. *There appears to be widespread recognition that fiscal consolidation should not be undermined and that the federal government should set standards for the states and municipalities in this area.* An important policy objective is therefore to standardize requirements for the accounting and reporting of PPP operations, as well as the dissemination of information to markets and society at large, together with the risk assessment of individual projects. Draft legislation envisages a leading role for the Treasury in this area. In this regard, the Fiscal Targets Annex of the Budget Guidelines Law (LDO), which each level of government is required to submit to their legislatures, could be the main vehicle for the dissemination of information on PPPs in budget documentation.

Private investment can be encouraged by facilitating access to cheaper, more abundant credit, while tackling regulatory uncertainty

Brazil's financial markets will need to develop further to facilitate access by private investors to more abundant, cheaper credit. At the same time, the regulatory framework for network industries (*i.e.,* electricity, oil and gas, water and sanitation) will need to clearly define the role of government in these sectors. The main challenge in this respect is two-pronged:

- *First,* new bankruptcy legislation, once approved, is expected to ease constraints on loan recovery, while protecting the value of collateral and jobs in the course of enterprise restructuring. This is a necessary, although not sufficient, condition for encouraging credit creation and reducing intermediation costs. The real test for the reform strategy will nevertheless be in implementation. Additional measures to encourage the expansion of credit and reduce intermediation costs would include the gradual phasing out of directed credits to agriculture and housing, while remaining attentive to the need for public action in the case of market failures, especially with respect to low-income households; the gradual alleviation of the tax burden on financial intermediation, once public finances improve; and continued strengthening of the credit information industry, primarily by enhancing portability of positive information on credit history. The government's broad structural reform agenda also include the on-going reform of the legal system and initiatives to encourage housing finance, which can do much to improve the security of property rights, lowering borrowing costs.
- *Second,* regulatory uncertainty weighs on private investment and therefore needs to be reduced, particularly in network industries. The overall approach to regulatory reform in

the electricity sector, based on arms-length operations and public auctions, is well thought out but the risk of regulatory failure should not be underestimated, given the enhanced role of government in long-term planning. But, again, implementation will be the ultimate test of reform in this area. In natural gas, the dominance of Petrobras, the national oil company, throughout the industry has often been perceived as an obstacle to its development. Private investment in water and sanitation, which is much needed in light of relatively low connection rates to sewerage, is constrained by a lack of clarity over the assignment of regulatory powers across different levels of government. The share of wastewater that is treated is also low, with a detrimental impact on the environment.

Brazil's social indicators are not always commensurate with high spending levels on social programmes

There seems to be widespread agreement within the government and beyond that social disparities do not allow for the benefits of sustained growth to be evenly spread among different social groups. Social exclusion prevents vulnerable groups from acquiring labour market-relevant skills, contributing to high unemployment and informality among these groups, as well as perpetuating income inequality. The main challenge in this respect is to strengthen the social policies that will allow for the pursuit of the government's social agenda while maintaining fiscal discipline and galvanising support for furthering structural reform. Much has been done in the social area over the last decade or so, with unquestionable improvements in key social indicators, particularly in education. The government nevertheless continues to have an important role to play, ensuring that social outcomes are commensurate with Brazil's already high levels of spending on social programmes, including pensions. General government spending on social programmes – including education, health care, housing and urbanisation, social security and assistance, and unemployment insurance – accounts for about one-quarter of GDP, well in excess of average spending in countries with a comparable level of income. *In light of these high spending levels, emphasis should gradually be shifted to improving the cost-effectiveness of social programmes, focusing on continuity through an incremental strengthening of existing programmes and improvements in service delivery.*

Social disparities need to be reduced in pursuit of the government's growth agenda

The distribution of income remains stubbornly skewed in Brazil. Public social spending is a poor instrument to redistribute income because contributory programmes, such as pensions and unemployment insurance, account for the lion's share of public social spending. These programmes are also reserved for formal-sector workers, who tend to have above-average incomes. Public spending on pensions alone already accounts for a higher share of GDP in Brazil than in the average OECD country, despite Brazil's younger population. But spending on means-tested programmes, such as income transfers for the care of children, and elderly and disabled persons, accounts for a relatively small share of public social spending, well below the OECD average. Rural pensions, which are essentially non-contributory, are considered one of the best-targeted social programmes currently in

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place. Due to broad recognition that these income transfers are important poverty alleviation tools, they have been preserved from cuts in periods of fiscal retrenchment. *To correct these structural imbalances within the current budget envelope, the financial sustainability of the social security system will need to be restored to make room for higher spending on programmes which are more pro-poor and conducive to the accumulation of human capital.*

Social policies can become more pro-poor through emphasis on means testing and conditionality

Untargeted social spending, especially on education and health care, can also become more pro-poor. This can be achieved by continuing to shift the composition of spending towards preventive care and primary and lower-secondary education, which tend to benefit the poor more than others. For example, the share in GDP of public spending on education is close to the OECD average but Brazil fares poorly in the OECD's PISA measurement of student performance in comparison with countries with similar levels of public spending on education. Tertiary education accounts for about one-fifth of government spending on education, close to the OECD average, but the average cost to the budget of higher education per student is about 150 per cent of GDP *per capita*, about three times as high as the OECD average. The option of increasing cost recovery in higher education through the better targeting of existing tax expenditures directed to philanthropic institutions is thus welcome. With regard to improving access to primary and lower-secondary education, the experience of FUNDEF (a fund to finance sub-national spending on primary and lower-secondary education based on minimum spending per student and federal top-up grants), with its impact on school enrolment rates, is welcome. This is also true for greater reliance in programme design and service delivery on the conditional, means-tested income transfers, including those now under the *Bolsa Família* umbrella. In recognition of the fact that poverty can be alleviated and income distribution can be improved over the longer term through human capital accumulation, *continued use of school attendance as a condition for enrolment in income transfer programmes is strongly advisable. So is the appropriate monitoring of compliance with programme conditionality*.

In sum, the foundations for sustained growth are by and large in place

This *Survey*'s general assessment is that Brazil is currently reaping the benefits of macroeconomic consolidation, underpinned by a prudent policy stance and the strengthening of institutions for macroeconomic policymaking. External adjustment has been far-reaching and is set to continue, reducing vulnerabilities and boosting the economy's resilience to shocks in the years to come. Macroeconomic adjustment has been costly but is bearing fruit, as the conditions for sustained growth are by and large in place. Continued commitment to fiscal probity will be a major factor in fostering the gradual decline in real interest rates, broadening the range of affordable investment projects and opportunities for growth. This positive outlook therefore provides the federal government and its state and municipal counterparts with an invaluable opportunity to make headway into structural reform and for addressing policy areas where progress has so far proved difficult to achieve.

ISBN 92-64-00747-4
OECD Economic Surveys
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Chapter 1

Macroeconomic policies: paving the way for sustained growth

This chapter discusses Brazil's macroeconomic performance, including an overview of the main policy challenges ahead. The economy is recovering in earnest and the foundations for sustained growth appear, by and large, to be in place. The maintenance of a prudent policy stance is essential and owes much to the strengthening of institutions, in particular the inflation targeting framework and the Fiscal Responsibility legislation. The continuing external adjustment is making the economy more resilient. A main policy challenge is to improve the quality of fiscal adjustment, which has been achieved primarily by hiking taxes and compressing public investment. This challenge can be met by placing emphasis on the rationalisation of current spending, including further social security reform, reconciling the need for fiscal consolidation with that of alleviating Brazil's high tax burden.

1. Overview and the challenges ahead

Brazil's growth performance has been erratic since the floating of the *real* in 1999. Nevertheless, resilience has improved recently through cautious macroeconomic management – underpinned by the strengthening of institutions, including the Fiscal Responsibility legislation and the inflation targeting framework for monetary policy – and an impressive external adjustment, underscored by a flexible exchange rate regime, resulting in a swing in the external current account balance of about 5.5 per cent of GDP during 1999-2003. While these developments bode well for the outlook, which is positive, with the conditions for sustained growth being by and large in place, more is needed, particularly in advancing the reform process to firmly establish in Brazil in a virtuous circle of improved confidence and resilient, equitable growth.

Against this background, there are a number of key challenges which need to be addressed and which are covered in this *Survey*: *i)* improving the quality of fiscal consolidation, *ii)* enhancing the investment climate, and *iii)* strengthening social policies. These challenges are interrelated and require a comprehensive set of measures in order to boost the economy's resilience to shocks, paving the way for sustainable growth in the years to come and for a faster catch-up in relative living standards.

The fiscal challenge (Chapter 1)

Much progress has been made in fiscal consolidation. The government has an impressive record in meeting the annual budget targets, even in adverse conditions. But high public indebtedness remains a source of vulnerability, which the authorities have sought to address. Therefore, the consolidation of macroeconomic stabilisation will be of paramount importance in the years to come. On the fiscal side, sizeable primary surpluses will be necessary over the medium term to securely place the public debt on a downward trajectory in relation to GDP. Considerable progress has been made in strengthening the institutions for public debt management, which will need to remain prudent, focusing on continuing to reduce the government's exposure to foreign exchange and interest rate volatility. This would make the debt dynamics less vulnerable to changes in market sentiment. At the same time, monetary policy will need to continue to respond swiftly to inflationary pressures within the existing inflation targeting framework, while aiming at low, stable inflation over the medium term. *At the current juncture, the main challenge for policy-makers is to improve the quality of on-going fiscal consolidation.* By putting more emphasis on rationalizing current spending, the need for fiscal consolidation can be reconciled with that of alleviating Brazil's already high tax burden in the years to come, which is detrimental to growth, and channelling budgetary resources to meet society's economic and social priorities.

The investment climate challenge (Chapters 2 and 3)

The current level of investment, particularly in infrastructure, is insufficient to sustain robust growth over the medium term. There is limited room in the budget to boost capital spending and private investment is discouraged by a scarcity of credit, high intermediation costs, and regulatory uncertainty. Enhancing the investment climate is therefore instrumental in improving the economy's growth performance and resilience. Brazil's financial markets will need to develop further to facilitate access by private investors to more abundant, cheaper credit. The regulatory framework for network industries (*i.e.,* electricity, oil and gas, water and sanitation) will need to clearly define the role of government in these sectors. Public-private partnerships will need to be encouraged, adequately balancing risks between the government and its private-sector partners. *The main challenge in this respect is two-pronged:*

- to ease constraints on loan recovery through new bankruptcy legislation, encouraging credit creation and reducing intermediation costs, and
- to reduce regulatory uncertainty, particularly in network industries.

The social challenge (Chapter 4)

Social disparities do not allow for the benefits of sustained growth to be evenly spread among different social groups. There has been considerable progress in the social area over the last decade or so, with unquestionable improvements in key social indicators, particularly in education. The government continues to have an important role to play in this area, ensuring that social outcomes are commensurate with Brazil's already high levels of spending on social programmes, including pensions. To this end, public social spending will need to be more pro-poor, and scarce budgetary resources will need to be allocated to the programmes that are deemed to be most cost-effective and conducive to the accumulation of human capital. *The main challenge in this respect is to strengthen the social policies that will allow for the pursuit of the government's social agenda while maintaining fiscal discipline and galvanising social support for reform.*

2. Recent trends and outlook

Since the floating of the *real* in 1999, Brazil has suffered a series of adverse supply shocks, taking a toll on growth performance. The slowdown of the world economy in 2001-02 and heightened geo-political risk are among external shocks. On the domestic front, the energy shortage of 2001 was followed by the sharp deterioration of market sentiment in the run-up to the presidential election in 2002. While domestic demand had been weak during 2001-03, reflecting adverse labour market trends and declining real wages, the external sector was the main engine of growth in the period (Table 1.1 and Figure 1.1). Private investment was affected adversely by macroeconomic volatility and uncertainty over the regulatory framework in some sectors, particularly infrastructure. On the supply side, agricultural output and agriculture-bound manufacturing production have benefited from the surge in international demand over the last couple of years.

The external adjustment, which is on-going, has been impressive. Exports have trended upwards, particularly since mid-2002, contributing to a swing in the external current account balance of nearly USD 40 billion between early-1999 and mid-2004, equivalent to over one-half of Brazil's exports in 2003. Many factors have contributed to the improvement of foreign trade performance, including the maintenance of a flexible

Table 1.1. **Basic economic indicators, 1999-2003**

	1999	2000	2001	2002	2003
Supply and demand					
GDP (in current BRL billion)	973.8	1 101.3	1 198.7	1 346.0	1 556.2
GDP (in current USD billion)	536.6	602.2	509.8	459.4	506.8
GDP growth rate (real, in per cent)	0.8	4.4	1.3	1.9	0.5
Supply					
Agriculture	8.3	2.2	5.8	5.5	4.5
Manufacturing	–2.2	4.8	–0.5	2.6	0.0
Services	2.0	3.8	1.8	1.6	0.7
Demand					
Private consumption	–0.4	3.8	0.5	–0.4	–1.5
Public consumption	2.4	1.3	1.0	1.4	1.3
Gross fixed investment	–7.2	4.5	1.1	–4.2	–5.1
Exports	9.2	10.6	11.2	7.9	9.0
Imports	–15.5	11.6	1.2	–12.3	–1.7
Public finances (consolidated public sector, in per cent of GDP)					
Revenue	31.7	32.5	33.9	35.5	34.9
Primary balance	3.2	3.7	3.6	3.9	4.3
Nominal balance	–5.8	–3.6	–3.6	–4.6	–5.1
Net debt[1]					
In per cent of end-period GDP	48.7	48.8	52.6	55.5	58.2
In per cent of GDP (period average)	53.0	51.1	55.1	65.5	58.7
Balance of payments (in USD billion)					
Current account balance	–25.3	–24.2	–23.2	–7.6	4.0
In per cent of GDP	–4.7	–4.0	–4.6	–1.7	0.8
Trade balance	–1.2	–0.7	2.7	13.1	24.8
Exports	48.0	55.1	58.2	60.4	73.1
Imports	–49.2	–55.8	–55.6	–47.2	–48.3
International reserves (gross)	36.3	33.0	35.9	37.8	49.3
FDI (net inflows)	28.6	32.8	22.5	16.6	10.1
Outstanding external debt	225.6	216.9	209.9	210.7	214.9
In per cent of GDP	42.0	36.0	41.2	45.9	42.4
Exchange rate and prices					
Exchange rate (BRL per USD, period average)	1.82	1.83	2.35	2.93	3.07
CPI inflation (IPCA, in per cent, end-of-period)	8.9	6.0	7.7	12.5	9.3
GDP deflator (in per cent)	5.7	8.4	7.4	10.2	15.0
Unemployment rate (in per cent)[2]	. .	. .	. .	11.7	12.3

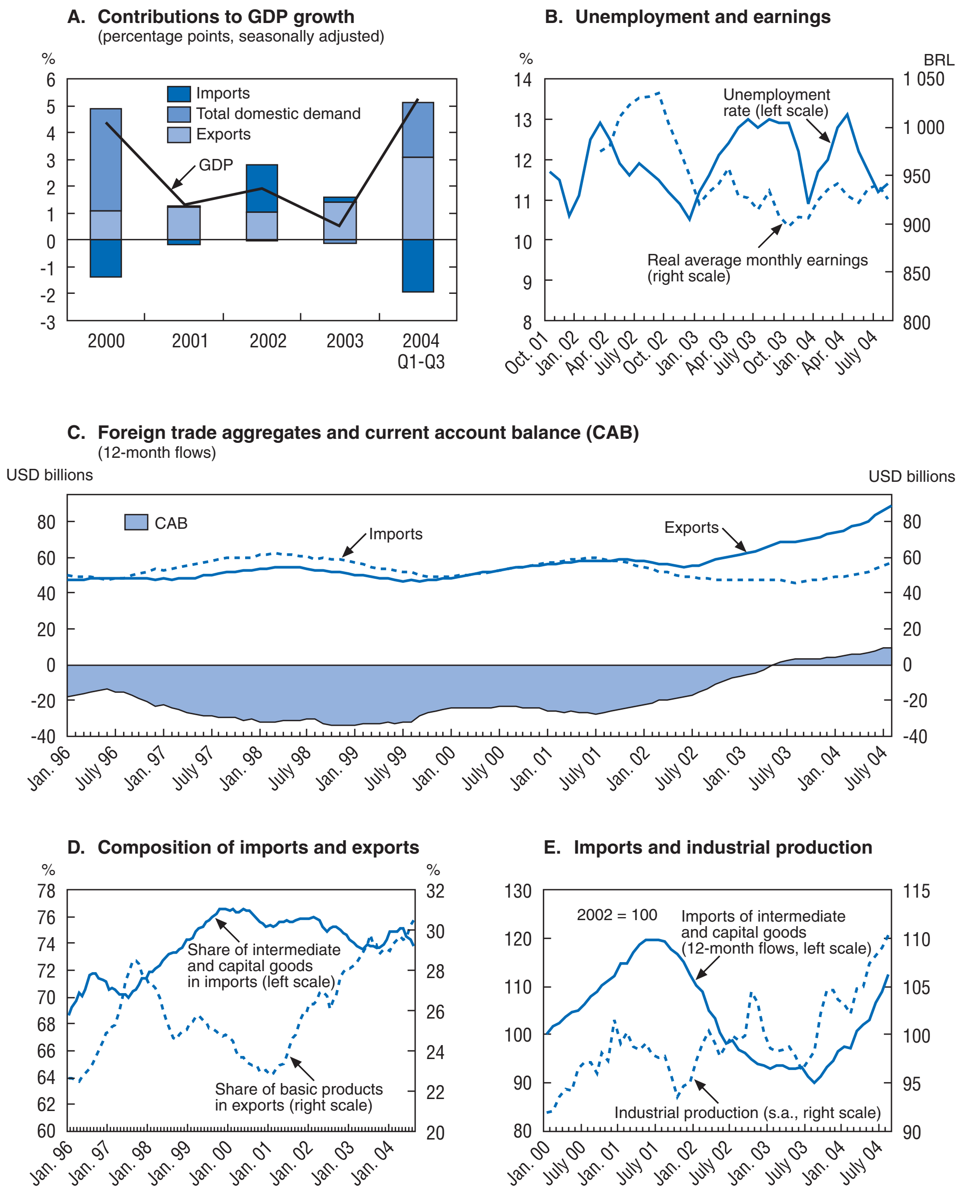
1. The net debt ratio is conventionally defined in Brazilian statistics in per cent of end-period, rather than period average, GDP.
2. Monthly Employment Survey (PME/IBGE), new methodology.

Source: Central Bank of Brazil, Federal Revenue Service, and IPEA.

exchange rate, continued growth of exports of manufactured goods, increased penetration in new markets, including China, and the increase in the price of commodities since mid-2002. Commodities and raw materials accounted for about 30 per cent of Brazilian exports in 2003, up from about 25 per cent in early-1999. Imports have remained subdued but have gathered pace more recently, pushed by the recovery in industrial production. Intermediate inputs and capital goods continue to account for the lion's share of imports.

The outlook is by and large positive. The resumption of growth in the second-half of 2003 and 2004 is now firmly established. A further decline in unemployment and rising real wages will sustain the recovery in private consumption moving forward, and as such domestic demand is expected to continue to be the main engine of growth. The positive

Figure 1.1. **Aggregate economic indicators**



Source: IBGE and Central Bank of Brazil.

outlook is set to continue to encourage private investment. Export performance will remain strong, and the recovery in domestic demand is making the recovery more balanced across sectors. Trade surpluses are set to remain healthy, despite the increase in imports. Inflationary pressures are likely to arise from the reduction of slack in the economy. Reflecting these trends, the monetary tightening which started in September 2004 may need to continue to ensure the convergence of inflation expectations to the targets. Fiscal policy is expected to remain cautious towards attainment of the end-year primary surplus targets for the consolidated public sector. Progress in structural reform will be a much-needed catalyst for longer-term sustainable growth, in particular by strengthening the investment climate, and to improve the economy's resilience to shocks.

3. Macroeconomic policy mix

The authorities' response to adverse shocks has been a prudent fiscal and monetary policy mix. Continued compliance with Fiscal Responsibility legislation – formalised by the enactment of the Fiscal Responsibility Law in May 2000 – has strengthened fiscal discipline at all levels of government.[1] At the same time, the adoption of an inflation targeting framework for monetary policymaking has been instrumental in the disinflation process following the floating of the *real* in 1999 and in ensuring that inflation expectations converge swiftly to the targets in the aftermath of adverse shocks. Both institutional frameworks have been put to the test over the past few years, with positive outcomes, shedding further light on areas where improvements, which are under way, could be focused.

Fiscal policy

Entrenching fiscal consolidation

Fiscal policy has responded forcefully to changes in the macroeconomic environment. The primary surplus targets have been raised over time to keep the debt-to-GDP ratio on a sustainable path, as illustrated in Annex 1.A1. Fiscal performance has been strong, even in periods of economic slowdown, making the fiscal effort all the more impressive. This achievement has been underscored by cautious fiscal management at all levels of government, with the fiscal targets being exceeded repeatedly. In this respect, the authorities' resolve to resist increases in the minimum wage above inflation, which would have a detrimental impact on the budget, is commendable. The consolidated primary surplus target was raised further in 2004 to save part of the cyclical revenue windfall while accommodating some additional spending in much-needed infrastructure investment. Confidence in the macro-fiscal institutions remains robust, as reflected in the continued adherence of market expectations to the announced primary surplus targets (Figure 1.2). However, fiscal consolidation has been achieved predominantly through revenue hikes, leading to an increase in central government revenue of over 2 per cent of GDP since early 2000, and a compression of discretionary spending, particularly on investment programmes, rather than cuts in current outlays. Macroeconomic stabilisation since 1995 has also reduced reliance on inflation tax revenue. At the consolidated level, the revenue ratio increased by about 7 percentage points during 1995-2003, to nearly 35 per cent of GDP.

Failure to retrench current spending is due in part to downward rigidities, deriving to a great extent from extensive earmarking of revenue. The existence of mandated minimum spending levels for several programmes is another source of budget inflexibility (Box 1.1). The introduction in 1996 of a minimum spending level per student (primary and lower-secondary education) has been instrumental in increasing school enrolment rates and reducing pay disparities at the sub-national level, as discussed in Chapter 4. The 2000 constitutional amendment setting a floor for aggregate federal spending on health care (Box 1.1) has also exacerbated downward rigidities, while the earmarking of federal transfers puts upward pressure on sub-national spending. At the same time, social security pressures have mounted and the creation of new expenditure commitments, particularly in old age-related assistance, has put additional upward pressure on current spending. With limited scope for further expenditure restraint, discretionary expenditure, particularly on investment programmes, has been cut back, especially since mid-2002.

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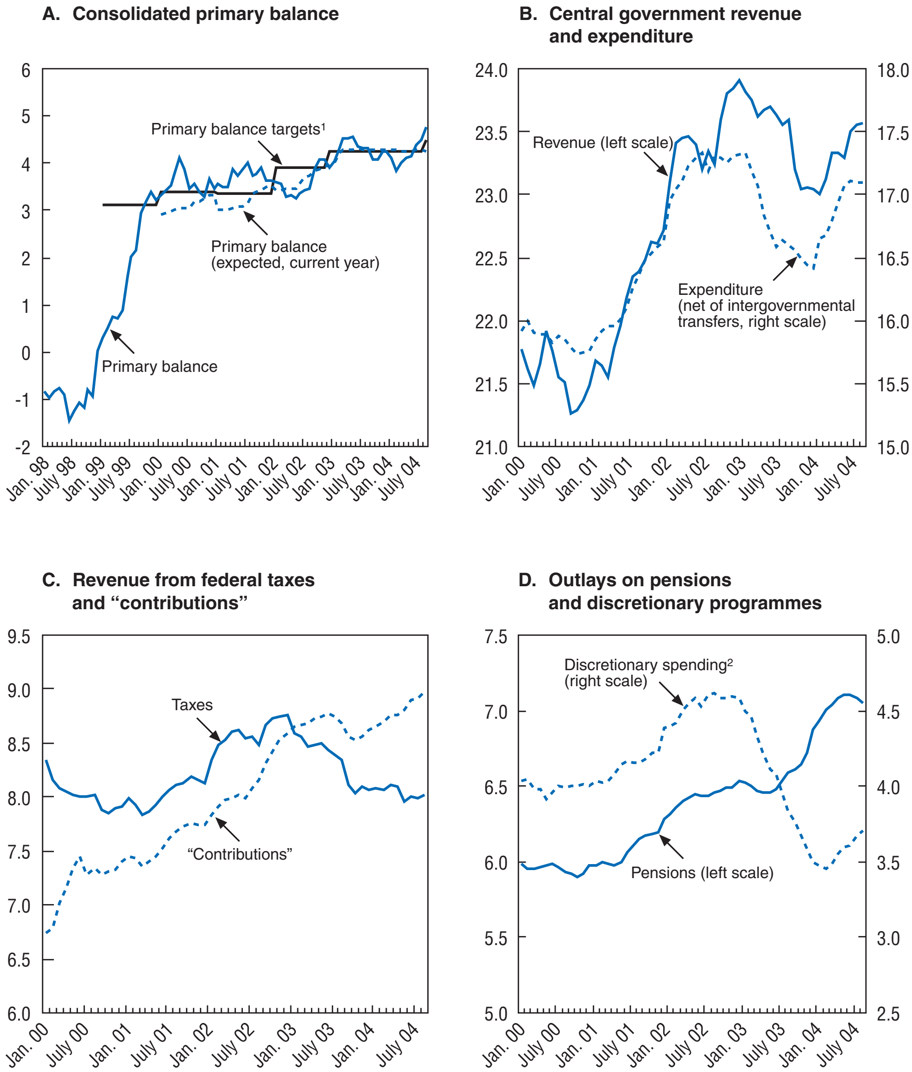
Figure 1.2. **Fiscal policy indicators**

12-month flows, in per cent of GDP



1. The targets refer to those set for the central government and its public enterprises in the budget guidelines laws (LDOs) since 1999, together with the expected outturn for the regional governments (states and municipalities) and their public enterprises, and used as performance criteria under the arrangements with the IMF. Where targets have been changed during the year, the latest target is considered for any given calendar year. Targets are set in nominal terms and GDP shares are calculated based on projected GDP at the time the targets were set.
2. Measured as "other current and capital spending" (other OCCs).

Source: National Treasury.

Fiscal consolidation underpinned by tax hikes has had a detrimental impact on the efficiency of the tax system. While central government tax revenue has been broadly stable in relation to GDP, that of federal "contributions" (*i.e.*, levies whose revenue is earmarked for specific programmes, particularly in the social sectors, but not shared with the regional governments) has risen steadily over time. Originally levied on enterprise turnover and payroll, reliance on these federal contributions has had a detrimental impact on Brazil's trade competitiveness and encouraged informality. The main federal contributions – PIS/Pasep and Cofins – have now been converted into value added-type taxes, starting with PIS/Pasep

Box 1.1. **Revenue earmarking and expenditure rigidities**

Brazil has extensive revenue earmarking, particularly at the federal level. It is estimated that about 80 per cent of federal tax revenues are earmarked, against less than 60 per cent in 1988.* This includes mandated revenue sharing with the regional governments (state and municipalities), as well as special-purpose funds. Revenue sharing accounts for about 15 per cent of federal tax revenues and is concentrated on the income tax and IPI, the federal value added tax, which are in principle the federal government's most buoyant taxes.

Efforts to increase federal revenue net of mandated transfers to the regional governments has resulted in greater reliance on "contributions"; that is, levies on enterprise turnover and payroll (*i.e.*, PIS/Pasep, Cofins) and on financial transactions (*i.e.*, CPMF) whose revenues are earmarked but not shared with the regional governments. The federal turnover taxes have now been converted into VAT-type taxes but their revenue remains earmarked to finance spending on health care and social security programmes, in the case of Cofins, and housing and labour programmes, in the case of PIS/Pasep. The revenues of *CIDE-Combustíveis*, the explicit tax on petroleum derivatives introduced in January 2002 to replace the implicit taxes in the budget's oil account, are also earmarked for transport infrastructure and environment protection programmes.

To mitigate this problem, at least in part, an arrangement is currently in place for withholding federal earmarked revenues (*Desvinculação das Receitas da União*, DRU). Accordingly, 20 per cent of federal revenues (net of intergovernmental transfers), are withheld by the federal government, thereby reducing the extent of revenue earmarking at the federal level. Discussions are under way to implement a comparable arrangement at the state level.

At the same time, there are significant expenditure rigidities at the federal and regional government levels. All levels of government are required by the Constitution to earmark a share of revenue (18 per cent for the federal government and 25 per cent for the state and municipal governments) to finance spending on education. In addition, the states and municipalities are required to earmark 12 per cent and 15 per cent of their revenue, respectively, to finance the provision of health care. Spending floors have also been introduced in recent years in a number of programmes. In health care, a constitutional amendment enacted in 2000 called for an increase in aggregate federal health spending in 2000 by 5 per cent in real terms relative to its 1999 level and for adjusting this spending level in line with the rate of growth of nominal GDP during 2001-04. In education, minimum spending levels per student enrolled in primary and lower-secondary education (1st to 8th grades) have been established, requiring the federal government to top up spending in the states that cannot afford the national spending floor. The introduction of these spending floors has, however, been associated with significant improvements in school enrolment, as discussed in Chapter 4. The requirement that the minimum pension be adjusted by the same amount as the minimum wage also results in considerable downward rigidity in spending.

* See Ministry of Planning and Budget (2003), for more information.

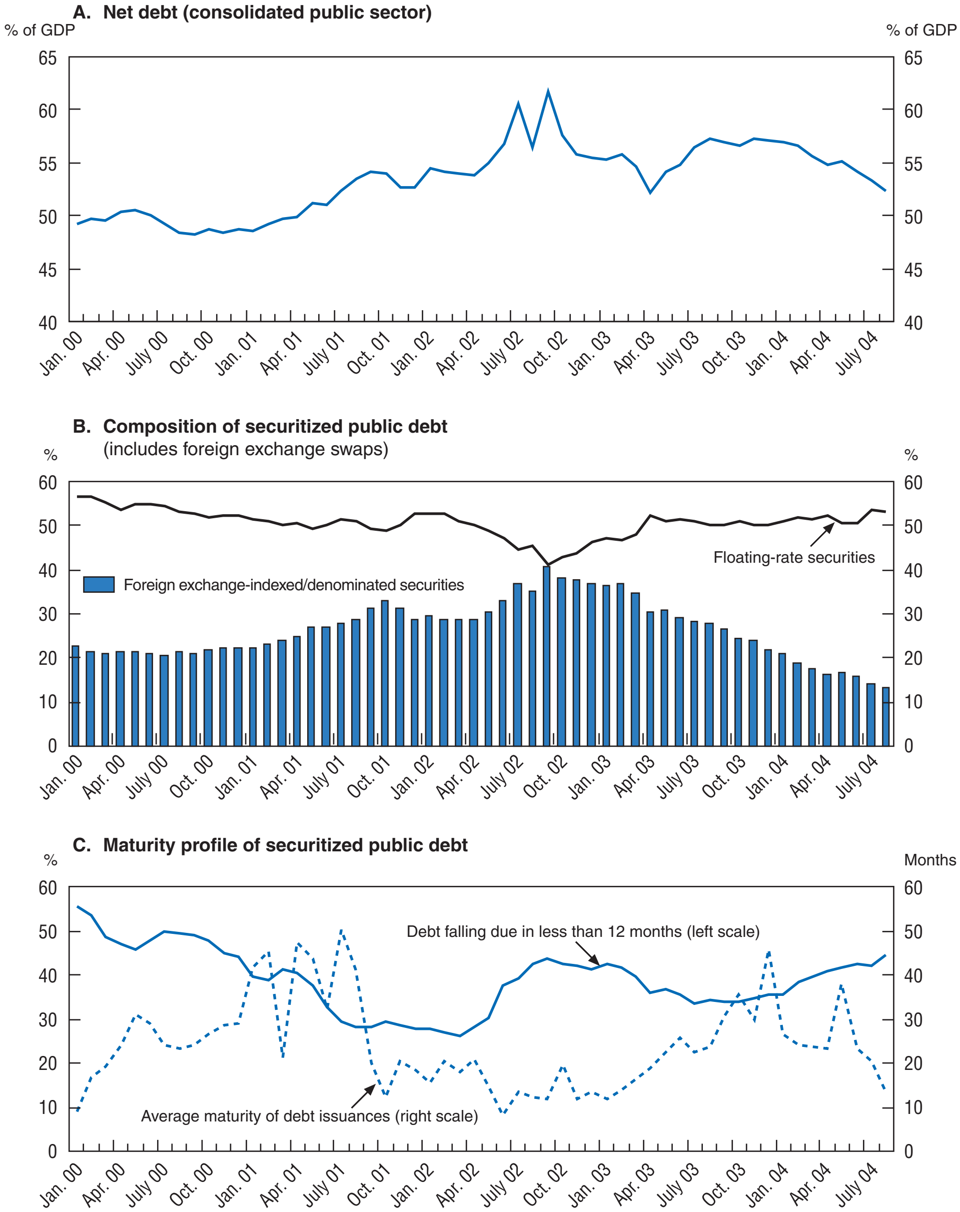
in 2002, somewhat mitigating this problem. But regional governments' revenue has also trended upwards, by about 1.5 per cent of GDP during 1998-2002, consistent with their own fiscal consolidation efforts.[2] This increase in the tax take needs to be evaluated against the fact that Brazil already has a high revenue-to-GDP ratio in comparison with countries of comparable income levels (see Chapter 4), being close to the OECD average and nearly twice as high as that of the rest of Latin America.

Strengthening resilience through improved debt management

Despite progress in fiscal consolidation, high public indebtedness remains a source of vulnerability, which the authorities have sought to address. Much progress has been made to strengthen the institutional framework for public debt management, including measures to increase liquidity in secondary markets and to clarify the role of the Central Bank of Brazil (BCB) and the Treasury in issuing public debt securities in domestic markets, and the release of annual debt management programmes (see below). Since 2002, the BCB has been prohibited from issuing government bonds in domestic markets, implementing monetary policy with the Treasury security holdings in its portfolio. On occasions of fiscal stress, public debt management has aimed at reducing rollover risks, through the issuance of shorter-tenor securities, and the consequent shortening of the average maturity of the domestic debt stock (Figure 1.3). In response to growing demand for foreign exchange hedging, as in the run-up to the presidential election in 2002, foreign exchange-indexed securities and foreign exchange swaps were also issued. Acceptance of a deterioration of the public debt indicators in conditions of financial stress was predicated on the assessment that market dislocations on those occasions have been technical and transitory. Under these conditions, the validation of the risk premia required by the market to roll over domestic debt would exacerbate, rather than reduce, financial volatility.[3] When rollover costs became excessively high, debt redemption was facilitated by the maintenance by the Treasury of sizeable cash reserves at the BCB. But the ensuing partial monetisation of debt increased liquidity in the money market, with the adverse consequence of contributing to the currency depreciation.[4] Mopping up this excess liquidity through sterilisation is difficult at times of limited appetite for government securities. Nevertheless, following these episodes, the deterioration of the public debt indicators was reversed swiftly when market conditions improved. An important policy consideration moving forward is that the provision of foreign exchange hedging by the government in situations of financial duress may discourage the private sector (*e.g.,* companies with significant foreign exchange assets and revenue, such as large exporters) from being more active in this market.

When financial conditions have been favourable, public debt management has aimed at lengthening maturities, replacing floating- by fixed-rate securities, and reducing foreign exchange exposure. With regard to the external public debt, the main objectives have been the consolidation of the term structure of interest rates in strategic markets with liquid benchmarks (US dollar, euro, and yen), coupled with the expansion of the investor base for Brazilian sovereign risk. Restructured debt has been gradually retired and long-term benchmarks have been issued to facilitate access by Brazilian borrowers to foreign markets, given the limitations to long-term borrowing in domestic markets, as discussed in Chapter 2. Communication with the market has also improved with the issuance of annual debt management programmes (*Plano Anual de Financiamento*, PAF) since 2001 in which the main objectives for debt management are stated and indicative targets are set for the overall debt stock and its composition, among other financial indicators. Notwithstanding these developments, the adverse shocks of the recent years have affected the real exchange and interest rates, raising concern about the public debt dynamics, especially in a low-growth environment.

Figure 1.3. **Public debt and financial indicators**

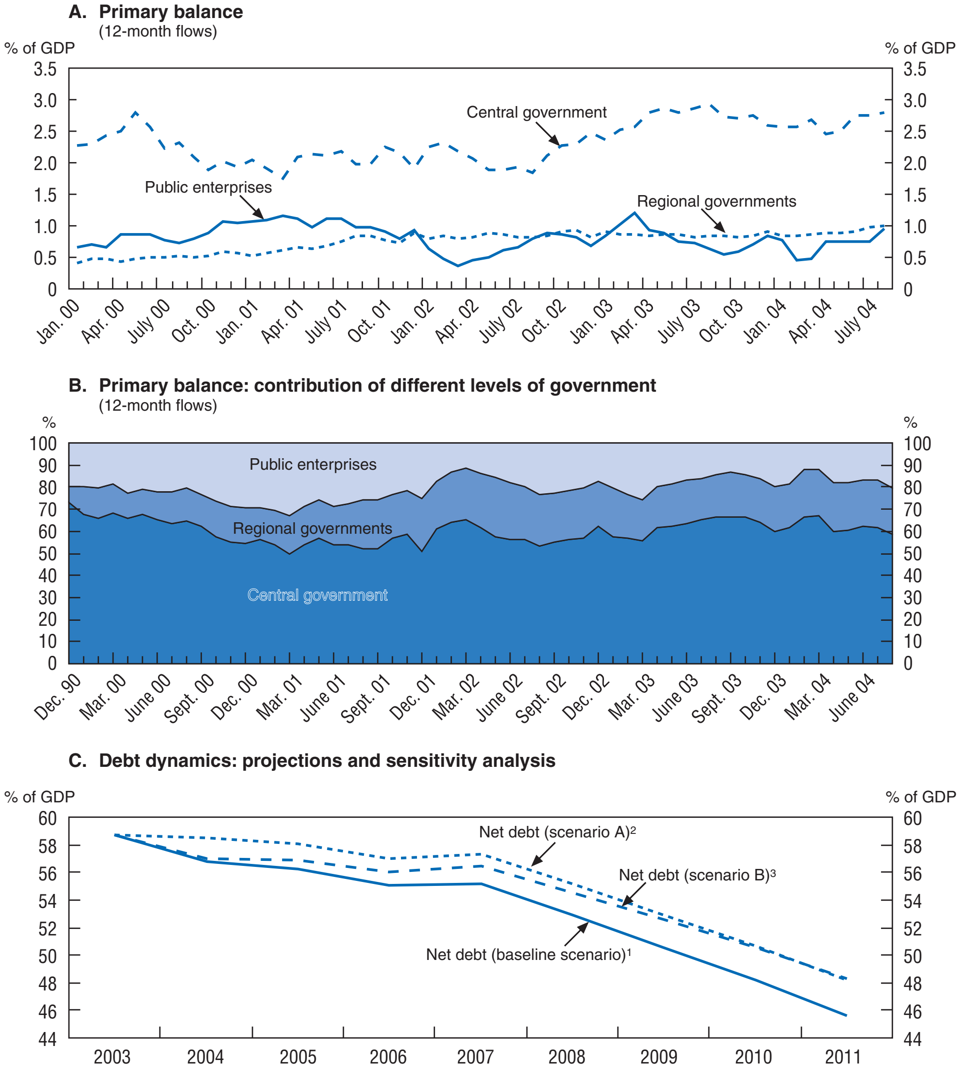


Source: Central Bank of Brazil.

Improving the quality of fiscal consolidation

Moving forward, Brazil will need to continue to post sizeable primary budget surpluses in the years to come to allay concern about the dynamics of the country's public debt (Figure 1.4). Despite progress in fiscal consolidation in recent years, the still-high, although declining, share in public debt of floating-rate and of foreign exchange-indexed/ denominated securities makes the debt dynamics overly sensitive to changes in monetary stance and fluctuations in the exchange rate. Therefore, while focusing policies on ensuring that the primary surplus targets are met, efforts are needed to improve the

Figure 1.4. **Fiscal stance across levels of government and public debt dynamics**



1. The baseline scenario uses market (July 2004) forecasts for the main parameters for 2004-05. Over the medium term, the inflation rate is kept constant at 4.0 per cent per year, the policy interest rate is kept constant at 7.5 per cent on average per year in real terms, the exchange rate is kept constant in real terms at its 2005 level, and real GDP growth is projected at 3.5 per cent per year.
2. Based on a permanent 10-percent depreciation of the exchange rate in 2004 relative to the baseline scenario. All other parameters are as in the baseline scenario.
3. Assumes that GDP grows by 3.0 per cent per year between 2004-11. All other parameters are as in the baseline scenario.

Source: Central Bank of Brazil.

quality and longer-term sustainability of fiscal consolidation. In addition, it is important to make public policies more pro-growth, with an increasing emphasis on rebalancing tax and spending programmes towards boosting private sector development. Against this background, the policy challenge is two-pronged.

First, a sustained retrenchment in current expenditure (*e.g.*, wages, pensions, and government consumption) would pave the way for reducing the tax burden over the longer-term, once macro-fiscal conditions have improved and fiscal consolidation has delivered an appreciable fall in indebtedness. A reduction in the tax burden would be instrumental in boosting private sector development and reducing informality. Moreover, on-going fiscal consolidation and the need to respond swiftly to a range of adverse shocks call for greater flexibility in the budget. Reducing expenditure rigidities, while avoiding disruption in service delivery in the event of revenue shortfalls, is a key policy challenge in the years to come. To this end, the option of revoking the constitutional amendment setting a floor for federal health spending could be considered, while keeping the minimum spending requirements for primary and lower-secondary education at the sub-national level. The possibility of extending it to upper-secondary education within the current budget envelope would be welcome and is currently under discussion (see Chapter 4). Measures, such as the current arrangement for withholding the revenue of federal taxes that would otherwise be earmarked (DRU), are welcome but of a temporary nature. More importantly, the merits of continued revenue earmarking and mandated spending should be assessed against the impact these budgetary resources might have on policy outcomes, particularly in the social area.

Second, public expenditure could become more pro-poor, against the background of already high levels of spending on social programmes, including pensions, and a tight budgetary envelope. Most social spending in Brazil is on programmes to which access is universal, such as education and health care, or of a contributory nature, such as pensions. Means-tested income transfer programmes, which are better targeted to the poor, account for a small share of the social budget. But even untargeted spending can be made more pro-poor. Shifting resources within the health care budget to preventive care and sanitation, for example, which benefits the poor disproportionately, is a case in point, as evidenced by the successful experience in Brazil with community care programmes. Reducing regional disparities in service delivery, as in the case of FUNDEF in education, is an example of pro-poor policymaking, as discussed in Chapter 4. Shifting public spending away from higher-education toward primary and secondary education is another.

Preparing the budget for PPPs

The rationalisation of current spending will pave the way for the reallocation of budgetary resources towards cost-effective public investment, particularly in infrastructure. But the private sector also has a role to play through public-private partnerships (PPPs), as discussed in Chapter 3. The main challenge in this area is to achieve an appropriate balance of risks to be shared between the government and the private sector, while offering guarantees to private-sector partners that long-term commitments will be honoured by the government. Consistency between long- and short-term budgetary objectives should also be preserved, given the long-term duration of PPP contracts. Brazil's on-going efforts to recognize the hidden liabilities associated with the housing-mortgage system should be praised and, in this regard, the creation of contingent liabilities in connection with PPP projects should be avoided.[5]

To this end, continued compliance with the transparency standards and fiscal data reporting requirements set by the Fiscal Responsibility legislation for all levels of government is crucial. But more remains to be done, including the standardisation of requirements for the accounting of PPP operations in fiscal accounts and for the assessment of associated potential "fiscal risks". In line with the Fiscal Responsibility legislation, the budget guidelines laws (LDOs) of each level of government contain an annex on fiscal targets that provides detailed information on expenditure and revenue, with projections for these budget aggregates for the following 3 years.[6] In order to engage in PPPs, the government will need to estimate the budgetary impact of these operations for the full duration of the contract. While the fiscal targets annex could become the main vehicle for the dissemination of information on PPPs in budget documents, reporting requirements by Courts of Accounts often differ within and across different levels of government, calling for renewed efforts towards standardisation.[7] To mitigate this problem, draft legislation envisages a leading role for the Treasury in standardising accounting and reporting requirements. Of particular importance in this regard is vigilance over the accounting of commitments in PPP projects. This is because debt-creating commitments may be misclassified as current spending as a means of bypassing the debt ceilings under the Fiscal Responsibility legislation. The option of introducing a ceiling on government outlays related to PPP projects, possibly defined as a share of net current revenue, such as the debt service ceilings already provided for by the Fiscal Responsibility legislation, is also under consideration.

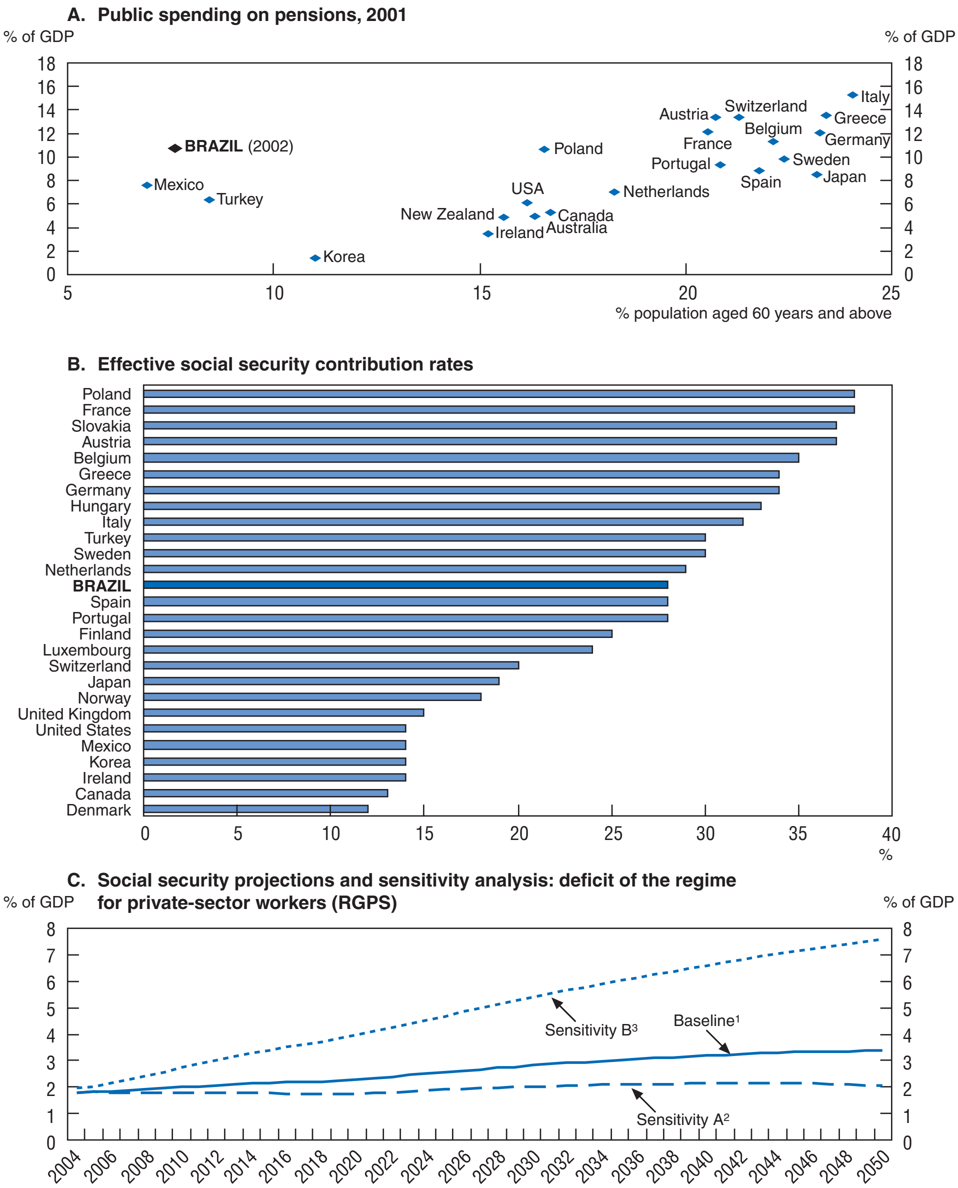
Advancing on the social security reform agenda

Considerable progress has been made in reforming the social security system for private-sector workers. But despite its much younger population, Brazil already has the same level of public expenditure on pensions (private and public-sector workers) in relation to GDP as countries with much older populations (Figure 1.5).[8] This imposes costs on society. For example, employers' social security contributions are high, increasing labour costs and providing incentives for informality. With less than one-half of the labour force having formal labour contracts, the Brazilian social security system is not only expensive but also fails to protect workers against the risk of unemployment. The dualistic labour market, where informal-sector workers are typically subject to lower wages, less protection from the social safety net, and greater job precariousness, also raises equity concerns, as discussed in Chapter 4 (Annex 4.A1).

Despite improvements, as discussed in the 2001 *OECD Economic Survey of Brazil*, the social security reforms have not eliminated long-term pressures on the budget. Estimates based on a baseline scenario where GDP grows by 3.5 per cent per year and the real value of pension benefits is kept constant shows that the deficit of the social security regime for private-sector workers (RGPS) would reach 3.5 per cent of GDP by 2050, almost twice as high as its current level. Naturally, these estimates are sensitive to variations in real GDP growth and the real value of pension benefits. To illustrate, if the economy grows instead by 4 per cent per year over the projection horizon, the RGPS deficit would remain roughly at the current level of about 2 per cent of GDP by 2050. If alternatively the value of pensions is adjusted in line with GDP growth, rather than being kept constant in real terms, therefore incorporating productivity gains and hence increases in real earnings to pensions, the RGPS deficit would reach 7.5 per cent of GDP by 2050 (with GDP rising by 3.5 per cent per year).

Against this background, an important challenge is to reduce the budgetary pressures of the social security regime for private-sector workers. The introduction of a minimum retirement age – preferably equal for men and women – should be considered in future reform because the average retirement age remains low.[9] The link between the minimum pension and the minimum wage is another case in point. The purchasing power of the minimum pension should be preserved, through some type of indexation mechanism, preferably using a price index that best reflects the consumption basket of the median

Figure 1.5. **Social security indicators**



1. Assumes that GDP grows at 3.5 per cent per year in real terms and pensions are indexed to inflation.
2. Assumes that GDP grows at 4.0 per cent per year in real terms and pensions are indexed to inflation.
3. Assumes that GDP grows at 3.5 per cent per year in real terms and pensions are indexed to inflation and productivity growth (1.6 per cent per year).

Source: OECD Social Expenditure database, 2004 and Ministry of Social Security.

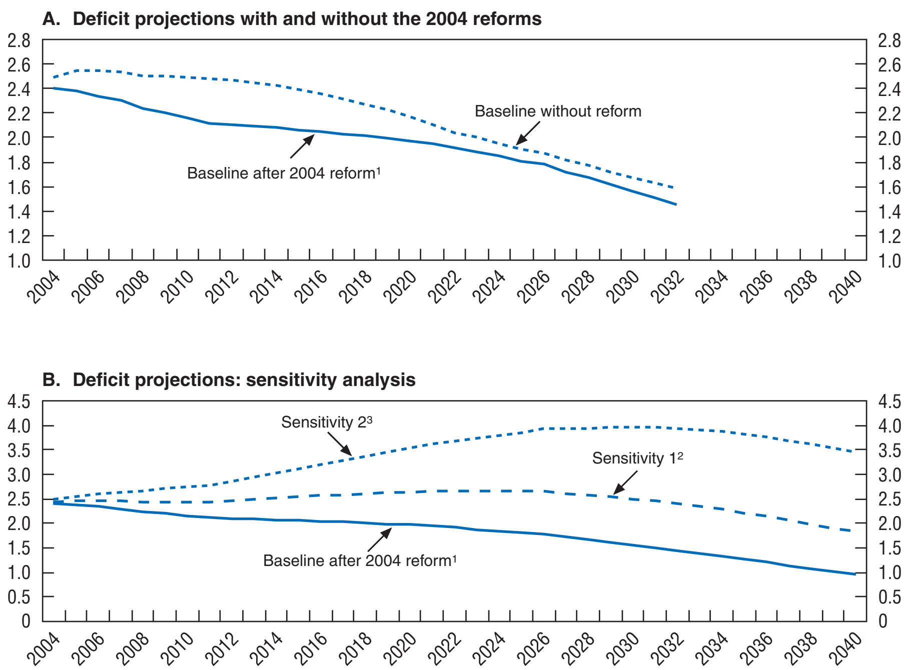
pensioner.[10] But the current equivalence between the minimum pension and the minimum wage makes the overall fiscal balance of the social security system overly sensitive to the minimum wage policy. It also transfers the productivity gains achieved by the working population to the retired population. Moreover, the exemptions and lower contribution rates enjoyed by workers in several sectors (education, health care, social assistance institutions, and sports clubs, among others) could be abolished. Furthermore, the period of contribution required for old-age pensions paid to male urban workers aged 65 (60 for women) could be increased from its current level of 15 years. Finally, further lowering the age entitlement for the federal old-age income support programme (LOAS) should be avoided. It was lowered in 2003 from 67 years to 65 years, which discourages enrolment in RGPS.[11] This trend also runs counter to worldwide pension reform practices.

Reform of the social security regime for civil servants – reviewed in detail in Annex 1.A2 – is under way. The impact of the reform on the regime's actuarial balance will be modest, given its focus on entitlements for new entrants into the civil service (Figure 1.6). Key to the reform is the taxation of pension earnings received by retired civil servants, coupled with the creation of complementary pension funds. The cumulative savings to the budget over the next 30 years is estimated at 6 per cent of GDP. The government's baseline scenario assumes that pensions and earnings are indexed to inflation over the long term. Alternatively, if pensions rise in line with GDP growth, the deficit of the regime for federal civil servants could reach 4 per cent of GDP by 2032, relative to about 1.5 per cent of GDP if the real value of pensions is kept constant over time.

Even with the reforms, challenges remain for the social security regime for civil servants. The creation of complementary pension funds for civil servants is consistent with efforts to promote private saving and to reduce pressures on the budget, which are stronger at the regional government level, but a number of issues are yet to be resolved.

Figure 1.6. **Social security projections: regime for public-sector workers**

In per cent of GDP



1. Assumes that GDP grows at 3.5 per cent per year in real terms and pensions are indexed to inflation.
2. Assumes that GDP grows at 3.5 per cent per year in real terms and pensions are indexed to inflation and productivity growth (1.6 per cent per year).
3. Assumes that GDP grows at 3.5 per cent per year in real terms and pensions are indexed to inflation and productivity growth (3.5 per cent per year).

Source: Ministry of Social Security.

The unification of the pension regimes for federal, state, and municipal civil servants would be welcome to promote economies of scale and improve governance. It is also important to ensure that these complementary pension funds be subject to the same prudential regulations and operational rules as those for private-sector workers. Consistent with international trends, standardizing entitlements between the regimes for private- and public-sector workers would make the overall social security system more equitable and the labour market more flexible (Box 1.2).

Box 1.2. **Reforming social security regimes for civil servants: the experience of OECD countries**

Recent reforms in several OECD countries have aimed at unifying social security regimes for private- and public-sector workers. In some countries (Finland, Ireland, Japan, Netherlands, Norway, Sweden, Switzerland, and United Kingdom), civil servants are affiliated to a basic regime, from which they receive a basic pension, and contribute to a complementary pension scheme. For example, in the Netherlands, since 1996, civil servants aged 65 and with 40 years of contribution receive a basic pension from the national regime, and contribute on a mandatory basis to a defined-benefit complementary pension fund, which pays pensions equivalent to 70 per cent of last salary. Sweden reformed its pension system in 1997, merging the regimes for public- and private-sector workers and setting up defined-benefit complementary pension funds, to which contributions are mandatory. The benefits paid by these funds are at most 65 per cent of the average salary over the last 5 years of work, the retirement age is 65 years, and 30 years of contribution is required.

In a number of countries, there is a separate regime for civil servants, but entitlements have been standardised in relation to the regime for private-sector workers. In several countries (Greece, Italy, Spain, Mexico, and United States), pensions have been capped and complementary pension schemes have been created. In the United States, the defined-benefit regime for federal civil servants was reformed in 1982, with new entrants being enrolled in the general regime. In addition, a defined-benefit plan was created, which pays a retirement benefit of up to 30 per cent of the last 3 years' average salary, with retirement age at 57 years. A defined-contribution plan was also set up, with civil servants in active service at the time of the reform being given the option to join the new regime. Because the take-up rate was low, at less than 3 per cent, both systems coexist to date, each one with approximately half of the federal government labour force in activity.

In other countries, reforms have lagged behind, but are under way. Separate regimes for civil servants still exist in Austria, Belgium, Canada, France, Germany, Luxembourg, Portugal, and Turkey, and entitlements still differ between public- and private-sector workers. In Germany, retirement benefits are paid usually after 65 years of age and are equivalent to up to 75 per cent of the average salary over the last two years of service, if the civil servant has at least 40 years of service. Changes since 1998 have focused on trimming benefit entitlements. Recent reform in France has raised the minimum contribution time from 37.5 years to 40 years and changed the benefit formula from 75 per cent of the average salary of the last 5 months to 75 per cent of the average salary of the last 25 years. These changes, which have unified the rules for public- and private-sector workers, will be implemented gradually until 2008 and the minimum retirement age will be raised from 60 to 62 years.

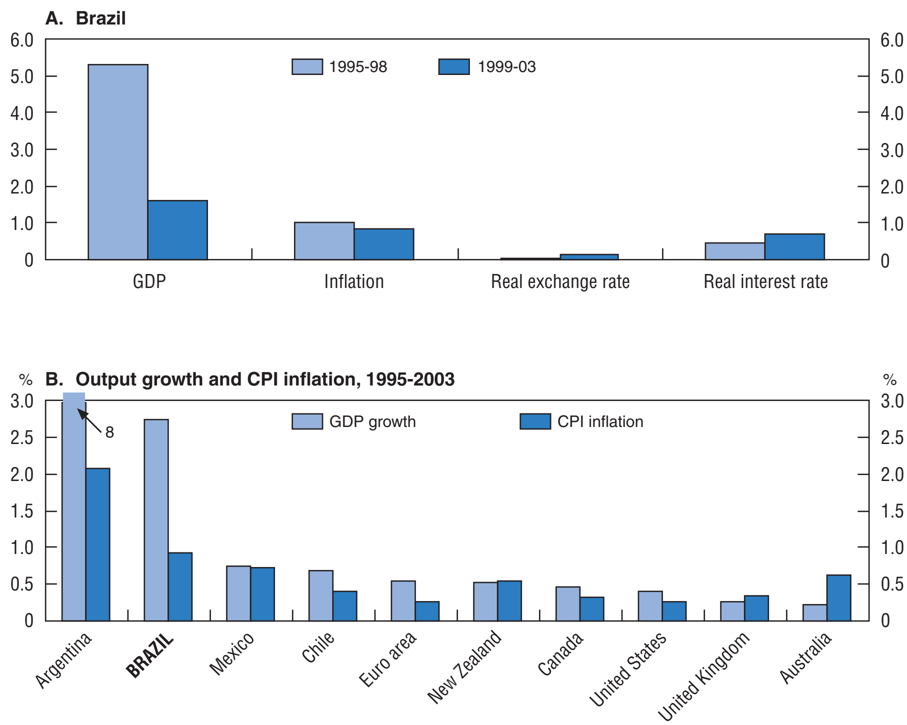
Monetary policy

Building credibility in inflation targeting

Inflation targeting – implemented in mid-1999 following the floating of the *real* – is particularly challenging in emerging markets. While the adoption of inflation targeting in both emerging and industrial countries has been associated with a fall in inflation relative to the pre-inflation targeting period, there is ample empirical evidence that inflation in emerging markets is more likely to deviate from the central targets and breach the upper bounds set around the central target.[12] This is because of institutional weaknesses in general, as well as the effects of macroeconomic volatility, which is higher in emerging markets than in more mature economies, often driven by a lack of resilience to external shocks (Figure 1.7).

Targets have been missed three times in the five-year history of inflation targeting in Brazil (Table 1.2).[13] Adverse supply shocks, both domestic and external, have been the main culprits. The breach of the targets in 2001 and 2002 can be attributed predominantly to the exchange rate shocks facing the economy in the period, despite a relatively low pass-through of exchange rate depreciation to prices, given the weak economic conditions prevailing in those years. The BCB estimates the pass-through to prices of an exchange rate depreciation to be low, at about 15 per cent accumulated over the year following the depreciation. This is higher than estimates for the G7 countries, at about 5 per cent, but significantly lower than those for other emerging markets.[14] In 2003, the target was missed again, essentially due to the inflationary inertia inherited from 2002 following the deterioration in market sentiment in the run-up to the presidential election in October.

Figure 1.7. **Macroeconomic volatility**[1]



1. Volatility is measured by the coefficient of variation.

Source: International Financial Statistics, IMF; IPEA, and OECD Economic Outlook 75 database.

Table 1.2. **Inflation targets and outturn, 1999-2006**

In per cent

	Current year			Actual inflation (IPCA)
	Lower bound	Central target	Upper bound	
1999	6.0	8.0	10.0	8.9
2000	4.0	6.0	8.0	6.0
2001	2.0	4.0	6.0	7.7
2002	1.0	3.5	6.0	12.5
2003[1]	. .	8.5	. .	9.3
2004[2]	3.0	5.5	8.0	7.6
2005	2.0	4.5	7.0	. .
2006	2.5	4.5	6.5	. .

1. Refers to the adjusted target set in January 2003. The 2003 target was set at 3.25 per cent in 2001 with the confidence bands at ± 2 percentage points and then raised to 4.0 per cent in 2002 with the confidence bands at ± 2.5 percentage points.
2. The target for 2004 was set in 2002 at 3.75 per cent with the confidence bands at ± 2.5 percentage points.

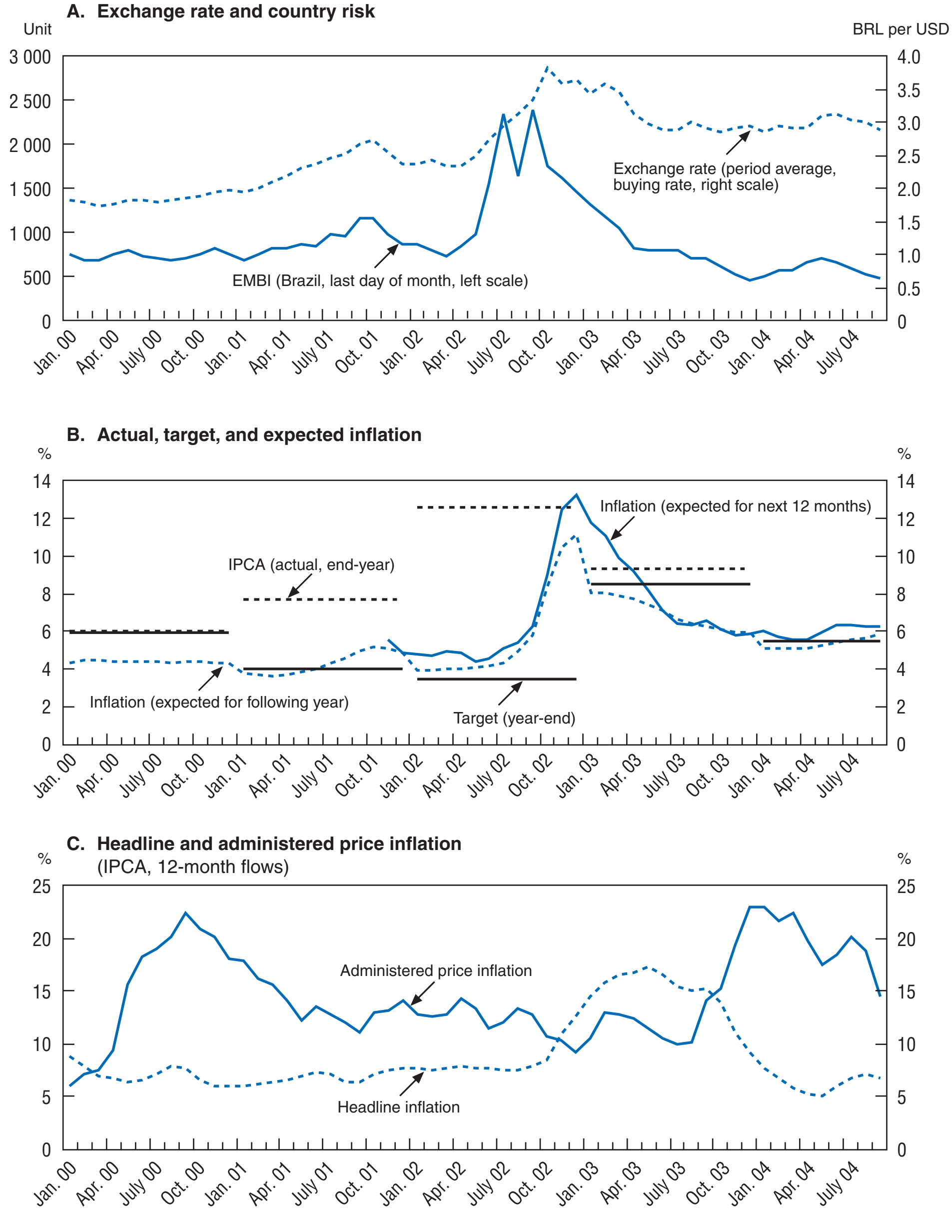
Source: Central Bank of Brazil.

But, despite the successive target breaches, the inflation-targeting framework appears to be gaining, not losing, credibility. The fact that inflation expectations converged to the targets set for 2004-05 relatively swiftly after the inflationary surge in late 2002 and early 2003 is a case in point (Figure 1.8). It can be attributed to the recognition among market participants that target breaches were due to adverse supply shocks, and that monetary policy has been geared to tackling the secondary effects of these shocks, while accommodating their first-round inflationary pressures and preserving the initial realignment of relative prices. These effects have been taken into account in adjusting the inflation target in 2003 and 2004, when it became clear that the original targets would only be attainable at a significant estimated output loss (Box 1.3). There was clearly an initial cost to credibility in missing the targets in 2001 and beyond, but this seems to have been compensated by the gain in transparency in the conduct of monetary policy.

By being forward-looking in its response to inflationary pressures, the BCB may also have contributed to reducing inflationary inertia after the introduction of the inflation targeting framework.[15] Inertia tends to be high in the course of disinflation, but empirical evidence suggests that the impact of past inflation on current inflation has weakened over time.[16] Inflationary inertia increased significantly at end-2002 and early-2003, following the confidence shock that took place in 2002 in association with the electoral calendar, but has subsided afterwards. The fact that inflation appears to have become less persistent provides additional supporting, yet not unequivocal, evidence that credibility in the inflation targeting regime has been bolstered over time. Inflation expectations have also become less volatile, which may be interpreted as additional evidence that credibility in the inflation targeting regime has indeed increased.

Improved communication and transparency – a pre-condition for successful inflation targeting – have been instrumental in strengthening credibility in the inflation targeting framework. In the presence of adverse supply shocks, communication has stressed the BCB's assessment of the nature and persistence of a shock, its expected first-round impact on prices, and the estimated output cost of different disinflation trajectories under alternative corrective policies. Although the inflation targeting framework focuses on end-year inflation, communication has also underscored the assessed path of inflation beyond the

Figure 1.8. **Inflation indicators**



Source: Central Bank of Brazil.

reference period, thereby lengthening the policy horizon within which expectations can be anchored. The timely disclosure of COPOM meeting minutes has also contributed to strengthening communication and transparency, as well as the publication of the quarterly *Inflation Reports*, providing detailed information on the macroeconomic parameters affecting inflation forecasts. Finally, in the event that targets are missed, the requirement that the president of the BCB issue an open letter to the Minister of Finance explaining the reasons for deviations from the official target, as well as the corrective measures taken and the projected path of disinflation, is perceived as having boosted accountability and credibility in the policy framework.

Box 1.3. **Adjusting the inflation targets in 2003-04**[1]

The mechanism for adjusting the inflation targets for 2003-04 took into account the first-round effect of a supply shock on "administered" and "free" prices. Administered prices account for about 30 per cent of the consumer price index (IPCA), of which some (electricity, private health insurance, and telecommunications) are indexed to past inflation through contractual arrangements. Supply shocks were measured as the difference between administered and free price inflation. To the extent that only the first-round effects of relative price realignments should be accommodated, measuring administered price inflation is a key element in adjusting the targets. The extent to which inflationary inertia is to be accommodated is a policy choice open to the monetary authority.

The 2003 inflation target was adjusted as follows (Box Table 1.1).

- *Accommodating first-round effects*. The end-2003 inflation target set by the National Monetary Council (CMN) in 2002 was 4 per cent (plus or minus 2.5 percentage points). The contribution of administered price inflation, which should be accommodated, was estimated at 1.7 per cent and therefore added to the original target, leading to an adjusted target of 5.7 per cent.[2]
- *Dealing with inflationary inertia*. The BCB decided to accommodate two-thirds of the inertia in free prices inherited from 2002, estimated at 4.2 per cent. As a result, the end-2003 target was adjusted further by 2.8 per cent.

The adjusted target of 8.5 per cent was proposed by the BCB in January 2003, while the CMN maintained the original target set in 2002. Simulations of the output loss associated with faster disinflation suggested that targeting the upper bound of the original inflation target for 2003, at 6.5 per cent, would have resulted in a contraction in GDP by 1.6 per cent.[3] The 2004 target was adjusted is a similar manner.

Box Table 1.1. **Brazil: adjusted inflation targets, 2003-04**

In per cent

	2003	2004
Original target	4.0	3.8
First-round effect of shock	1.7	1.1
Inflation inertia to be accommodated	2.8	0.6
Adjusted target	8.5	5.5
Memorandum items:		
Estimated inertia from previous year	4.2	1.0
Administered prices	1.4	0.4
Free prices	2.8	0.6

Source: Central Bank of Brazil (2003a).

Following a similar procedure for estimating inflationary inertia,[4] the BCB announced in September 2004 that it would pursue an inflation target of 5.1 per cent in 2005, relative to the official target of 4.5 per cent (± 2.5 percentage points). This is to accommodate two-thirds of the inertia to be inherited from 2004, estimated at 0.9 per cent.

1. See Central Bank of Brazil (2003a, 2004a) and Fraga, Goldfajn, and Minella (2003), for more information.
2. The first-round inflationary impact on administered prices, S, was computed as follows: $S = (\pi_{adm} - \pi^*)W_{adm} - I_{adm} - E_{adm}$, where π_{adm} and π^* denote, respectively, administered-price inflation and the inflation target, W_{adm} denotes the share of administered prices in the IPCA index, and I_{adm} and E_{adm} denote, respectively, the effects on administered prices of inflationary inertia from the previous year and of the exchange rate change.
3. The BCB uses a set of forecasting tools, including structural models and non-structural vector autoregressive (VAR) models for short-term forecasting, measures of core inflation, leading inflation indicators, and surveys of market expectations.
4. See Central Bank of Brazil (2004b) for more information.

Dealing with exchange rate and commodity price volatility

An ancillary objective of inflation targeting has been to mitigate unwarranted exchange rate volatility, which has been particularly acute in Brazil since 1999, while not targeting any particular level for the exchange rate. This is not unusual for central banks operating within inflation targeting frameworks in emerging markets, where the pass-through of exchange rate movement to prices is typically higher than in more mature economies. Also, emerging market countries tend to have more sizable mismatches between foreign exchange assets and liabilities in the corporate, banking, and public sectors than industrialised countries, being more vulnerable to sudden stops in capital flows and, therefore, balance sheet dislocations. Against this background, the BCB has intervened periodically in the spot foreign exchange market, through a variety of instruments, while assuring market participants that it was not targeting a given level for the exchange rate. Through a clear statement that intervention in the spot market has been geared at replenishing reserves in periods of favourable market conditions and to ensure liquidity in the foreign exchange market, the BCB appears to have managed to dispel market concern about foreign exchange targeting in early 2004. Intervention in the foreign exchange market in 2001, in response to liquidity pressures, was also carried out in accordance with a pre-announced scheme and followed by the disclosure of information on intervention amounts and dates.[17]

The rise in commodity prices has posed additional challenges more recently. The price of raw materials, including oil, increased sharply in 2004, putting upward pressure on wholesale prices. With domestic demand picking up in the course of the year, retail prices have been affected by the spike in wholesale inflation. Linked to wholesale prices through contractual arrangements, utility and other “administered” prices are likely to put upward pressure on retail price inflation, making attainment of the inflation target in the remainder of 2004 and 2005 more challenging. In response to these developments, the BCB announced in September 2004 that it would pursue an inflation target of 5.1 per cent in 2005, relative to the official target of 4.5 per cent (± 2.5 percentage points). This is to accommodate two-thirds of the inertia to be inherited from 2004, estimated at 0.9 per cent, as discussed in Box 1.3.

Strengthening the inflation targeting regime

Moving forward, the framework for monetary policymaking can be strengthened in pursuit of greater macroeconomic resilience to shocks. The key challenge in this area is to implement the measures needed to upgrade the inflation targeting framework without undermining credibility in the policy regime. The upward adjustment of the inflation targets for 2003 and 2004 to account for the first-order effects of the supply shock that took place in 2002 does not appear to have affected inflation expectations adversely, as noted above. Current policy debate has focused on two options: lengthening the time frame for attaining the inflation target to two years, instead of one, and/or, to a more limited extent, targeting core, rather than headline, inflation.

A case could be made for shifting from an annual to a medium-term target, which is the norm in OECD countries that target inflation. But this argument is stronger for countries where inflation is already low and stable and monetary policy transmission lags are longer.[18] In this case, attempting to achieve an annual inflation target may require a more restrictive monetary stance, which may increase volatility in the real economy and financial markets. In shock-prone economies, the output loss associated with corrective measures could also be reduced by lengthening the disinflation horizon. It should nevertheless be noted that ensuring favourable inflation dynamics in response to shocks requires swift policy action to dispel pressures for price-wage indexation when the level of after-shock inflation is perceived as high. By focusing on an inflation target for each calendar year, Brazil's current framework has the advantage of boosting policy accountability, reducing the risk of time inconsistency in policymaking, which could be more severe if disinflation were to be pursued over a longer time span. In this respect, the risk that a higher tolerance for inflation might have a detrimental effect on long-term growth – a consideration grounded in empirical evidence – should not be underestimated.

Although several countries in the OECD area that have adopted inflation targeting have now opted for core, rather than headline, inflation, this option is not free of risks for Brazil at the current juncture. It is important to consider that credibility in the policy framework may suffer because the choice of a given measure of core inflation is essentially arbitrary.[19] More importantly, the combination of exchange rate volatility and fluctuations in commodity prices often results in a mismatch in the behaviour of wholesale and retail prices, as noted above, and between free and "administered" prices. These mismatches have been particularly severe at times over the past few years. In this regard, targeting a measure of core inflation that would exclude administered prices may result in an underestimation of inertial inflation, because administered price inflation tends to be more persistent due to backward-looking indexation in contractual arrangements. This is also important because, as a result of indexation, core inflation may be affected by fluctuations in non-core prices.[20] Administered prices also account for a relatively high share of the consumer price index, making their exclusion from the measure of inflation to be targeted less compelling.

Finally, granting the BCB formal operational independence would be an important step towards strengthening the inflation targeting framework. The BCB is perceived as already enjoying *de facto* operational autonomy, although it is administratively linked to the Ministry of Finance. It is argued that *de jure* independence would further dispel concern about political interference in the conduct of monetary policy. According to the widespread view that central banks should be granted autonomy to set monetary policy instruments, rather than goals, the official inflation targets should continue to be set by the executive branch of government.[21] Ensuring that BCB directors have long-term appointment and protection from arbitrary dismissal would be an additional important step in this direction. In sum, while strong legal commitment is important, genuine public and political support for operational independence plays a crucial role in strengthening credibility in inflation targeting.

Ensuring the sustainability of external adjustment

Because of its comparative advantage in commodities whose international demand tends to grow relatively slowly and which is restricted by trade barriers in key consumer markets and price subsidies, Brazil's share of world trade had been falling over time. But the adoption of a freely floating exchange rate regime in 1999 has played an important role in reversing the downward trend. A gradual reduction in trade restrictions in the course of the 1990s has also contributed to making foreign trade more responsive to external price signals and changes in relative prices. The average import tariff came down from 32.2 per cent in 1990 to 10.8 per cent in end-July 2004. Tariff dispersion was also reduced from within a range of 0-105 per cent in 1990 to 0-55 per cent in 2004. Consistent with these

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trends, the surge in exports in recent years has reduced external vulnerability through an improvement in external indebtedness indicators (Table 1.3). This underscores the need for putting options for further deepening of external adjustment, and ensuring its sustainability, high on the policy agenda.

Particular challenges can be highlighted. *First,* the share of foreign trade in GDP, at about 25 per cent in 2003, has risen by about 10 percentage points since 1995, against the OECD average of about 60 per cent (around 30 per cent for the euro-zone countries excluding intra-zone trade, and 18 per cent for the United States). Small enterprises have also begun to make inroads into the export sector.[22] But, despite recent improvements, exports remain concentrated among large enterprises: the 10 largest exporters accounted for about one-fifth of exports on average during 1999-2003. In addition, the concentration of exports among products has declined somewhat over time, despite the trend towards greater market deconcentration recently, reflecting penetration in new markets, particularly China (Figure 1.9).[23] Continued efforts to reduce customs bureaucracy and to improve the efficiency of ports – considered by exporters to be the main obstacles to export growth – would contribute to boosting export performance.[24]

Second, low value-added products continue to account for a relatively large share of exports. This can be attributed at least in part to the fact that Brazil's average tariff level is still high in comparison with OECD countries (see Chapter 3). In particular, despite a considerable reduction since the early 1990s, the level of protection provided for some manufacturing sectors, including some intermediate goods, remains relatively high.[25] As a result, access to technologically more advanced imported intermediate goods may become costlier to domestic producers, taking a toll on export competitiveness. The reduction in the tax burden on imports of capital goods currently not produced domestically is a step in the right direction. Continued efforts to alleviate the impact of taxation on the user cost of capital would also be welcome, public finances permitting.[26] But more can be done to facilitate access by exporters to the technologies embodied in imports of capital goods and intermediate inputs. A controversial element of the government's strategy is its renewed focus on industrial policy to boost exports. In this respect, when evaluating alternative policy options, it is important to note that setting an uneven playing field may not only misallocate resources but also create incentives for wasteful rent-seeking.

Empirical evidence for Brazilian manufacturing also suggests that foreign enterprises are more outward-oriented than their domestic counterparts,[27] suggesting that foreign direct investment (FDI) has an important role to play. By linking domestic production to

Table 1.3. **External indebtedness indicators, 1999-2004**

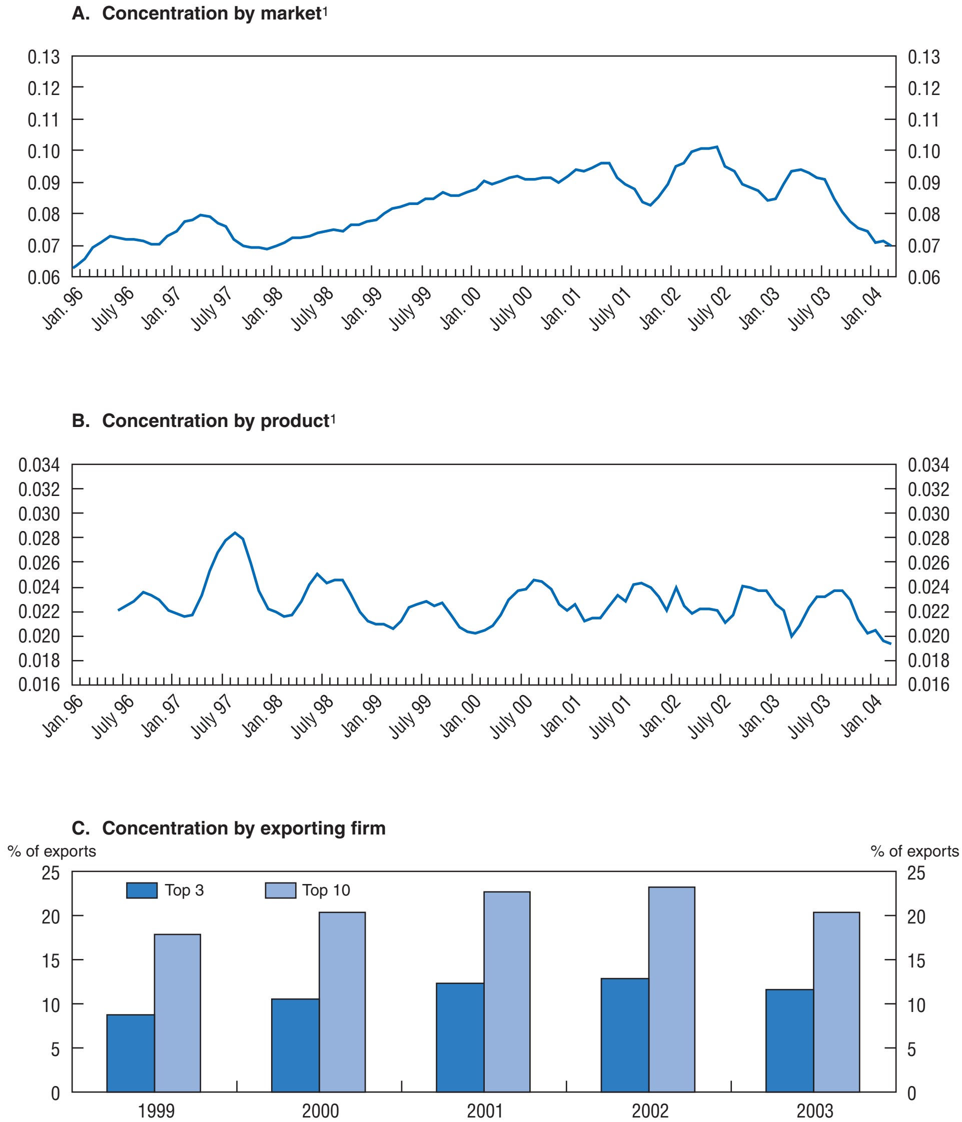
In per cent

	Foreign debt service/ exports	Foreign debt service/ GDP	Interest payments/ exports	Foreign debt/GDP	Foreign debt/exports
1999	145.8	13.0	35.6	42.0	469.9
2000	94.6	8.6	31.0	36.0	393.8
2001	86.9	9.9	30.3	41.2	360.6
2002	83.3	10.9	25.3	45.9	349.1
2003	74.1	11.0	21.0	42.4	294.1
2004[1]	69.5	11.0	18.6	38.9	246.6

1. Through June.

Source: Central Bank of Brazil.

Figure 1.9. **Foreign trade indicators: export concentration**



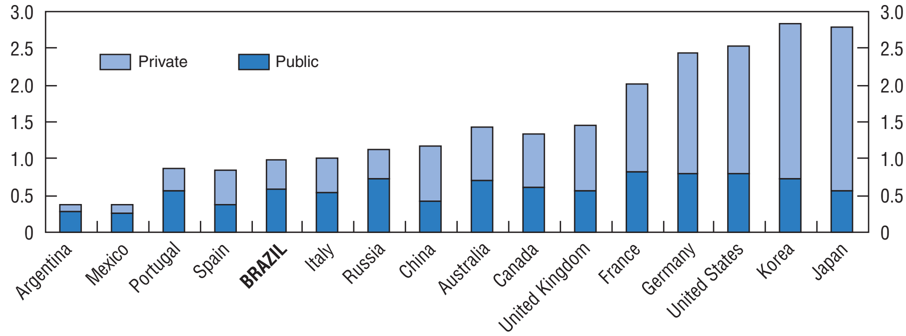
1. 6-month moving average. Concentration is defined as: $C = \sum_i \left(\frac{X_i}{X}\right)^2$ where X denotes total export and i denotes export markets or products.

Source: Central Bank of Brazil, and Ministry of Development, Industry and Foreign Trade.

global production chains, FDI could boost the value-added component of exports by increasing the exposure of domestic firms to international competition, and through the diffusion of new technologies, including those embedded in more modern intermediate inputs and capital goods. Brazil already has an investor-friendly regime for FDI, as discussed in Annex 1.A3 and Chapter 3, and the diversification of these investments towards the higher value-added tradable sector, having been concentrated on utilities in the second half of the 1990s, favoured by privatisations, could give export competitiveness an additional boost. It is worth noting that transport is one of the most heavily restricted sectors for FDI in Brazil. This result is common to OECD countries, which tend to have more restrictions in

Figure 1.10. **R&D investment**[1]

In per cent of GDP



1. Refers to 2001 for Japan, Korea, Spain, and United Kingdom; 2000 for Australia, Brazil, and Italy; and 1999 for Mexico.

Source: Ministry of Science and Technology; IBGE; OECD, *Main Science and Technology Indicators*, November 2003.

this sector than Brazil. Moreover, compared to OECD countries, Brazil has relatively few restrictions to FDI in other sensitive sectors, such as finance, telecommunications, and energy. An additional consideration is that Brazil devotes a relatively low share of national income to R&D investment (Figure 1.10).[28] Higher spending on R&D, particularly that funded and undertaken by the business sector, could contribute to the technological upgrading of Brazilian exports. In this respect, draft legislation has been submitted to Congress providing incentives and reducing red tape for the creation of partnerships between researchers and industry.

Notes

1. The institutional framework for fiscal policymaking has evolved over time. The Fiscal Responsibility Law, enacted in May 2000, is emblematic of this process involving all levels of government. In addition, instruments have been put in place to strengthen central government control over sub-national finances. Of particular importance is Senate Resolution No. 78 of 1998 (replaced by Senate Resolutions No. 40 and 43 of 2001), which tightened conditions for debt and credit operations of the states, the Federal District, and the municipalities, as well as the provision of guarantees. In addition, specific actions, including the government's 1997 programme for restructuring state banking (PROES), and the debt restructuring agreements concluded over the last several years with the states and municipalities, have effectively made federal financial support for state and municipal debt restructuring conditional on improved fiscal management. See International Monetary Fund (2001) and Goretti and Kristensen (2003), for more information.
2. The increase in state-level revenue was also facilitated by rising utility and energy prices, which are taxed heavily by the states. At the federal level, one-off revenues from concessions and the settlement of tax liabilities by pension funds contributed to the increase in the tax take until 2001. No one-off revenues have taken place since 2003.
3. See Blanchard (2004), for more discussion and empirical evidence.
4. Open-market operations are the main instruments for liquidity adjustment in the inflation targeting framework. The BCB's open-market trading desk adjusts market liquidity through repurchase agreements, using as collateral Treasury and BCB securities on a daily basis to maintain the effective overnight interest rate close to the target SELIC rate set monthly by the Monetary Policy Committee (COPOM). Standing facilities are not used to balance supply and demand for bank reserves. The BCB carries out open-market operations directly with 18 primary dealers, selected twice a year among the more active institutions in the financial system, and chosen according to performance criteria, including each institution's performance in the primary and secondary markets for government bonds. Participation in auctions is restricted to financial institutions keeping an account in SELIC (*Sistema Especial de Liquidação e de Custódia*), which is an

electronic book-entry system that controls the custody of, and registers all, operations with domestic government securities. Electronic trading received a major impulse with the implementation in August 2000 of a trading system for public bonds (SISBEX) by the Rio de Janeiro Stock Exchange (BVRJ). See Figueiredo, Fachada, and Goldenstein (2002), for more information.

5. Since 1996, a considerable amount of these liabilities has been securitised by the Treasury (STN) and accounted for in the fiscal accounts as an increase in the stock of debt. The process of making hidden liabilities explicit in fiscal accounts is on-going and improvements are being sought by the authorities. As discussed below, the Supreme Court has recently ruled that the government recalculate the pension benefits granted during 1994-97, due to the settlement of disputes on the indexation of benefits during the implementation of the monetary stabilisation plan, generating a liability of BRL 12 billion.
6. There are three main budgetary instruments in Brazil: multi-year plans (PPAs), budget guideline laws (LDOs), and annual budget laws (LOAs). Budget reporting requirements have been tightened over time with the objective of facilitating budget oversight through internal control, or control by the legislative or judiciary branches of government. See International Monetary Fund (2001), for more information.
7. The over 5 500 municipalities are audited by their respective state's Court of Accounts, except for the municipalities of the states of Bahia, Ceará, Goiás and Pará, which have specific audit courts for their municipalities. These four states also have separate courts for auditing their own (state-level) government accounts. The cities of Rio de Janeiro and São Paulo are audited by their respective municipal audit courts.
8. See Pinheiro (2004), for more information. Spending on pensions includes outlays on social assistance programmes and rural pensions.
9. In the OECD area, retirement ages differ for men and women only in Austria and Greece.
10. In pay-as-you-go regimes, the indexation of pensions to past inflation may contribute to improve fiscal sustainability if wages, and therefore contributions, rise faster than the consumer price index. This has been the case of the United Kingdom, where the replacement rate has been declining steadily from 22 per cent in 1981 to less than 17 per cent in 1998. In other OECD countries, such as Finland, Italy, and the Netherlands, pension indexation has also contributed to a reduction in public spending on pensions.
11. As discussed in Chapter 4, benefits paid under LOAS are means-tested and consist of the payment of a minimum wage to an elderly person living in a household with *per capita* income below one-quarter of a minimum wage.
12. See Fraga, Goldfajn, and Minella (2003), and Mohanty and Klau (2004), among others, for discussion on inflation targeting in both industrial and emerging market economies. See also Mishkin and Savastano (2001) and Mishkin (2004), for further discussion on inflation targeting in emerging economies.
13. Responsibility to pursue the annual inflation targets established by the National Monetary Council (*Conselho Monetário Nacional*, CMN) is assigned to the BCB. Monetary policies are carried out based on decisions taken by the Monetary Policy Committee (COPOM), consisting of the BCB president and its board of directors.
14. See Hausmann, Panizza, and Stein (2001), for an estimation of pass-through rates for emerging markets.
15. Empirical evidence based on the estimation of monetary reaction functions for Brazil shows that the point estimates of the coefficient on inflation expectations are greater than one and statistically significant. See Minella, Freitas, Goldfajn, and Muinhos (2003), for more information.
16. Minella, Freitas, Goldfajn, and Muinhos (2003) estimate an aggregate supply curve for Brazil and show that the point estimate of the autoregressive component is lower in the post-inflation targeting period than in the period of low inflation prior to the adoption of the inflation targeting framework.
17. In 2001, the BCB announced that it would sell USD 50 million per day in the spot market for a total of USD 6 billion by year-end.
18. Korea has recently changed its target towards a medium-term, 3-year objective.
19. Different measures of core inflation are already discussed in BCB documents, including COPOM meeting minutes.

20. See Schmidt-Hebbel and Werner (2002), for more discussion. The authors provide empirical evidence that shocks to non-core inflation have a strong, positive impact on core inflation in Brazil.
21. See Bernanke *et al.* (1999), for more discussion.
22. Among initiatives to encourage exports by small and medium enterprises is a loan guarantee programme (*Fundo de Garantia para a Promoção da Competitividade*, FGPC), managed by BNDES, and an export promotion agency (*Agência de Promoção de Exportações*, APEX) to facilitate access by small and medium enterprises to business opportunities. These were implemented in 1997.
23. See Central Bank of Brazil (2003b), for more information. Exports to China rose from less that 1.4 per cent of exports in 1999 to 6.2 per cent in 2003.
24. See National Industry Confederation (2002), for more information. See also Ferraz and Ribeiro (2002).
25. For example, as of end-July 2004, the average import tariff was 12.8 per cent for steel, 17.2 per cent for tools and metals, and 16.9 per cent for transport equipment, against 10.8 per cent for all goods.
26. Recent measures, announced in August 2004, include among others the exemption until 2005 of federal taxes (IPI, Cofins, and PIS/Pasep) and import duties on the acquisition of machinery and equipment for ports, and the reduction of IPI on capital goods from 3.5 per cent to 2 per cent.
27. See Pinheiro and Mesquita (2000), for more information.
28. Recent research suggests that the rate of return of investment in R&D is higher than that in fixed capital, particularly for lower-income countries. See Lederman and Maloney (2003), for more information.

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ANNEX 1.A1

Estimating a fiscal reaction function for Brazil

This section aims at estimating the extent to which fiscal stance, measured by the primary budget balance, is affected by indebtedness using a standard fiscal reaction function framework. The main hypothesis to be tested is that the government adjusts the level of the budget's primary surplus in response to changes in indebtedness so as to ensure the sustainability of the debt dynamics over time. It has become customary to test this hypothesis by regressing the primary surplus on the public debt, both defined in per cent of GDP, while controlling for other determinants of fiscal stance. An increase in the debt ratio is expected to be associated with an increase in the primary surplus. Standard controls include the output gap (to capture the impact of the business cycle on the budget, depending on the size of automatic stabilizers) and inflation (to account for shocks to seigniorage revenues).[1]

The variables used in the empirical analysis are as follows. The primary surplus is defined as (minus) the borrowing requirement for each level of government – consolidated public sector, central government, states and municipalities, and state-owned enterprises (all levels of government) – accumulated over the previous 12 months in per cent of GDP. The public debt stock is defined in net terms at the end of the reference period in per cent of GDP. The output gap is defined as the deviation of real GDP from its Hodrick-Prescott (HP)-filtered trend. Inflation is defined using the IPCA index. Monthly data are available for all variables for the period January 1995 to March 2004 from the BCB.[2]

Estimation of the fiscal reaction function suggests that there is a positive, strong reaction of the consolidated primary surplus to debt (Table 1.A1.1). In the case of the central government, the primary surpluses of the regional governments and the public enterprises are also included as control variables. The regression results suggest that lower inflation is associated with a higher primary surplus at the consolidated and central government levels, but not at classical levels of significance, perhaps reflecting the contemporaneous efforts towards disinflation and fiscal consolidation in the period. The output gap is positively signed, suggesting that a cyclical downturn is associated with a lower consolidated primary balance, although again not at a classical level of significance.

To assess whether fiscal responsiveness to indebtedness has changed over time, rolling fiscal reaction functions were also estimated for 30-month windows within the sample period, starting with the period January 1995 to July 1997 (Figure 1.A1.1). The results suggest that fiscal stance became more responsive to indebtedness at the consolidated public sector level, particularly after the floating of the *real* in January 1999. But responsiveness seems to have weakened since mid-2002, both at the consolidated

Table 1.A1.1. **Brazil: fiscal reaction functions**[1]

Dep. Var.: Primary surplus in per cent of GDP

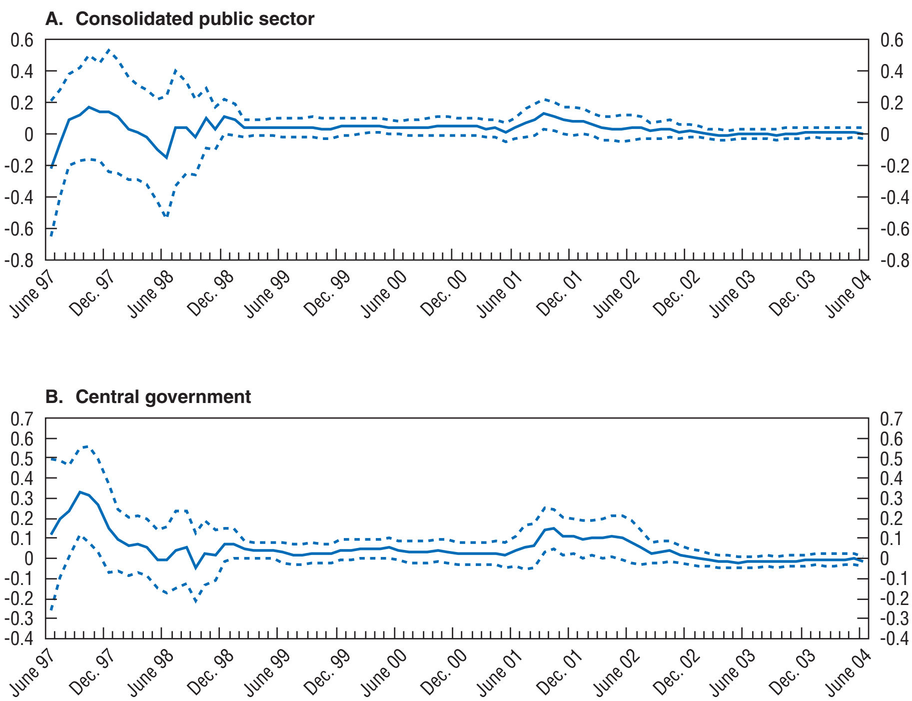
	Consolidated Public sector	Central government
Primary surplus (lagged)	0.90 ***	0.89 ***
	(0.018)	(0.043)
Debt ratio (lagged)	0.03 ***	0.02 ***
	(0.006)	(0.005)
Output gap (lagged)	0.02	0.04
	(0.010)	(0.008)
Inflation (lagged)	–0.04	–0.02
	(0.003)	(0.002)
Primary surplus (regional governments)[2]		0.01
		(0.128)
Primary surplus (state-owned enterprises)[2]		0.01
		(0.104)
Intercept	–0.71 ***	–0.12 ***
	(0.146)	(0.170)
Adjusted R-squared	0.98	0.96

1. All equations have been estimated by OLS. Standard errors are reported in parentheses. Statistical significance at the 1 per cent level is indicated by ***. The sample spans the period January 1995 to June 2004 (114 observations).
2. "Regional governments" refers to the states and municipalities, and "state-owned enterprises" refers to all levels of government.

Source: OECD calculations.

Figure 1.A1.1. **Fiscal reaction functions: rolling equations**[1]

Primary surplus response to indebtedness



1. Based on the estimated coefficients of the lagged debt ratio reported in Table 1.A1.1. The dotted lines defined a confidence interval of ± two standard errors. The sample spans the period January 1995 to June 2004.

Source: OECD calculations.

public sector and central government levels. This latter result should nevertheless be interpreted with caution because parameter estimates for recent periods are affected by the volatility in the debt series associated with the deterioration of the macroeconomic environment in the run-up to the presidential election. More importantly, responsiveness to indebtedness appears to have become more stable over time, as evidenced by the narrowing of standard errors since early 1999. This provides *prima facie* evidence of increased credibility in the maintenance of robust primary surpluses at both the central government and consolidated public sector levels.

Notes

1. See Gali and Perotti (2003), for example, for more information on the estimation of fiscal reaction functions.
2. Conventional tests suggest that all variables have unit roots when first-differenced, justifying their inclusion in the fiscal reaction functions in levels.

ANNEX 1.A2

Brazil's social security system: recent reforms

Recent reforms

Social security reform in Brazil has so far focused on streamlining the system's "first pillar" (mandatory, pay-as-you-go, publicly-provided regime) and developing its "third pillar" (voluntary, complementary, personal saving schemes), without creating a "second pillar" of mandatory individual saving plans.[1] Reform of the regime for private-sector workers (RGPS) has focused on gradually tightening eligibility conditions, reducing replacement rates, and increasing the share of population covered by social security. More recently, reform efforts have also focused on the social security regimes for civil servants (all levels of government) by standardizing entitlements for entrants and introducing parametric changes for workers currently in active service.[2] The development of voluntary, complementary pension funds has also been encouraged. In contrast, many Latin American countries have instead emulated the Chilean model of privatisation of social security, and/or put in place some form of mandatory, fully-funded social security scheme.[3]

The budgetary cost of social security varies across regimes (Table 1.A2.1). The combined deficit of the regimes for public-sector workers, including federal, state and municipal civil servants, as well as the uniformed forces (armed forces and state-level police), is higher than that of the regime for private-sector workers. The public-sector regime also benefits a relatively better-off segment of the population, as discussed in Chapter 4.

Table 1.A2.1. **Brazil: social security deficit, 1999-2003**

In per cent of GDP

	1999	2000	2001	2002	2003
Total	3.9	3.9	4.0	4.2	4.8
Regime for private-sector workers (RGPS)	1.0	0.9	1.1	1.3	1.7
Urban workers	0.0	0.0	0.0	0.2	0.6
Rural workers	1.0	0.9	1.1	1.1	1.2
Regime for public-sector workers	2.9	2.9	2.9	3.0	3.0
Federal (RJU)	1.7	1.8	1.8	1.6	1.8
States and municipalities	1.1	1.1	1.1	1.3	1.3

Source: Ministry of Social Security.

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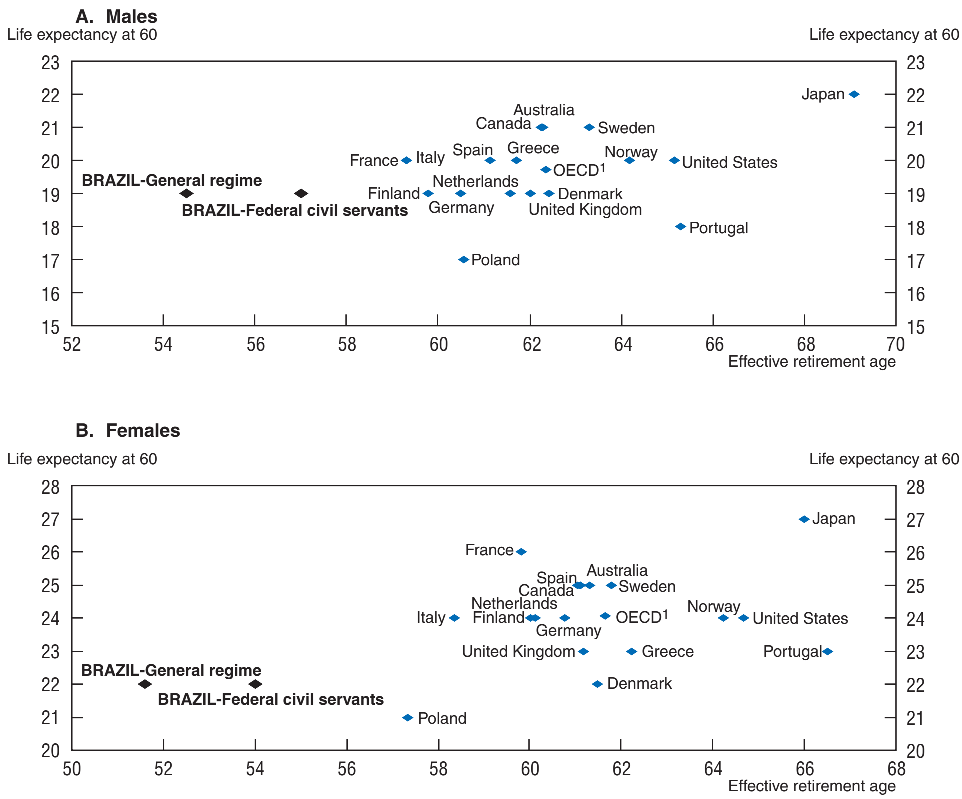
The social security regime for private-sector workers (RGPS)

Since 1998, reforms to RGPS have focused on improving the collection of social security contributions, increasing coverage, and closing the gap between contributions and benefits. Early retirement was gradually eliminated, together with special privileges for some professional categories. The calculation of benefit entitlements was also overhauled. The new formula provides incentives to postpone retirement because the replacement rate has been reduced, increasing progressively with each additional year of work.[4] As a result of these reforms, which are described in greater detail in the *2001 OECD Economic Survey of Brazil*, the average retirement age was raised from 48.9 years in 1998 to 54.1 years in 2001 for those retiring under the new rule.[5]

Despite recent improvements, the average retirement age is still relatively low in Brazil in comparison with OECD countries. The absence of a minimum retirement age, running counter to international trends, is a contributing factor.[6] Despite Brazil's lower average retirement age, life expectancy at 60 years of age is higher than the Eastern European member countries and similar to the average of the OECD countries shown in Figure 1.A2.1 As a result, pension benefits are paid in Brazil for a period of about 25 years, while in the OECD countries retirees receive pensions for around 20 years, putting additional financial strain on the social security system.

Figure 1.A2.1. **Life expectancy and effective retirement age**



1. Average of the OECD countries shown in the chart.

The data refers to 1993-98 for Germany, Greece, Italy, and Netherlands; 2004, for Brazil and 1994-99, for all other countries.

Source: Scherer (2001), Age of withdrawal from the labour market in OECD countries, *Labour Market and Social Policy Occasional Papers*, No. 49, Paris, and Ministries of Social Security, and Budget and Planning.

The social security system is vulnerable to judicial decisions generating contingent liabilities and/or reviewing reform initiatives. Recently, the Supreme Court has ruled that the government recalculate the pension benefits granted during 1994-97, due to the settlement of disputes on the indexation of benefits during the implementation of the monetary stability plan, generating a liability of BRL 12 billion.

The social security regime for civil servants

The reform of the pension regime for civil servants, enacted in 2003, was two-pronged. It adjusted the current pay-as-you-go system for the civil servants currently in active service and created a separate regime for entrants. The unification of social security regimes for public- and private-sector workers has become customary in OECD countries, but is yet to be implemented in Brazil. The introduction of standard rules for pensions improves flexibility and efficiency in the labour market (OECD, 2002).

The main elements of reform in the social security regime for the civil servants currently in active service include the introduction of: *i)* an employee's contribution rate of 11 per cent on earnings exceeding BRL 2 508.72 per month for civil servants of all levels of government;[7] *ii)* a statutory retirement age of 60 years for men (55 years for women), with a reduction of 5 per cent in the value of pension benefits in the event of early retirement; *iii)* a reduction of 30 per cent in the portion of survivor's pensions exceeding BRL 2 508.72 per month;[8] and *iv)* the exemption of the 11 per cent contribution rate for civil servants who postpone retirement. The initial proposal included other important measures, such as a reduction in the replacement rate and the abolishment of the indexation of pensions to wages, but these measures will only apply to entrants. The parity between pensions and last salaries was maintained for male workers retiring at age 60 (55 for female workers) with 35 years of contribution (30 for female workers) and 20 years of work in the civil service.

For the entrants into the civil service, the reform has been more comprehensive. Key measures include: *i)* the calculation of pension benefits based on average salary over the entire working life, including contributions under RGPS (on a *pro rata* basis); *ii)* the indexation of pension benefits to past inflation, rather than wages; and *iii)* the introduction of the RGPS ceiling for pension benefits, pending legislation on the implementation of complementary pension funds for civil servants.

Notes

1. The alternative of introducing a mandatory fully-funded regime to replace the current pay-as-you-go system was discussed extensively in the late 1990s, but the transition costs were considered exceedingly high. These transition costs were estimated by the World Bank, IPEA (Ministry of Planning and Budget), and the Getúlio Vargas Fundation between 1995 and 1997, and by ECLAC in 1999, at between about 190 per cent and 250 per cent of GDP.
2. See also OECD (2004a), for more information.
3. Chile pioneered the structural reform process in 1981, replacing the pay-as-you-go system by privately-run individual saving accounts. During the 1990s, Peru (1992-93), Colombia (1993-94), Bolivia (1997), and Mexico (1995-97) implemented comparable reforms. However, the public system was not phased out for those currently in the civil service. Reforms in Argentina (1994) and Uruguay (1995-96) consisted of setting up mixed systems including a reformed pay-as-you-go system and private individual saving accounts.
4. Before the reform, benefits were calculated based on the real value of the average salary over the 3-year period prior to retirement, resulting in generous replacement rates for workers retiring

before completing 50 years of age. The new benefit formula focuses on 80 per cent of the highest earnings throughout the working life (for current workers the reference period starts in July 1994), and introduced a parameter (*fator previdenciário*) based on retirement age, life expectancy at retirement, and years of contribution. The life expectancy parameter is adjusted annually according to the mortality table published by the Statistics Bureau (IBGE).

5. Because there are workers entitled to retire according to the old rules, the effective retirement age is around 53. Nonetheless, retirement benefits are still paid to those who accumulate 35 (men) and 30 (women) years of contribution without age limit requirements.
6. In most OECD countries, the minimum statutory retirement age is 65 years, with the exception of France, South Korea (60 years), and Norway (67 years). In Latin America, a minimum retirement age of 65 years men (60 years for women) has been adopted in Argentina, Chile, Mexico, and Peru. However, many countries allow early retirement.
7. The option of introducing different exemption thresholds for the federal and regional governments was considered but ruled unconstitutional by the Supreme Court.
8. To reduce resistance to the capping of pension benefits, and to raise RGPS revenue in the short run, the option of raising the ceiling under RGPS to match the BRL 2 508.72 ceiling under RJU was considered. This measure, if implemented, would reduce the RGPS deficit in the short run, while raising it over the long run. It would also discourage investment in complementary pension funds, which is against international trends aiming at encouraging private saving through the development of the complementary pension industry.

ANNEX 1.A3

FDI restrictiveness

Measuring Brazil's openness to inward FDI

The Secretariat has calculated an index of openness to foreign direct investment (FDI) by classifying and quantifying barriers to inward FDI in selected countries (the methodology is discussed below). The calculations for Brazil are based on responses by the Brazilian authorities to a standard questionnaire (below).

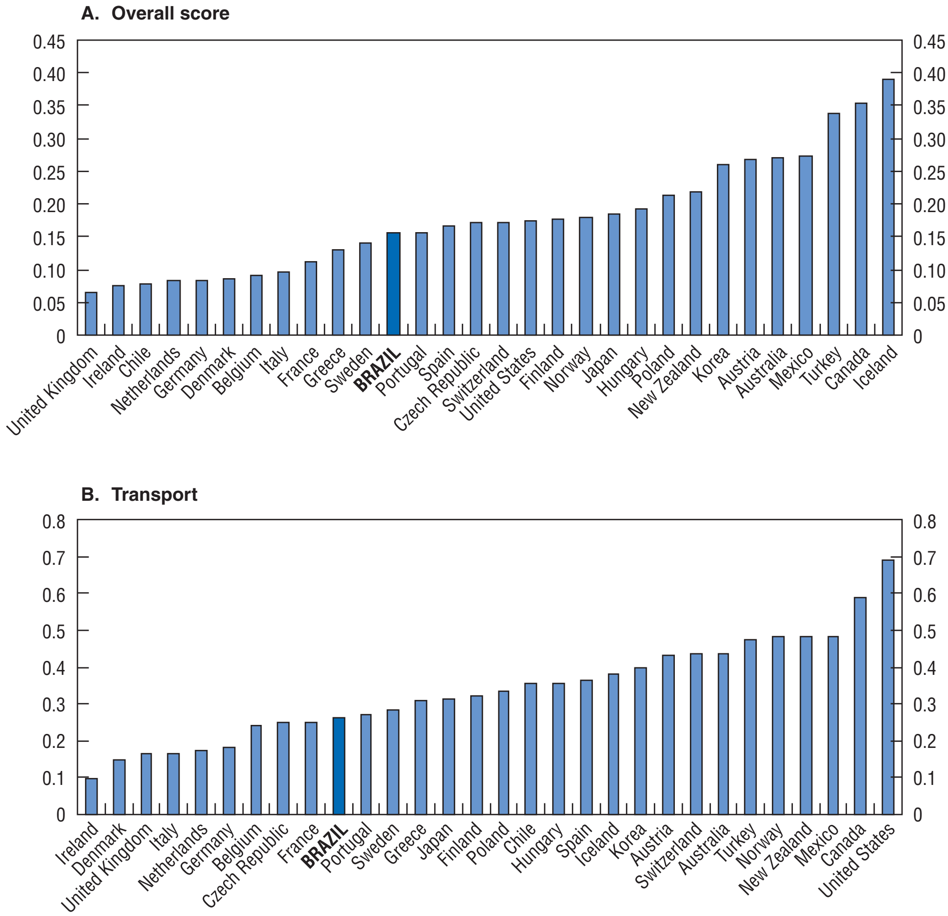
In comparison with the results for OECD countries and Chile, Brazil has moderate restrictions on inward FDI (Annex Figure 1.A3.1). The most important restriction for open-capital companies is that directors and members of the supervisory boards be permanent residents. Moreover, specific measures apply to road freight and passenger transport, as well as in other sectors excluded from the analysis.[1] It is worth noting that transport is one of the most heavily restricted sectors in OECD countries and that Brazil, unlike most OECD countries, has few restrictions to FDI in other sensitive sectors, such as finance, telecommunications, and energy. In recognition of its relative openness to foreign investment and supporting economic policies, Brazil was invited to adhere to the OECD Declaration on International Investment and Multinational Enterprises.[2] Since 1997, Brazil has been an active participant in the OECD Investment Committee. Nevertheless, in contrast to several developing countries, Brazil is not a member of the International Centre for Settlement of Investment Disputes (ICSID), nor is it a signatory of the New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards.

Methodology for estimating FDI openness

The methodology for calculating FDI openness is based on Golub (2003). FDI restrictions are measured on a 0-1 scale, with "0" being completely open, and "1" completely closed. Three main types of restriction are considered: *i)* limitations on foreign equity holdings; *ii)* screening and notification requirements; and *iii)* other restrictions, including those on management, operations and movement of personnel between countries. If foreign equity is banned, then the other criteria become irrelevant, so that the index reaches its maximum value, which is equal to 1.[3] FDI restrictions can apply to all sectors, or be sector-specific. Some sensitive sectors such as mass media are not included in the analysis, but they do not account for a large share of economic activity or foreign investment in most countries. The limitations on foreign equity are usually specified on an industry-by-industry basis, whereas notification requirements are usually across-the-board. There are grey areas, however. In particular, foreign investment is considered to be

Figure 1.A3.1. **FDI openness index: Brazil, Chile and OECD countries**[1]

Low scores indicate less restriction



1. Refers to the state of legislation in 1998-2000 for the OECD countries, 2003 for Chile, and 2004 for Brazil.

Source: OECD calculations.

banned in the case of public monopolies. For each country, the calculations are based on 9 sectors and 11 sub-sectors. The sectors are as follows, with sub-sectors in parentheses: *i)* professional services (legal, accounting, engineering, architectural), *ii)* telecommunications (fixed, mobile), *iii)* transport (air, maritime, road transport), *iv)* finance (banking, insurance), *v)* distribution, *vi)* construction, *vii)* hotels and restaurants, *viii)* electricity, and *ix)* manufacturing.

This methodology focuses on discriminatory barriers against foreign investment, rather than all barriers to entry and operation that apply to both domestic and foreign firms. The computations are based on statutory barriers, therefore ignoring tacit institutional or behavioural restrictions to FDI, which may be considerable in some countries. Most industries are in the services sector, reflecting the preponderance of restrictions in this sector. The sectoral scores were aggregated into a national total with a combination of trade and FDI weights. Equity restrictions receive the highest weight in the overall indicator.

Questionnaire used to construct the FDI openness index

This section reports the answers provided by the Brazilian authorities to the questionnaires used to construct the FDI openness index, reflecting the state of legislation in August 2004.

Questions	Answers
1. Are there are limitations on foreign equity holdings?	Yes. • There are constitutional and legal restrictions on foreign participation in certain economic activities, particularly in the services sector. • No foreign person or company may engage in transactions or activities involving prospecting, exploitation, removal or demolition of things or goods that are sunk, submerged, stranded, or lost in waters under national jurisdiction, on tide lands (*terrenos de marinha*) and those added to them, as well as on bank lands (*terrenos marginais*), deposited there as flotsam and jetsam or by the action of the sea. • Foreigners are prohibited from owning and managing firms specialised in services of investigation, safeguarding, and transportation of valuables. • In the frontier zone (*faixa de fronteira*), firms engaged in industries that are of national security interest, as listed by decree of the Executive branch, and those devoted to the prospecting, exploration, working and exploitation of mineral resources, except for those immediately applicable to civil construction, as classified in the Mining Code, must have 51 per cent of their capital ownership in Brazilian hands, and a majority of their directors or managers must be Brazilians, with guaranteed decision-making powers. In the case of a physical person or an individual business, only Brazilians may establish or operate such services. Foreign service providers may conduct their activities in Brazil only if they are associated with Brazilian service providers, through a consortium. The work must be directed by the Brazilian partner. • Foreign firms and capital are prohibited from participating directly or indirectly in sectors relating to health and social services. • The Executive Branch may, by virtue of its legal prerogative, establish limits on foreign participation in the capital of firms providing telecommunications services. • Every telecommunications service provided in Brazil requires a specific license from the National Telecommunications Agency, ANATEL. Licenses will be granted only to legal persons duly constituted under Brazilian law as telecommunications services providers, with their headquarters and administration in the country, and with a majority of their voting shares held by individuals resident in Brazil. • Ownership of radio and television broadcasting companies is restricted to native-born Brazilians or those naturalised for more than 10 years, who shall be responsible for their management and their intellectual orientation. At least 70 per cent of the total and voting capital of newspaper companies and sound and image broadcasters must belong, directly or indirectly, to native-born Brazilians or those naturalised for more than 10 years. Legal entities may not participate in the capital of broadcasting companies, except for political parties and for corporations whose capital is exclusively owned by and registered to Brazilians. • Concessions for the operation of cable-television services are restricted to Brazilian firms. At least 51 per cent of the company's voting capital must belong to native-born Brazilians or those naturalised for more than 10 years, or to legal persons that have their headquarters in Brazil and are controlled by native-born Brazilians or those naturalised for more than 10 years. • Any increase in foreign equity holdings in financial institutions already licensed and operating, as well as any participation in a domestic company by an individual or legal person domiciled abroad, is subject to authorisation by presidential decree. • Firms engaged in the road transport of freight and passengers must establish themselves in Brazil in the form of a joint-stock company (*sociedade anônima*) and at least 80 per cent of their voting shares must be controlled by Brazilians.
2. Are there screening or notification requirements?	Yes. • Any foreign company, whatever its business objective, must be registered with the Executive Branch in order to operate in Brazil. • Foreign companies providing aircraft maintenance and repair services must have presidential authorisation to operate. • Authorisation by presidential decree is required on a case-by-case basis for the establishment of new branches of financial institutions domiciled abroad. • The rail transport of passengers or freight requires prior governmental authorisation. New licenses are granted at the discretion of the government. Limits may be placed on the number of service providers. • All foreign capital must be registered through an electronic system operated by the Central Bank of Brazil.

Questions	Answers
3. Are there restrictions on the nationality of managers or owners?	Yes. • Persons holding the positions of director or a member of the supervisory board of joint-stock companies (*sociedades anônimas*) must be permanent residents in Brazil. • Persons acting as administrators, counsellors and members of the board of brokerage and distribution houses operating in financial markets must be permanent residents. • Any foreign company seeking to offer freight transport services must have Brazilian managers and directors. • As noted above, in the frontier zone, a majority of the directors or managers of firms engaged in the prospecting, exploration, working and exploitation of mineral resources with guaranteed decision-making powers must be Brazilians. In the case of a physical person or an individual business, only Brazilians may establish or operate such services. Foreigners may conduct their activities in Brazil only if they are associated with Brazilian service providers, through a consortium. The work must be directed by the Brazilian partner. • Ownership of newspaper companies is restricted to Brazilians or those naturalised for more than 10 years, or to companies constituted under Brazilian law, with their headquarters in the country.
4. What is the length of permissible stays by foreign managers?	• A foreign manager or director may reside indefinitely in Brazil, if authorised to do so by the Brazilian authorities. • Persons who are to be permanently transferred to Brazil to work as director or manager for a subsidiary or an affiliate of any foreign company may apply for a permanent work visa. In this case, the company must have at least USD 200 000 of foreign investment registered with the Central Bank of Brazil. A person who has worked in Brazil for four years on a temporary basis, whether the company is Brazilian or foreign, may apply to change his status to permanent resident. This application must be submitted by the firm to the Ministry of Justice. In order to obtain a permanent work permit for a person who is not working in Brazil on a temporary basis at the moment, application must first be made to the Ministry of Labour.
5. Are there discriminatory operational restrictions on foreign firms?	Yes. • Foreign ownership in the making of advertising films is limited to one-third. A higher proportion is possible, on the condition that Brazilian artistic and studio resources are used. • The contracting of international programming or programming channels by firms providing mass-subscription electronic communications services or any other communications services that involve the transmission of electronic sound and image signals must always be carried out by a Brazilian firm, and its programming must be provided to the supervisory and control body. • Technical services for the copying and reproduction of motion pictures and sound videos intended for commercial use in the Brazilian market must be conducted in facilities located in Brazil, when the number of copies exceeds six. The reproduction of foreign motion pictures and sound videos in Brazil must be done under contract with a Brazilian producing company, which will be responsible for reproduction in accordance with Brazilian law. • The reproduction of foreign motion pictures and sound videos in Brazil must be done under contract with a Brazilian producing company, which will be responsible for production in accordance with Brazilian law.
6. Are there any industries subject to monopoly or partial government ownership?	Yes. • Postal services within the Brazilian territory relating to letters, postcards, grouped correspondence and telegrams are a public monopoly. • Occupational accident insurance is a public monopoly, and the National Institute of Social Security (INSS) is the only authorised service provider. • The transportation of petroleum of national origin and of petroleum derivatives produced in Brazil is a national monopoly. Authorisation for such transport may be granted to shipping companies registered in Brazil.
7. Are there golden shares for privatised firms?	Yes. • The Union holds "golden shares", or a special class of preferred shares, in *Companhia Vale do Rio Doce* (CVRD) and in EMBRAER. Those shares give the federal government the following special rights. ❖ In the case of CVRD, the Union has the same rights (including those relating to voting and preferential dividends) as holders of Class A preferred shares. In addition, it has the right to veto proposals relating to the following matters: change of corporate name; change of corporate headquarters; change of the Corporation's business purpose with respect to the exploitation of mineral deposits; liquidation; any disposal or closure of activities in one or more of the following stages of integrated iron ore operating systems: ore deposits, mines, railways, ports, and sea terminals; any change in the rights accorded to the types and classes of shares issued by CVRD, and any change in the rights attributed by the CVRD corporate statutes to the special class of preferred shares. ❖ In the case of EMBRAER, the Union has only one special class share, which gives it the power to veto proposals on the following matters: change in corporate name and business purpose, alteration or application of the corporate trademark, creation or alteration of military programmes whether or not they involve the Federative Republic of Brazil, third-party training in military programme technology, interruption in the supply of military aircraft maintenance and spare parts, transfer of shareholding control, and any changes in the composition of the Board of Directors or in the procedure for appointing its members.

Notes

1. Foreign investment is not allowed in such sectors as security and transport of valuables, health care, and social services. Limits on foreign equity holdings exist in mining, radio, broadcasting, and cable television. Public monopolies exist in such sectors as postal services, insurance for work accidents, and transport of oil and derivatives (although exceptions can be made in the latter). For more information on exceptions to national treatment after establishment, see also OECD (2004b).
2. This OECD instrument calls for the treatment of foreign investors by host country governments no less favourably than that applied to domestic enterprises, and promotes voluntary standards of responsible business conduct under the framework of the OECD Guidelines for Multinational Enterprises.
3. It is theoretically possible that the component restriction scores add to up to 1.1 even if foreign equity is not banned, as long as all sub-components have the maximum score. But, in such cases, the score is capped at 1 and, in practice, this rarely occurs.

ISBN 92-64-00747-4
OECD Economic Surveys
Brazil

Chapter 2

Further developing financial markets

This chapter discusses the main weaknesses and strengths of Brazilian financial markets. Low credit ratios, high intermediation costs, and financial exclusion contrast with the expansion of the institutional investor base, including pension and mutual funds. On-going policy efforts, including the reform of bankruptcy legislation, improvements in credit information, and the expansion of micro-finance, are important steps forward. The challenge of improving the investment climate can be met by facilitating access to credit and reducing intermediation costs. Additional measures would include the paced phasing out of directed credits to agriculture and housing, the gradual alleviation of the tax burden on financial intermediation, and the continued strengthening of the credit information industry.

1. Overview

Brazil's financial sector is developing fast. But credit remains scarce: government bonds are the main assets of banks (and pension/mutual funds), discouraging the extension of credit to the private sector. Also, intermediation costs and interest spreads are high, which can be attributed to a large extent to difficulties in loan recovery, macroeconomic volatility, and a heavy tax burden on financial intermediation. While efforts to reduce the tax burden on financial intermediation have so far been relatively timid, reflecting concern that revenue losses may undermine on-going fiscal consolidation, the upgrading of bankruptcy legislation is an important policy measure towards facilitating loan recovery. Directed credits to agriculture and housing financing remain sizeable, somewhat crowding out private sector involvement in these markets. Furthermore, a large segment of the population does not have access to financial services. Developing the financial sector further will be instrumental in pursuing the government's social agenda, not only through faster growth in the years to come but also through better protection of vulnerable groups to income shocks.

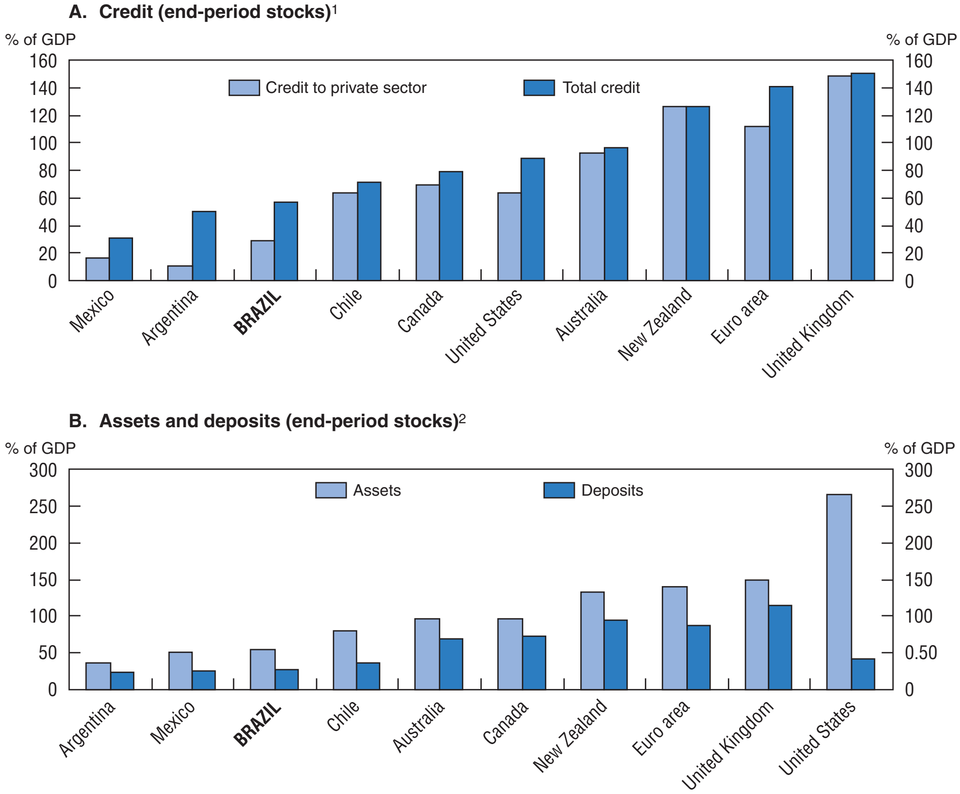
Against this background, this chapter starts with a brief review of the main weaknesses and strengths of Brazilian financial markets: low credit ratios, high intermediation costs, and financial exclusion contrasting with the expansion of an increasingly sophisticated institutional investor base. Emphasis is then placed on policy options for mitigating these weaknesses, including the on-going reform of bankruptcy legislation, improvements in credit information, and the expansion of micro-finance. Options for providing further impetus to the expansion of the institutional investor base are also discussed.

2. Trends in credit to the private sector

Banks are the main providers of financial services in Brazil. Commercial, savings and multiple bank assets are about six times as large as those of other financial institutions. This is a relatively high ratio by comparison with countries with more diversified financial markets, although not atypical of Latin America.[1] The Brazilian banking system is also smaller than those of several OECD countries in terms of assets and deposits, and in particular credit volumes in relation to GDP, but not out of line with other Latin American comparators (Figure 2.1).

The scarcity of credit is due to a number of reasons. *First,* the public sector remains the largest borrower in the economy, crowding out at least in part credit to the private sector. Public debt instruments, essentially fixed-income securities, account for about one-third of bank asset portfolios on average, and more so in the case of large banks, with loans accounting for another one-third of assets.[2] Government bonds also account for the lion's share of insurance company reserves and two-thirds of pension fund assets. The share of government bonds in bank assets does not differ significantly in Brazil from the OECD average, but higher real rates of return on these securities tend to reduce the attractiveness of alternative asset holdings in Brazil, including corporate bonds and equity. Underlying

Figure 2.1. **Financial intermediation indicators, 2003**



1. Total credit is measured by IFS line 32, credit to private sector is measured by IFS line 32d.
2. Assets are measured by IFS lines 22,a-d (.,s,t,m) and lines 42,a-d (.,n.p,s). Deposits are measured by IFS lines 24, 25, and 45 (.,t).

Source: International Financial Statistics, IMF.

these facts is the steady increase in the public debt ratio since mid-1990s. The recognition of previously unrecorded liabilities (*fiscal skeletons*) – a considerable step forward in fiscal policymaking in the post-stabilisation period, as discussed in Chapter 1 – also contributed to the rise in public indebtedness. The reduction in private sector domestic indebtedness, on the other hand, is due to a large extent to the restructuring of failed private banks, essentially in 1995-96. Lending to the public sector declined considerably after 1996, on account of the privatisation of large state enterprises, the privatisation and/or liquidation of state banks, and fiscal retrenchment. Equally important was the "federalisation" of state and municipal debts (*i.e.*, replacement of outstanding sub-national liabilities by Treasury bonds), in part with financial institutions.[3]

Second, widespread directed lending increases the cost of freely-allocated funds, discouraging credit taking. Directed lending, broadly defined as loans at below-market interest rates, accounted for about 40 per cent of total financial system credit during 2000-03 (Table 2.1). Agriculture and housing finance are a case in point (Annex 2.A1). Through quantitative targets, banks are required to allocate 25 per cent of demand deposits to agricultural lending, as well as 65 per cent of savings account deposits to housing loans.[4] Moreover, the National Development Bank (BNDES) continues to rely, in part, on captive financing from the Unemployment Insurance Fund (FAT). These resources are remunerated

Table 2.1. **Composition of credit, 1998-2003**

In per cent of GDP, end-period stocks

	1998	2000	2001	2002	2003
Total financial system credit to:[1]	29.7	28.0	26.4	24.3	26.1
Enterprises	17.9	16.8	17.5	16.7	17.5
Freely allocated credit	6.6	9.0	9.9	8.7	8.7
Directed credit	. .	7.9	7.7	8.2	8.7
of which: BNDES[2]	. .	4.9	5.2	5.3	5.8
Individuals	9.6	10.1	8.1	6.7	7.7
Freely allocated credit	1.5	4.5	5.6	4.9	5.6
Directed credit	. .	5.7	2.5	1.9	2.0
Public sector	2.3	1.1	0.8	0.9	1.0
Memorandum item:					
Net public debt (consolidated public sector)	41.7	48.8	52.6	55.5	58.2
of which: foreign debt	6.2	9.6	10.4	14.3	12.0

1. Includes leasing.
2. Assumes for simplicity that all BNDES credit is to the corporate sector.

Source: Central Bank of Brazil.

at a government-regulated long-term interest rate (TJLP), which is adjusted quarterly to reflect market developments, but is significantly lower than the benchmark overnight market interest rate. BNDES alone accounts for over one-half of directed credits, or about one-third of all credit extended by financial institutions to enterprises. Freely allocated loans have risen since 2000, when the economy experienced a large expansion in credit volumes, partly on account of a decline in reserve requirements on sight deposits and a lowering of IOF taxation (*Imposto sobre Operações Financeiras*, a tax on financial transactions). This suggests that the supply of credit is reasonably sensitive to changes in reserve requirements and the tax burden on financial intermediation, although other factors may have contributed.

Third, legal activism and a pro-debtor bias in legislation tend to discourage the creation of credit by exacerbating uncertainty over loan recovery. Consistent with a growing body of cross-country empirical evidence,[5] the Brazilian experience suggests that the quality of state-level judiciaries explains a substantial share of the differentials in credit ratios across the states that cannot be ascribed to disparities in income level. States that have better judiciaries typically also have higher credit ratios.[6] These findings are justified on the grounds that a sluggish legal system jeopardises the ability of lenders to use collateral as a means to deal with adverse selection and moral hazard in credit operations. In particular, the value of collateral depreciates when legal procedures are lengthy, and legal activism can obstruct loan recovery altogether. In contrast, credit is relatively abundant in Brazil for the purchase of motor vehicles, particularly through chattel mortgage (*alienação fiduciária*) operations (see below), where the judiciary has a tradition of rapid rulings and upholding the repossession of guarantees.[7] In 2003, interest spreads on these loans averaged about one-half of those for other goods.[8]

With a financial sector dominated by banks (Table 2.2), credit creation by non-banks has been limited. Leasing is the most important segment in the non-bank financial sector, but has been affected adversely by exchange rate volatility since the floating of the *real* in 1999.[9] The market for leasing is competitive, with more than 55 firms in operation, and barriers to entry are low. Leasing is widespread in the motor industry, but equipment

Table 2.2. **Composition of financial sector assets, 1994-2002**

In per cent

	1994	2000	2001	2002
Banks	91.2	93.1	93.6	94.3
Multiple banks	48.8	52.6	69.1	68.8
Commercial banks[1]	18.7	16.4	3.7	3.3
Development banks	8.4	10.5	10.5	11.5
Savings banks[2]	12.2	12.6	9.1	9.6
Investment banks	3.1	0.9	1.2	1.0
Non-banks[3]	8.9	6.9	6.4	5.7
Leasing companies	2.9	3.9	3.3	2.7
Credit, finance and investment societies (SCFI)	0.6	0.9	0.5	0.9
Mortgage companies	0.0	. .	. .	. .
Housing credit institutions	1.2	0.4	0.3	0.3
Development agencies	. .	0.1	0.2	0.1
Security brokers[4]	2.8	0.8	0.8	0.5
Security distributors	1.2	0.3	0.5	0.4
Credit cooperatives	0.2	0.6	0.8	0.9

1. Includes subsidiaries of foreign banks.
2. Refers to *Caixas Econômicas*.
3. Excludes micro-credit operators.
4. Includes foreign exchange brokers.

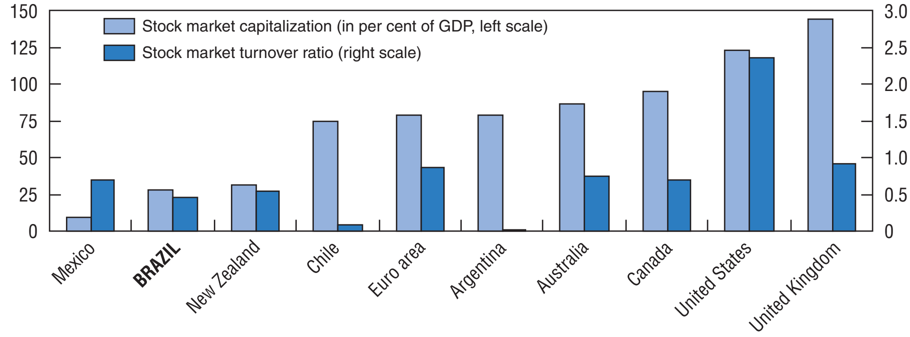
Source: Central Bank of Brazil.

leasing, which could be important in agriculture and for small enterprises, is scarce. Access to credit for working capital by small and medium-sized enterprises is dominated by factoring companies. BNDES also plays a key role in this area, through a variety of credit lines.

Reflecting the scarcity of credit, enterprises continue to rely predominantly on internal sources of finance. Corporate governance has improved over time but low leverage remains a stylized fact of the Brazilian credit landscape: private-sector enterprises raise about one-half of their finance through debt and equity issuances, with bank loans accounting for only one-quarter. More importantly, access to credit is unequal among enterprises. Whereas large companies are able to tap domestic and foreign markets on reasonable terms, smaller firms finance themselves predominantly out of retained earnings and the issuance of promissory notes.[10]

Partly reflecting reliance on internal sources of finance, market capitalisation remains relatively low in Brazil by international standards. This suggests that there is in principle ample scope for greater reliance by enterprises on equity to finance operations and investment (Figure 2.2 and Tables 2.A3.1 and 2.A3.2).[11] Transaction costs in Brazilian bourses, although not out of line with Latin American comparators, are high, and well in excess of those in the United States, whose stock exchanges compete directly for the largest Brazilian enterprises with the São Paulo Stock Exchange (BOVESPA), Brazil's largest bourse, somewhat hindering the development of domestic equity markets.[12] An important deterrent to equity market development, in addition to macroeconomic volatility, is corporate governance, which has nevertheless been strengthened through the launching of BOVESPA's New Market (Box 2.1). But the scope for greater reliance on equity finance continues to depend to a great extent on the prospects for lowering the real yield on fixed-income securities, which remains high.[13]

Figure 2.2. **Capital market indicators, 2001**



Source: Standard and Poor's Emerging Market Database and Emerging Stock Markets Factbook.

Box 2.1. **BOVESPA's New Market**

Mirrored in a similar initiative in Germany, the São Paulo Stock Exchange (BOVESPA) launched in December 2000 the New Market (*Novo Mercado*) for companies that voluntarily undertake to abide by stricter corporate governance practices and information disclosure requirements than those required by current Brazilian legislation. The New Market is in its infancy, with 31 companies listed in its level 1 and just 3 in level 2, which poses even more stringent corporate governance rules. Additionally, the creation of a Market Arbitration Panel for conflict resolution between investors and companies offers a swifter, specialised alternative to the legal system.

The main innovation of the New Market, when compared to current legislation, is the ban on the issuance of non-voting shares. It is expected that, by protecting minority shareholders more effectively, companies will be able to raise capital at a lower cost. In addition, a company listed in the New Market is required to: *i)* hold public share offerings through mechanisms favouring capital dispersion and broader retail access; *ii)* maintain a minimum free float equivalent to 25 per cent of capital; *iii)* protect tag-along rights (*i.e.*, extend to minority shareholders the same conditions provided to majority shareholders in the transfer of controlling stakes); *iv)* set a single one-year mandate for the entire Board of Directors; *v)* adopt international accounting standards (US GAAP or IAS GAAP); *vi)* abide by tighter information disclosure requirements, including consolidated financial statements and special audit revisions; *vii)* hold a tender offer based on the company's economic value criteria, should it decide to leave the New Market; and *viii)* adhere to disclosure rules on the negotiation of assets issued by the company in the name of the controlling shareholders or the company management.

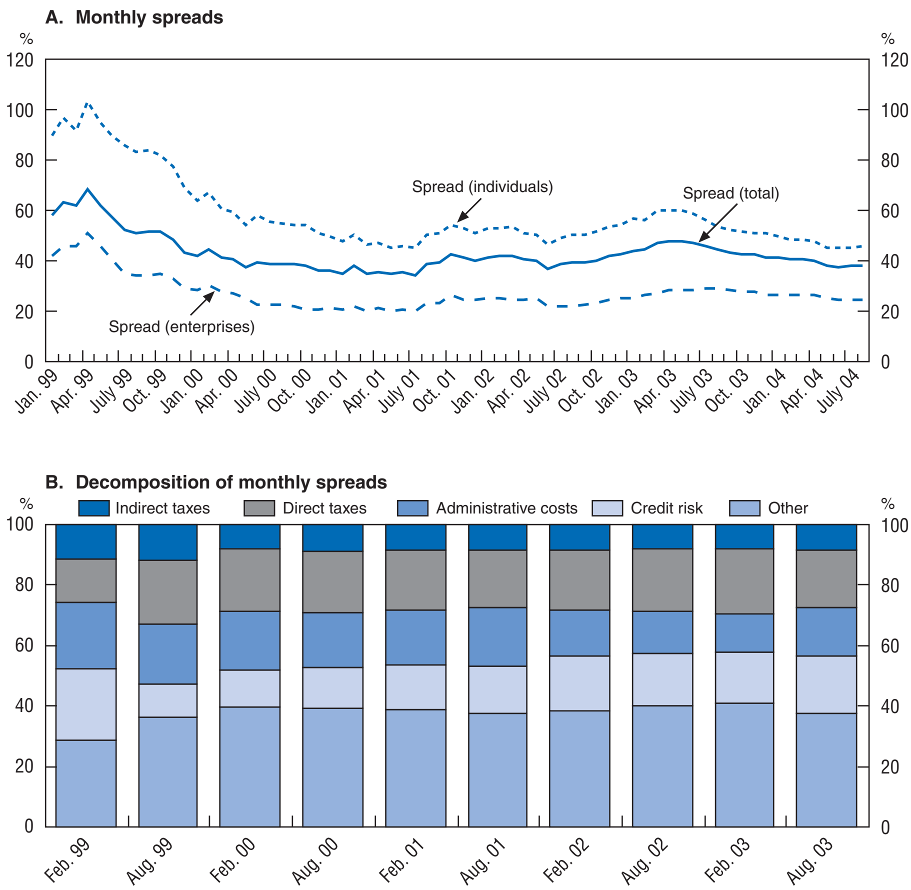
Consumer loan instruments, such as overdraft and business-to-consumer facilities, are widespread. The issuance of pre-dated cheques is one of the main sources of retail credit in Brazil. Although information is scarce, pre-dated cheques are estimated to account for about 60 per cent of all cheques issued. Consigned credit (*crédito por consignação*) – an operation hitherto only available to salaried workers in the public sector – has recently been extended to private-sector workers and pensioners.[14] This credit modality reduces risk by ensuring a closer link between earnings and loan repayments, *de facto* treating formal-sector earnings as collateral for loans. But, since this facility requires an agreement between employers and the banks through which salaries and pensions are paid, trade union consent remains necessary for extending operations to affiliated borrowers. The interest rates charged in these transactions have been reduced, and remain lower than with other types of personal credit, hence facilitating access to credit by lower-income borrowers. Pension funds have also extended loans to participants (private-sector workers).[15]

3. Trends in intermediation costs

Interest spreads – defined as the difference between lending and borrowing rates – have fallen since the mid-1990s, being broadly stable at current levels since mid-2000, but remain exceedingly high in Brazil by international comparison. Personal credit (*pessoas físicas*) is particularly costly, with interest spreads at about 50 per cent on average, against less than 30 per cent on average for a composite of corporate credit modalities (Figure 2.3). Decomposition of interest spreads suggests that the contributions of administrative expenses and indirect taxes have come down over time, with the share of spreads associated with direct taxes remaining broadly stable. After the energy crisis of 2001 (described in Chapter 3) and the subsequent decline in growth and real earnings, the contribution of credit risk picked up again, explaining almost entirely the rise in spreads from between 2001-03.[16]

Figure 2.3. **Interest spreads, 1999-2004**

Pre-fixed rate loans



Source: Central Bank of Brazil.

Table 2.3. **Banking concentration indicators, 1994-2003**

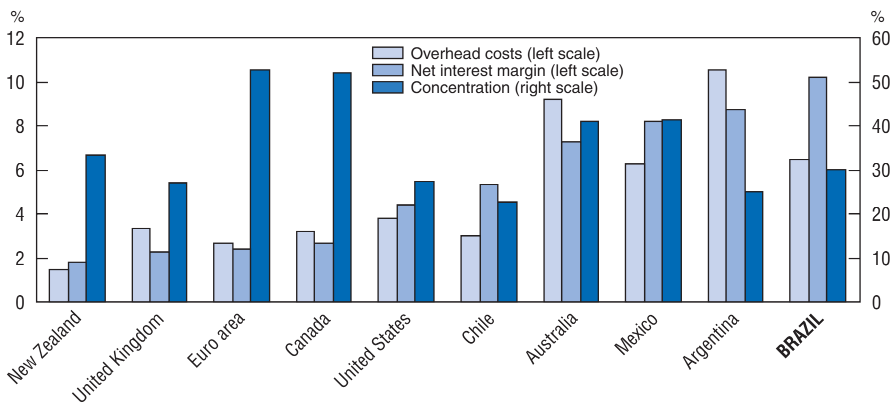
	Number of banks	Herfindhal indices		
		Assets	Credit	Deposits
1994	246	0.07	0.10	0.09
1995	242	0.07	0.10	0.10
1996	231	0.07	0.10	0.10
1997	217	0.07	0.12	0.09
1998	203	0.08	0.14	0.09
1999	194	0.07	0.11	0.10
2000	192	0.07	0.09	0.09
2001	182	0.06	0.06	0.09
2002	167	0.07	0.06	0.09
2003[1]	164	0.08	0.07	0.09

1. Through June.

Source: Nakane (2003).

The persistence of high interest spreads appears to be due to a mix of micro- and macroeconomic factors. Assets, credit, and deposits are relatively concentrated in Brazil (Table 2.3). About two-thirds of bank assets and deposits are concentrated among the largest 10 institutions, a ratio that has increased in recent years.[17] But evidence that bank concentration has contributed to the persistence of high interest spreads is mixed.[18] Overhead costs and net interest margins are high in Brazil by international standards (Figure 2.4).[19] But this stylized fact cannot per se be interpreted as evidence of non-competitive behaviour among banks, resulting in high interest spreads. At the same time, greater penetration of foreign banks, now accounting for about one-quarter of assets and credit, does not appear to have contributed to a reduction of interest spreads through increased competition.[20] Recent research emphasises the role of credit risk as a determinant of interest spreads, which was underestimated in previous decomposition exercises.[21] Macroeconomic volatility was a powerful determinant of interest spreads until 2000.[22]

Figure 2.4. **Banking sector indicators**[1]



1. Net interest margin is defined as bank's net interest revenue as a share of its total assets, overhead costs is defined as the accounting value of a bank's overhead costs as share of its total assets. Concentration is defined as the ratio of the three largest banks' assets to total banking sector assets.

Source: Beck and Levine (2003) dataset.

Efforts have so far been timid to reduce the tax burden on financial intermediation and income, which is perceived as high, driving a wedge between banks' borrowing and lending rates.[23] This is due to a large extent to on-going fiscal consolidation, which makes it difficult to phase out taxes such as that on financial transactions (IOF) and bank debits (CPMF). Revenue from the bank debit tax, for example, accounts for about 1.5 per cent of GDP. But the creation in October 2004 of bank accounts for investment purposes (*contas investimento*) is a step in the right direction. Through these accounts, funds can be shifted among different investment modalities and CPMF is paid only once, when deposits are made into the investment account. Stock market transactions are already exempt from CPMF taxation, thus restricting the incidence of CPMF on consumption and credit operations.[24] But implicit taxation, in the form of directed credit may also affect intermediation costs in general, and interest spreads in particular. Although unremunerated reserve requirements have been reduced over time, they still amount to 45 per cent of demand deposits, a very high rate by international standards. Reserve requirements on time deposits are remunerated. The impact of high reserve requirements on interest spreads is mitigated by the fact that demand deposits account for a relatively low share of total deposits in Brazil.[25]

Innovations in credit scoring and information have alleged to have contributed to reduce interest spreads. Brazil has a large and well-established credit bureau industry, with large private and public credit information registries (CIRs) (Annex 2.A2). The creation and expansion of the Central Register of Credit Risk (*Central de Risco de Crédito*) at the BCB in 2004 has been the main government initiative in this regard, coupled with measures to facilitate the portability of personal credit history across financial institutions (*Banco de Dados de Proteção ao Crédito – Cadastro Positivo*). These measures tend to benefit the retail sector, in which automated credit analysis is widespread. In the corporate segment, information is already of relatively good quality, competition among financial institutions is fierce for lending to large enterprises, and interest spreads are lower. For smaller enterprises, informality and poor accounting standards complicate credit risk assessment, which is unlikely to change simply through improved CIRs.[26] Portability of credit history is therefore particularly important in this market segment, because much of the relevant positive information on credit history remains private to the bank lending to these enterprises. This makes borrowers "informationally captured" and allows banks to extract monopoly rents from their clients. Several large-scale retail banks have begun to create their own databases of credit history and behaviour scores, as well as statistics of late-payment, losses, and recovery rates.[27]

4. The extent of financial exclusion

Access to financial services remains skewed towards the non-poor and enterprises in the formal sector. Having expanded considerably over the last decade, micro-finance – combining a variety of micro-credit facilities and credit cooperatives – is a powerful instrument to tackle financial exclusion, but remains relatively less widespread in Brazil than in other Latin American countries.[28] Policy discussions on micro-finance were pioneered in 1995 through *Comunidade Solidária*, a government programme aimed at strengthening civil society initiatives. A number of legal impediments to the expansion of micro-finance were then identified and improvements have been made in the legal framework for micro-finance particularly over the last five years.

Financial exclusion has been traditionally tackled by the government through publicly-owned banks, via the extension of their own credit portfolio to the underserved population, and the administration of regional development and special-purpose funds. An example is *Banco do Nordeste*'s *Crediamigo* programme. Indirect involvement, by way of financial support from BNDES to NGOs providing micro-finance, is another case in point. But directed credit to agriculture and housing has not improved access of the needy to housing and agricultural finance: most rural households have limited access to agricultural loans,[29] and public banks' directed loan portfolios are concentrated on relatively larger borrowers, often enterprises that would also likely have access to freely-allocated credit.

Box 2.2. **Micro-finance in Brazil***

Micro-finance includes credit cooperatives and micro-credit operators. The latter are of three main types: NGOs, civil society organisations (*organizações da sociedade civil de interesse público*, Oscips) and, more recently, micro-enterprise credit agents (*sociedades de crédito ao microempreendedor*, SCMs). These operators may be profit-making or not. Oscips account for about one-half of the micro-credit segment, followed by NGOs and SCMs. Most SCMs are controlled by factoring companies and have been granted greater operational flexibility, including the possibility of conversion into other modalities of financial institution. Institutional funds also participate in the micro-finance market, but the volume of micro-credit operations remains low.

Credit cooperatives are now subject to the same prudential regulations as other financial institutions and have grown in number in recent years, totalling about 1 800 institutions in 2003, as opposed to 800 in 1990. Most institutions are nevertheless small, and credit cooperatives account for only about 2 per cent of loan portfolio and net worth of the financial system. This poses additional challenges for bank supervision. About one-half of the cooperatives are located in the South-East, the most prosperous region, reflecting among other factors the concentration of the population and economic activity in that region. But credit cooperative members are more evenly distributed across regions, at about 1¼ to 2¼ per cent of the labour force on average at end-2001, with the exception of the North-East, where penetration is lower. Recent efforts to ease membership restrictions have benefited credit cooperatives for micro and small entrepreneurs, which are now free to accept members from different sectors of activity. Geographical restrictions remain nevertheless in place. Prudential regulations include ceilings on exposure to clients and restrictions on portfolio composition.

Public financial institutions also provide micro-credit services, using their own resources or though the on-lending of public funds. This includes BNDES, *Banco do Brasil*, *Banco de Brasília*, *Banco do Nordeste*, and *Caixa Econômica Federal*. Participation of private institutions in this market segment is more recent and has been encouraged by the requirement in 2003 that commercial banks allocate 2 per cent of sight deposits to micro-credit. The limited presence of private financial institutions may be attributed to the higher unit costs of provision of these services, higher risk due to lack of expertise in screening creditworthiness in a relatively unknown population segment, and brand name issues, among others. Prudential regulations are stringent, particularly in light of the fact deposit-taking by micro-credit operators is not permitted. Requirements also include interest caps and minimum loan repayment period.

* See Darcy and Soares (2003) and Central Bank of Brazil (2003d), for more information on the regulatory framework for micro-finance.

Micro-finance operations by private banks are few and comparatively small in volume. As a result, public banks appear to be more pro-poor than their private counterparts and typically have a larger presence in underserved regions, including remote and rural areas of the country.

While the micro-credit market segment is in its infancy, various modalities of credit cooperatives are well developed and have been the main channel for extending credit to vulnerable groups and small enterprises. Credit cooperatives have existed in Brazil for over a century and account for a larger volume of credit, are less dependent on public support, and have expanded more rapidly than micro-credit institutions.[30] The credit cooperative industry operates in a similar loan range to that of micro-credit institutions but is more skewed towards personal credit and less active in the informal sector, which is the prime target of micro-credit facilities. Membership restrictions remain in the case of cooperatives, while access to funding is limited in the case of micro-credit institutions (Box 2.2).

Recent efforts to facilitate access by the poor to bank services are numerous. They comprise simplified requirements for opening a bank account, including current and savings accounts, for beneficiaries of social programmes, given that benefits are already paid through magnetic debit cards. Anecdotal evidence suggests that access to the banking system through simplified bank accounts has benefited the working poor in the informal sector by allowing for a faster, safer means to store working capital. Other measures include the provision of basic banking services through the post office network (*Banco Postal*) and through the accreditation of small retailers to provide these services (*Correspondente Bancário*).

5. The role of institutional investors

Brazil's investor base has become increasingly institutionalised, driven by the rise in pension and mutual fund assets (Table 2.4). Insurance company penetration remains low (Table 2.5), but the industry has benefited from the accumulation of pension fund assets, given the increase in the sale of annuities by open pension funds (Box 2.3). The closed pension fund industry, which accounts for about 90 per cent of the pension fund market, had assets totalling nearly 20 per cent of GDP in 2003. Although small relative to countries such as Japan, Australia and the United States, this is a relatively high ratio in comparison with other Latin American countries (except Chile) and some OECD countries, such as Italy and Germany. Open pension funds have expanded rapidly since the mid-1990s, due to the implementation of social security reforms for private-sector workers, discussed in Chapter 1, as well as the establishment of tax incentives for workers investing in those funds (through the deferral of taxes until retirement).

Pension fund asset portfolios remain concentrated on government bonds. The fall in the share of equity, real estate, and time deposits since the mid-1990s was offset by an increase in fixed-income securities, which now account for about 60 per cent of pension fund asset portfolios (including quotas in fixed-income funds). The concentration of fixed-income assets is higher still for open funds. Asset management is subject to strict quantitative ceilings on portfolio allocation (Box 2.4). For example, while there are no limits to risk-free government bond holdings, investment in foreign assets is not allowed, except for a small share in equity. Although lifting the ban on foreign asset holdings might facilitate portfolio diversification and asset allocation decisions, its impact on the

Table 2.4. **Composition of closed pension fund assets, 1994-2003**

In per cent

	1994	2000	2001	2002	2003
Fixed-income securities[1]	16.2	43.3	51.7	54.3	57.3
Equity[1]	39.1	35.0	29.0	27.7	29.0
Real estate	14.4	8.0	6.8	6.7	5.4
Time deposits	11.5	3.2	3.1	2.3	1.2
Loans to participants	1.9	1.8	1.8	1.9	1.7
Housing loans	4.6	2.9	2.5	2.0	1.6
Debentures	1.9	2.0	2.1	2.2	1.7
Operations with parent company	7.8	0.2	0.1	0.0	0.0
Others	2.6	3.6	2.9	2.9	2.1
Memorandum items:					
Closed pension fund assets (in per cent of GDP)	8.3	13.2	14.4	15.8	18.2
Market share of closed funds	. .	89.1	86.7	86.2	. .
Share of fixed-income securities in open fund assets[1]	. .	. .	. .	90.2	91.2

1. Includes quotas in mutual funds.

Source: ABRAPP and SUSEP.

Table 2.5. **Composition of insurance company reserves, 1996-2003**

In per cent

	1996	2000	2001	2002	2003
Reserve composition					
Fixed-income securities	66.0	91.2	91.6	93.6	95.3
Equity	16.0	6.9	6.3	4.9	3.6
Real estate	18.0	1.9	2.2	1.5	1.1
Memorandum items:					
Premium revenue (in per cent of GDP)	2.0	2.1	2.1	2.2	2.5
Distribution of insurance premia					
Motor vehicles	30.4	31.8	31.3	27.2	. .
Life	18.7	17.0	16.9	23.8	. .
Health	20.0	24.8	23.9	21.0	. .
Others	30.9	26.4	27.9	28.0	. .
Foreign company share[1]	6.3	31.1	34.0	35.1	. .

1. In per cent of total premium revenue.

Source: FENASEG and SUSEP.

exchange rate and risk premia are not easy to gauge. Also, given the still-high rates of return on government bonds, foreign asset holdings, which would expose the industry to foreign exchange risk, may not be attractive enough to Brazilian pension fund managers at the current juncture.[31]

On the face of these regulations, there is ample scope for greater pension fund penetration in equity markets. The ceiling on the share of equity, at 50 per cent of total assets, is high, but actual equity holdings are at about one-half of the ceiling. Equity price volatility is a deterrent. The depth of the domestic equity market also plays a role, particularly in the presence of restrictions on the share of a company's capital a pension fund can hold. It is important to note that increased demand by pension funds for equity may contribute

Box 2.3. The complementary pension fund system

A typology of pension funds

The Brazilian complementary pension fund system, organised on a voluntary basis, is operated by closed and open pension funds. These entities are currently privately run. In particular:

- Closed pension operators (*Entidades Fechadas de Previdência Complementar*, EFPC) are non-profit organisations established by single employers, multiple employers, trade unions, or professional associations and financed by employers' and/or employees' contributions on an occupational or associative basis. The existing 360 operators (over 2 100 sponsors) had accumulated nearly 20 per cent of GDP in assets in 2003. But coverage remains low, with only 2 per cent of the labour force enrolled.
- Open pension plans are operated by financial institutions (*Entidades Abertas de Previdência Complementar*, EAPC), generally insurance companies and banks. Contributions are made on a personal, voluntary basis. These funds are inspired by the experience of 401K plans in the United States. At end-2003, there were 43 providers, with nearly 2.5 per cent of GDP in assets and 6.5 million plans sold. Defined-contribution plans accounted for 70 per cent of revenue and 45 per cent of open pension fund assets.

Closed pension funds typically offer defined-benefit, defined-contribution, or mixed arrangements (*i.e.,* defined-contribution plans with some elements of defined-benefit provision, such as *cash balance*, *floor benefit*, and *target benefit* plans). Pension funds sponsored by trade unions and professional associations can only be of the defined-contribution type. While most funds sponsored by state-owned companies offer defined-benefit schemes, publicly-run complementary pension funds can now be set up for civil servants, which can only be organised on a defined-contribution basis. The individual account funds are portable under certain conditions, including a vesting period of 10 years, and can only be withdrawn upon retirement or discontinuation of employment. Most schemes managed by open pension funds are of the defined-contribution type. They are also more flexible in terms of portability and withdrawal conditions. The vesting period is 60 days and not linked to retirement.

Tax treatment

Currently, contributions to private pension funds are tax-deductible up to 12 per cent of the employee's salary and 20 per cent of the wage bill for employers and accrued income is taxed at 20 per cent, limited to 12 per cent of the employers' contribution. Pension benefits are liable (up to a ceiling) to personal income taxation.

Legislation was passed in August 2004 replacing the current ETT (exempt-tax-tax) regime by an EET (exempt-exempt-tax) regime and creating an optional tax regime for pension plans set up from 1 January 2005. In particular:

- Accrued income will no longer be taxed from 1 January 2005.[*]
- Under the optional tax regime, pension benefits above BRL 1 058 will be taxed at different rates depending on the duration of investment (*i.e.,* the length of time between the initial contribution and the withdrawal of a lump-sum or payment of a pension benefit), with a personal income tax rate of 35 per cent for pension plans of less than 2 years' duration. This rate will be reduced by 5 percentage points every two years to 10 per cent for pension plans of more than 10 years' duration.

Box 2.3. **The complementary pension fund system** *(cont.)*

Regulation

The closed pension funds are regulated and supervised by the Secretariat of Pension Funds *(Secretaria de Previdência Complementar,* SPC), Ministry of Social Security. SPC authorizes the establishment of the pension entity and supervises compliance with regulations on governance, information disclosure, beneficiary rights, investment policy, benefit provision, fees, among others. Open pension plans are supervised by the insurance industry regulator *(Superintência de Seguros Privados,* SUSEP), Ministry of Finance.

The rate of return target used in the actuarial valuation of liabilities by most pension funds is currently 6 per cent per year in real terms. This is a high target rate in comparison with OECD countries, and creates a risk that in the case of underperformance the liabilities accumulated by defined-benefit publicly-sponsored pension schemes be transferred to taxpayers. To mitigate in part this risk, recent regulations have set a ceiling for contributions by the sponsor equal to the employers' contribution. In addition, these regulations require actuarial imbalances to be solved respecting the parity between employee and employer contributions.

* See OECD (2004a). Also, as discussed in OECD (2004b), tax-favoured retirement-saving plans have led governments to shift important fiscal revenues to a period in the future where the fiscal impact of ageing will peak. Without such a shift, it is not clear that governments would have resisted political pressures to spend these revenues, rather than using them to build assets so as to meet the future cost of populations ageing. Hence, from a political economy perspective, tax deferral can be viewed as sound public finance policy.

to raising market capitalisation and trade volumes, increasing market depth and liquidity, and fostering financial innovation, competition and efficiency.

Prudential regulations have improved in recent years in the mutual fund industry, which accounts for about 30 per cent of GDP in assets under management. Marking-to-market requirements have been strengthened and transparency has been boosted through the publication, from April 2004, of mutual fund financial indicators, including return rates and number of quotas, on CVM's (*Comissão de Valores Mobiliários*) website.[32] This should provide retail investors with more information on investment returns and market risks associated with different investment modalities.[33] More recently, procedures for mutual fund operations have been simplified, an important step towards further developing this market segment.

Improvements in public debt management have contributed to strengthening the institutional investor base. Given the predominance of fixed-income securities in institutional investor portfolios, the issuance of benchmark securities of various maturities has made the secondary markets for government bonds more liquid and has consequently facilitated the management of institutional investor portfolios, as discussed in Chapter 1. In the case of pension funds, the issuance of long-term inflation-protected government bonds has been particularly welcome. This has allowed for a better match between pension fund assets and liabilities, which are indexed to inflation. But it should also be recognised that, although both insurance and pension funds have sustained demand for public debt instruments of longer tenors, their buy-and-hold asset management strategy may have a detrimental impact on the liquidity of these securities, especially in the absence of long-term swaps instruments.

Box 2.4. **Pension funds: regulations on portfolio allocation**

About two-thirds of pension fund assets are held by entities sponsored by state-owned enterprises and most plans are of the defined-benefit type. Regulations are therefore particularly important to reduce the risk that unsound investment decisions may result in the creation of unfunded liabilities to the budget.

Regulations on portfolio allocation for the pension fund industry are issued by the National Monetary Council (*Conselho Monetário Nacional*, CMN). Currently, there are quantitative ceilings on portfolio allocation for closed pension funds according to the type of financial instrument, credit risk scoring, and governance criteria. According to new regulations issued in September 2003:

- Occupational pension funds have no limits for investment in central government bonds. Nonetheless, the combined holdings of low-risk bonds issued by the states and municipalities, financial and non-financial institutions, and quotas in low-risk fixed-income mutual funds are limited to 80 per cent of total assets. For financial instruments classified as medium- or high-risk, the ceiling for asset holdings is 20 per cent of total assets under management.
- Equity holdings are limited to 50 per cent of assets for companies with good corporate governance ratings, 45 per cent for companies with regular governance ratings, 35 per cent for companies with unrated governance, and 3 per cent for companies listed abroad. Corporate governance rating for companies listed in Brazil is provided by the São Paulo Stock Exchange (BOVESPA). Holdings of shares in unlisted companies are capped at 20 per cent of assets under management. Holdings of equity listed in MERCOSUR markets, debentures, and gold are capped at 3 per cent of assets. Credit risk ratings are provided by independent rating agencies.
- Real estate holdings are limited to 14 per cent of total assets, but this ceiling is set to decrease gradually to 8 per cent in 2009. Pension fund participation in a real state project is capped at 25 per cent of the project's budget.
- Loans to participants are capped at 15 per cent of total assets under management. The interest rate charged on these loans cannot be lower than the fund's projected actuarial return plus administrative costs.
- In addition to these restrictions, there are a number of concentration impediments. In particular, pension funds can hold up to 20 per cent of the capital of any single company and only up to 5 per cent of the pension fund's assets can be invested in a single company.

6. The way forward

Expanding credit and reducing intermediation costs

Difficulties in loan recovery appear to be the most important deterrent to both the expansion of credit to the private sector and the reduction in interest spreads. While the consolidation of macroeconomic stability and institutional reform should contribute to the on-going reduction of intermediation costs and expansion of credit to the private sector, as discussed in Chapter 1, there is much scope for further improvement in this area. Of particular importance are measures to facilitate loan recovery and expand credit information.

Facilitating loan recovery

Current bankruptcy legislation is deficient because of the priority it gives to unlimited labour and tax claims to the detriment of other secured and unsecured credits, particularly bank loans. The low precedence given to these credits during bankruptcy discourages credit creation in the first place because bank loans are important mechanisms to finance a firm's working capital. Moreover, the need for unanimous approval by all creditors makes restructuring more difficult and time-consuming, during which time the value of collateral is likely to depreciate. Asset repossession is also hampered by the sluggishness of the legal system. Against this background, recent efforts towards improving bankruptcy legislation, through the easing of restriction of loan recovery and greater facility in the use of collateral, should reduce credit risk and consequently intermediation costs. A new bankruptcy law is currently under discussion in Congress, addressing most deficiencies in current legislation (Box 2.5).

Despite the improvement of new bankruptcy legislation, challenges remain. *First,* although tax succession will be eliminated for purchases of assets under bankruptcy and judicial recovery, labour claim succession will be abolished only in the case of bankruptcy procedures, being transferred to the new owners in the case judicial recovery, thus weakening incentives for the purchase of assets in the case of judicial recovery. *Second,* unsecured creditors will continue to have third-rank precedence in the recovery of assets, thus also mitigating the otherwise stronger incentives for credit creation. *Third,* the participation of banks in restructuring is unclear and will depend on how the legal system implements the new law. *Fourth,* law enforcement and procedural codes will need to be upgraded to speed up rulings, an initiative that would likely be supported by the magistracy. *Finally,* the dissemination of Special Courts, discussed in Box 2.6, could improve the performance of the judicial system. These courts could also deal with the judicial collection of small credits.[34]

Improving credit information

Improvements in the credit bureau industry have focused on the dissemination and portability of credit information (through the *Banco de Dados de Proteção ao Crédito – Cadastro Positivo*), previously a major shortcoming in Brazil's banking industry.[35] However, there is substantial scope for improving CIRs. As a rule, a major challenge is to make information on potential borrowers more easily available to lenders. Empirical evidence suggests that the more and the better the credit information available to lenders, the greater the scope for credit creation.[36] In particular, firms in countries with better CIRs tend to rely more on debt than in those in which credit information is scarce and of poor quality. CIRs are also perceived as an important enforcement mechanism, because access to credit is essentially suspended until the borrower in default is removed from the CIRs' blacklists. By making credit information public, strengthening credit information registries, and facilitating the portability of information across lenders, competition can be enhanced and intermediation costs can be reduced.

Tackling financial exclusion

There is much scope to further develop the micro-finance industry. Further liberalising membership restrictions (geographical and occupational) in the case of credit cooperatives, and fund raising in the case of micro-credit operators, particularly allowing for deposit taking, could contribute to develop this market segment in the years to come. It should

Box 2.5. **Brazil's bankruptcy legislation**

In principle, the role of bankruptcy legislation is to organize the sharing of losses among an enterprise's different stakeholders, in particular between shareholders and creditors of different sorts (banks, employees, suppliers, and tax authorities). Legislation should therefore strike a balance between protecting creditors – encouraging them to participate in and support the firm during restructuring – and shareholders, thus providing an incentive for them to invest and take risks. The other role of a bankruptcy law is to protect socially valuable assets while the firm is being restructured or closed down.

Current legislation

Current bankruptcy legislation discourages credit creation because the settlement of financial claims is not prioritised when a firm is declared bankrupt. Instead priority is given to the settlement of labour and tax liabilities.[1] In practice, however, neither labour nor the tax authority tends to initiate a bankruptcy procedure, because employees fear job losses and the tax authorities are not legally active in bankruptcy cases. It is usually only after payment to suppliers and banks (typically the last to suffer default) is suspended that bankruptcy is declared. But, again, the priority given to labour and tax liabilities, rather than credits, weakens the incentive financial creditors have to initiate bankruptcy procedures. In general, when a bank or supplier wins a bankruptcy action, the little that is left after paying for legal fees is barely enough to settle labour and tax claims.

In current legislation, the option of enterprise restructuring (*concordata*) consists of a two-year debt rescheduling arrangement set in law that only applies to unsecured credits (*i.e.*, excludes labour, tax, and secured credits). More flexible restructuring plans require approval by all creditors, as the law does not provide for these arrangements. There are two kinds of *concordata*: the first is at the request of the firm's owner (preventive *concordata*) and the second is through a bankruptcy procedure, where all execution actions are halted, except for those related to tax claims. The judge then nominates a *síndico* (usually the largest creditor) who will act as manager, assessing the quality of the firm's assets and liabilities, and whether bankruptcy law has been observed.[2] If the enterprise faces liquidity problems but remains solvent, it is put in suspensive *concordata*, whereby management returns to its owner(s). The judge issues an authorisation for debts to be rescheduled according to a timetable established in the law. In the case of liquidation, where the company is found to be both illiquid and insolvent, assets are collected, sold at a judicial auction, and used to settle debts to creditors (according to the quality of credit, and proportionally for credits of the same quality). As the owner may benefit from a suspensive *concordata*, the effective liquidation process only starts after a long period of legal valuation of assets and debts. When assets are finally auctioned, they may have lost most of their value, with depreciation of the real assets and devaluation of intangibles.

New legislation

New bankruptcy legislation, awaiting approval by Congress, gives priority to the settlement of guaranteed loans and, along the lines of Chapter 11 provisions in the United States, makes the restructuring of firms in financial distress more cooperative and conducive to recovery. Amendments to the Tax Code will also be made to reconcile it with the main provisions of the new bankruptcy law. The main features of new legislation are that: *i)* labour credits continue to take precedence over other secured credits, but are capped at 150 minimum wages, preventing the fraudulent increase in stakeholders' salaries prior to bankruptcy as a means to repossess assets, *ii*) secured credits have precedence over tax claims, and *iii)* tax succession (*i.e.,* the new owners of a bankrupt firm

Box 2.5. **Brazil's bankruptcy legislation** *(cont.)*

are liable to any outstanding tax liability, including those unveiled after the acquisition of the firms or its assets) will be abolished for purchases under bankruptcy and judicial recovery procedures.

The possibility of extra-judicial restructuring has been strengthened. Borrowers in distress will be allowed to negotiate restructuring directly with creditors without judicial interference. Should extra-judicial restructuring fail, creditors will have first claim on their investment. Court-supervised restructurings will continue to exist, but judges will have to accept decisions by creditors, whose votes are to be weighted according to their level of exposure. If liquidation occurs, administrators will first try to sell the bankrupt company. But, failing this option, the firm will be split into parts that preserve employment and intangible assets, such as brands. Fire sales are to be a last resort. The elimination of the tax succession mechanism should facilitate this process by reducing uncertainty over future tax liabilities, paving the way for the sale of assets at fair prices. Furthermore, a significant speeding up of the bankruptcy procedure is expected to occur.

1. In current legislation, debts are paid in the following order: *i)* employees' wage claims and indemnities, *ii)* tax claims (first federal claims, then state and, finally, municipal tax claims), *iii)* secured credits, *iv)* credits with special privileges over certain assets (for example, *cédulas de crédito comercial* with *penhor* are senior to *penhor*); *v)* credits with general privileges (for example, *cédula de crédito industrial*); and *vi)* unsecured credits. *Cédula de Credito Bancário* (CCB) is an executable security to be used in any credit operation held by a financial institution, allowing banks to start judicial collection with an execution action, instead of cognizance action. CCB can therefore reduce costs, speed up credit recovery, and even be traded in secondary markets.
2. Banks usually show little interest in participating in the management committee of bankrupt firms. They fear that employees and society at large might expect the bank to assume responsibility for liabilities it is not responsible for, such as paying salary arrears.

nevertheless be recognised that allowing for a broader array of activities would pose additional problems for supervision if the number of market operators increases. A gradual, carefully monitored easing of restrictions is therefore advisable. At the same time, access by the poor to banking services could be facilitated further. The creation of simplified bank accounts is an important step in this regard as well as the other recent measures listed above. Draft legislation was proposed to Congress in 2004 simplifying tax, social security, and labour legislation to encourage small enterprises in the informal sector to operate in the formal sector. It can also be argued that in the case of micro and small enterprises easier access to credit would have a stronger impact on job creation, in addition to tackling financial exclusion. This can be facilitated, for example, through the expansion of leasing activities, in the case of capital upgrading, and factoring, easing access by small enterprises to credit for working capital.

Making access to housing financing and loans to agriculture more pro-poor is another important step towards strengthening the link between financial depth and poverty reduction. Public sector activism in housing and agriculture financing is justified to the extent that private credit is low due to market failures. But continued reliance on directed loans in these sectors may not lead to greater access to credit by the poor because they may not be the main beneficiaries of these programmes. World Bank estimates suggest that in agriculture the largest 2 per cent of borrowers receive 57 per cent of loans, while the smallest 75 per cent of borrowers receive only 6 per cent of credit.[37] To the extent that

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Box 2.6. Specialised courts: the experience of Rio de Janeiro

To improve the performance of its legal system, the state of Rio de Janeiro set up specialised courts (*Varas Especializadas*) in May 2002. These courts broadened the coverage of the eight existing bankruptcy courts (*Varas de Falências e Concordatas*) to include most cases dealing with commercial enterprises and those involving the Securities and Exchange Commission (*Comissão de Valores Mobiliários*, CVM). Cases involving credit operations do not typically fall under the purview of those courts. Rio de Janeiro is currently the only state in Brazil to have set up these specialised courts. Ancillary efforts to improve efficiency in the legal system include, for example, pooling resources in courts facing a large backlog of cases and the use of productivity indicators to reward performance.

This initiative was motivated by the perception that cases involving commercial enterprises often require specific knowledge. Large enterprises also tend to rely on better prepared law firms for counsel, calling for a better match between the greater specialisation of lawyers and judges. This initiative was also encouraged by the Rio de Janeiro Stock Exchange and CVM, and is perceived as successful in promoting learning-by-doing by paralegal personnel and judges. Although judges do not have previous training prior to being assigned to these specialised courts, there is an effort to identify professionals with a vocation for the cases tried in these courts. Judges are subsequently offered additional training, often sponsored by professional associations. Although all judges are invited to these training sessions, those working in the specialised courts are required to attend. These specialised courts may also contribute to improve the technical quality, and increase the predictability, of judicial rulings.

The implementation of these specialised courts is believed to have fostered competition in the legal system. Some litigators from São Paulo are said to prefer to take cases to courts in Rio de Janeiro, where rulings are delivered more swiftly, a trend that has gained momentum with the creation of the specialised courts. However, the scope for these courts to improve the efficiency of the legal system cannot be generalised, and depends on specific problems facing the legal system in different states. The existence of a large number of corporate law cases to be judged is one example. In other states, bottlenecks in the legal system may be worse at second-instance courts.

wealthier farmers and large agro-business enterprises, who have additional means to deal with risk and better access to alternative financing, are the main beneficiaries of government subsidies, the intended distributive impact of such programmes is undermined. More recently, the strengthening of PRONAF, a programme of support for small farmers, accounts for most of the increase in direct credit to agriculture since 2003. This is a step in the direction of enhancing the role of agriculture financing as a redistributive tool, channelling subsidies to groups most likely to suffer from market failures.

Strengthening the institutional investor base

Pension funds already account for a significant share of the institutional investor base. But increasing the coverage of complementary pension schemes, which remains low, is an important challenge. Compared with OECD and other Latin American countries, Brazil has the seventh highest stock of pension assets and, in relative terms, the twelfth highest ratio of pension fund assets to GDP. But only 2 per cent of the labour force contribute to occupational pension schemes (9 per cent of the labour force in the case of open pension funds).[38] Against this background, in addition to existing tax deferral incentives, policies have been implemented since 2001 to encourage participation in complementary pension schemes (Box 2.7). But further increases in the ceiling on pension benefits paid by RGPS, the social security regime for private-sector workers, discussed in Chapters 1 and 4, although contributing to harmonise entitlements in the public- and private-sector schemes, would discourage enrolment in complementary pension schemes. Increasing coverage is important to ensure better protection against income losses in old-age and to allow the government to shift resources away from publicly-provided social insurance towards better targeted social assistance.

The creation of complementary pension funds for civil servants should give this market segment additional impetus. To this end, several challenges are noteworthy. *First*, making the creation of these funds mandatory, pending legislation by federal, states and municipal governments, would be a step forward. Once the funds are established, aligning employer and employee contribution rates, and ensuring that publicly- and privately-run complementary pension funds are subject to the same operational and prudential rules, would also be advisable. *Second*, the complementary pension funds should be open to current civil servants, if they opt to enrol in the regime for new entrants. *Third*, the new funds should enjoy autonomy to hire and fire, as well as to set salaries, to ensure similar conditions to those working in privately-run funds. *Fourth,* only one fund should be established at the federal level and for each state, and multi-sponsored funds could be created for the municipalities to maximize gains in economies of scale.[39] *Finally*, avoiding the risk of political interference in their governance and investment

Box 2.7. **Encouraging participation in complementary pension schemes**

Occupational pension schemes have traditionally been restricted to employees of state-owned and large enterprises. Since 2001, two new pension fund categories have been created: multi-sponsored and associative pension funds. Small and medium-sized enterprises that lack scale to set up their own pension funds can participate in a scheme that congregates various sponsors (multi-sponsored pension funds). Also, professional associations, trade unions, and other associative institutions can now set up pension funds without their own sponsorship (associative pension funds).

These plans must be of the defined-contribution type and asset management must be outsourced.* This innovation is also aimed to adapt pension fund regulations to new trends in the Brazilian labour market, characterised by an increase in contractual flexibility, high job turnover, and earnings volatility. By May 2004, 10 associative pension funds had been created, covering potentially 800 thousand participants.

With the 2003 reform, civil servants will also have access to complementary pension funds. Prior to the reform, they did not need complementary pensions because their benefits were equivalent to the last salary. In the reformed system, discussed in Chapter 1, the pension benefits paid to the entrants to the civil service will be capped at the same level as under the social security regime for private-sector workers (RGPS). The new civil servants will therefore have the option of supplementing their pensions by participating in complementary pension funds. Such funds should be public entities offering pensions on a defined-contribution basis. Their implementation is not mandatory, pending legislation proposed by federal, states and municipal governments to create their own pension funds.

* Non-programmed risks (*e.g.*, disability, death, among others) can be insured by a financial institution.

priorities is an important challenge to ensure that these funds fulfil their potential. International experience suggests that government-run pension funds for civil servants are often required, directly or indirectly, to finance the government, which should be avoided.[40] The use of pension funds to direct credit to specific sectors is another case in point, which may create future liabilities to taxpayers.[41]

Prudential regulations on the allocation of complementary pension fund assets can be improved over the longer term. Greater portfolio diversification is expected over time with the fall in real interest rates, leading to a gradual reduction in the share of government bond holdings in pension fund assets. PPP projects may contribute to this portfolio diversification by offering alternative investment opportunities. In this regard, an adequate regulatory framework is particularly important because pension fund involvement in PPPs will depend on the adequate balance of risks between the government and its private-sector partners, including assurances that public sector commitment to these projects will be honoured, as discussed in Chapter 3. Over time, policy discussions may consider greater flexibility in the quantitative ceilings currently in place for asset portfolio allocation. Emphasis could gradually be shifted towards recommendations for portfolio composition made by the industry regulator, rather than mandated quantitative restrictions. Empirical evidence suggests that pension funds subject to strict quantitative ceilings on asset portfolio allocation tend to under-perform relative to funds subject to more flexible prudential regulations.[42] Some OECD countries still rely on quantitative restrictions, but these regulations are typically more flexible than those in operation in Brazil.[43] Over the longer term, allowing pension funds to invest abroad may also contribute to risk diversification. Moreover, given the high rate of return used for the actuarial analysis of liabilities by most defined-benefit pension funds, the requirements for the dissemination of information on actuarial performance and funding ratios (*i.e.,* the ratio of net present value of liabilities and revenue) should be tightened. This is particularly important to mitigate the risk that these liabilities be transferred to taxpayers in the case of publicly-sponsored, defined-benefit funds. At the same time, a reduction in these targets, possibly to 4-5 per cent, would bring them in line international practices.

Notes

1. Based on the Beck and Levine (2003) dataset.
2. See Central Bank of Brazil (2003a), Chapter 2, for more information.
3. The restructuring of federal banks was carried out under PROEF (*Programa de Fortalecimento dos Bancos Federais*), a programme set up in 2001 focusing on four institutions: *Banco do Brasil*, *Caixa Econômica Federal*, *Banco do Nordeste*, and *Banco da Amazônia*. The programme's main features were: *i)* the transfer of non-performing loans to a special purpose company (*EMGEA*); *ii)* the swap of illiquid assets with higher-yielding securities, typically paying market interest rates; and *iii)* a capital injection in three of these banks. Goldfajn, Hennings, and Mori (2003) estimate the cost to the budget of the bank restructuring programmes at 8.6 per cent of GDP. While the fiscal impact of PROER (*Programa de Estímulo à Reestruturação e ao Fortalecimento do Sistema Financeiro Nacional*), focusing on private banks, reached only 0.9 per cent of GDP, those of PROES (*Programa de Incentivo à Redução do Setor Público Estadual*), focusing on state banks, and PROEF, aimed at federal banks, accounted for 5.7 per cent and 2.1 per cent of GDP, respectively. For more information, see OECD (2001).
4. The main vehicles for directed credit are the large federal banks: *Banco do Brasil* (BB), in the case of agriculture, and *Caixa Econômica Federal* (CEF), for housing financing.

5. See, for example, Laeven and Majnoni (2003), for empirical evidence that the efficiency of the legal system, in addition to the macroeconomic environment, proxied by inflation, is the main determinant of interest spreads across countries.

6. See Pinheiro and Cabral (2001), for more information.

7. In Brazil, there are three kinds of guarranties used to secure claims: mortgage, pledge, and chattel mortgage. Mortgage is related to real estate, pledge to goods and chattel, and chattel mortgage can involve either real estate or goods. Mortgage or pledge enforcement is assured by an executed document whereby the mortgage or pledge serves to guarantee payment. The debtor retains the title, property and possession until a ruling is made against the debtor. In chattel mortgage, however, the asset remains under the direct possession of the debtor, while the property is temporarily held by the creditor. The title is not transferred to the debtor until the debt is completely paid.

8. Also important are the good registries of vehicle ownership and a liquid secondary market. Still, these are even better for housing assets, but there is little freely-allocated credit in that segment.

9. The share of leasing company assets in the non-bank financial sector expanded considerably with macroeconomic stabilisation after 1994, to a large extent based on the foreign exchange-linked financing of purchases of motor vehicles. These instruments had lower interest rates, but shifted foreign exchange risk on to borrowers. With the floating of the *real* in 1999, financing costs rose, and borrowers challenged in court this transfer of exchange rate risk from creditors. The courts eventually ruled in favour of risk sharing between the leasing companies and their clients, leading to the phasing out of foreign exchange-linked leasing operations. But leasing remains important in the motor industry: the share of leasing operations with motor vehicles climbed from about 40 per cent in 1991 to nearly 90 per cent in 1999, declining to less than 60 per cent at the end of 2003.

10. Claessens, Klingebiel and Lubrano (2000) show that reliance on external funds (*i.e.*, from sources other than the firm itself) is highly concentrated among the largest firms. This is based on a sample of 156 to 170 open-capital firms, grouped in five quintiles during the period 1994-98. Firms in the highest quintile are shown to obtain about 70 per cent of all external financing. Companies in the first three quintiles, in turn, have access to less than 10 per cent of total funds.

11. The Rio de Janeiro Stock Exchange (BVRJ) withdrew from the stock market in 2000, when the São Paulo Stock Exchange (BOVESPA) and BVRJ signed an operational agreement concentrating BVRJ's activities on the electronic trading of government securities. In 2002, the Brazilian Mercantile and Futures Exchange (BM&F) bought BVRJ, acquiring the rights of administration and operation of SISBEX, the system for government security trading.

12. See Claessens, Klingebiel, and Lubrano (2000), for more information. Also, Rocca (2001) notes that the costs associated with underwriting and regulations to keep a company listed (*e.g.,* auditing and issuance of public notices and obligatory reports, among others) are also comparatively high in Brazil.

13. Equity capital remains costly. Based on information available from 1997 balance sheets, Rocca and Carvalho (1999) estimate that the cost of capital for open-capital firms tapping the financial sector to range from 23.5 per cent per year for large firms to 35.5 per cent per year for small ones. For closed-capital firms, it ranges between 26.1 per cent and 39.5 per cent per year. The high cost of equity capital is reflected in relatively low price-earnings ratios, which is also affected by the concentration of liquidity on a small number of stocks. Rocca (2001) reports that in a sample of 250 working days, from September 1999 to August 2000, only 60 shares (8.6 per cent of a total of 696 shares) were traded every day in BOVESPA, and, in 1996-98, 5 per cent of traded shares accounted for 75 per cent of the value of all transactions in BOVESPA and about two-thirds of market capitalisation in 1999.

14. Through this credit modality, the employer deducts loan repayments directly from an employee's pay cheque and transfers the amount to the financial institution that extended credit to the employee. Based on BCB data, the stock of this type of credit rose by nearly one-half between January-August 2004, reaching BRL 9.5 billion at end-August.

15. Recent regulations have raised the portfolio allocation ceiling (see below) for loans to participants from 10 to 15 per cent of total assets. The interest rate charged on these loans is required to at least cover the fund's actuarial return (generally inflation plus 6 per cent per year) plus administrative costs.

16. Since 1999 the BCB has measured twice a year the contribution of the different components of interest spreads. See Central Bank of Brazil (2003b), for more information.

17. The decline in the number of banks since the mid-1990s does not seem to have affected concentration significantly. The expansion of *Banco do Brasil*'s (BB) and *Caixa Econômica Federal*'s

(CEF) operations led to a ten-year peak in bank concentration in 2003, with the top-10 banks accounting for about 79 per cent of assets, against 76 per cent in 2002. BB, CEF, and BNDES alone had about 42 per cent of the market at end-2003, against 40 per cent in 2002. BB's market share was 18 per cent in 2003, about 2 percentage points higher than in 2002. See Goldfajn, Hennings, and Mori (2003), for a comparative analysis of banking concentration in Brazil.

18. Evidence for a sample of 87 Brazilian banks in 2001-02 does not suggest that bank concentration or market share affects lending rates for a variety of credit modalities. See Tonooka and Koyama (2003), for more information. Time-series analysis presented in Nakane (2001) rejects the hypothesis of collusive behaviour among Brazilian banks.

19. See, for example, Demirgüç-Kunt and Huizinga (1999). Net interest revenue, operating costs, and interest spreads are in general high in Latin America, owing in large part to high inflation, which generates easy profits for banks, discouraging cost-effectiveness. See Hawkins and Mihaljek (2001), for more information. See also, for example, Demirgüç-Kunt, Laeven, and Levine (2003), for a discussion of the link between interest margins and bank concentration.

20. Empirical evidence suggests that the entry of foreign banks is associated with efficiency gains in the domestic banking system through competition and the introduction of new financial products and better risk management techniques. Also, significant foreign bank entry is associated with a reduction in both operating costs and the profitability of domestic banks. See, for example, Claessens and Klingebiel (1999) and Claessens, Glaessner, and Klingebiel (2001), for more information.

21. See Costa and Nakane (2004), for more information.

22. See Afanasieff, Llacer, and Nakane (2002), for an empirical analysis of interest spreads in a sample of 142 Brazilian commercial banks during 1997-2000. Bank-specific indicators, such as net worth and leverage levels, did not seem to be powerful determinants.

23. Recent measures, announced in August 2004, include a reduction in the rate of financial transactions tax (IOF) levied on life insurance operations, from 7 per cent to 4 per cent; a reduction in personal income taxation on capital gains on equity holdings, from 20 per cent to 15 per cent, and a reduction in taxation of capital gains on mortgage-backed securities. Changes in personal income taxation of capital gains on fixed-income asset holdings were also introduced, with statutory rates varying according to the tenor of investments, resulting in a heavier tax burden for shorter maturities (up to 6 months).

24. Narita and Novaes (2003) estimate that at a certain stage the CPMF reduced the volume of transactions in BOVESPA by about one-fifth.

25. Evidence for Latin America (Argentina, Bolivia, Chile, Colombia, Mexico, and Peru) suggests that interest spreads are affected by reserve requirements, which tend to be high in the region. See Brock and Suarez (2000), for more information.

26. Pinheiro and Moura (2003) discuss the problems created by the poor quality of credit information in greater detail.

27. See Arcoverde (2002), for more information.

28. See Costa and Nakane (2003) and World Bank (2004b), for more information.

29. See Kessel (2001), for more information. Policies in this area include PRONAF (*Programa Nacional de Agricultura Familiar*), a programme aimed at small farmers, and the extension of housing credit through the National Savings Bank (*Caixa Econômica Federal*).

30. For more information, see World bank (2004) and Central Bank of Brazil (2003a and 2003c).

31. See International Monetary Fund (2004), Chapter 4, for more information on the growth of institutional investors in emerging markets. In particular, it is argued that restriction on foreign asset holdings has prevented pension funds from arbitraging the domestic and external yield curves, resulting in high interest spreads.

32. CVM has taken over from the BCB regulatory responsibility over the mutual fund industry. The main regulatory framework for mutual funds (Instruction No. 409) was issued by CVM in August 2003.

33. Fixed-income funds continue to be the dominant vehicle for private investment in government bonds. But small investors were granted in 2002 the right to purchase certain bond series directly from the website of the Treasury (STN). Direct access to the government bond market is a step in the direction of providing small investors with access to alternative investment options.

34. Empirical evidence reinforces the importance of adequate law enforcement in fostering the use of bankruptcy legislation. See Klapper (2001), for more information.

35. See World Bank (2004a), for more information and cross-country comparisons of CIRs.
36. See Galindo and Miller (2001), for more information, as well as the World Bank database on Public Credit Registries.
37. See World Bank (2004b), for more information.
38. Moreover, the number of active participants (*i.e.,* those making contributions) has stabilized at around 1.8 million over the last 8 years, while the number of beneficiaries increased by about 50 per cent during 1996-2003.
39. In the OECD area, the largest and better organised pension funds for civil servants are multi-sponsored. In Australia, the *Public Superannuation Scheme* covers all civil servants and persons in permanent employment with other participating Commonwealth public-sector employers. In the Netherlands, the *Government Workers' Pension Fund* (ABP) is co-sponsored by employees of central and municipal governments, police and the judiciary branch of government, the armed forces, and water and school boards, among others. In Canada, at the local level, the affiliation to the *Ontario Municipal Retirement Scheme* is a condition of employment for all Ontario's municipalities and local boards. In the United States, the *California Public Employee's Retirement Systems* (CALPERS) currently covers several jurisdictions as a service provider and investment manager with participation of employees of schools and local public agencies. At federal level, the *Thrift Savings Plan* (TSP) covers all federal government employees, including the armed forces.
40. In India, a minimum of 80 per cent of Employees' Provident Fund assets must be invested in public bonds, which are, in some cases, non-tradable. In other cases, constraints on portfolio composition are stricter than those applicable to privately-run funds.
41. In Japan and Korea, for example, civil servant pension funds have financed investment in hospitals, housing, infrastructure, and welfare projects. Throughout the 1960s and 1970s, the Swedish government used pension fund reserves to finance housing programmes. See Iglesias and Palacios (2000), for more information. Moreover, empirical evidence for the United States suggests that public pension funds that had been required to invest part of their portfolio in in-state investments generated lower investment returns compared to other funds. See Mitchell and Hsin (1994), for more information.
42. See, for example, Davis (2001).
43. In the European Union, recent resolution by the European Parliament sets "the prudent person rule" as the underlying principle for pension fund investment.

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ANNEX 2.A1

Housing and agriculture financing

Housing financing

There are two housing financing systems in Brazil: the Housing Financial System (*Sistema Financeiro da Habitação*, SFH) and the Mortgage Financing System (*Sistema de Financiamento Imobiliário*, SFI).

SFH was created in 1964 to promote the construction and acquisition of private housing. SFH comprised the National Housing Bank (*Banco Nacional da Habitação*, BNH) and Housing Credit Societies (*Sociedades de Crédito Imobiliário*, SCIs). BNH was responsible for regulating and supervising SFH, proposing incentives for saving, disciplining access of SCIs to capital markets, refinancing SCI operations, and offering rediscount and insurance services. SCIs were the financial agents of the system, financing construction, sales, and purchases of housing. BNH operations were funded through the Employment Severance Fund (*Fundo de Garantia por Tempo de Serviço*, FGTS). SCIs relied on BNH for funding, as well as directed credits from saving accounts and the issuance of mortgage bonds (*cédulas hipotecárias*), guaranteed by the real state owned by SCI borrowers.

Having expanded significantly in the 1970s, giving a major impulse to housing financing in Brazil, SFH virtually collapsed in the 1980s. The rise in inflation in the period exposed a misalignment between the indexation of the value of outstanding housing loans and that of monthly mortgage repayments. While mortgage repayments were indexed to wages, through the CPI index used to set the minimum wage, the value of outstanding loans was indexed to Treasury bonds (*Obrigações Reajustáveis do Tesouro Nacional*, ORTN), rising at a much faster pace. To account for this discrepancy, a fund was created (*Fundo de Compensação de Variações Salariais*, FCVS), and, as inflation accelerated in the 1980s, FCVS accumulated considerable liabilities. These liabilities began to be securitised by the Treasury in 1996, accounting for an increase of about 2.6 per cent of GDP in the consolidated public sector debt until end-2003.

SFI was established in 1997 to reinvigorate housing financing in an environment of low inflation, extending guarantees through chattel mortgage *(alienação fiduciária)* to housing loans. SFI allows free negotiation of contracts, and offers improved options for the collateralisation of housing financing, leading to the creation of real estate investment funds and facilitating the sale of these loan portfolios to long-term institutional investors, such as pension funds and insurance companies. The securitisation of mortgage receivables has nevertheless failed to become the main source of funds for housing

Table 2.A1.1. **Housing and agricultural loans, 1990-2003**

In per cent of GDP, end-period stocks

	Housing loans		Directed loans to agriculture
	Total	Directed credits	
1990	7.4	. .	2.2
1991	6.8	. .	2.8
1992	8.0	. .	3.1
1993	7.7	. .	3.1
1994	7.8	. .	3.5
1995	7.0	. .	3.4
1996	6.0	. .	2.3
1997	5.6	. .	2.5
1998	5.9	. .	2.7
1999	5.0	. .	2.4
2000	4.9	4.4	2.4
2001	1.9	1.7	2.1
2002	1.5	1.4	2.2
2003	1.6	1.5	2.9

Source: Central Bank of Brazil.

financing. This is predominantly because there is no secondary market for these securities, and the primary market is relatively thin.[1]

Despite the creation of SFI, the volume of housing financing has fallen in the 1990s (Table 2.A1.1). The number of housing units financed through SFI reached 175 000 in 1997-2000, against 42 000 in 1993-96, but remains below its pre-1983 level. The stock of housing loans has declined continuously since 1994, largely on account of the clearing of non-performing housing loans and FCVS credits from banks' balance sheets. This explains the large decline during 2000-01, when a large volume of these loans was transferred from *Caixa Econômica Federal* to the Treasury in the context of the restructuring of federal banks under PROEF (discussed in Chapter 1). Since then, the volume of housing loans (essentially directed credit) has virtually stagnated, at 1.6 per cent of GDP at end-2003, with almost no new lending taking place. Recent measures to encourage the development of the housing market include more favourable conditions for the allocation of directed credits to housing finance and for asset recovery in the event of bankruptcy of building societies (Law No. 10931/04), as well as the exemption of income tax on capital gains associated with investment in mortgage-related securities (*Letras Hipotecárias*, *Letras de Crédito Imobiliário*, and *Certificados de Recebíveis Imobiliários*).

Agricultural loans

Directed credit, notably through *Banco do Brasil* (BB), is the main instrument for financing agriculture in Brazil. Directed credits are financed through the compulsory allocation of 25 per cent of sight deposits in the banking system, accounting for over one-half of loans, coupled with revenue from an array of taxes and constitutional funds, such as the Unemployment Insurance Fund (*Fundo de Amparo ao Trabalhador*, FAT), managed by public banks. Banks also have access to interest rate equalisation instruments. The preponderance of public financial institutions in agriculture financing has crowded out private-sector involvement in this market segment. The stock of rural credit declined substantially during 1994-2001, partly recovering in 2002-03.

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More sophisticated funding instruments have also been used more widely in recent years. A case in point is CPR (*Cédula de Produto Rural*), a bond issued by rural producers requiring the delivery of a given quantity of produce of a specified quality on a given date. CPR combines a forward sale with a hedging mechanism against price fluctuations. Currently, most CPR transactions are handled outside the formal agriculture financing system.[2] In particular, the agro-industrial sector has become an important supplier of credit to agriculture through this mechanism, which has expanded rapidly, reaching an estimate BRL 6 billion in 2000, compared to overall formal credit programmes of around BRL 14 billion. *Banco do Brasil* has also played a significant role in fostering the use of CPRs.[3] Agricultural loans under the National Rural Credit System (*Sistema Nacional de Crédito Rural*, SNCR) amounted to about BRL 31 billion in 2003.

Notes

1. As of April 2004, these securitisation operations amounted to less that BRL 400 million, as reported by *Companhia Brasileira de Securitização* (Cibrasec), created in 1997 to support SFI.
2. New funding instruments to be launched include: *i) Certificado de Direitos Creditórios do Agronegócio* (CDCA), to be issued exclusively by cooperatives and agribusiness enterprises, *ii*) *Letra de Crédito do Agronegócio* (LCA), to be issued exclusively by financial institutions, and *iii*) *Certificado de Recebíveis do Agronegócio* (CRA), to be issued exclusively by securitization institutions.
3. See World Bank (2004b), for a detailed analysis of rural credit operations in Brazil.

ANNEX 2.A2

Brazil's experience with credit bureaus

Brazil has a large and well-established credit bureau industry, with private and public credit information registries (CIRs). These CIRs contain almost only negative information and are very effective in blocking access by defaulters to credit. The most important CIRs are: the Returned Cheques Register (*Cadastro de Cheque sem Fundos*), the Federal Civil Service Register of Defaulters (*Cadastro Informativo de Créditos Não-Quitados do Setor Público Federal*, CADIN), the Central Register of Credit Risk (*Central de Risco de Crédito*, CRC), Credit Protection Services (*Serviço de Proteção ao Crédito*, SPC), and private credit bureaus such as SERASA and SCI. In particular:

- The Returned Check Register is probably the most widely used CIR in Brazil. It is organised at the national level and managed by the BCB, to which banks are required to provide information on returned checks. This registry supplies key information for credit analysis, given the widespread use of cheques, including pre-dated cheques.
- The Federal Civil Service Register of Defaulters (CADIN), was originally conceived for exclusive use by public financial institutions. Subsequently, all public institutions were allowed to provide information on enterprises and individuals, whether or not related to credit activities. CADIN is not, however, accessible to private creditors.
- Another important public CIR is the Central Register of Credit Risk (CRC), managed by the BCB's Department of Banking Supervision.Financial institutions are required to submit to CRC on a monthly basis information on the value of their loan exposures to all clients to whom they have extended credit (including guarantees and credit allowances) totalling BRL 5 000 or more. For larger borrowers, they must also rate each loan operation according to a nine-tier rating system defined by the BCB. Each institution is free to use its own method to assess the credit risk, subject to minimum standards set by the BCB. Access to CRC records is available at different levels to different "customers" but not to the public at large.
- SPCs are private, non-profit organisations established at the municipal level by local retailers' associations (*Clube de Diretores Lojistas*, CDL). SPCs are relatively old institutions; the one in Rio de Janeiro being in operation since 1955. SPC databases contain information on individual credit histories collected from retailers, banks, and credit card administrators, among others, and are used by most creditors essentially as a "veto register": individuals included in SPC's blacklist find it almost impossible to obtain credit in formal markets.

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- SERASA operates nationwide and was created in 1968 by three of Brazil's main banks. Currently, all large Brazilian banks are shareholders. SERASA has databases on enterprises and individuals, although it focuses predominantly on the former. It relies essentially on information collected by others, such as the BCB, SPCs and public CIRs, and on information supplied directly by banks.

ANNEX 2.A3

Stock market indicators and equity and corporate bonds

Table 2.A3.1. **Stock market indicators, 1994-2003**

	Number of listed companies (BOVESPA)	Market capitalization		Trading volume (USD billion)[1]		Market turnover[2]
		USD billion	In per cent of GDP	Total	Daily average	
1994	544	189.1	34.8	98.4	0.41	0.5
1995	543	147.6	20.9	79.5	0.33	0.5
1996	550	216.9	28.0	115.6	0.47	0.5
1997	536	255.4	31.6	216.1	0.87	0.9
1998	527	160.9	20.4	172.5	0.70	1.1
1999	478	228.5	42.6	91.3	0.37	0.4
2000	459	225.5	37.5	104.7	0.42	0.5
2001	428	185.4	36.3	65.3	0.27	0.4
2002	399	124.0	27.5	49.3	0.20	0.4
2003	369	234.2	43.5	67.0	0.27	0.3

1. From May 2001, securities ceased to be traded at the Rio de Janeiro Stock Exchange (BVRJ).
2. Trading volume divided by market capitalisation.

Source: CVM, BOVESPA, and Central Bank of Brazil.

Table 2.A3.2. **Equity and corporate bonds: primary market issues, 1994-2003**

In per cent of GDP

	Shares	Debentures	Promissory notes	Other	Total
1994	0.42	0.61	. .	. .	1.02
1995	0.30	1.07	. .	. .	1.36
1996	1.18	1.08	. .	. .	2.26
1997	0.44	0.86	0.58	. .	1.88
1998	0.45	1.06	1.41	. .	2.92
1999	0.28	0.69	0.83	0.00	1.80
2000	0.13	0.79	0.69	0.02	1.63
2001	0.11	1.26	0.44	0.02	1.84
2002	0.07	0.99	0.26	0.01	1.33
2003	0.01	0.35	0.14	0.01	0.51

Source: Central Bank of Brazil and Rocca (2001).

ISBN 92-64-00747-4
OECD Economic Surveys
Brazil

Chapter 3

Enhancing the regulatory framework

This chapter assesses Brazil's product market regulation and the regulatory framework for several network industries: electricity, oil and gas, and water and sanitation. Private investment can be encouraged by tackling regulatory uncertainty in many areas. To this end, recent initiatives include legislation on the role and structure of the regulatory agencies and the new model for the electricity sector. New legislation on public-private partnerships (PPPs) can encourage private investment, particularly in much-needed infrastructure, if carried out in a fiscally sound manner, adequately balancing risks between the government and its private-sector partners. These reforms are consistent with the government's agenda for growth, focusing on meeting the challenge of improving the business environment.

1. Overview

On-going fiscal consolidation has taken a toll on the government's ability to invest, particularly in infrastructure. At the same time, the private sector has not been able to sustain the levels of investment observed in the past. In addition to macroeconomic volatility, private investment in infrastructure has been affected adversely by the regulatory environment, which needs to be strengthened in several sectors. Recent initiatives in this direction include legislation, approved in 2004, on the role and structure of the regulatory agencies and the new model for the electricity sector. In natural gas, as well as water and sanitation, much-needed new regulatory frameworks are under discussion. In the oil sector, specific provisions of current legislation, in particular third-party access to pipelines and refineries, need to be enforced more vigorously. At the same time, new legislation on private-public partnerships (PPPs), currently awaiting approval by Congress, will play an important role in reducing risk for private-sector investment in infrastructure. These reforms are consistent with the government's agenda for growth, focusing on improving the business environment.

Against this background, this chapter makes an overall assessment of Brazil's product market regulation and discusses options for improving the regulatory framework for several network industries (electricity, oil and gas, and water and sanitation), including the functioning of the regulatory agencies, and for encouraging public-private partnerships (PPPs) in these sectors. The main challenges in these areas are to:

- pursue product market reform to remove barriers to competition and entrepreneurship;
- reduce regulatory uncertainty by clearly defining the role of government in planning and service delivery and strengthening the regulatory agencies; and
- facilitate private sector investment, particularly in infrastructure, by reducing regulatory and financial risk, while at the same time preserving the budget from the creation of unfunded liabilities associated with PPP projects.

2. Product market restrictiveness

Product market competition is a key driver of productivity in OECD countries.[1] It contributes to improving the business environment, an important pre-requisite for sustained growth. To gauge the extent of product market restrictions (PMRs) in Brazil and to compare these restrictions to those in OECD countries, a quantitative indicator was constructed based on the methodology used in the *OECD International Regulation Database* to describe the variability of regulatory approaches in the OECD area. The PMR indicator can be decomposed into two main groups: *i)* inward-oriented policies, comprising state control and barriers to entrepreneurship, and administrative and economic regulation, and *ii)* outward-oriented policies corresponding to barriers to trade and investment.[2]

On the basis of the PMR indicator (Table 3.1), there appears to be reasonably robust economy-wide competitive pressures in Brazil. Brazil's score is on a par with those of Chile

Table 3.1. **Product market regulation: a comparison with OECD countries and Chile**[1]

Low scores indicate less restriction

	Brazil	Chile	Mexico	OECD emerging markets[2]	Euro area	United States
Product market regulation	**1.9**	2.2	2.0	2.0	1.5	1.0
Inward–oriented policies	**1.9**	2.1	1.8	2.2	1.9	1.1
State control	**2.5**	2.1	1.7	2.5	2.2	1.0
1. Public ownership	**2.5**	1.7	1.7	2.7	2.3	1.0
Scope of public enterprise sector	**2.9**	3.3	3.0	3.8	3.3	2.5
Size of public enterprise sector	**1.3**	1.5	1.4	2.4	1.5	0.0
Direct control over business enterprises	**3.0**	. .	0.9	2.1	2.1	0.8
2. Involvement in business operation	**2.5**	2.7	1.8	2.2	2.2	1.1
Use of command and control regulation	**4.2**	3.5	2.0	2.8	3.0	1.5
Price controls	**0.3**	2.0	1.8	1.5	1.3	0.5
Barriers to entrepreneurship	**1.3**	2.1	2.0	2.0	1.5	1.2
1. Regulatory and administrative opacity	**1.4**	3.4	0.3	1.6	1.4	1.3
Licence and permits system	**2.0**	4.0	0.0	2.3	1.8	2.0
Communication and simplification of rules and procedures	**0.7**	2.9	0.3	0.5	0.7	0.5
2. Administrative burdens on start-ups	**1.5**	1.9	2.8	2.7	2.0	0.9
Administrative burdens for corporation	**0.5**	1.8	3.0	2.9	2.1	0.8
Administrative burdens for sole proprietor firms	**2.8**	3.5	3.0	2.8	2.2	1.0
Sector specific administrative burdens	**1.3**	0.5	2.9	2.7	1.9	0.9
3. Barriers to competition	**0.7**	0.8	2.2	1.0	0.5	1.4
Legal barriers	**2.2**	2.1	1.8	1.2	1.3	1.5
Antitrust exemptions	**0.0**	0.0	2.6	0.9	0.2	1.5
Outward-oriented policies	**2.0**	2.3	2.3	1.7	0.9	0.9
Barriers to trade and investment	**1.9**	2.3	2.4	1.7	0.7	0.8
1. Explicit barriers	**2.3**	0.8	3.4	2.4	1.0	1.3
Ownership barriers	**2.0**	0.0	2.8	2.6	1.4	2.3
Discriminatory procedures	**0.7**	2.3	1.4	0.7	0.5	0.0
Tariffs	**4.0**	1.0	6.0	3.3	1.0	1.0
2. Other barriers	**1.5**	4.1	1.0	0.8	0.4	0.2
Regulatory barriers	**1.3**	5.3	0.0	0.3	0.2	0.0
Memorandum items:						
Policies by functional area						
Administrative regulation	**1.4**	2.5	1.9	2.3	1.8	1.0
1. Administrative burdens of start-ups	**1.5**	1.9	2.9	2.7	2.1	0.9
2. Regulatory and administrative opacity	**1.4**	3.4	0.3	1.5	1.4	1.3
Economic regulation	**2.1**	1.9	1.9	2.1	1.8	1.2
1. Regulation of economic structure	**2.3**	2.0	1.9	2.3	2.1	1.4
2. Regulation of economic behaviour	**2.9**	2.5	1.6	2.4	2.3	1.1
3. Regulation of competition	**0.5**	1.0	2.1	1.3	0.8	1.1

1. Preliminary scores for the OECD countries are based on 2003 regulations. The scores for Brazil and Chile are based, respectively, on 2004 and 2003 regulations.
2. Emerging markets: Czech Republic, Hungary, Korea, Mexico, Poland, and Turkey.

Source: OECD calculations.

and Mexico, the Latin American comparators for which information is currently available, and the average of emerging markets in the OECD area, but much worse than those of countries with the least restrictive product market environments, such as the United States. With regard to inward-oriented policies, Brazil fares relatively well in terms of the size and scope of its public enterprise sector, but legal or constitutional constraints remain to the sale of the stakes held by government in these enterprises. The government also has special voting rights (*e.g.,* golden shares) in firms within the business sector. Legal barriers to competition, such as restrictions on the number of competitors allowed to operate a business, remain in place in some sectors. Administrative burdens on corporations and sector-specific administrative burdens are relatively light. Nevertheless, there is widespread perception in Brazil that the administrative burden on enterprise start-ups is high.[3]

With respect to outward-oriented policies, barriers to investment are comparatively low, consistent with Brazil's relatively investor-friendly regime for FDI, but average import tariffs remain high, as discussed in Chapter 1. It should nevertheless be noted that it is difficult to quantify the strength of market forces in general and to capture possible informal regulatory practices in quantitative indicators of product market restrictiveness, particularly at the sub-national level of government. The quality of regulation enforcement also matters, an area where considerable progress has been made in Brazil in recent years in setting up and strengthening competition authorities.[4]

Recognizing that the macroeconomic benefits of product market competition are significant, improvements would be particularly welcome in removing explicit barriers to trade, especially through the reduction of import tariffs.[5] In a global environment where product market regulation is becoming increasingly competition-friendly, further reform in this area could make Brazil more attractive to productivity-enhancing FDI, unleashing opportunities for growth. With regard to inward-oriented policies, an area where further reform is needed concerns the removal of legal barriers to entry, which remain relatively high in a number of sectors, including network industries and transport. Recent initiatives in removing administrative burdens through "one-stop shops", such as *Fácil*, a federal programme implemented in large cities and state capitals, are an important step forward.[6] Extending these outlets to other regions and smaller cities, as well as unifying federal, state, and municipal business registration procedures, would contribute to lowering administrative burdens on start-ups, making procedures less time-consuming and regulatory policy more conducive to entrepreneurship.[7] It is also important to note that, to the extent that it fosters entrepreneurship, product market deregulation may contribute to a reduction in informality and to increasing consensus for labour market reforms, discussed in Chapter 4.

3. Unifying the institutional framework for the regulatory agencies

There are significant differences in the role and structure of the regulatory agencies for network industries (*e.g.,* electricity, oil and gas, telecoms). This is due in part to the fact that they were created in different points in time and are based on different sectoral legal frameworks (Table 3.2 and Annex 3.A1). They nevertheless have in common the fact that they were created as an integral part of the government's strategy to partially transfer infrastructure services to the private sector through privatisation and deregulation.[8] Comparison of four agencies – ANA (surface water resources), ANATEL (telecommunications), ANEEL (electricity), and ANP (oil and gas) – highlights the following main features of the current institutional set-up.[9] *First,* the agencies' objectives range from the protection of consumer rights and the promotion of competition to the development of network industries. *Second,* accountability and financial control mechanisms vary, although all agencies are answerable to their respective line ministries and the Federal Court of Accounts (TCU). Of the four agencies reviewed, only ANA and ANP do not have an Ombudsman and only one agency (ANEEL) has a management contract with its line ministry. *Third,* the terms in

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Table 3.2. **Main characteristics of selected regulatory agencies**

	ANA	ANATEL	ANEEL	ANP
Established in	2000	1997	1997	1997
Purview	Surface water resources	Telecommunications	Electricity	Oil and gas
Institutional status	Independent but administratively "linked" to the line ministry (*autarquia especial*).	Independent but administratively "linked" to the line ministry (*autarquia especial*).	Independent but administratively "linked" to the line ministry (*autarquia especial*).	Independent but administratively "linked" to the line ministry (*autarquia especial*).
Appointment of chief executive	Fixed non-concomitant term, 3-5 years; strict provisions for dismissal, non-renewable.	Fixed non-concomitant term, 5 years; strict provisions for dismissal, renewable.	Fixed non-concomitant term, 4 years; strict provisions for dismissal, non-renewable.	Fixed non-concomitant term, 4 years; no provisions for dismissal, non-renewable.
Accountability	Federal Court of Accounts.	Federal Court of Accounts, consulting board of members of executive and legislative branches, telecom firms, users, and civil society; annual reports submitted to Congress.	Federal Court of Accounts.	Federal Court of Accounts.
Transparency	Public hearings, decisions on Internet.	Public hearings, decisions on Internet.	Public hearings, decisions on Internet.	Public hearings, decisions on Internet.
Ombudsman	No	Yes	Yes	No
Management contract	No	No	Yes	No
Cooperation with competition authorities[1]	No	Prepares reports directly for CADE without involvement of SDE and SAEA.	Yes, cooperation agreements with all three authorities.	Yes, working groups with all three authorities.

1. There are three competition authorities at the federal government level: the Secretariat for Economic Law (SDE), the Secretariat for Economic Monitoring (SEAE), and the Administrative Council for Economic Defence (CADE).

Source: OECD, based on Annex 3.A1.

office of the agencies' chief executives differ in length, as well as the legal provisions for reappointment. *Finally,* the institutional structure of these regulatory agencies is, by and large, comparable to those of OECD countries (see Box 3.1).

Comparison of these four agencies highlights the following main issues:

- Reliance on federal funding varies across agencies. Due to on-going fiscal consolidation, and the earmarking of revenue – which is not included in the agencies' budget allocations and can be sizeable in some cases – actual disbursement as a share of budget allocations has been reduced. This is especially the case of ANATEL since the creation of FUST, a fund to finance the provision of telecommunication services in poor areas (Figure 3.1). This reduction of budget allocation is deemed by some agencies to be detrimental to their ability to fulfil their mandate, as well as in some cases restricting research activities and therefore investment opportunities for the private sector.[10]
- Skill shortages are not uncommon. The agencies do not have their own staff and are not allowed to hire outside civil service channels. Most staff have temporary contracts without an adequate system of incentives and remuneration.
- Coordination between the agencies and the competition authorities (CADE, SDE and SEAE) is uneven. Competition advocacy and conduct investigations are under the responsibility of the competition authorities. However, in practice, one regulatory agency (ANATEL) carries out this function itself, while the others cooperate with the competition authorities.[11] In banking, to clarify their respective roles, the Central Bank (BCB) and the

Box 3.1. **Regulatory agencies in 5 OECD countries: the case of energy and telecommunications***

The experience of 5 OECD countries (Mexico, Portugal, Spain, United Kingdom, and United States) illustrates different institutional settings for regulatory agencies in the electricity and telecommunications sectors.

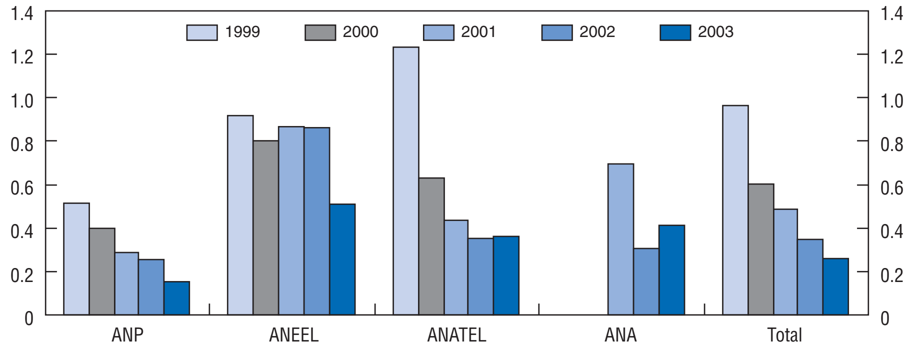
In energy, most agencies have purview of both electricity and gas, except for Portugal, where it is limited to electricity. Their mandates depend on the extent of deregulation and market access, which may be limited in some countries (*e.g.*, the petroleum and electricity sectors in Mexico). In the European countries, following the implementation of European directives, regulatory agencies in the energy sector are also responsible for natural gas. All agencies are legally independent, and are often financed by a mix of fees and budgetary allocations. Mexico is the only example among these five countries where financing comes solely from budgetary sources. Personnel regulations typically follow those of the civil service, where available, with possible exemptions to allow for some flexibility in pay schemes in order to attract qualified professionals. Boards of directors typically have between 3 to 9 members, with the agencies' chief executive being appointed by the Head of State (Mexico), by the Head of State with approval by the legislature (United States), by a minister (Spain, UK), or by the Council of Ministers (Portugal). Chief executives are appointed for a period of 5-6 years (renewable) and cannot be fired for reasons related to policy. Board members are appointed for a 5-year term (also renewable), except for the United Kingdom, where appointments are open-ended. In all countries, the agencies cooperate with the ministries of finance/economy and energy and the competition authorities, with informal cooperation taking place through liaison meetings and exchange of documentation.

With regard to accountability, the agencies usually submit annual reports, covering activities and financial statements, to government and the legislature. The agencies also have disclosure obligations, in terms of publishing reports, market studies, regulatory guidelines, and policy papers. In all countries, the agencies are audited externally on a regular basis. Rulings can be challenged through the legal system, while in Spain the government can also overturn agency rulings.

In telecommunications, the areas of purview of the regulatory agencies vary: telecommunications only (Mexico); telecommunications and postal services (Portugal); telecommunications and audio-visual, and interactive service markets (Spain); telecommunications, radio, television, and wireless communications services (UK), and interstate and international communications by radio, television, wire, satellite and cable (United States). The agencies are generally independent. Financing mechanisms are the same as in energy, except for the United States, where the government contributes to the agency's budget in addition to fees. The size of Boards of directors, the appointment of Board members and chief executives, and the reasons for dismissal are similar to those in energy. The agencies have to publish reports in all countries. In the United States, they are also required to disclose rulings and hearings under the Freedom of Information Act. Mexico has recently also made progress in improving transparency and access to information under the new Federal Administrative Procedures Law. Decisions can be appealed against only through the legal system in all countries, in addition to the government and line ministry in Mexico.* In Mexico, general decisions must follow the general framework of the Federal Administrative Procedure Law.

* See for more information, OECD (2004a).

Figure 3.1. **Budget allocations for selected regulatory agencies, 1999-2003**
Actual disbursements (excluding personnel) as a share of approved budgets



Source: Ministry of Planning and Budget.

Administrative Council for Economic Defense (CADE) submitted draft legislation to Congress in 2002 proposing that the BCB be responsible for cases involving systemic acts of concentration affecting the "good functioning" of the banking sector and that all other competition cases be transferred to the competition authorities.

- Rulings can be overturned by first-instance judges, creating judicial uncertainty and delaying business decisions.[12]

To resolve a number of the issues outlined above, draft legislation on the regulatory agencies is in discussion in Congress, containing the following elements. *First,* accountability mechanisms are to be standardised. Agencies and line ministries will sign management contracts with a minimum duration of one year setting out activities and performance targets, with funding associated with each activity. In the event of non-compliance, the agency's budget may be cut. The agencies will need to report to their respective line ministries, Congress, and the Federal Court of Accounts every semester and issue an annual activity report. An independent Ombudsman will be created in each agency. *Second,* the chief executives of all agencies will be appointed for four years (renewable). *Third*, a related draft law provides for a more stable personnel policy, including a competitive entry exam for new employees and specific career/remuneration provisions. *Fourth,* the draft law defines the role of the competition authorities in regulatory matters in the network industries.[13] *Finally,* the draft law also foresees the transfer of responsibility over the organisation of auctions and terms of concessions to the line ministries, although this function can be delegated back to the regulators, as in the case of electricity.

Despite improvements, the reforms do not deal with a number of shortcomings in the current institutional set-up. In particular, new legislation does not deal with financing options for the agencies. Other issues outlined above would probably require changes in sectoral laws, such as their overall objectives and competencies, and coordination among the agencies. In line with the experience of some OECD countries, regulators have often put into question the usefulness of management contracts, as sectoral laws already clearly spell out the tasks of the agencies and include accountability and appeal mechanisms. Another concern is the transfer of responsibility over setting up and organising concession auctions to the line ministries. This may facilitate political interference in otherwise essentially technical matters, and line ministries may lack the technical expertise to carry out this function.

4. Regulation of network industries

Electricity

Background and main issues

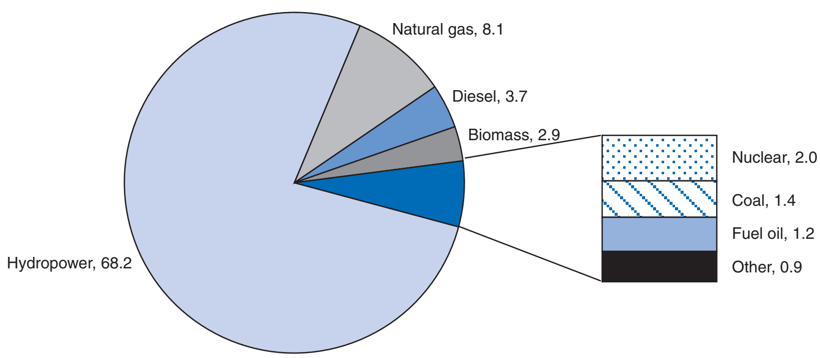
Brazil has a modern electricity industry. The industry depends heavily on hydropower, accounting for nearly 80 per cent of generation capacity (Figure 3.2) and 90 per cent of electricity generated in 2003. Brazil has the largest capacity for water storage in the world, and one of largest transmission networks, given the long distances between power stations and consumers and the need for back-up circuits to ensure alternative supply routes and optimal regional balance in supply. Both private and government-owned companies operate in generation, transmission, and distribution.[14] Eletrobrás, controlled by the federal government, and three other state-owned companies account for one-half of generation capacity. On the other hand, more than two-thirds of the distributors are privately owned/controlled.[15] The transmission grid is run by a collegiate of players: producers, transmission and distribution companies, and the government through the Ministry of Mines and Energy.

Electricity demand is expected to continue to grow at a brisk pace. Currently, 97 per cent of households are connected to the electricity network. The income elasticity of demand for electricity is estimated by Eletrobrás at above unity. To illustrate, between 1980 and 2000, electricity demand increased on average by 5.4 per cent per year while GDP grew by 2.4 per cent on average per year. Investment is therefore needed to boost generation and transmission capacity because there is limited excess supply, despite the reduction in demand following the rationing programme implemented in 2001 in response to an energy shortage (Box 3.2).[16]

There has been insufficient investment in the electricity sector and the role of gas-fired power generation is still uncertain. In an industry heavily reliant on hydropower, there tends to be a significant gap in generation costs between the existing hydropower plants, and the gas-fired generators. The cost of the energy produced under PPT was typically above USD 40/MWh, against an expansion cost of hydropower estimated at around USD 30/MWh. Also, the supply of natural gas is deemed insufficient to meet demand by industrial users and electricity generators when gas-fired plants will be fully operational, undermining the role of existing plants as a reliable back-up to hydropower.

Figure 3.2. **Generation capacity by source**

in GigaWatts (July 2004)



Source: ANEEL.

Box 3.2. **The 2001 energy crisis and its aftermath**

Mismatches in the expansion of electricity supply and demand worsened throughout the 1990s. Despite market-oriented reforms aiming to boost private investment, implemented after 1996, installed capacity expanded by only 28 per cent during 1990-99, whereas electricity demand increased by 45 per cent. The insufficient expansion of supply was partially mitigated by the depletion of water reserves. Recognizing the need to tackle the supply constraint, because the resumption of investment in hydropower generation was not likely to compensate for the delays that took place in the late 1980s and early 1990s, the government launched a programme (*Programa Prioritário de Termoeletricidade*, PPT) in 2000, aiming to encourage investment in gas-fired power plants and develop the market for natural gas. Due to regulatory uncertainty and the high cost of gas when transportation from Bolivia was factored in (see text), the PPT failed to provide strong enough incentives for new investment: of the 49 planned power plants, only 15 were built, adding about 4 GW in new generation capacity. Most of these new power plants came on stream too late to avoid a power shortage in 2001, when an unusually dry summer reduced reservoirs to a critical level. This, together with the rise in demand due to the economic recovery, resulted in a shortage of electricity during July-December 2001.

The government appointed a special commission to manage the energy crisis (*Câmara de Gestão da Crise de Energia Elétrica*, CGE). Through a price-based rationing programme, with high penalties for excess consumption and discounts for energy savings, coupled with an information campaign on television, electricity consumption was reduced by 20 per cent and blackouts were avoided. This contributed to reduce the impact of the energy crisis on economic growth, which nonetheless decelerated sharply in 2001 to 1.3 per cent. Moreover, an emergency programme for power generation was also put in place with additional incentives for investment in expanding short-term power supply projects. The government created a special company (*Companhia Brasileira de Comercialização de Energia Emergencial*, CBEE) for buying electricity on an emergency basis (*i.e.*, mainly from small-scale diesel-based generators and small power plants fired using residuals from sugar cane). About 2.1 GW of capacity was hired by CBEE, financed by a temporary tax levied on electricity consumption, and automatically sold to the distribution companies. CBEE is scheduled to be closed by 2005.

Rationing was lifted at end-February 2002. Energy saving contributed to the reduction of waste, as industry and households replaced power generators and appliances by more cost-efficient substitutes. By 2003, electricity consumption had still not reached the level prior to the rationing programme. This persistent reduction in demand, coupled with the increase in installed capacity after 2001, created excess supply in the market, adversely affecting generators and some specific distribution companies.

The development of the gas sector, with the coming into stream of recently-found reserves off-shore and the integration of the Argentine network may, however, change this scenario. Meanwhile, Petrobras has underwritten most of the costs of PPT by purchasing several of the plants built in recent years, including some merchant plants. As in other countries, the idea of having merchant plants supplying energy during price spikes has proved problematic. This is due in particular to Brazil's relatively good transmission network and the absence of a very segmented market that could generate arbitrage opportunities. Given the integration of the system, there is very limited locational differences in spot market prices.

The new model and main challenges

A new model for the electricity sector was approved by Congress in March 2004 (see Box 3.3). Central to the new model is the creation of the "Pool" (*Ambiente de Contratação Regulado*, ACR), matching electricity demand and supply capacity through long-term

Box 3.3. **The new model for the electricity sector**

The new regulatory framework for the electricity sector has the following key features:

Electricity demand and supply will be coordinated through a "Pool" (*Ambiente de Contratação Regulado*, ACR).* Demand will be estimated by the distribution companies, which will have to contract 100 per cent of their projected electricity demand over the following 3 to 5 years. These projections will be submitted to a new institution (*Empresa de Planejamento Energético*, EPE), which will estimate the required expansion in supply capacity to be sold to the distribution companies through the Pool. The price at which electricity will be traded through the Pool is an average of all long-term contracted prices and will be the same for all distribution companies. All current electricity procurement contracts remain in place; therefore, each distribution company will have different portfolios of contracts. To optimize the functioning of the Pool, self-dealing (*i.e.*, the purchase of electricity by distributors from their own subsidiaries) will no longer be possible. As such, vertically-integrated companies will need to be unbundled.

In parallel to the "regulated" long-term Pool contracts, there will be a "free" market (*Ambiente de Contratação Livre*, ACL). Although in the future, large consumers (above 10 MW) will be required to give distribution companies a 3-year notice if they wish to switch from the Pool to the free market and a 5-year notice for those moving in the opposite direction a transition period is envisaged during which these conditions will be made more flexible. These measures should reduce market volatility and allow distribution companies to better estimate market size. If actual demand turns out to be higher than projected, distribution companies will have to buy electricity in the free market. In the opposite case, they will sell the excess supply in the free market. Distribution companies will be able to pass on to end-consumers the difference between the costs of electricity purchased in the free market and through the Pool if the discrepancy between projected and actual demand is below 5 per cent. If it is above this threshold, the distribution company will bear the excess costs.

The government opted for a more centralised institutional set-up, reinforcing the role of the Ministry of Mines and Energy in long-term planning. EPE will submit to the Ministry its desired technological portfolio (*i.e.*, the shares in supply of electricity produced through hydropower plants, gas-fired plants, and other renewable fuels), and a list of strategic and non-strategic projects. In turn, the Ministry will submit this list of projects to the National Energy Policy Council (*Conselho Nacional de Política Energética*, CNPE). Once approved by CNPE, the strategic projects will be auctioned on a priority basis through the Pool. Companies can replace the non-strategic projects proposed by EPE, if their proposal offers the same capacity for a lower tariff. Another new institution is a committee (*Comitê de Monitoramento do Setor Elétrico,* CMSE), which will monitor trends in power supply and demand. If any problem is identified, CMSE will propose corrective measures to avoid energy shortages, such as special price conditions for new projects and reserve of generation capacity. The Ministry of Mines and Energy will host and chair this committee. No major further privatizations are expected in the sector.

* The Brazilian Pool differs from those in other countries (the former UK electricity pool, the Scandinavian Nordpool) because the former is based on long-term contracts, whereas in the latter case it focuses on very short-term contracts. For more information on the Nordic electricity market, see Bergman (2002). For more details on the reform in the electricity sector, see IEA (2004).

contracts, which will replace on a competitive basis the "initial contracts" inherited from the 1990s. These contracts were designed as a bridge between the regulatory environments prevailing in the 1980s and after the privatisation of most distribution companies in the 1990s. The "initial contracts" are scheduled to expire after 2002.[17] The new framework is inspired by the "single-buyer" model, where an entity – typically the government – buys all electricity from producers and sells it to distributors. However, although establishing a common mechanism for the purchase of energy, the model allows market risk to be shared among participants instead of being borne exclusively by the government, which acts more like an auctioneer than a buyer. With long-term contracts set through the Pool, price uncertainty will be broadly restricted to electricity traded in the free, short-term market and bilateral contracts between generators and large consumers. Indeed, the Pool is aimed at captive consumers, such as households and small businesses, with large consumers allowed to buy electricity directly from generators on a competitive, customised basis. Large consumers are also free to invest in generation, selling the energy that exceeds their needs. Their role is thus central in ensuring the adequate balance between supply and demand. When they identify the risk of excess investment, they are likely to purchase from the Pool, while indications of shortages will stimulate the contracting of new investment. In the same vein, medium-term contracts involving large consumers will complement the information derived from short-term markets that tends to reflect mainly high-frequency changes in the level of water reservoirs rather than medium-term expectations about the pace of supply and demand.

Another important aspect of the model, in particular in a situation of temporary excess supply is the splitting of the market between the "old" generation plants (built before 2000) and the "new" ones. This ensures that short-term price considerations will not harm the adequate remuneration of future investments. The segmentation may, in addition, prevent the old generators from capturing the hydro rent. Electricity generated by various sources will therefore be pooled and sold to distributors at a price determined by the average of the different generation costs. The new model does not change the regulatory framework for transmission.

But the single-buyer model also has disadvantages. *First,* the government has ultimate responsibility to set priorities for new generation capacity and the country's desired energy mix and these decisions may not necessarily be the most efficient. In several countries that have adopted the single-buyer model (*e.g.,* Hungary, Indonesia, Pakistan, and Thailand), an upward bias in electricity capacity has been observed.[18] *Second,* this model is not well suited to deal with demand shortfalls, as prices do not reflect short-term variations in demand. As a result, although the existence of CMSE may mitigate risks, losses are mostly borne by the distribution companies because selling prices and quantities are set in advance. *Third,* because the price set by the Pool is an average of long-term contracted prices and applies to all participating companies, all other distributors would be affected, albeit to a lesser extent, if a given market participant had financial difficulties, reflected in higher production costs.

Although the new model reduces market risk, its ability to encourage private investment in the electricity sector will depend on how the new regulatory framework is implemented. Several challenges are noteworthy in this regard. *First,* the risk of regulatory failure that might arise due to the fact that the government will have a considerable role to play in long-term planning should be avoided by enhancing the Ministry of Mines and Energy's technical capabilities, while insulating the new institutions from political interference. *Second,* rules will need to be designed for the transition from the current to the new model to allow current investments to be rewarded adequately. *Third,* because of its small size, price volatility may increase in the short-term electricity market, in turn bringing about higher investment risk, albeit this risk will be attenuated by the role of large consumers. The high share of hydropower in Brazil's energy mix and uncertainty over rainfall also contribute to higher volatility of the short-term electricity market. *Fourth,* although the new model will require total separation between generation and distribution, regulations for the unbundling of vertically-integrated companies still have to be defined. Distribution companies are currently allowed to buy up to 30 per cent of their electricity from their own subsidiaries (self-dealing).[19] *Finally,* the government's policy for the natural gas sector needs to be defined within a specific sectoral framework (discussed below).

Natural gas

Background and main issues

Brazil's natural gas industry is in its infancy and has considerable potential. The share of natural gas in energy demand remains low, at about 8 per cent in 2004. Demand for natural gas is concentrated in manufacturing, particularly chemicals (32 per cent), power generation (23 per cent), iron and steel (19 per cent), and transport (12 per cent). Demand by households and the services sector is negligible, in part because of the limited need for heating in Brazil. But this may change by requiring gas infrastructure to be available in new housing, particularly in densely populated areas. Demand for gas by electricity generators may also increase substantially in the future, as part of the policy to diversify the country's energy supply mix. Another promising market segment is transport, facilitated by a rapid growth in the stock of cars fuelled by compressed natural gas (CNG).[20]

The expansion of demand for natural gas has so far been deterred by the fact that reserves had until recently been estimated to be low. With the discovery of new reserves, the industry is expected to become less reliant on imports, which currently account for about one-half of domestic sales.[21] Moreover, transmission and distribution infrastructure is deficient, being more developed in the southern and south-eastern regions, with a smaller separate network interconnecting the north-eastern states, where production is very limited. Transmission infrastructure is particularly poor in the northern states, despite the availability of natural gas reserves in the region.

The development of the natural gas sector is constrained by the dominant position of Petrobras, the national oil company, throughout the industry, which renders the implementation of gas projects without its participation difficult.[22] The gas sector was opened to private companies in the second half of the 1990s, but so far only upstream activities have attracted private-sector participants. Access to transmission lines is based on "third-party access" (TPA), requiring the pipeline operator to announce the capacity available for commercialisation every year on a non-discriminatory basis. As Petrobras has contracted almost all domestic transmission capacity, it is very difficult for competitors to enter the distribution market. So far only two companies have succeeded, after the intermediation of ANP, the industry regulator (Box 3.4), in obtaining TPA contracts to import Bolivian gas to its distribution subsidiaries in the state of São Paulo.

The development of downstream markets is constrained by the territorial monopolies enjoyed by the distribution companies (mostly owned by Petrobras and in part in joint ventures with global energy players), which have been considered a necessary condition to

Box 3.4. **Current regulation of the natural gas industry**

There is no specific regulation for the natural gas sector, which is treated jointly with oil through constitutional provisions and specific laws adopted in 1995 and 1997. According to the 1988 Constitution, the federal government regulates the up- and midstream market segments, while state regulatory agencies* oversee gas distribution and grant concessions to distribution companies. A 1995 amendment to the Constitution and enactment of a specific law for the sector opened the oil and gas markets to private companies. Legislation enacted in 1997 created the National Energy Policy Council (CNPE), in charge of the national energy policy, and the National Petroleum Agency (ANP) which is responsible for holding concession auctions and regulating the industry.

ANP is responsible for: *i)* organising the bidding process for new exploratory blocks and signing the corresponding concessions contracts; *ii)* preparing and signing production concession contracts; *iii)* controlling the quality of gas traded; *iv)* authorising gas imports and the construction of new transmission pipelines; *v)* authorising the construction of new gas processing plants; *vi)* authorising the distribution of compressed and liquid natural gas; *vii)* setting policies for transport service tariffs; and *viii)* setting rules for promoting competition in the gas industry. However, in contrast to ANATEL, for example, ANP has no mandate to prepare cases for CADE, the competition tribunal, or to contest the abuse of market power in the gas sector.

* Only 16 of the 27 (including the Federal District) states have their own regulatory agencies. Most of them have been created in the last 5 years.

encourage private investment in the distribution network. All states, except Rio de Janeiro and São Paulo, granted concession contracts with territorial monopolies to distribution companies for the entire period of concession (50 years).[23] These territorial monopolies oblige all consumers, including gas-fired power plants and businesses, to buy gas from the distribution companies. In addition, the distributors have to buy gas from Petrobras, which currently owns most of the transmission grid, through long-term take-or-pay contracts. Because of their territorial monopoly, they can pass costs on to consumers, thus weakening the incentive for price competition.

Requirements for vertical unbundling in the gas industry are also weak, diminishing incentives for competition. Although gas transporters are forbidden to buy or sell gas, except for their own consumption, cross-ownership is allowed. The latter is also true for gas transactions between companies with at least one common stockholder. Another weakness is that the 40 per cent cap for a dominant shipper's control over new transmission capacity is only binding if non-dominant shippers demand at least 60 per cent of this additional capacity. Moreover, there has so far been little cooperation between ANP and the competition authorities.[24] In particular, the competition authorities lack the technical capacity to assess anti-competitive conduct in these sectors, calling for closer cooperation with the regulator. Competition is also deterred by substantial differences in methodologies for calculating transmission tariffs, which in turn may create distortions in the final price of natural gas. In the aftermath of the 2001 energy crisis, Petrobras ended up owning most of the large gas-fired plants, having acquired in some cases its partners' equity stake.

The main challenges

The government has acknowledged the weaknesses of the current regulatory framework and a task force has been created to design new regulations for the gas sector. The main features of the new regulatory framework are not yet known but, from the preceding analysis, several issues should be dealt with in reforming the current regulatory framework and promote a secondary market. These are: *first,* third-party access to the transmission network, currently owned almost completely by Petrobras, should be granted to competing companies.[25] This is a necessary condition to attract new investment in upstream activities.[26] *Second,* territorial monopolies at the state level should be phased out. The creation of a wholesale market for large consumers would foster competition between companies that hold gas reserves and Petrobras. *Third,* more effective unbundling rules are essential for mitigating Petrobras's market dominance. *Fourth,* cooperation between the competition authorities and the sectoral regulator should be enhanced. In particular, ANP should be able to prepare anti-competitive conduct cases for CADE, or the capacity of SEAE and SDE should be strengthened to cover this sector. *Finally*, investment in transmission should ensure that natural gas is competitive relative to alternative energy sources, ranging from oil to hydropower.

Oil

Background and main issues

The Brazilian market for liquid fuels (*i.e.,* petrol, diesel, and alcohol) is one of the largest in the world.[27] The industry was opened to competition in 1997, when Petrobras's monopoly was abolished, leading to the entry of about 50 companies in the upstream market. However, they did not challenge Petrobras's dominant position in oil extraction. These new companies obtained acreage either through deals/farm-ins with Petrobras or through one of the five licensing rounds that had been organised. Downstream markets, including refining and distribution, have expanded less rapidly and attracted fewer entrants relative to the upstream segment, although enjoying a long of history of participation of traditional global players.[28] Over the past decade, Brazil has become less dependent on oil imports and is likely to be self-sufficient in the near future.[29]

The main issue in the oil sector is how to grant competitors access to refineries and pipeline networks, owned mostly by Petrobras. Petrobras's market dominance in all segments of the oil industry makes it the only supplier of information on oil production, refining, and transmission capacity of hydrocarbons. This creates strong information asymmetries in the industry that hinder ANP's ability to enforce third-party access to pipelines. As a result of the lack of coordination between ANP and the competition authorities, as in the gas sector, anti-competitive conduct is difficult to assess. Nevertheless, there appears to be increasing interest from foreign investors to build refineries that could compete with Petrobras.

The main challenges

The regulator could take various measures to enhance the functioning of the oil market, including to facilitate oil imports to supply prospective refinery operators.[30] At the current juncture, the focus should not be on how to increase the number of market participants, but on monitoring Petrobras, the market's dominant participant. A key challenge is to strengthen rules for non-discriminatory access to pipelines and refineries, as well as ANP's ability to enforce those rules. The creation of a secondary market for pipeline capacity and use, with the participation of producers, shippers and consumers, could contribute to enhancing efficiency without implying free riding on the large infrastructure built and financed by Petrobras. To strengthen enforcement, closer cooperation between ANP and the competition authorities should be encouraged. In downstream segments, the consistent monitoring the quality of products delivered by upstart companies in the fully liberalised distribution market and their tax compliance will also contribute to ensuring a level playing field.

Price regulation is another challenge. With the phasing-out of the budget's oil account in 2001, an excise-type tax was created (*CIDE-Combustíveis*) allowing the government to smooth fluctuations in domestic prices, while deregulating end-user prices.[31] In practice, however, this tax instrument has not yet been used to this end. At the same time, because it is majority-owned by the government and enjoys a dominant position in the market, Petrobras's ability to set prices can be exploited by the government in pursuance of its policy objectives, rather than the company's commercial ones. Against this background, it is important that the objective of smoothing domestic prices against volatility in international markets be pursued by using the adequate tax instrument, allowing Petrobras to set prices in line with its commercial priorities, subject to appropriate regulation, while avoiding significant discrepancies between domestic and international prices. Corporate governance mechanisms already in place have contributed to allaying concern in this area and should continue to be strengthened.

Water and sanitation

Background and main issues

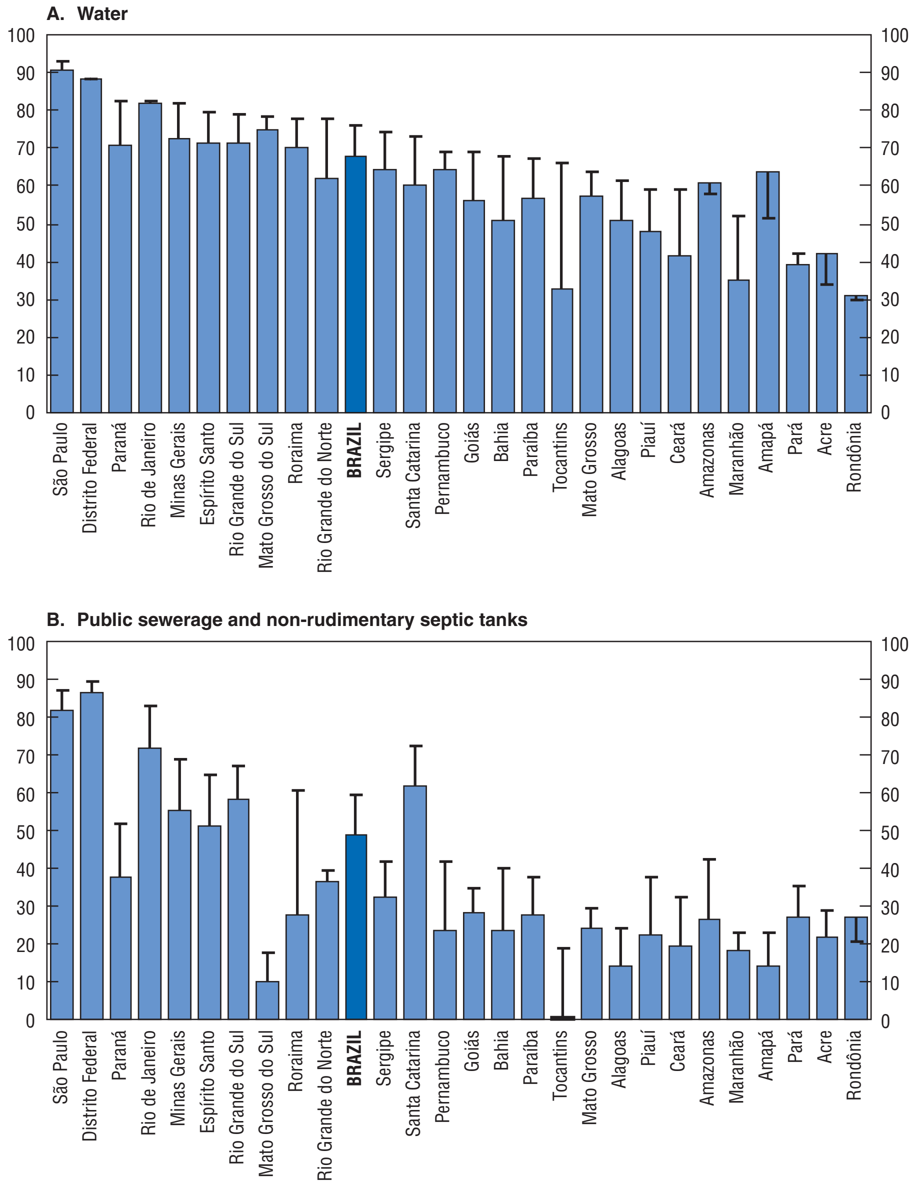
Important progress has been made in increasing access by the population to water, but connectivity rates to sanitation, and in particular to wastewater treatment, remains low. While about 80 per cent of households have access to piped water, less than two-thirds are connected to public sewerage networks or septic tanks (Figure 3.3). Moreover, there are large regional disparities in connectivity rates between the northern and south-eastern states, large and small municipalities, and rich and poor households.[32] In the case of wastewater treatment, progress in increasing connectivity has been particularly slow (Box 3.5).

There are considerable differences in performance indicators among the water/sanitation companies.[33] State companies perform poorly compared with their municipal and inter-municipal counterparts, which tend to be more profitable, despite the fact that state companies typically levy higher user charges. State companies tend to be less efficient, pay higher salaries, and have lower sewerage connectivity rates, despite having higher rates of investment.[34] This is at least in part due to the fact that municipal and inter-municipal companies operate in more profitable market segments, and state companies also cover rural areas, where service delivery is costlier. Water losses (*i.e.,* the ratio of volume of water billed to volume placed in the distribution system) are about the same in state and municipal companies, at about 40 per cent, although estimates vary considerably.

Public investment in water/sanitation has fallen over time, from 0.3-0.4 per cent of GDP in the 1970s and 1980s to 0.2 per cent during 1999-2002, and 0.1 per cent in 2003. This drop was mainly due to on-going fiscal consolidation, which affected investment spending

Figure 3.3. **Access to water and public sewerage**[1]

In per cent of households, 1991 and 2000



1. Access rates are shown in bars for 1991 and in vertical lines for 2000.

Source: Population Census, IBGE.

more adversely than current expenditure, being relatively harder to retrench, as discussed in Chapter 1. Preliminary data suggests that spending levels have increased in 2004. Prior to 1994, a decline in the inflation-adjusted value of user charges also contributed to lower investment capacity.[35] Investment is also discouraged by the externalities associated with the provision of sewerage and water treatment services, and because water/sanitation networks are costly, investment maturities are long, and rates of return are relatively low. More importantly, the drop in public investment has not been compensated by an increase

Box 3.5. **Water pollution and its impact on the environment and health**

Deficiencies in wastewater treatment have important consequences for the environment and the health status of the population. Only about 10 per cent of the daily volume of water distributed in 2000 was treated and about 70 per cent of wastewater was discharged into the sea, rivers and lakes without treatment. More than one-half of municipalities use surface water to produce drinking water and one-quarter of the municipalities reported that these waters were polluted by wastewater from households or toxic waste from agriculture (IBGE, 2000). At the points of water intake of the 27 state capitals, 13 were reported to be polluted. In particular in metropolitan areas, the high degree of organic waste at the points of water intake requires increasingly more expensive treatment for producing drinking water or even renders treatment impossible. This problem not only exists in metropolitan areas but also in the semi-arid north-eastern states. Moreover, an increasing number of municipalities also face the pollution of underground sources.

Internationally comparable statistics on pollution are hard to come by. Brazilian data on BOD_5 (biochemical oxygen demand) levels are limited predominantly to the Tietê river in the metropolitan region of São Paulo. Data are also available on pollution discharges (tons of BOD per day), Q_{95} levels, and organic discharge absorption levels, defined as the ratio of actual discharge to absorption capacity. Water pollution is concentrated in the Alto Tietê river in São Paulo and the coastal zone of Rio de Janeiro, accounting for about 20 per cent of total national pollution. Other metropolitan areas (*i.e.,* Belo Horizonte, Fortaleza, Recife, and urban areas of Goiânia) also have relatively high rates of pollution, well in excess of the levels measured in the mouths of selected rivers in OECD countries. In these areas, pollutant assimilation capacity ratios exceeded the value of 1.[1] These figures exclude organic pollution from animal and industrial waste, which are concentrated in Paraná, the south-eastern coast, and the Paraíba do Sul river.[2]

Polluted water also contributes to the spreading of waterborne and preventable diseases affecting in particular infants and children, although the causal links are often hard to evaluate. In 2001, there were 1.4 million registered cases of diarrhea, of which one-half in the North-east, where rates of access to clean water, public sewerage and wastewater treatment are lowest. Water pollution, the use of non-sterile water storage recipients, and the exposure to open sewers and septic tanks also contribute to the spreading of other diseases, such as dengue fever (430 thousand cases in 2001), Hepatitis A (22 thousand cases), Leptospirosis (4 thousand cases), and typhoid fever (860 cases). Clean water, sewerage and wastewater treatment could reduce the typhoid incidence by 80 per cent, trachoma and schistosomiasis by up to 70 per cent, and gastrointestinal infections and diarrhea by up to 50 per cent.[3]

1. Defined as the ratio of actual quantity of organic material in wastewater to the assimilation capacity of this material by water. A ratio above 1 indicates that the water is unsuitable for drinking without prior treatment.
2. See Ministry of Environment (2004) and OECD (2004*c*), for more information.
3. See Abicalil (2002), for more information.

in private investment, which can be attributed predominantly to a lack of clarity about which level of government is responsible for service delivery and regulation in the sector.[36] This is particularly acute in the metropolitan regions, which straddle municipal borders. As a result, no regulatory framework or regulatory agency is currently available for this sector.[37] The National Water Agency (ANA), created in 2001, is responsibility for managing and regulating surface water resources but has no purview over water/sanitation services.

The main challenges

To tackle the main issues raised above, a new regulatory framework proposal, which is likely to be submitted to Congress by end-2004, should contain the following elements.[38] *First,* the framework should more clearly allocate responsibilities among all three levels of government. At the municipal level, the management of water/sanitation infrastructure should be strengthened, possibly with technical assistance by state governments in planning, fund-raising, private investment promotion, and regulatory matters. Local governments should also focus on a more efficient use of water resources, by upgrading current infrastructure to reduce water losses and non-metered water consumption. The main responsibilities of the states and federal government should be the management of water resources, through ANA, and the regulation of new investments needed to increase the coverage of water and sanitation provision.

Second, cooperation among the municipalities should be fostered, in particular with regard to investment plans, operations and maintenance, and management and regulation of sewerage and water treatment plants. This cooperation is most important in metropolitan areas, where externalities are highest. In this context, the regulatory frameworks of some OECD countries, including France, United Kingdom, and United States (see Box 3.6), may provide some lessons for Brazil.

Third, the new regulatory framework would need to spell out, amongst other things, the rules for tariff adjustment, including conditions for cross-subsidisation. It is important to bear in mind that cross-subsidisation may create disincentives for efficiency and distort cost/benefit analysis for new investment. A new regulatory agency needs to be set up to enhance regulatory stability and predictability, offer conflict resolution mechanisms, and protect the private sector against expropriation risks. To this end, the option of broadening ANA's mandate to perform these functions in the water/sanitation sector could be considered, but this would require a constitutional amendment.

Fourth, particular efforts are required to encourage wastewater treatment. The experience of OECD countries suggests that water tariffs seldom fully reflect the cost of wastewater treatment. Many countries apply instead flat-rate charges or levies that vary with property value, therefore failing to discourage wasteful water consumption. OECD experience also highlights options for assuring affordability for vulnerable groups through income transfers and/or subsidisation.[39] Constraints on industrial discharges have often been set on a case-by-case basis and quantitative information about the benefits of reducing pollution is rarely available.

Following international experience, private investment in water and sanitation could be encouraged through public-private partnerships (PPPs), discussed below. In the water and sanitation sector, various modalities of PPPs have been used in several OECD countries, ranging from concessions to full divestiture.[40] Outside the OECD area, the number of PPP projects (mostly concessions) has fallen recently, having risen steadily in the 1990s. Inadequate risk-sharing between private and public partners is an important explanatory factor for this decline, with several, poorly designed PPP contracts requiring the private operator to directly or indirectly bear political, regulatory, foreign exchange, and investment-related risks. Weak contract enforcement, macroeconomic volatility, and regulatory frameworks encouraging excessive risk-taking by private-sector partners also explain the demise of PPPs in this sector. To illustrate, currently only 3 per cent of the population in developing and emerging countries are served by private companies.[41] Many

Box 3.6. Regulation in the water and sanitation sector: France, United Kingdom, and United States*

In France, the municipalities are responsible for water supply, sewerage and wastewater treatment according to decentralisation legislation of 1982-83. Water and sanitation services are provided by the municipalities themselves or through inter-municipal consortia, and managed by the municipalities directly (through a Water Authority) or subcontracted to a private company through leasing operations or concessions. The maximum length of concession contracts is 20 years and a reduction to 12 years is under discussion, when the company returns the network and installations to the local government. Private companies cover 60 per cent of the municipalities and 75 per cent of the population, and these shares are rising. To finance public investment, the municipalities benefit from various modalities of central government assistance. Consumption is metered, and tariffs include charges on behalf of water agencies and the National Fund for Rural Water Supply. Services are sometimes liable to value added taxation. Cross-subsidization is in place in some cases.

In contrast, in England and Wales, water and sewerage companies are privately owned and managed. Upon privatization in 1989, each company was granted a license for 25 years. Currently there are 24 vertically-integrated companies with regional monopolies. The regulator, Office of Water Services (OFWAT), is an independent body. OFWAT's main objective is to set price limits that allow "well-managed companies" to finance service delivery while retaining a share of efficiency gains. OFWAT sets performance targets depending on the relative efficiency of each company. Three quarters of households are not metered, and are charged a fixed rate plus a supplement which is proportional to the estimated rental value of the property.

In the United States, water and sewerage services are handled at the local level, with federal involvement limited to environmental regulation, including water safety standards, and financing. In 1999, there were nearly 54 000 community water systems, with 85 per cent of them serving 10 per cent of the population. Private water and sewerage companies account for about 15 per cent of total water system assets. Private companies tend to specialize in water supply, rather than sewerage, in part because of federal funding for wastewater treatment plants. Private companies are subject to state regulations on tariffs, infrastructure investment, and profit controls. In contrast, private contract arrangements under public ownership are not regulated. Private participation takes various forms, including the provision of services, such as laboratory work, meter reading, chemicals supply, and operations and maintenance, and design, construction, and operation of new facilities. Outsourcing has been more common than outright privatisation. In contrast to some smaller cities, no major city has sold its utility assets in recent decades.

* See National Research Council (2002), International Office for Water (2004), and OECD (2004d), for more information.

PPPs have also suffered from the insufficient attention paid to the social consequences of private sector involvement, such as tariff increases towards full recovery of operation and maintenance costs, without adequate social safety nets.

5. Public-private partnerships

New legislation, under discussion in Congress and already in place in a few states, including Minas Gerais, and São Paulo, is creating a new modality of PPP. Brazil has long-standing experience with leasing operations and concessions. But the main feature of the new legislation is the channels for providing private-sector partners with guarantees that the financial commitments entered into by the government in PPP projects will be honoured. In this regard, new federal legislation complements the Procurement Law (1993) and the Concession Law (1995). It complements public procurement legislation by allowing for much longer contract periods (30, instead of 5, years). It adds to existing legislation on concessions by allowing the government to ensure an agreed level of revenue for the private-sector partner, in addition to levying user charges and fees. The federal government considers transport (road, rail, waterways and ports) and water/sanitation infrastructure to be the priority areas for PPPs. To this end, 23 projects have been selected in the 2004-07 multi-year budget law (PPA) as potential projects to be procured in 2004 within the new PPP framework, pending its approval by Congress.[42]

At the core of PPP operations is the need to achieve an appropriate balance of risk between the government and its private-sector partners. The main provisions of new legislation (based on the version approved by the Senate's Economic Affairs Commission in November 2004) are:

- A committee (PPP Management Council), coordinated by the Ministry of Planning and Budget, will identify and prioritise PPP projects from those considered to be of strategic importance in the PPA, set up procurement procedures, and assist line ministries in carrying out the tendering process. A technical unit may be created to assist the committee. Proposals will be selected on the basis of their "economic" or "economic-technical" characteristics. The criteria used in this process will include tariff structure, the required resources needed from the government, or the proposed improvement in public infrastructure. All types of public service are eligible for PPPs except those related to regulation, the judiciary branch of government, and policing. The National Monetary Council will set limits on the exposure of public financial institutions, including banks and BNDES, to PPP projects.
- Draft legislation contains several provisions to minimise the risk to the private sector that the government may not honour its financial commitments under PPP contracts. Revenues from PPP projects accruing to the government can also be earmarked to finance the settlement of contractual commitments. The public sector will not be allowed to incur more than 80 per cent of the cost of a PPP project, including BNDES loans and investment by state-owned enterprises' pension funds. If state-owned enterprises' pension funds do not to participate in the PPP project, the ceiling on public investment falls to 70 per cent of the cost of the project. In addition, federal government spending on PPP projects is capped at 1 per cent of federal annual net current revenue and all PPP projects, including those of states and municipalities, will need to be approved by the National Treasury, on the basis of compliance with the Fiscal Responsibility legislation.
- The government can either top up the value of tariffs for the services provided through PPPs or remunerate its private-sector partner for service delivery. If the public sector must cover more than 70 per cent of the cost of the contracted service, the project must be approved by Congress. In any case, the government will be able to create fiduciary funds in a financial institution to honour these commitments. These funds can be capitalised with resources from the budget, non-tax credits, non-financial assets, and real estate, among others, and will be under the purview of the Ministry of Finance.
- PPP contracts will make the remuneration of the contractor contingent on performance in service delivery, setting out penalties for non-compliance and mechanisms for conflict resolution. These contracts will also contain minimal capital requirements for

the private partner and mechanisms to allocate risk between the public- and private-sector partners, as well as regulations on tariff adjustment. At the end of the PPP contract (maximum 35 years), assets will in general be transferred to the public sector.

- The accounting and reporting of commitments entered into by the governments in PPP contracts must comply with Fiscal Responsibility legislation for all levels of government. Draft legislation envisages a leading role for the Treasury in standardising accounting and reporting requirements. However, the assessment of risks and transparency is complicated by heterogeneity in reporting as required by the different audit courts within and across different levels of government, as discussed in Chapter 1.

In addition to the federal government, the states of Goiás, Minas Gerais, Rio Grande do Sul, Santa Catarina, and São Paulo have now passed PPP legislation. These states have opted for different mechanisms for the provision of financial guarantees: Minas Gerais, Santa Catarina, and Rio Grande do Sul have opted for the creation of fiduciary funds along the lines of federal legislation, whereas São Paulo and Goiás have created public companies (*Companhia Paulista de Parcerias* and *Companhia de Investimentos e Parcerias do Estado de Goiás*, respectively) linked to the state treasuries to manage state guarantees. These companies can be managed by pension funds but not by public enterprises. State legislation also requires PPP contracts to be in line with budget legislation, requiring the assessment of the budgetary impact of projects prior to contracting.

The experiences of several OECD countries and Chile with PPPs show that their success depends strongly on the quality of the institutional environment.[43] Of particular importance is the need for political commitment by the government to honour its obligations under PPP contracts and the adequate sharing of risk between the government and its private-sector partners in PPP projects. An adequate legal framework is also needed, should the need for conflict resolution arise. Moreover, governments need to gain expertise in handling PPPs, including tendering and contracting. Another challenge for the federal government in particular is the provision of financial, legal, and technical assistance to sub-national governments, should the need arise, on contract negotiations and procurement. Equally important is the need for rigour in the selection of infrastructure projects under PPPs. In particular, cooperation between sectoral line ministries and the Ministry of Finance is important to assess the future fiscal implications of PPPs, as discussed in Chapter 1. Finally, to ensure that services are of high quality, the private sector needs to face competition and operate in an incentive-based regulatory environment. The success of these partnerships will therefore depend on how legislation on PPPs will be made compatible with the regulatory frameworks for the infrastructure sectors.

Notes

1. See OECD (2002a), for empirical evidence on the linkages between the intensity of competition in product markets and productivity performance.
2. The PMR indicator system has a pyramidal shape, with 16 low-level indicators at the base and one overall indicator of product market regulation at the top. The low-level indicators capture a specific aspect of the regulatory regime summarising information on 137 economy-wide or industry-specific regulatory provisions, based on answers to the *OECD Regulatory Indicator* questionnaire. Higher-level indicators are constructed as weighted averages of their constituent lower-level indicators. See OECD (1999) and Nicoletti *et al.* (1999), for more information.
3. Estimates of the time required to register businesses range between 50-70 days on average, as reported by the Brazilian authorities and Zylbersztajn and Graça (2002). Pecuniary costs or the number of procedures for business start-ups is not in general considered excessive in Brazil. The

administrative burden is higher at the state and municipal levels of government, with World Bank estimates showing considerable variation across cities. See also Djankov *et al.* (2002) and World Bank (2005), for more information.

4. There are three competition authorities at the federal government level: the Secretariat for Economic Law (SDE), the Secretariat for Economic Monitoring (SEAE), and the Administrative Council for Economic Defence (CADE). SDE and SEAE are administratively linked to the Ministries of Justice and Finance, respectively, whereas CADE is independent. SDE and SEAE issue non-binding technical reports, the former stressing legal aspects and the latter economic aspects of competition cases. Mergers, conduct, and anti-trust investigations are subject to technical analysis by SDE and SEAE, being forwarded to CADE for final rulings. CADE is the ultimate competition body, rendering final decisions on conduct and anti-trust cases that are then subject to review by courts. See OECD (2003a), for more information.
5. See Nicoletti *et al.* (2003), for empirical evidence for OECD countries on the effect of synthetic indicators of regulatory stance on aggregate performance variables.
6. The programme is currently in place in Maceió and João Pessoa in the North-East, Curitiba in the South, and Brasília.
7. The experience of Mexico is noteworthy in this respect. The Mexican government launched the integrated Rapid Business Start-up System (SARE) in 2002, allowing firms to comply with federal, state and municipal regulations, and start operations in under 3 days. Integrated SAREs are currently operational in 21 cities. For more information, see OECD (2004*a*).
8. The current sectoral frameworks also have some commonalities. All sectoral laws specify that: the regulatory agencies are independent and administratively "linked" to their line ministry (*autarquia sob regime especial, com personalidade jurídica de direito público e autonomia patrimonial, administrativa e financeira, vinculada ao Ministério*); the chief executives and Board members are appointed by the President and ratified by the Senate, and, conflict resolution, including mechanisms for appeal, is through the legal system.
9. Eight regulatory agencies were created between 1996 and 2001: ANEEL (electricity), ANP (oil and gas), ANATEL (telecommunications), ANTT (land transport), ANTAQ (water transport), ANS (private health insurance), ANVISA (health and sanitary surveillance), and ANA (surface water resources). See Pires and Piccinini (1999) and Pires (2004), for more information.
10. ANATEL collects revenues from fees, fines and the inspection of operators' equipment. ANEEL is partially financed by a user charge on electricity consumption. In 2002-03, these revenues accounted for about one-third of ANA's budget and for about twice ANATEL's budget.
11. In telecommunications, ANATEL prepares reports directly for CADE without the involvement of SDE and SEAE. ANEEL and ANP cooperate with the competition authorities in the investigation of mergers, privatisation procedures, and anti-competitive conduct. See OECD (2004b), for more information.
12. See Araújo and Pires (2000), for further discussion.
13. Regulatory agencies will be required to submit to SEAE each administrative act that affects competition before it is submitted for public consultation. In turn, SEAE will prepare a non-binding analysis of its impact.
14. In 2004, 59 companies operated in generation and 64 in distribution.
15. The electricity industry underwent important institutional changes in the 1990s, including the adoption of Law 9 074 in 1995 allowing for independent power producers (IPPs) and large consumers (more than 10 MW) to buy electricity from the supplier of their choice, including IPPs. In 1996, Law 9 427 created ANEEL (*Agência Nacional de Energia Elétrica*), the regulator for the electricity sector. In 1998, the government created an independent system operator (*Operador Nacional do SistemaElétrico*, ONS) responsible for the technical coordination of electricity dispatching and for the management of transmission services, and a wholesale market (*Mercado Atacadista de Energia*, MAE) in charge of netting the differences between agreed quantities in bilateral contracts and actual production. By November 2000, 24 state companies had been privatised. For more information, see OECD (2001, 2002b).
16. The 2004-07 multi-year budget (PPA) foresees an expansion in capacity of 3.5 GW per year, compared to an average of 1.5 GW per year in the 1990s. The IEA estimates that electricity demand will increase 2.5 times between 2000 and 2030, or at an average annual rate of 3.2 per cent. This growth rate is estimated by the IEA to require USD 330 billion in new investment (USD 156 billion for new generation capacity and USD 175 billion for the expansion of the distribution and

transmissions systems). Almeida (2004) estimates the annual growth rate of electricity demand to be higher (5 per cent), but the investment cost to be lower (USD 8 billion per year), although his estimate is above that of the government.

17. According to the "initial contracts", generators continued to sell electricity on a historical cost-of-service basis. In 2001, ANEEL decided to annul one-quarter of the "initial contracts" per year between 2002 and 2005, and gradually transfer electricity exchange to the wholesale market for short-term electricity dispatching. The wholesale market was created in 1998, but handled only a small share of electricity transactions until the expiration of the "initial contracts". All electricity exchange was planned to be carried out through the wholesale market by 2006. See Almeida (2004), for more information.
18. For more information, see Lovei (2000).
19. For example, CEMIG and COPEL, the distribution companies of the states of Minas Gerais and Paraná, respectively, are vertically integrated and will need to be unbundled.
20. The number of CNG fuelling stations is set to triple by 2005 to over 1 000 across Brazil.
21. In 2003, the potential Brazilian gas reserves increased threefold in absolute terms as a result of Petrobras's discovery of a giant gas field in the Santos basin, off the coast of the state of São Paulo. During 1999-2002, domestic gas sales doubled to about 11 billion m^3, with most of the increase being accounted for by imports from Argentina and Bolivia.
22. Petrobras owns practically all the 650 billion m^3 of proven gas reserves in Brazil and controls 93 per cent of the country's transmission network through its subsidiary Transpetro and its participation in TBG (operator of the Bolivia-Brazil pipeline). It is also an important player in gas commercialisation, through its subsidiary Gaspetro, being the main user of the Bolivia-Brazil pipeline, by holding the bulk of gas import contracts. Petrobras is also relatively dominant in gas distribution, as it is the major shareholder in 18 out of the 24 state distribution companies (considering non-voting share only), catering for all states except those of Rio de Janeiro and São Paulo.
23. The privatised distribution companies in the states of Rio de Janeiro and São Paulo have market exclusivity for only for part of the concession period (10 to 12 years), after which third parties are permitted to supply large consumers.
24. See Pinheiro (2003), for more information.
25. For more information, see International Energy Agency (2003).
26. Considerable investment, totalling around USD 4 billion, is planned to expand the transmission network, both within Brazil and abroad, predominantly as part of Petrobras's *Malhas* Project. Other investments, in particular linking the northern and southern networks, will depend on the expansion of demand, in particular by electricity generators.
27. In 2002, there were around 200 terminals in 80 cities, 25 thousand fuelling stations, and 160 aviation refuelling points serving 14 million customers per day and around 25 million vehicles, and employing directly and indirectly around 300 thousand people. See UK Trade and Investment (2003), for more information.
28. In 2002, Petrobras produced 98 per cent of refined oil (operating 11 out of 13 refineries).
29. Brazil's production averaged 670 thousand barrels per day (b/d) in 1991 against average demand of 1.5 million b/d. In 2003, the domestic oil production had risen to 1.6 million b/d, only slightly below average demand of 1.7 million b/d. Analysts have projected that oil production may reach 2.6 million b/d in 2010. See Baker (2004), for more information.
30. See Silva and Almeida (2004), for more information.
31. With domestic prices set by the government, Petrobras had losses/gains depending on the discrepancy between domestic and international prices. These losses/gains used to be settled through transfers between Petrobras and the budget recorded in the so-called "oil account". With deregulation of the oil/gas market, end-user prices were liberalised gradually.
32. In 2000, connectivity rates for urban households to public sewerage and non-rudimentary septic tanks was 56 and 16 per cent, respectively, while for rural households they were 3 and 10 per cent, respectively (IBGE, 2000). Urban sewerage coverage reached 70 per cent in the South-East but only 2 per cent in the North. Only 9 per cent in poor rural areas had access to piped water in 2000, although some had access to wells and springs. Of all households earning less than two minimum wages, two-thirds had access to piped water and one-third to sewerage.

33. More than 80 per cent of the population is served by 26 state companies. In addition, there are 259 water and sewerage companies covering 4 134 municipalities. Another 230 companies are directly regulated by the municipalities, while 4 are inter-municipal companies. Only 1 state company and 15 municipal companies are private, serving 3 per cent of the population.

34. The volume of water produced and wastewater collected divided by total wage expenditure (own and outsourced personnel) of state companies was substantially below that of municipal and inter-municipal companies. The same was true for the ratio of volume of water produced and wastewater collected to operational expenditure. See Motta (2004), for more information.

35. See Parlatore (2000), for more information.

36. According to the 1988 Constitution, municipalities are in charge of granting concessions for "local" public services, while the federal and state governments should guarantee efficient and well-regulated water supply and sanitation services. The 1995 Concession Law provided more guidelines for private concessions but did not clarify which level of government is in charge of water and sanitation provision. The Concession law challenged the monopolies that state companies enjoyed for 25 years, stating that the municipalities also have the right to grant concessions or enter into licensing agreements for "local" services or provide these services themselves.

37. A law proposal providing a new regulatory framework for the sector, referred to as the National Sanitation Policy, was submitted in 2001 to Congress but was rejected. The most controversial issues were the assignment to the states of responsibility to grant concessions in metropolitan areas, the introduction of provisions for universal coverage and scope of services in privatization contracts, and the definition of the role of the National Water Agency (ANA). See Pinheiro (2003), for more information.

38. Discussions on a new regulatory framework have focused on options for allocating responsibilities among the three levels of government. Several proposals have been put forward, including the following main elements: broadening the scope of sanitation services to sewerage and drainage services, granting the states and municipalities more responsibility in policy formulation, creating Popular Councils at all levels of government responsible for defining policies and resolving conflict between stakeholders, and reinforcing cross-subsidisation in tariffs within regions and across services.

39. There are two broad types of policy in this area. *First,* income support measures comprise cash transfers or water service vouchers, capped tariff rebates and discounts, payment assistance, special loan facilities, and amnesties for payments in arrears. *Second,* tariff-related measures include subsidisation, capping metered tariffs for low-income consumers, and special (or "social") tariff regimes for low-income households. For more information, see OECD (2002c, 2003b, 2003c).

40. In France, water/sanitation companies are publicly owned, but management can be transferred to the private sector and regulation is carried out by the municipalities. In the United States, as in the case of many other OECD countries and Brazil, ownership can be public and private, although the public sector dominates, with state-owned enterprises often enjoy a large degree of financial and institutional independence.

41. See OECD (2003b), for more information.

42. See Ministery of Planning and Budget (2003), for more information.

43. The United Kingdom is one of the most experienced countries with PPPs, falling under the Private Finance Initiative. This Initiative started in 1992 and currently accounts for 14 per cent of infrastructure investment. Other countries having experience with PPPs are Australia, Canada, Ireland, and Japan. In other countries of the European Union, PPPs are growing particularly at the sub-national level. Chile and Mexico also have implemented PPPs, while several transition countries are currently implementing them. For more information on these countries' experiences and the main lessons, see IMF (2004).

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ANNEX 3.A1

Selected regulatory agencies: answers to a questionnaire submitted to the Brazilian authorities

Table 3.A1.1. **Selected regulatory agencies: answers to a questionnaire submitted to the Brazilian authorities**

	National Water Agency (ANA)	National Electricity Agency (ANEEL)	National Agency for Telecommunications (ANATEL)	National Petroleum Agency (ANP)
1. What are the laws and ancillary legislation governing your agency? What is your agency's institutional and legal status?	Created by Law No. 9 984/00 (July 2000). Ancillary legislation is the Federal Water Resources Law (No. 9 433/97). ANA is responsible for the implementation of the Brazilian National Water Resources Policy.	Law No. 9 427/96 and Decree No. 2 335/97.	General Law of Telecommunications No. 9 472/97 and Constitutional Amendment No. 8 of 1995.	ANP was created by Law No. 9 478/97 and regulated by Decree No. 2 455/98. ANP is a special *autarquia*, linked to the Ministry of Mines and Energy.
2. Which sectors and markets are under your agency's purview?	Surface water resources (urban water supply, industries, and irrigation).	All segments of the industry: generation, transmission, distribution, and commercialisation of electricity.	All telecommunication sectors, except TV broadcasting licensing.	The petroleum industry.
3. According to the law, what are your agency's missions and goals? Is there any hierarchy among these goals?	Implementation of the Brazilian Water Resources Policy, including licensing, price setting, technical assistance to state agencies, committees and policymaking bodies, and enforcement.	To provide favourable conditions for the development of the Brazilian electricity sector, with fairness among market participants and consumers for the benefit of society.	To represent society at large before government and operating companies, and to advocate decisions, actions, or interests that coincide with the aspirations of the population.	To regulate the petroleum industry, guaranteeing supply, promoting competition, creating an attractive environment for investment, and communicating with civil society.
4. Can your agency: *i)* impose barriers to entry (through licenses, etc.).	ANA issues licenses for the use of water resources.	Generators/distributors cannot hold more than 25 per cent (or 35 per cent depending on the regional market) of national generation or distribution capacity. ANEEL sets conditions for concessions. It is not responsible for issuing environmental licenses.	ANATEL issues licenses.	Yes, through concessions for exploration, development, and production of oil and gas; and licenses for the refining, processing, transportation, sale, and import/export of petroleum derivatives and alcohol.

Table 3.A1.1. **Selected regulatory agencies: answers to a questionnaire submitted to the Brazilian authorities** *(cont.)*

	National Water Agency (ANA)	National Electricity Agency (ANEEL)	National Agency for Telecommunications (ANATEL)	National Petroleum Agency (ANP)
ii) regulate prices,	Yes.		Yes, through price caps.	Limited. ANP establishes criteria for pipeline tariff setting.
iii) sanction firms for non-compliance.	Yes.	Yes, ANEEL's sanctions range from warnings to the termination of concessions.	Yes.	Yes. Anti-competitive cases are dealt with by CADE.
and *iv)* settle disputes between market participants?	Disputes between water users are settled within three decision levels: *a)* River Basin Committee; *b)* State Water Resources Council; and *c)* National Water Resources Council. ANA usually has a seat in each.	Yes, through the Arbitrage Chamber.	Yes, through specific forums.	Yes.
5. How many staff does your agency have? How many of them are lawyers/ economists? What is the legal status of the staff members (civil servants, private employees, etc.)?	350 employees, of which about 20 are lawyers/ economists. The great majority of employees are civil servants.	387 employees, of which 42 lawyers and 32 economists. 219 are on temporary contracts and the remainder are civil servants.	1 365 employees, including the regional offices. Temporary staff: 660, headquarter-based: 737; lawyers: 131; economists: 56.	404 employees, of which 22 federal lawyers.
6. How are your agency's Head and governing members appointed? For how long?	The governing body has 5 directors (including the agency's Head) and is appointed by the President (subject to approval by the Senate). The first term of governing body members varies between 3 and 5 years.	Board with 5 directors, appointed by the President for a 4 year, non-concomitant term.	5 Counsellors are appointed by the President for a 5-year term.	The governing body has 1 Director-General and 4 Directors. They are appointed by the President (subject to approval by the Senate) for a 4-year, non-concomitant term.
7. How is your agency financed? What was your agency's budget in 2003?	ANA has its own budget (Federal Treasury, approved by Congress). The budget for 2003 was BRL 198 million.	0.5 per cent fee on electricity revenue of regulated entities. The budget for 2003 was BRL 86 million (excluding payroll).	ANATEL is financially independent, with revenue from fines and fees for the inspection of operators' equipment.	ANP has its own budget (Federal Treasury, approved by Congress). It also receives a share of the royalties from auctions, fines and other revenues from services provided.
8. List the institutions to which your agency is accountable (*e.g.*, line ministry, legislature, General Audit Office, Ombudsman, etc.).	ANA is administratively linked to the Ministry of the Environment, and is accountable to the Federal Court of Accounts (TCU).	ANEEL has a management contract with the Ministry of Mines and Energy. Other instances: Congress, Federal Court of Accounts (TCU), Judiciary and Public Prosecutor's Office, and Internal Federal Control Secretariat. ANEEL has to fulfil the goals of the Multi-Year Plan.	Ministry of Communications.	Ministry of Mines and Energy.
9. What instances are there for appealing against or challenging decisions made by the regulator (*e.g.*, court/special body/ ministries). What are the grounds for appeal?	The first instance is the administrative process, within the Agency, initiated by an interested party. Other instances include the judicial (court) system.	Appeals can be made through the judicial system, starting with first-instance courts, then second-instance tribunals, superior tribunals, and finally the Supreme Court.	Appeals can be made through administrative processes within ANATEL, followed by the judicial system.	

ISBN 92-64-00747-4
OECD Economic Surveys
Brazil

Chapter 4

Strengthening social policies and expenditure

This chapter reviews Brazil's main social programmes and policies. Much has been done in the social area over the last decade or so, with unquestionable improvements in key social indicators, particularly in education. The government already spends a high proportion of GDP on social programmes. Public spending on pensions accounts for a higher share of GDP in Brazil than in the average OECD country, despite Brazil's younger population, while spending on means-tested programmes, such as income transfers for the care of children, and elderly and disabled persons, is well below the OECD average. The challenge of improving the cost effectiveness of public social spending can be met by prioritising in a fiscally sound manner the social programmes that are deemed to be most pro-poor and conducive to the accumulation of human capital.

1. Overview

Brazil spends about one-quarter of GDP on publicly-funded social programmes, including pensions – a large amount by international standards and for countries with a comparable level of income. Government outlays on pensions alone account for about 10 per cent of GDP, a large amount considering Brazil's relatively young population, whereas spending on other social programmes, including targeted income transfers, is often below the OECD average. Even so, social indicators have improved significantly in recent years, reflecting efforts to strengthen programme design and implementation, but outcomes are sometimes disappointing. At the same time, disinflation in the mid-1990s resulted in a significant drop in the incidence of poverty. But the distribution of income remains stubbornly skewed. This is due, at least in part, to the fact that a considerable share of public social spending fails to reach the poor. Against this background, it seems that social demands can be met in the years by making existing programmes more cost-effective within the current budget envelope.

This chapter reviews Brazil's main social programmes, including pensions, as well as the level of public spending on these programmes and trends in social indicators. The analysis of policy reform in the social area highlights ways to boost the efficiency of social programmes. Two main challenges arise in this respect:

- The targeting of social spending needs to be improved, making it more pro-poor and cost-effective, while enhancing the quality of public social programmes; and
- Social protection needs to be extended to those outside the formal labour market by gradually reducing informality.

2. The cost effectiveness of public spending on social programmes

Trends in public spending on social programmes

General government spending on social programmes – including education, health care, housing and urbanisation, social security and assistance, and unemployment insurance – accounts for about one-quarter of GDP, well in excess of average spending in countries with a comparable income level (Box 4.1). In the case of education and health care, the share of general government outlays in GDP is on a par with the OECD average, with spending on certain programmes, such as pensions, already exceeding the OECD average (Figure 4.1).[1] However, government spending on labour programmes (including unemployment insurance but excluding those programmes funded by FGTS discussed below) and pro-poor government spending, essentially means-tested income transfers, such as those for the care of children, and elderly and disabled persons, are relatively low in comparison with OECD countries (Table 4.1).

Social spending ratios have risen over time – reflecting the creation of new entitlements, particularly in age-related care, and the expansion of the coverage of publicly-funded

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Box 4.1. **Overview of social programmes**

Untargeted programmes

The main programmes to which access is universal are education and health care. These programmes are not intended to reach primarily the poor, while contributing to the achievement of other social objectives. These programmes account for about 40 per cent of public spending on social programmes (all levels of government combined).

Targeted programmes and social safety nets

The main targeted programmes are social insurance and assistance. Social insurance, discussed in greater detail in Chapter 1, comprises the regimes for private-sector workers and that for civil servants (federal, state, and municipal levels of government). Most social assistance programmes are provided according to the Organic Social Assistance Law (LOAS) and include rural pensions,[1] means-tested benefits to elderly and disabled persons, and other income support programmes, such as *Bolsa-Família*.

Unemployment insurance is Brazil's main social safety net. The main unemployment insurance programme is paid through FAT (*Fundo de Amparo ao Trabalhador*).[2] There is also a severance pay fund, FGTS (*Fundo de Garantia por Tempo de Serviço*).[3] The unemployment insurance paid through FAT is applicable to all formal-sector workers. However, FGTS benefits are restricted to formal-sector workers with individual accounts. An additional labour programme is the "salary bonus", consisting of a monthly salary paid on an annual basis to formal-sector workers earning up to two minimum wages.

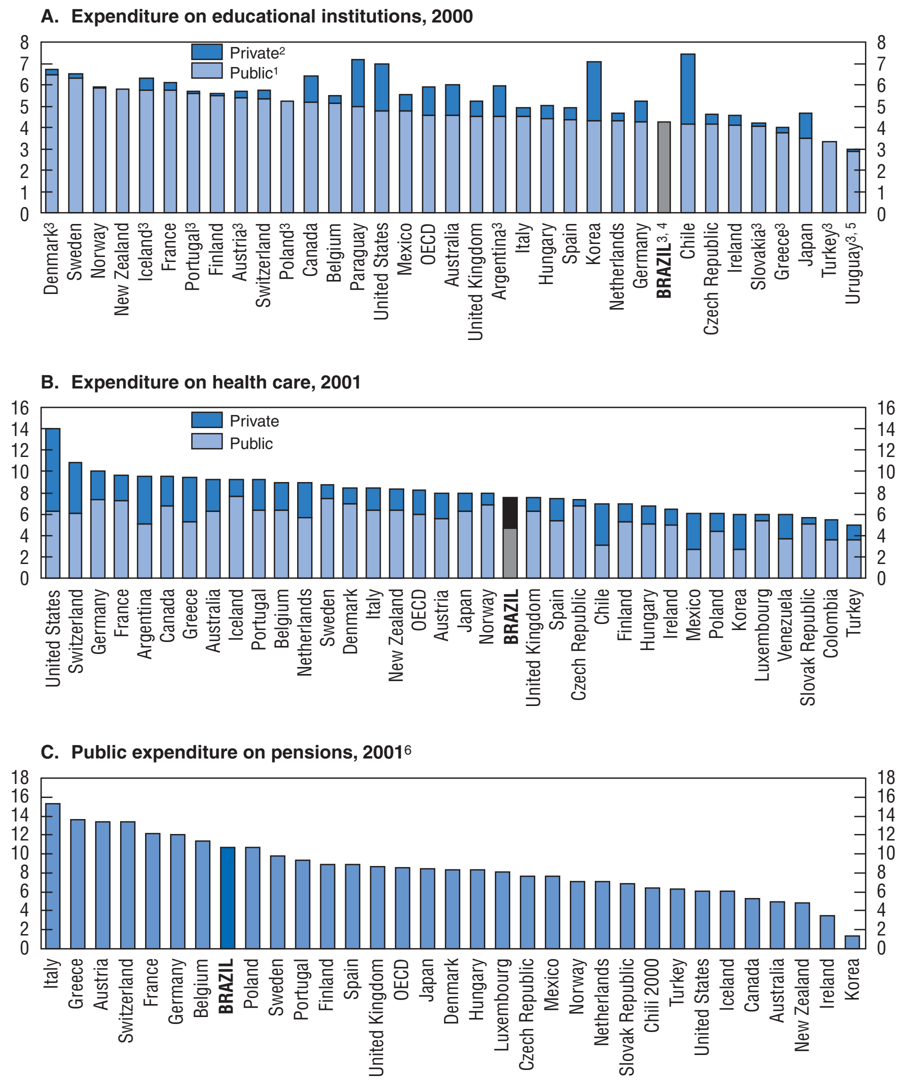
1. Rural pensions can be considered a social assistance, rather than insurance, programme because of the weak link between contributions and benefits.
2. FAT is an unemployment insurance fund financed by taxes predominantly on enterprise turnover. In addition to unemployment insurance, FAT finances salary-bonus payments, labour training, and job creation programmes. Also, 40 per cent of FAT assets are earmarked for the National Development Bank (BNDES), being the main source of funding for its development loan portfolio. To be eligible for unemployment insurance in the event of "unfair" (*sem justa causa*) dismissal, the worker must have been insured for 6 months and have no resources to support himself or his family. The unemployment insurance is capped at 50 per cent of the last wage and can be paid for up to five months. The minimum benefit is one minimum wage and the maximum benefit is three minimum wages.
3. FGTS is a privately-run fund of individual accounts for formal-sector workers financed through employers' contributions (8 per cent of employees' monthly earnings, plus a temporary 0.5 percentage-point surcharge introduced in 2001). In the case of "unfair" dismissal, the balance accumulated during the employment contract is paid to the employee, together with an indemnity equal to 40 per cent of this balance. A temporary 10 percentage-point surcharge was introduced in 2001. The leave notice is one month, during which the worker is entitled to paid leave for job search. Workers can withdraw the balance if the account has been inactive for three years and on retirement. If a worker dies, family members have the right to withdraw his/her FGTS balance.

social assistance programmes. Social spending now accounts for about two-thirds of total federal primary spending. Social insurance alone already accounts for almost one-half of federal social spending, a share which is likely to rise with the ageing of the population. A variety of social assistance programmes were created in 1993, with the enactment of LOAS – the Organic Social Assistance Law – strengthening the publicly-funded social safety net, but also putting additional pressure on the budget (Table 4.2).

State and municipal governments are important providers of social services, as in many countries in the OECD area, and enjoy considerable autonomy in programme design and implementation (Figure 4.2).[2] State and municipal governments already account for about one-half of general government spending on education (including transfers under FUNDEF) and over two-thirds of general government spending on health

Figure 4.1. **Spending on selected social programmes**

In per cent of GDP



1. Includes transfers to households assigned to educational institutions, and direct expenditure on educational institutions from international sources.
2. Net of government transfers to educational institutions.
3. Transfers to households not included in public expenditure, but in private expenditure.
4. Direct expenditure on tertiary educational institutions from international sources exceeds 1.5 per cent of public expenditure. International sources at primary and secondary level exceed 1.5 per cent in Uruguay.
5. Post-secondary non-tertiary education included in tertiary education.
6. Includes survivor pensions. Data for Brazil refer to 2002.

Source: OECD, *Education at a Glance*; OECD Social Expenditure database, 2004; Ministry of Planning and Budget; and WHO.

care, financed primarily through transfers from the federal government. Sub-national spending on pensions has risen over time, but still accounts for a small share of regional government spending.

The arrangements put in place to finance social programmes, including pensions, have contributed to budget rigidity. Many social programmes are funded through general taxation, but earmarking of revenues is widespread, as discussed in Chapter 1. Although

Table 4.1. **General government spending on social programmes, 2001**[1]

In per cent of GDP

	Pensions[2]	Incapacity and related benefits	Health care	Family allowances	Active labour market	Unemploy-ment insurance	Housing and sanitation	Education	Other	Total
France	12.1	2.1	7.2	2.8	1.3	1.6	0.9	5.7	0.4	34.2
Germany	12.1	2.3	8.0	1.9	1.1	1.2	0.2	4.3	0.5	31.7
Italy	13.9	2.1	6.3	1.0	0.5	0.6	0.0	4.5	0.0	29.0
Poland	10.6	5.5	4.4	0.9	0.1	1.0	0.2	5.2	0.2	28.3
Portugal	9.4	2.5	6.3	1.2	0.6	0.9	0.0	5.6	0.3	26.7
United Kingdom	8.7	2.5	6.1	2.2	0.3	0.3	1.5	4.5	0.2	26.3
Netherlands	7.0	4.1	5.7	1.1	1.5	1.3	0.4	4.3	0.6	26.0
OECD	8.5	2.6	5.8	1.8	0.6	0.9	0.4	4.6	0.5	25.6
Brazil	**10.7**	**0.3**	**4.7**	**0.6**	**0.3**	**0.4**	**0.6**	**5.4**	**1.5**	**24.4**
Spain	8.9	2.4	5.4	0.5	0.8	1.3	0.2	4.3	0.1	23.9
Canada	5.3	0.8	6.7	0.9	0.8	0.8	0.5	5.2	2.4	23.4
Australia	5.0	2.3	6.2	2.8	0.4	1.0	0.1	4.6	0.1	22.6
Japan	8.5	0.7	6.3	0.6	0.3	0.5	. .	3.5	0.2	20.4
United States	6.1	1.1	6.2	0.4	0.2	0.3	. .	4.8	0.5	19.5
Mexico	7.6	0.2	2.7	0.3	0.1	. .	0.8	4.7	0.2	16.6
Turkey	6.3	0.4	3.9	1.1	0.1	0.9	0.0	3.4	0.5	16.6
Korea	1.4	0.5	3.2	0.1	0.3	0.2	. .	4.3	0.5	10.4

1. Data for Brazil refer to 2002.
2. Includes survivor pensions in all countries, and survivor and rural pensions in Brazil.

Source: Reis and Rocha (2004), Ministry of Finance, OECD *Education at a Glance*, and OECD (2004a).

Table 4.2. **Federal spending on social programmes, 1995-2003**

In per cent of GDP

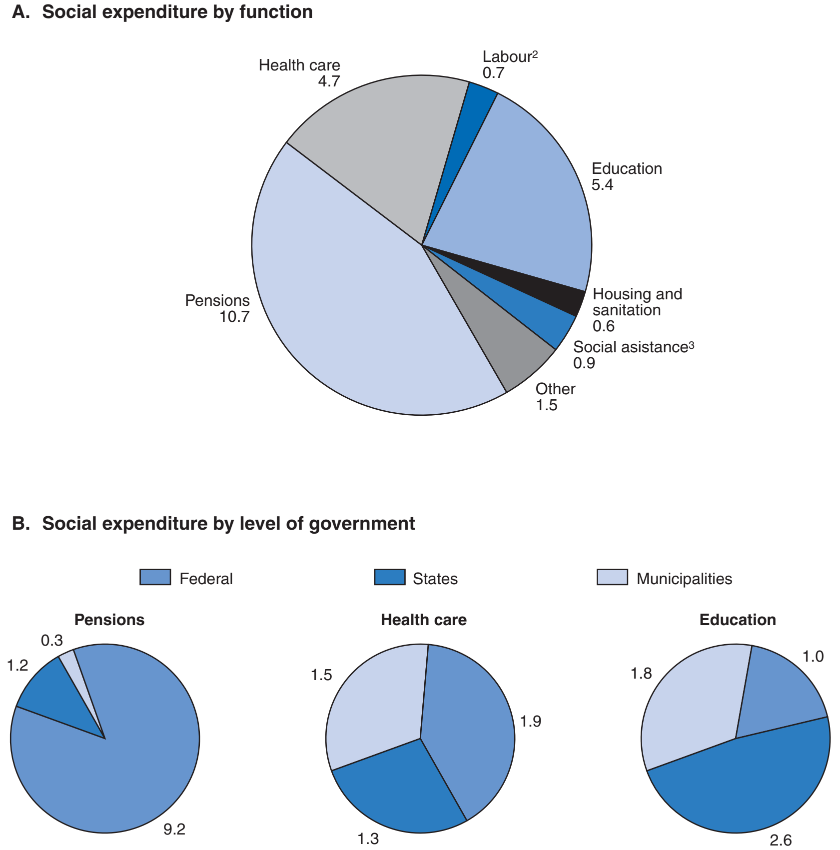
	1995	2000	2001	2002	2003
Federal social spending	**12.4**	**12.8**	**13.5**	**13.7**	**14.1**
Social security[1]	**8.0**	**8.9**	**9.4**	**9.5**	**10.0**
Private sector workers	5.4	6.3	6.7	6.8	7.4
of which: pensions	5.1	6.1	6.4	6.6	7.2
Public sector workers	2.6	2.6	2.7	2.7	2.6
of which: pensions	2.4	2.4	2.6	2.6	2.4
Social assistance[1]	**0.1**	**0.3**	**0.3**	**0.4**	**0.4**
of which: LOAS[2]	0.0	0.2	0.2	0.3	0.3
Health care	**2.1**	**1.8**	**2.0**	**1.9**	**1.8**
Education	**1.3**	**1.0**	**1.0**	**1.0**	**0.9**
of which: FUNDEF complement	. .	0.05	0.04	0.03	0.04
Labour, unemployment insurance, and related benefits	**0.8**	**0.9**	**0.9**	**0.9**	**1.0**
of which: unemployment insurance and related benefits	0.5	0.4	0.5	0.5	0.6
Memorandum item:					
Total federal primary spending	19.9	20.4	21.6	22.1	22.3

1. Includes family allowances.
2. Refers to incapacity and other related benefits.

Source: Ministry of Planning and Budget.

revenue earmarking has reduced the risk of revenue shortfalls, particularly at the sub-national level, it also exacerbates ratchet-up effects in public spending and reduces budget flexibility, particularly in situations of fiscal stress. Earmarking has been particularly pronounced in the case of education and, more recently, health care, where a minimum

Figure 4.2. **Composition of general government social spending, 2002**[1]



1. The numbers refer to spending levels in per cent of GDP.
2. Includes active labour market and unemployment insurances.
3. Includes family allowances, incapacity and related benefits.

Source: Reis and Rocha (2004), Ministry of Finance.

aggregate spending level was introduced in 2001.[3] Moreover, rising spending pressures have resulted in the introduction of specific levies ("contributions") and taxes, such as the bank debit tax, the revenues of which being earmarked to finance social programmes but not shared with the regional governments.

Trends in social indicators: education and health care

The improvement in education attainment has been impressive. These achievements are consistent with international trends, but in some ways Brazil appears more advanced than several countries with comparable income levels. School enrolment for primary and lower-secondary education is nearly universal but repetition rates and age-grade disparities remain high, despite some improvements in recent years. Education attainment has improved faster in the poorer states, but considerable disparities remain across regions (Table 4.3). At the same time, enrolment rates are expanding in upper-secondary education, and have risen rapidly in tertiary education, especially in private institutions. Still, this is a relatively modest achievement by OECD standards (Figure 4.3). Several countries have not only higher enrolment rates but these rates have risen at a faster pace over time. For example, in Korea, secondary school attainment among the younger cohorts is not only

Table 4.3. **Brazil: Regional disparities in education attainment**

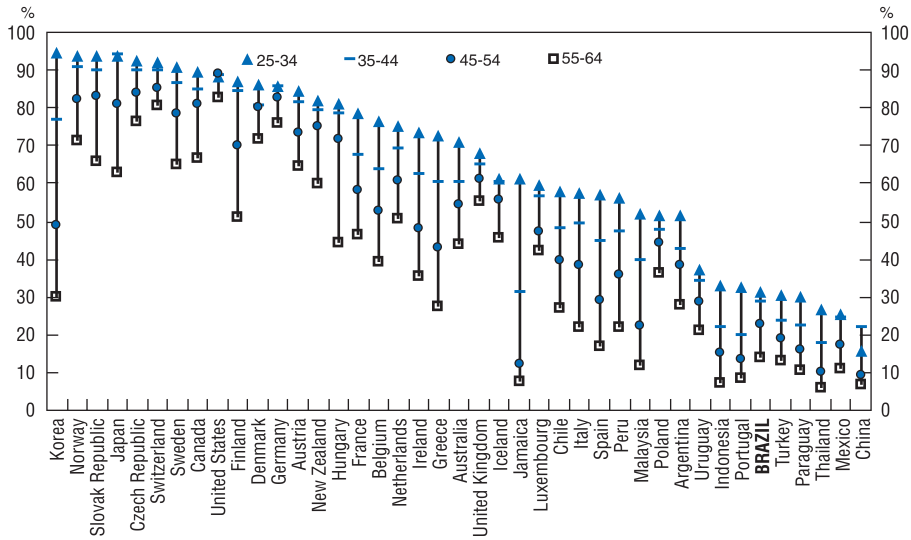
	Primary and lower-secondary, 2001		Upper-secondary, 2001		Age-grade gap, 2002[1] (in per cent)		Enrolment rate, 2000 (in per cent)			
							Primary and lower-secondary		Upper-secondary	
	Completion rate (per cent)	Length (years)	Completion Rate (per cent)	Length (years)	Primary and lower-secondary	Upper-secondary	Net	Gross	Net	Gross
Brazil	**62.3**	**10.0**	**74.9**	**3.7**	**39.1**	**46.2**	**94.3**	**126.7**	**33.3**	**76.6**
North										
Rondônia	48.0	10.3	61.6	3.8	41.1	43.9	93.0	118.8	21.8	49.4
Acre	53.1	10.7	81.8	3.9	47.3	50.3	91.3	122.9	20.3	62.1
Amazonas	46.7	10.9	67.8	3.7	69.7	72.2	85.3	120.7	16.5	59.2
Roraima	65.5	9.3	75.8	3.8	33.2	55.3	89.5	122.0	29.3	92.9
Pará	35.5	11.3	73.7	4.0	52.1	67.6	91.6	123.4	14.1	58.9
Amapá	65.5	10.2	76.5	3.9	41.0	61.3	91.7	113.5	24.5	86.3
Tocantins	39.1	10.0	71.6	3.6	50.2	66.9	93.0	144.1	19.5	75.6
North-East										
Maranhão	46.5	10.3	66.4	3.5	61.8	77.1	92.9	135.1	14.0	46.6
Piauí	39.6	11.1	85.0	3.8	59.4	68.9	93.1	140.4	13.0	49.9
Ceará	63.8	9.7	76.7	3.5	61.6	52.4	93.2	135.9	20.1	52.9
R. G. do Norte	55.9	10.7	81.8	3.7	47.7	60.2	93.6	132.5	22.0	70.1
Paraíba	51.4	11.2	73.5	3.7	59.5	61.2	92.5	142.8	15.3	49.7
Pernambuco	53.6	11.3	77.3	3.8	53.3	62.4	90.1	128.6	20.8	66.9
Alagoas	50.4	11.6	75.9	3.9	66.1	64.9	89.3	134.9	11.8	44.5
Sergipe	45.9	11.6	75.4	3.8	59.9	63.2	90.7	133.8	14.8	54.7
Bahia	44.6	12.1	70.2	3.7	68.6	70.4	94.9	158.8	15.3	61.4
South-East										
Minas Gerais	73.6	9.1	68.4	3.7	36.4	40.5	95.1	124.7	35.7	89.9
Espírito Santo	61.6	9.6	61.9	3.8	29.1	36.4	92.8	115.0	39.8	85.3
Rio de Janeiro	64.0	9.6	75.7	3.8	33.2	51.5	95.1	124.6	36.1	88.7
São Paulo	78.8	8.7	80.9	3.5	20.2	29.9	97.3	115.8	54.7	97.6
South										
Paraná	65.7	9.5	72.4	3.9	16.9	26.7	94.2	107.7	49.8	86.9
Santa Catarina	76.7	9.0	–	–	20.4	24.4	96.7	112.4	45.6	78.1
R. G. do Sul	54.4	10.2	64.9	3.8	42.6	38.9	93.4	135.4	29.0	61.0
Centre-West										
M. G. do Sul	68.4	9.7	68.2	3.9	27.1	31.0	96.5	116.1	45.3	80.8
Mato Grosso	50.8	10.3	70.1	3.9	39.0	37.8	94.1	124.9	34.0	67.8
Goiás	55.4	10.2	67.2	3.7	46.2	54.4	93.2	136.5	30.0	82.9
Distrito Federal	60.2	9.8	78.8	3.8	27.4	43.6	97.2	126.0	44.5	104.5

1. Defined as the percentage of students concluding each grade at an age higher than recommended.
Source: Ministry of Education.

much higher than in Brazil but also over three times as high as among those aged between 55-64 years, against about one-half in the case of Brazil.

Despite recent achievements, Brazil fares poorly in the OECD's PISA measurement of student performance in comparison with countries with similar levels of public spending on education (Figure 4.4). In reading literacy, Brazil's scores are among the lowest, although comparable to those of Argentina and Chile, but higher than the results of Peru. Performance levels are lower for mathematics and science.[4] This indicates a quality problem, although it must probably be recognised that it is difficult to ensure high and consistent quality in a

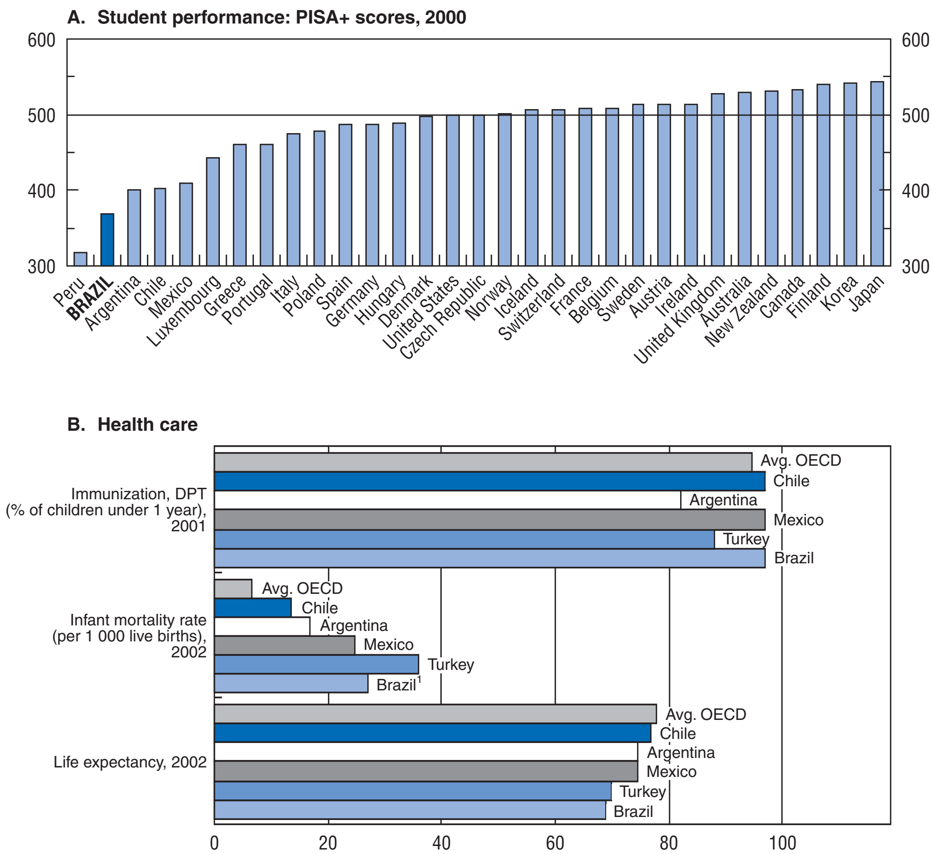
Figure 4.3. **Secondary school attainment by age cohort, 2001**[1]



1. Percentage of the population in each cohort that has attained at least upper-secondary education.
2. The reference year for non-OECD countries is 2000.

Source: OECD, *Education at a Glance*.

Figure 4.4. **Selected social indicators**



1. National source, 2001.

Source: World Bank, *World Development Indicators*; OECD, PISA+; and WHO.

period of rapid expansion of enrolment, especially when it concerns population groups with comparatively lower educational backgrounds and lower income.

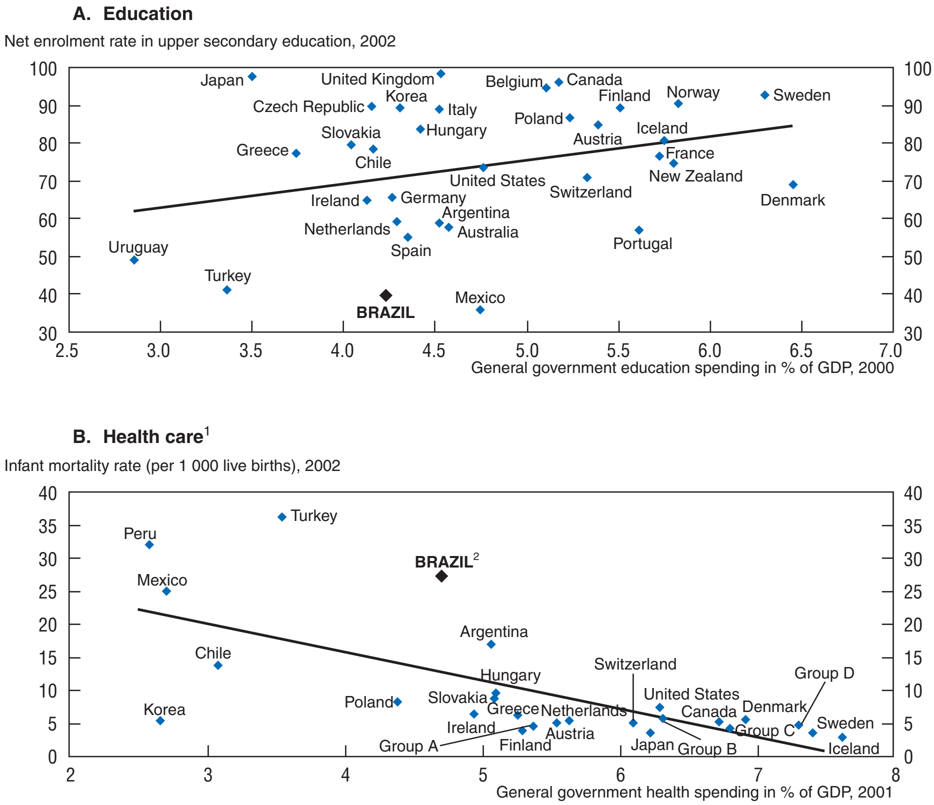
Improvements in the health status of the population over time have also been impressive. But Brazil continues to lag behind comparable countries. Infant mortality has fallen substantially over time but remains relatively high by international standards, affecting life expectancy at birth. Life expectancy at birth is also low in international comparison. Nevertheless, Brazil fares much more favourably in other indicators, such as immunisation rates (*i.e.*, DTP and measles) and incidence rates of HIV/AIDS. Moreover, these trends hide substantial differences in health outcomes and spending levels across the states (Table 4.4). For example, infant mortality rates are about twice as high in the poorer North-East compared to the more prosperous South and South-East. As a result, life

Table 4.4. **Brazil: Regional disparities in health indicators**

	Outcomes, 2001		Public spending *per capita*, 2001 (Brazil = 100)	Doctors per 10 000 population, 2001	Health services (SUS), 2002	
	Infant mortality (per 1 000 live births)	Life expectancy (years)			Hospital admittances per 100 population	Outpatient consultations *per capita*
Brazil	**27**	**69.0**	**100.0**	**20.8**	**6.7**	**2.6**
North	**28**	**69.0**	**98.3**	**11.2**	**6.8**	**1.8**
Rondônia	25	68.8	107.1	12.8	7.3	1.8
Acre	34	68.9	192.3	9.2	7.2	1.5
Amazonas	29	69.4	124.2	12.0	4.7	1.6
Roraima	19	68.1	182.9	14.9	3.7	2.3
Pará	28	69.3	66.0	10.7	7.8	1.7
Amapá	25	69.6	128.0	9.9	6.0	2.1
Tocantins	29	69.0	114.1	9.9	7.3	3.0
North-East	**43**	**66.4**	**72.6**	**12.0**	**7.2**	**2.3**
Maranhão	48	65.4	54.2	6.5	6.9	2.0
Piauí	35	66.2	68.4	8.8	8.3	2.2
Ceará	37	66.9	73.2	10.8	6.8	2.3
Rio Grande do Norte	43	67.0	95.2	15.3	6.7	3.1
Paraíba	47	65.0	90.2	15.3	7.6	2.3
Pernambuco	46	64.3	81.0	16.7	6.6	2.4
Alagoas	60	63.8	72.9	14.7	7.5	2.3
Sergipe	42	67.8	75.3	11.5	7.1	2.4
Bahia	40	68.2	66.4	10.8	7.6	2.4
South-East	**18**	**70.0**	**106.5**	**28.1**	**5.9**	**2.9**
Minas Gerais	21	70.9	83.1	19.2	6.9	2.6
Espírito Santo	18	70.7	97.6	20.4	6.3	2.8
Rio de Janeiro	18	68.0	123.6	48.2	5.3	3.0
São Paulo	17	70.3	112.2	25.3	5.7	3.0
South	**16**	**71.5**	**87.0**	**19.9**	**7.5**	**2.3**
Paraná	17	70.8	76.6	19.3	7.7	2.5
Santa Catarina	15	71.7	83.8	15.1	7.3	2.2
Rio Grande do Sul	16	72.0	98.2	23.0	7.4	2.2
Centre-West	**21**	**69.9**	**109.7**	**23.4**	**7.7**	**2.6**
Mato Grosso do Sul	24	70.9	88.3	18.4	8.9	2.2
Mato Grosso	22	69.7	94.8	12.3	7.7	2.8
Goiás	21	70.1	78.4	18.0	8.1	2.6
Distrito Federal	16	69.2	226.1	55.4	5.9	2.9

Source: Ministry of Health.

Figure 4.5. **Public spending and social outcomes**



1. Group A: Luxembourg and Spain; Group B: Australia, Belgium, Italy, Portugal, New Zealand and United Kingdom; Group C: Czech Republic and Norway; Group D: France and Germany.
2. Infant mortality 2001 from national source.

Source: OECD, *Education at a Glance* and WHO.

expectancy in the North-East is several years below that of the South-East, although these regional discrepancies have diminished over time.

Trends in social indicators underscore the fact that the link between public spending and social outcomes is often weak. International comparisons suggest that some countries achieve better social indicators than Brazil for the same level of, or less, public spending (Figure 4.5). Better performers may have spent more than Brazil on social programmes on a cumulative basis over longer periods of time. But Brazil's underperformance may also reflect an efficiency gap. In this respect, empirical evidence suggests that the quality, rather than the level, of public spending is a more powerful determinant of social outcomes. Also, income *per capita* tends to be a more powerful determinant of school enrolment and immunisation rates, for instance, than the resources spent by the government on these programmes.[5] Likewise, the extent to which public spending is better targeted is known to affect the link between spending levels and social outcomes. The composition of social expenditures matters as well. Public spending on tertiary education is less effective in improving the education status of the population as a whole than when emphasis is placed on primary and secondary education.

Trends in poverty and income distribution

Poverty indicators have improved, particularly following rapid disinflation in the mid-1990s, but disparities in the distribution of income remain stubbornly high over time and across regions (Table 4.5). Reducing inequality is important because cross-country evidence suggests that the impact of economic growth on poverty alleviation tends to be stronger in countries with a more equitable distribution of income.[6] Of particular importance in this regard is the fact that the poverty gap – the wedge between a poor person's income and the poverty line – is relatively low in Brazil. This implies that a sizeable reduction in poverty can be achieved by devoting relatively few budgetary resources to income transfers to the poor. To illustrate, based on indicators for 2002, perfectly targeted income transfers totalling about 2.7 per cent of GDP would suffice to bring the income level of the poor to the poverty line.[7] To put this level in perspective, federal means-tested income transfers currently amount to about 1½ per cent of GDP. But it is important to recognise that these calculations should be interpreted with caution. Poverty lines are arbitrary and likely to change over time, particularly as societies become

Table 4.5. **Poverty and income inequality indicators, 1992-2002**[1]

In per cent (except for the Gini coefficient)

	1992	1995	1999	2002
Brazil				
Gini coefficient	0.58	0.60	0.59	0.59
Poverty rate	42.2	35.1	35.3	31.3
Indigence rate	20.0	15.2	15.0	12.2
Poverty gap	20.3	15.8	15.9	13.4
North				
Gini coefficient	0.56	0.58	0.56	0.56
Poverty rate	54.3	44.0	46.9	42.9
Indigence rate	28.2	18.5	19.9	16.6
Poverty gap	27.1	19.4	21.1	17.7
North-East				
Gini coefficient	0.59	0.60	0.60	0.59
Poverty rate	67.8	61.3	60.5	55.8
Indigence rate	40.0	31.6	31.0	26.0
Poverty gap	37.4	30.5	30.0	26.0
South-East				
Gini coefficient	0.55	0.57	0.56	0.56
Poverty rate	28.6	21.0	21.6	19.2
Indigence rate	10.2	6.9	6.9	5.5
Poverty gap	11.7	8.3	8.4	7.4
South				
Gini coefficient	0.55	0.57	0.56	0.53
Poverty rate	33.6	26.6	26.9	19.6
Indigence rate	12.5	9.8	9.8	5.9
Poverty gap	14.2	10.8	11.3	7.5
Centre-West				
Gini coefficient	0.59	0.58	0.59	0.59
Poverty rate	34.4	27.0	26.2	21.0
Indigence rate	12.2	8.9	8.3	6.3
Poverty gap	14.3	10.8	10.2	8.2

1. Based on the poverty and indigence lines adopted by IPEA, Ministry of Planning and Budget.

Source: IPEA, Ministry of Planning and Budget.

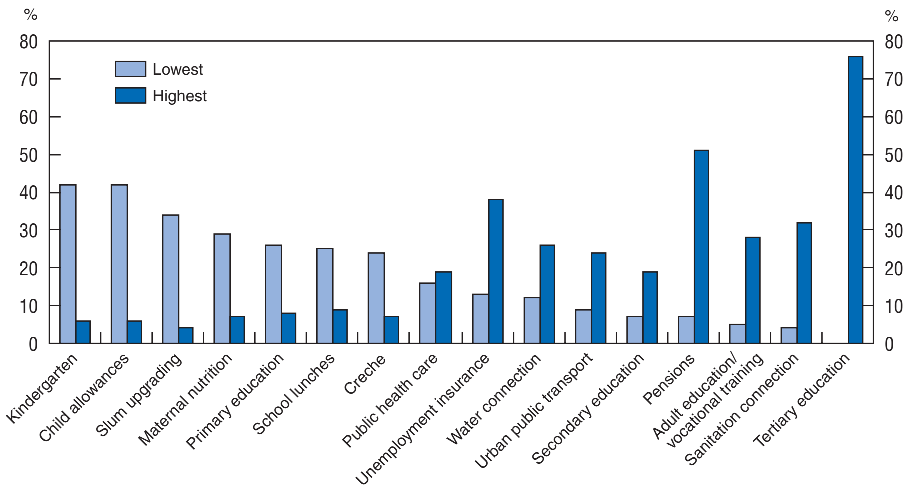
more prosperous. The elimination of poverty also requires the maintenance of public spending levels over a sustained period of time, not just in a single year, and difficulties in targeting public social spending should not be underestimated.

The targeting of government spending

Taken together, government spending on social programmes is estimated to be mildly progressive in terms of their impact on income inequality. But this masks important differences in the incidence of spending on particular programmes: public outlays on social insurance, for example, with the exception of rural pensions (discussed below),[8] as well as on tertiary education and publicly-funded private hospitals (*hospitais conveniados*),[9] are estimated to be regressive.[10] On the other hand, public spending on programmes such as child allowances and primary education clearly benefits the poor disproportionately more than the better-off (Figure 4.6).

Figure 4.6. **Brazil: incidence of selected publicly-funded programmes**

Per cent of government spending accruing to the lowest and highest income quintiles



Source: World Bank (2003a).

Social security and assistance

The social security system – including social insurance and assistance programmes – is a powerful instrument to reduce poverty. Over 22 million people (including rural pensions) receive a pension from the National Social Insurance Institute (INSS) and about two-thirds of these pensions are equivalent to the minimum wage. For each person receiving a pension, it is estimated that 2.5 additional persons (mainly family members) benefit indirectly from the income transfer.[11] Consistently, the incidence of poverty among the elderly in Brazil is lower than that of the average population. It is also among the lowest in Latin America.[12] Rural pensions, which are essentially non-contributory, are considered one of the best-targeted social programmes. Several studies have stressed their role in alleviating poverty.[13] Other non-contributory social assistance programmes include pensions paid to poor persons who are disabled, old or with *per capita* household income below one-quarter of the minimum wage (LOAS). These non-contributory pensions also contribute to the continued decline in poverty in the poorer regions, particularly the North-East and in the North (especially in the Amazon basin).[14]

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Despite their impact on poverty, the main social insurance programmes are poor instruments to redistribute income. This is because they are predominantly contribution-financed and reserved for formal-sector workers, who tend to have above-average incomes. Most pension benefits are proportional to previous income and can be relatively high: the ceiling on the value of pensions paid under RGPS (the regime for private-sector workers) is up to 3 times higher than the average wage in the formal sector. Because there is no minimum retirement age, high-pension earners, which are also better-off and therefore live longer, end up receiving pensions for a longer period of time, putting a drain on the budget. Spending on the social security regime for civil servants is even more regressive, because they benefit a better-off population and the regime's deficit is financed out of general taxation.[15] But, to the extent that the on-going reforms, which are assessed in greater detail in Chapter 1, will contribute to reducing the current deficit under this regime, budget resources can be re-allocated to more progressive programmes, making overall federal social spending more pro-poor.

Comparison with the OECD experience is illustrative in this regard. The OECD experience suggests that the most systematic targeting of low-income groups is found in countries where public pension scales use lower ceilings, or are flatter and not fully proportional to previous income, as in Australia, United Kingdom, and United States. In the case of the United Kingdom, for example, the lowest income quintile receives about one-quarter of pensions and transfers, with the top quintile receiving only less than one-tenth. If Brazil had a comparable incidence of public spending on pensions and other benefits, it is estimated that the Gini coefficient would be reduced from 0.58 to 0.54.[16] In other countries, social insurance benefits are often proportional to previous income, as in Brazil, but low-income groups still receive much of total public spending on these programmes because they are over-represented among the disabled, the unemployed and early-retirees. This is nevertheless not the case in countries such as Mexico and Turkey, where the ratio of income transfer receipts to disposable income is low even for poor households (Table 4.6). In most European countries, by contrast, transfers account for over one-half of poor households' income, thereby bringing the Gini coefficient down by as much as 0.2 (Table 4.7).

Table 4.6. **Incidence of publicly-funded income transfers**

In per cent of disposable income

	Total population	By income level		
		Poorest 20 per cent	Middle 60 per cent	Richest 20 per cent
Australia	15.1	78.7	15.6	1.3
United Kingdom	16.8	72.8	19.2	2.9
France	30.1	64.6	31.6	19.3
Netherlands	19.0	63.9	19.4	5.8
Poland	26.6	58.3	37.4	9.8
Germany	25.9	57.1	28.8	14.0
Italy	28.0	48.8	33.0	18.4
Canada	14.6	48.2	15.7	5.9
Portugal	19.5	47.0	20.0	14.4
Japan	17.0	40.0	19.7	9.1
United States	9.5	38.9	9.9	4.4
Brazil	**20.9**	**26.8**	**20.5**	**20.7**
Mexico	5.6	14.7	4.7	5.7
Turkey	1.9	3.1	2.7	1.1

Source: OECD, data for 2000; calculations for Brazil in 1999 are based on Immervoll *et al.* (2003).

Table 4.7. **Impact of transfers and taxation on income distribution**
Measured by the Gini coefficient

	Initial income (A)	Gross income (B) (initial income plus transfers)	Disposable income (C) (gross income minus direct taxes)	Overall impact (A-C)
Belgium	0.53	0.35	0.29	0.24
Sweden	0.55	0.34	0.32	0.23
Germany	0.55	0.39	0.32	0.23
Denmark	0.55	0.37	0.33	0.22
Spain	0.51	0.38	0.33	0.18
Canada	0.51	0.38	0.34	0.17
United Kingdom	0.53	0.38	0.35	0.18
Australia	0.49	0.40	0.35	0.14
United States	0.53	0.43	0.38	0.15
Brazil	**0.64**	**0.58**	**0.56**	**0.08**

Source: de Beer, Vrooman, and Schut (2001); Lakin (2001); and Immervoll *et al.* (2003).

The role of taxation

Neither does the tax system contribute to improving the distribution of income. While the distribution of before- and after-tax incomes differ by significant amounts in most OECD countries, this is not the case in Brazil. This is because the impact of direct taxes on the distribution of income is almost entirely offset by that of indirect taxes, particularly in the top income bracket (Table 4.8). Significant progress was made in the second half of the 1990s to improve the efficiency of direct taxation, but the exemption threshold for the income tax remains relatively high in relation to those in OECD countries, severely reducing the number of taxpayers (Figure 4.7).[17] Extending the direct tax net to those currently below the exemption threshold – while recognizing that administrative costs also tend to increase as a result – would pave the way for reducing the share in government revenue of indirect taxes. It is

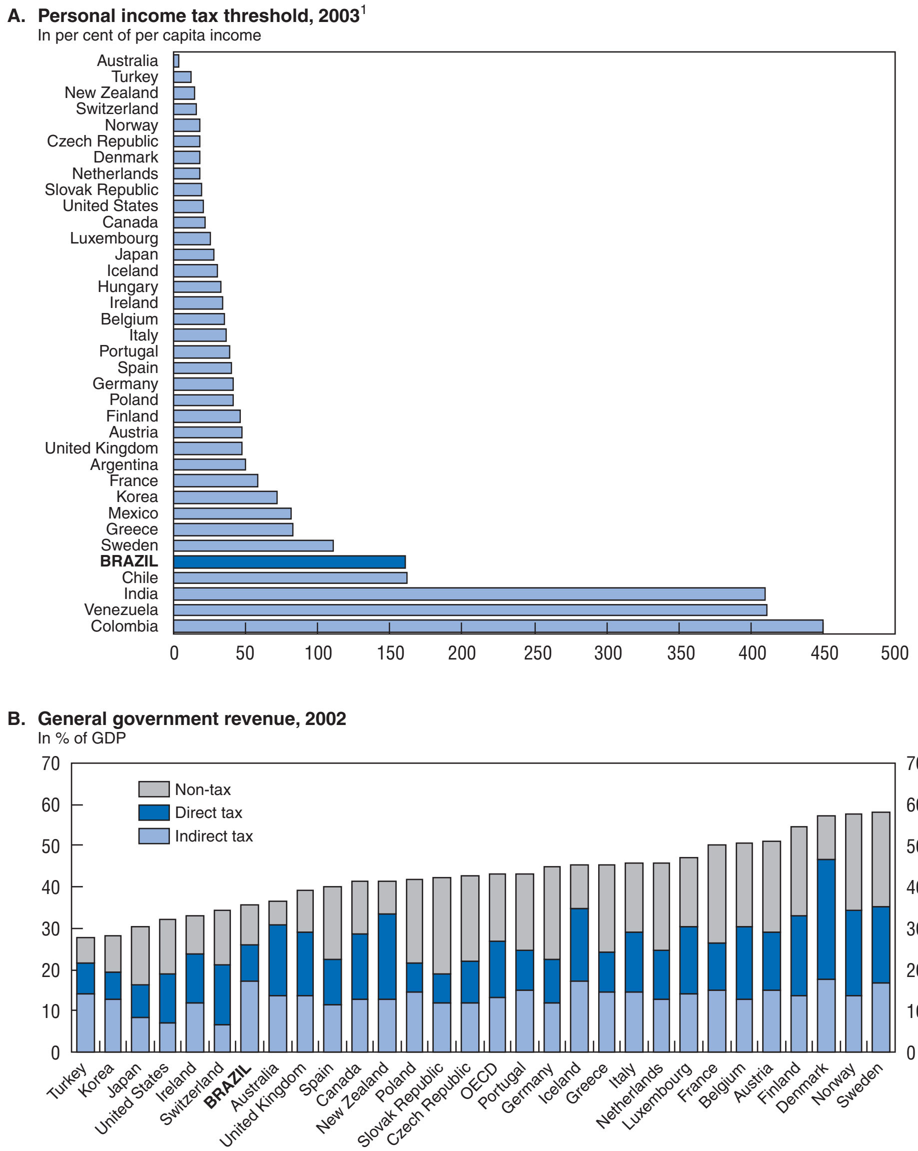
Table 4.8. **Brazil: impact of transfers and taxation on income distribution**
Measured by income shares (by income decile)

	Initial income (A)	Gross income (B) (initial income plus transfers)	Disposable income – direct taxes[1] (C) (gross income minus direct taxes)	Disposable income – indirect taxes (D) (gross income minus direct and indirect taxes)	Overall impact	
					Direct taxes[1] (C-A)	Direct and indirect taxes (D-A)
1st (lowest) decile	0.7	0.8	1.0	0.9	0.3	0.2
2nd decile	1.5	1.7	1.9	1.8	0.4	0.3
3rd decile	2.3	2.5	2.7	2.5	0.4	0.2
4th decile	3.2	3.4	3.6	3.4	0.4	0.2
5 th decile	4.2	4.5	4.6	4.4	0.4	0.2
6 th decile	6.0	5.9	6.0	5.6	–0.0	–0.4
7 th decile	8.2	8.1	8.1	7.7	–0.1	–0.5
8 th decile	11.3	10.9	10.9	10.5	–0.4	–0.8
9 th decile	16.7	16.5	16.5	16.5	–0.2	–0.2
10 th (highest) decile	45.9	45.7	44.8	46.6	–1.1	0.7
Memorandum item:						
Gini coefficient	0.64	0.58	0.56	0.58	0.08	0.06

1. Includes social security contributions.

Source: Immervoll *et al.* (2003).

Figure 4.7. **Personal income taxation and composition of government revenue**



1. 1998 for Chile, Colombia, India and Venezuela.

Source: OECD, *Special Features: Thresholds for Paying Income Tax and Social Security Contributions*, and OECD Economic Outlook 75 database, OECD calculations.

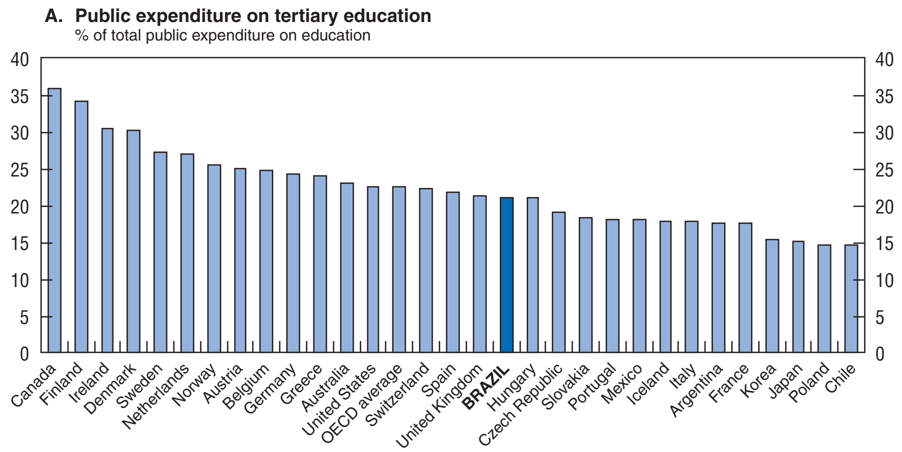
nevertheless important to note that the impact of these measures on the progressiveness of the tax system is uncertain: a move from indirect to direct taxes would make the tax system more progressive but a reduction of the exemption threshold would make it less progressive.

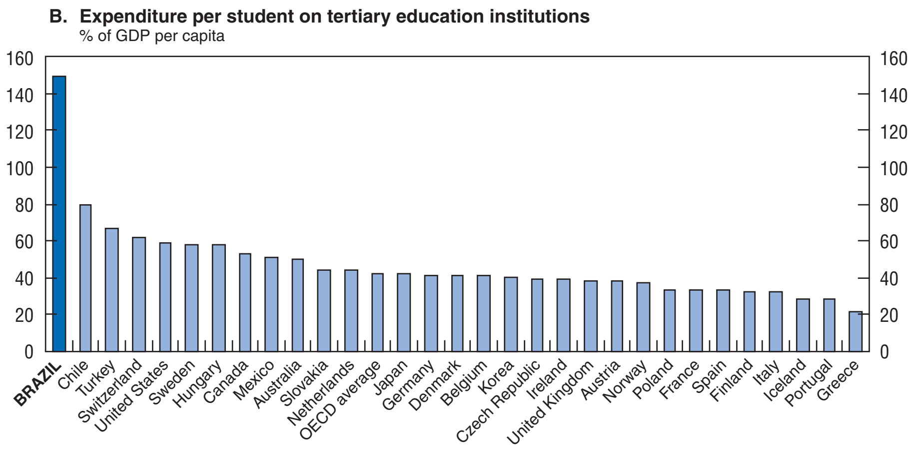
At the same time, a heavy tax burden on labour income, more than the rigidity of employment protection legislation (EPL), appears to be the main determinant of labour informality. Duality in the labour market contributes to income inequality, as evidenced by household survey data showing that earnings tend to be higher in the formal sector. Brazil does not appear to have overly rigid EPL, at least as gauged by the indicator constructed by the OECD (Annex 4.A1), although legislation is complex and partly outdated.[18] The main instrument is the 1943 labour code (*Consolidação das Leis do Trabalho*, CLT) with amendments, of which some were included in the 1988 Constitution. On the other hand, the total rate of mandatory payroll contributions to social insurance is about 45 per cent, of which employers pay around 35 percentage points (including FGTS and other programmes).[19] Empirical evidence is scarce but policies aimed at reducing the tax burden on payroll in small and medium enterprises are believed to have contributed to job creation in that market segment. The creation of SIMPLES in 1999, a simplified federal tax regime for small enterprises, reduced the tax burden on labour, encouraging the creation of formal jobs in those enterprises. Discussions are under way to include regional government taxes in SIMPLES, therefore extending the programme beyond the federal government.

Education and health care

There is considerableheterogeneity in incidence rates in education and health care. In the case of education, the composition of government spending is skewed towards higher education, the benefits of which accruing predominantly to the non-poor. Nearly 60 per cent of students attending public higher education belong to the top income quintile. Tertiary education accounts for about one-fifth of government spending on education, close to the OECD average (Figure 4.8). But the average cost to the budget of higher

Figure 4.8. **Spending on tertiary education, 2000**





Source: OECD, *Education at a Glance.*

education per student is about 150 per cent of GDP *per capita*, almost four times as high as the OECD average.

In the case of health care, while government spending on public hospitals is estimated to be progressive, this is not the case for the private hospitals funded by SUS (*hospitais conveniados*). This is because access to SUS is universal, even for holders of private health insurance, which are typically middle- and higher-income individuals. As a result, insurance companies are discouraged from covering complex and costly procedures, which would result in higher premia.[20] Provision costs are therefore shifted to the government and insurance companies do not face strong incentives to broaden the array of procedures eligible for reimbursement. At the same time, income tax deduction for expenditure on private health insurance and medical care tends to benefit higher-income individuals, making overall public spending on health care less progressive than desirable.

The targeting of public spending on health care also depends on the distribution of outlets throughout the country. This is because health care budgets remain predominantly input-oriented, making federal transfers to states and municipalities dependent on existing infrastructure, which is relatively more developed in the richer states. Federal transfers therefore tend to favour states with relatively higher *per capita* income despite the more pressing health care needs in the relatively poorer states. But, since the end of the 1990s, differences in federal health spending *per capita* have been reduced as the government has replaced part of these input-cost transfers by block grants based on estimated primary and preventive care needs (Box 4.2).

Box 4.2. **Preventive care programmes**

Spending on primary and preventive care accounts for about one-third of primary public outlays on health care. The main programmes are PAB (*Piso Assistencial Básico*), PSF (*Programa Saúde da Família*) and PACS (*Programa Agentes Comunitários de Saúde*).

- PAB, set up in 1998, is a block grant from the federal government to the municipalities based on estimated *per capita* spending needs. State governments provide the remaining services and are, in principle, responsible for planning, coordinating, monitoring, and evaluating the implementation of national health policies at the local level. Health Councils oversee the use of funds and resources allocation.
- PSF, set up in 1994, provides every 1 000 families with a team comprising a physician, a nurse, one or two nurse assistants, and six community agents. The programme was originally implemented in poorer regions, especially in areas not covered by the SUS network. About 45 million people are now served by family health teams.
- PACS is also sponsored by the Ministry of Health and managed by local governments. The programme focuses on maternal and child care. By 2003, 94 million people had been served by these community agents and 93 per cent of all municipalities are now covered by PACS.

In the case of PSF, there is evidence that infant mortality has been reduced in areas where the programme is in operation, in particular in the poorer regions. Improvements in health indicators, as an increase in pre-natal assistance or health prevention and monitoring of diabetes, hypertension, tuberculosis, and other common diseases in the communities have also been observed (Box Table 4.1).

Box 4.2. **Preventive care programmes** *(cont.)*

Box Table 4.1. **Community care programmes PSF/PACS, 2002**

	Coverage (per cent population)	Share of pre-natal care	Children under 1 year of age	
			Immunisation rate	Malnutrition rate
Brazil	**58.8**	**82.5**	**87.4**	**6.1**
North	**98.7**	**72.3**	**82.7**	**6.1**
Rondônia	89.2	83.6	93.9	4.0
Acre	88.4	73.4	77.9	9.1
Amazonas	100.0	68.9	84.8	6.0
Roraima	90.7	83.1	91.7	3.8
Pará	93.9	69.5	78.0	7.1
Amapá	100.0	67.5	85.9	3.4
Tocantins	100.0	81.5	91.8	4.5
North-East	**90.0**	**78.4**	**84.1**	**7.8**
Maranhão	100.0	63.5	73.0	10.1
Piauí	100.0	77.9	85.3	8.2
Ceará	78.9	89.4	90.6	6.4
Rio Grande do Norte	97.7	85.7	85.3	5.5
Paraíba	98.8	85.9	86.7	6.5
Pernambuco	83.3	83.6	89.6	8.1
Alagoas	86.2	78.7	86.7	10.9
Sergipe	91.9	83.6	88.6	5.6
Bahia	84.2	72.4	79.7	7.6
South-East	**33.1**	**91.9**	**95.3**	**3.7**
Minas Gerais	53.4	90.9	95.1	5.8
Espírito Santo	75.1	89.6	95.7	2.8
Rio de Janeiro	25.5	92.2	94.7	3.0
São Paulo	22.7	93.6	95.6	2.0
South	**50.4**	**92.5**	**93.0**	**3.4**
Paraná	56.0	93.6	93.2	3.4
Santa Catarina	79.6	92.8	95.5	2.7
Rio Grande do Sul	29.8	90.0	90.1	4.2
Centre-West	**64.7**	**90.1**	**91.9**	**3.4**
Mato Grosso do Sul	75.0	90.9	89.7	2.9
Mato Grosso	74.5	90.3	93.1	3.3
Goiás	74.7	89.8	93.4	3.8
Distrito Federal	18.0	86.5	90.4	2.0

Source: Ministry of Health.

3. Moving forward

Brazil has made considerable progress in improving social outcomes in recent years. Emphasis on facilitating access by the poor to services and efforts to better target government spending on social programmes to low-income beneficiaries have been important contributors. Policies should therefore focus on consolidating achievements in these areas within the current budget envelope. This is because Brazil already spends a relatively high share of national income on social programmes, making further increases in expenditure possibly inefficient and inconsistent with on-going macroeconomic consolidation efforts. Moreover, enhancing preparedness to cope with future spending

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pressures, associated predominantly with population ageing, also calls for greater emphasis on cost-effectiveness in the design and implementation of publicly-funded social programmes.

Making social spending better targeted to the poor

An improvement in the targeting of government spending on social programmes can be achieved through continued efforts to reform social security. Ensuring that the social security regimes for private- and public-sector workers are financially sustainable over time is a pre-requisite for making room in the budget for higher spending on more pro-poor social assistance programmes, and for increasing Brazil's preparedness to cope in the years to come with the spending pressures associated with a fairly rapidly ageing population. Spending pressures are also likely to intensify in the future as a result of technological progress, which is a major determinant of health-care costs. Making contributory pensions less regressive is also important. In this respect, adjustments to the value of the ceiling for publicly-funded pensions, which has recently been increased under RGPS, the regime for private-sector workers, should be weighed against the fact that it is likely to benefit the better-off disproportionately more than the poor, in addition to discouraging the development of complementary pension schemes, as discussed in Chapter 1.

Social programmes to which access is universal, such as education and health care, can also become more pro-poor. In the case of education, shifting the composition of government spending towards primary and lower-secondary education, is a necessary step in this direction. This could be achieved within the current budget envelope by increasing cost recovery in tertiary education, through for example the collection of fees from higher-income students. This policy option would also make room in the budget for outlays on programmes facilitating access by low-income students to higher education, such as means-tested scholarships. A better targeting of tax expenditures currently available to philanthropic educational institutions would also contribute. Equally important are efforts to extend FUNDEF to upper-secondary education, which is under discussion, should be supported in light of the programme's role in boosting primary and lower-secondary school enrolment (Annex 4.A2). Continued emphasis on school attendance as an eligibility condition for income transfer programmes, discussed below, is an additional option for making overall social spending more pro-poor.

In the case of health, greater emphasis on preventive care would make government spending more pro-poor. Achieving the appropriate balance between preventive and curative care is not an easy policy task. But an increase in the current level of *per capita* transfers by the federal government to the municipalities would allow for a broader range of preventive care services to be provided. Continued efforts to shift focus in budget-making from input-orientation towards the assessment of expenditure needs, based on epidemiological, demographic, and/or socio-economic indicators, for example, would also contribute to making public spending on health care more pro-poor. An additional option for improving the targeting of public spending on health is the reduction in income tax breaks for expenditure on health care. Private insurers should also be required to pay the full cost of services provided to enrolees treated in publicly-funded private clinics and hospitals as a means to strengthen incentives for broadening the coverage of existing insurance policies. Moreover, efforts to improve access by the poor to pharmaceuticals should be strengthened, including the supply of drugs at reduced prices to low-income individuals and households.[21] In this respect, Brazil's experience in providing free access to HIVS/AIDS treatment, based on the free distribution of generic drugs, as well as on a large preventive campaign, should be commended.[22]

Enhancing inter-governmental policy coordination

The diversity of existing social programmes, coupled with decentralised service delivery, often results in an overlap of initiatives and mandates, raising provision costs. Greater emphasis on inter-governmental coordination in the design and implementation of social programmes is therefore needed. The amalgamation in 2003 of four federal social assistance benefits (notably school grants and allowances for food and gas) under *Bolsa Família* is an example of recent initiatives in this area (Box 4.3). A recent proposal to increase the value of the federal benefit if other levels of government agree to share the budgetary cost is also emblematic of current efforts to boost inter-governmental policy coordination. Equally important in this regard is strengthening current efforts to set up a single cadastre of beneficiaries of social assistance programmes across and within different levels of government. This will not only render inter- and intra-government policy initiatives easier to implement but also reduce service delivery and administrative costs, while at the same time facilitating programme evaluation, and internal and social control over publicly-funded social spending.

Boosting the regional dimension of social policies

Federal programmes are in general standardised despite the geographical heterogeneity among Brazilian regions. In addition, most existing social programmes are not designed to address regional inequalities in human development. Existing regional development programmes often benefit regions that are considered poor within the state where they are located, rather than relative to a national poverty benchmark. Initiatives such as the *Alvorada* Programme are examples of more comprehensive policy actions aimed at reducing regional disparities in human development.[23] In this regard, human development indicators should be used more widely in the funding formulas for allocating federal grants among the regional governments. This is all the more important in view of Brazil's recent efforts to construct human development indicators at the regional, and particularly the municipal, level.

Information on sub-national social policies could be exchanged more widely. Several states have their own social assistance programmes, tailored to their own needs and subject to their own affordability constraints. Making information on these programmes available to policymakers in other jurisdictions would facilitate policy design elsewhere in the country and the dissemination of best practices. Likewise, the exchange of information on options to deal with the challenges arising from the decentralised provision of social services, including economies of scale, should be encouraged. In the case of health care, for example, experiences with inter-municipal consortia in hospital management and procurement, which are widespread in some regions, could be made more widely available. Dissemination of information on successful initiatives would likely encourage the municipalities to organise themselves into micro-regional entities to pool resources and share facilities.

Box 4.3. *Bolsa Família* and international experience with conditional cash transfers

Bolsa Família

Bolsa Familia (BF) was launched in October 2003 in the context of the new administration's *Fome Zero* programme, merging four existing federal conditional income transfers (*Bolsa Escola, Bolsa Alimentação, Cartão Alimentação, and Auxílio-Gás*).[1] Each of these programmes served a different purpose, while targeting more or less the same group of low-income households, and was administered separately, having different means-testing and service delivery methods, therefore raising operational costs. BF aims to improve efficiency, targeting, monitoring and evaluation, as well as encouraging a more comprehensive approach to social policies in education, health care and nutrition, and the vertical integration of federal and sub-national programmes. While BF aims to reduce poverty in the short run via direct income transfers to poor families, it seeks to provide beneficiaries with incentives and conditions to improve their health and education status, allowing them to grow out of poverty in the medium and long run.

BF targets groups in extreme and moderate poverty (households with monthly *per capita* income below BRL 50 and BRL 100, respectively), with further requirements such as school attendance (for children and youths) and pre-natal and primary care (for pregnant women and children under six years of age). The value of income transfers ranges between BRL 15 and BRL 95 per month in the case of federal programmes, depending on the recipient's income level and household composition. Benefits are preferably paid to the mother. The average beneficiary household receives about BRL 71, which is almost three times the total average benefit under the previous programmes. The number of BF beneficiaries reached 4 million households in June 2004, with 11 million households being targeted by 2006 and 13 million by 2007. The budgetary cost of BF is likely to more than double between 2004 and 2006 to 0.5 per cent of GDP.

International experience

In addition to Brazil's BF and child labour eradication (PETI) programmes, conditional income transfers (CITs) are available in several developing countries including Chile, Colombia, Honduras, Jamaica, Mexico, Nicaragua, and Turkey, to cite a few.

Mexico is among the pioneers in conditional CITs with the launching of *PROGRESA* in 1997.[2] By 2003, 4.3 million households had been enrolled in the programme, predominantly in rural areas. *PROGRESA* makes income transfers conditional on school attendance, with the value of benefits increasing with year of schooling, being higher for girls because of their higher drop-out rates. *PROGRESA* was extended to upper-secondary education in 2002. Basic health care, including nutrition, is provided to pregnant and nursing women and children under two years of age. Immediate income support accounts for up to 22 per cent of the beneficiaries' average income. *PROGRESA* is associated with a fall in malnutrition rates by 16 per cent since 1997, illnesses of children under five by 12 per cent, and an increase in the proportion of children that complete primary school by 14 per cent.

Chile introduced a CIT (*Chile Solidario*) in 2002 to eradicate extreme poverty. Beneficiaries receive income transfers for two years, having to sign a "contract" to improve seven "welfare dimensions" (health, education, family planning, work, income, housing, and quality of life) with the help of a social worker. The programme helps beneficiaries to apply for other social programmes of which they may be unaware, such as pensions and child/drinking water subsidies. Beneficiaries also have preferential access to targeted social programmes such as labour training, programmes for children at risk, and drug prevention.

Box 4.3. *Bolsa Família* and international experience with conditional cash transfers *(cont.)*

Turkey has provided education and healthcare grants to poor households since 2002.[3] The programme (*Sosyal Fon*) is administrated by the Social Solidarity Fund in coordination with the National Statistics Institute. Income transfers for education are provided nine months per year, with monthly payments decreasing with the number of children per family (USD 9.5, USD 8 and USD 6.4 for the first, second, and third child, respectively). In the case of health care, the value of income support is USD 8 per child under six years of age, irrespective of the number of children in a household. About 1.6 per cent of the population in both urban and rural areas currently benefit from the programme.

1. For more information, see Ministry of Social Development (*www.fomezero.gov.br*), and World Bank (2004a).
2. In March 2002, *PROGRESA* was renamed *Oportunidades* and several changes to its objectives and operational features were introduced, including an expansion to urban areas. See Rawlings and Rubio (2003) and OECD (2003b, 2003c), for more information.
3. See World Bank (2002), for more information.

Social programmes can be better integrated with broader social policies

Individual social programmes often serve different social purposes, making their integration within broader social policies necessary for cost-effective service delivery. This can be achieved, for example, through the continued use of school attendance as conditionality for income transfer programmes. *Bolsa Escola* (now part of *Bolsa Família*), making social assistance conditional on school attendance, has been among the better-integrated income transfers in Brazil. This has undoubtedly been an important factor behind the recent improvement in school enrolment. More rigorous evaluations of a similar programme in Mexico (*PROGRESA,* later renamed *Oportunidades*) have indicated that the effect is greatest towards the end of compulsory education, suggesting that it may be appropriate to pay higher benefits to teenagers than to younger children.[24] Making income transfers conditional on school attendance is also instrumental in improving the distribution of income. This is because, as in most countries, access to better-paid jobs is strongly correlated with education attainment. Equally important is the fact that education status is a particularly powerful determinant of earnings inequality between ethnic groups, which persists in Brazil.[25] For example, average hourly earnings are almost twice as high for white as for non-white workers, although the race-related earnings gap appears to be narrowing over time, particularly if differences in education attainment are taken into account.[26]

Integration between social programmes and social policies is particularly urgent in the case of labour programmes. For example, unemployment insurance protects formal-sector workers in the event of "unfair dismissal". But, because these workers are neither the poorest nor the most vulnerable, unemployment insurance becomes a poor social protection instrument, as discussed above. In an attempt to mitigate this shortcoming at least in part, the minimum required duration of formal employment to qualify for the benefit was reduced from 15 months to six months in the early 1990s and eligibility was extended to categories of workers, including fisherman and household workers, which are more likely to be employed informally. Moreover, unemployment insurance could be conditional on enrolment in labour training and job search programmes, given that these programmes are said to be underutilised, and few of the vacancies offered are matched. The qualification grant, given to workers temporarily released, but not fired, is a case in point. These workers receive the unemployment benefit while attending a qualification-training programme, and then return to their previous job.[27] Better integration of labour training programmes with unemployment insurance is all the more important in light of the increasing premium placed on education attainment in the formal labour market. Finally, greater effort is needed to better integrate professional training programmes provided by the federal government (*Programa Nacional de Qualificação*) and by other agencies, in particular the "S" system.

Facilitating access to social programmes, while improving the quality of services

In many cases, policies have focused on improving access to, rather than the quality of, services. In primary education, the focus of current policies should begin to shift towards reducing discrepancies in the quality of services, rather than facilitating broad access to schooling, a policy that has so far been largely successful. The fact that 60 per cent of the resources disbursed through FUNDEF are earmarked for teachers' remuneration can already be interpreted as a step towards quality improvement, as higher remuneration will increase the attractiveness of being a teacher. Investment in the training of teachers is another important step in improving the quality of education.[28] In upper-secondary education, however, lower enrolment rates may reflect to a large extent limited access to services. Facilitating access to upper-secondary education, particularly for the poor, is therefore important given the role of education in reducing income inequality, as well as the higher premium placed on schooling in the labour market. To this end, given FUNDEF's role in increasing primary and lower-secondary school enrolment, and that upper-secondary school enrolment remains relatively low, current discussion to extend FUNDEF to upper-secondary education could be deepened.

The delivery of health care service can also be made more efficient. Federal funds are currently channelled to the municipalities through more than 70 programmes and payment mechanisms, based on delivery costs, coverage of the SUS network, or population size. Local managers of health care facilities have little autonomy over staffing, remuneration, financing, and use of technologies.[29] In this regard, recent initiatives to improve the performance of SUS could be deepened and expanded, including the strengthening of accreditation programmes for hospitals, adjustments in reimbursement rates for public and private care, and improvements in government reimbursement systems. While these initiatives may have some effect, more comprehensive reforms are likely to be necessary to substantially improve the overall efficiency of the system. In particular, performance-based management systems, including goals and priorities, could be introduced more widely, and hospital accreditation programmes could to be unified and expanded. Efforts to encourage family physicians to play the expected gatekeeper role to more complex services, reducing the number of hospital stays and emergency services, and increasing basic care services, are additional steps in this direction. Finally, a standardised information system could be implemented to enable the monitoring of the performance of managers and institutions, including information on waiting lists and quality of services in general.

Making financial options consistent with budget flexibility

Making the financing of social services compatible with budget flexibility is of paramount importance. As discussed in Chapter 1, experience with the introduction of minimum spending floors as a means to reduce the risk of revenue shortfalls, and hence disruptions in service delivery, is mixed. While evidence suggests that the introduction of minimum spending levels *per capita* in preventive care and per student in primary education have been associated with an improvement in social indicators, it is unlikely that aggregate spending targets, as in the case of health care, following the 2000 constitutional amendment, would be equally cost-effective. Efforts to assess these provisions on a case-by-case basis would be welcome to highlight successful experiences and evaluate the benefits of this financing option, against the costs of overall budget rigidity.

Notes

1. See OECD (2001), as well as de Mello (2000a) and World Bank (2000a, 2003a, 2003b), for background information on social spending and policies in Brazil.
2. See Afonso and de Mello (2002), for more information.
3. See Chapter 1 and de Mello (2000b), for more information.
4. In particular, nearly 56 per cent of students are below Level 1, the lowest level of performance, against about 50 per cent in Chile, 44 per cent in Argentina and Mexico, and 80 per cent in Peru. Less than 1 per cent of students reached the top level of performance, compared to an OECD average of about 10 per cent. See OECD (2003a), for more information.
5. See Baldacci, Guin-Siu, and de Mello (2002), for empirical evidence for developed and developing countries. Recent research also suggests a positive relationship between public spending on health care and premature mortality in a sample of OECD countries (Or, 2000). In general, the link between public spending and social outcomes is stronger in education (Flug, Spilimbergo, and Watchenheim, 1998).
6. See, for example, Bourguignon (2002) and ECLAC (2003), for more information.
7. Based on the poverty line adopted by IPEA, Ministry of Planning and Budget, of about 31 per cent of the population and a poverty gap of 13 per cent of the poverty line, the average income shortfall of a poor individual was about BRL 660 per year in 2002. The total income shortfall of those individuals estimated to be below the poverty line is therefore equal to about 2.7 per cent of GDP. These calculations are based on a constant poverty line in real terms, but the poverty line itself may change over time.
8. Social insurance coverage was extended in the 1990s to rural workers of both genders even if they have not paid social security contributions. Claimants are only required to provide evidence of 15 years of work in farms or other rural activities to be eligible for a minimum pension at age 60 (men) or 55 (women), as well as for other benefits (*e.g.,* disability, maternity, and work accident). Such pensions are now paid to nearly 7 million rural workers.
9. Together with public hospitals and clinics, these publicly-funded private hospitals make up the National Health System (*Sistema Único de Saúde*, SUS). Funded through general and earmarked taxes, SUS provides universal access to primary, secondary, and complex care to all residents. SUS was created by the 1988 Constitution, which consolidated the existing publicly-funded health care programmes and extended coverage to the entire population. The system is managed in a decentralised manner. SUS accounts for about one-half of total public spending on health care. See OECD (2001), for more information.
10. These aggregate incidence rates mask regional discrepancies. Empirical evidence is scarce but, for example, Soares (1999) shows that nearly one-third of public pensions accrue to the lowest income quintile in the metropolitan region of São Paulo, against nearly one-fifth to the highest quintile.
11. Based on the 2001 National Household Survey (PNAD).
12. See Gill, Packard, and Yermo (2004), for more information. Also, according to Barros, Mendonça, and Santos (1999), pensions and social security benefits account for almost 60 per cent of *per capita* household income in the case of poor individuals in the over-60 age group, against nearly 47 per cent for the non-poor in the same age group.
13. See World Bank (2000b) and Schwarzer and Querino (2002), for more information.
14. See Morley (2003) and Carvalho (2001), for more information.
15. Private sector pensions averaged less than two minimum wages in the second half of the 1990s, while public sector pensions in the executive branch of the federal government were, on average, seven times higher. See de Mello (2000b), for more information.

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16. See Ministry of Finance (2003), for further discussion.
17. See Federal Revenue Service (2001), for more information.
18. Much of labour legislation appears to be widely observed in the formal and informal sectors: most formal and informal employees work around 44 hours per week and administrative procedures are often similar in both sectors. Minimum wage legislation may even have a stronger impact on wage setting and unemployment in the informal sector, where wages are lower.
19. The employers' contribution rate includes 20 per cent to social insurance, 8.5 per cent to FGTS (including the 0.5 percentage-point surcharge introduced in 2001), and charges to finance several specialised institutions (*e.g.*, the so-called "S" system to finance labour training, education, small-business support, and agricultural development). Other social charges are based on turnover, notably for unemployment insurance and employment services. The employees' contribution rate for social insurance is 7.65 per cent for earnings of up to 3 minimum wages, 9 per cent for earnings between 3 and 5 minimum wages, and 11 per cent for earnings between 5 and 10 minimum wages.
20. The coverage of private health insurance is relatively low in Brazil, at nearly 25 per cent of the population, against about one-third on average in the OECD area. Access to private health insurance is skewed towards the better-off, with 75 per cent of policy-holders having household income over five minimum wages, and 95 per cent of them living in urban areas, mainly in the South and South-East of the country.
21. In principle, drugs are provided free of charge by SUS, but in practice most pharmaceuticals are purchased privately, placing a disproportionate burden on the poor. To deal with this problem, a programme was created for pharmaceutical assistance (*Política de Assistência Farmacêutica*), comprising the Basic National Pharmacy Programme, to distribute general drugs to municipalities with less than 21 000 inhabitants). Additional initiatives in this area include the Generic Drugs Programme, to encourage the domestic production of generic drugs, and the *Farmácia Popular* Programme, set up in 2004 making a limited variety of pharmaceuticals available at a low price to low-income individuals and households.
22. Antiretroviral therapy has been provided by the government since 1997. Brazil now produces seven of the 14 drugs distributed to nearly 115 000 patients, contributing to a 50-per cent drop in the number of HIV/AIDS-related deaths since 1996.
23. The *Alvorada* Program, launched in 2000, focused social policies and government spending on existing social programmes, particularly in the areas of health care, education, and income support, in the states and municipalities with human development indices below the national median.
24. See Attanasio *et al.* (2001), for more information.
25. Based on the 2000 population census, about 45 per cent of the population report itself as "non-white", representing about two-thirds of the population in the North and North-east, one-half in the Centre-West and over one-third in the South-east, but only 15 per cent in the South.
26. Based on empirical evidence reported by Bourgignon, Ferreira, and Menendez (2003) comparing age cohorts, the negative effect of being non-white may be slowly diminishing, as suggested by a weaker earnings impact for workers born in the 1960s and 1970s than for those born in the 1940s. Also, schooling affects earnings positively for practically all social groups, albeit less so for women than for men, increasing with age (as proxy for experience). Parents' education attainment is another key factor, affecting earnings both indirectly, via educational choices, and as a more direct effect on their children's success in the labour market. See also Martins (2004), for more information.
27. SINE (National Employment Service) is the main responsible for job matching programmes. Since 1990, labour unions have also been active in this area. SINE's job matching rate has been stable at about 50 per cent since the second half of the 1990s. The proportion of vacancies filled through SINE compared to the total number of vacancies filled (according to CAGED) increased from 2 per cent to 9 per cent in the same period. Compared to international standard, these results are nevertheless still low.
28. Noteworthy in this respect is the FUNDESCOLA III programme, which focuses on increasing completion rates in primary education, increasing quality, setting minimum standards, and replacing uncertified by certified teachers. Other teacher training programmes are also available, such as *Rede Nacional de Formação* and *Pró-Formação*.
29. Nationwide, there is an overcapacity of beds and complex diagnostic services, an overrepresentation of patients with diseases that could be dealt with in primary care, and reimbursements that are unrelated to costs. See World Bank (2003b), for more information.

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ANNEX 4.A1

Labour informality: taxes and employment protection legislation (EPL)

Rising informality in the labour market

The rise in formal unemployment in recent years, and especially before 2002, has been accompanied by an increase in informality (Figure 4.A1.1).[1] This is because the loss in formal-sector jobs in metropolitan areas – reflecting at least in part the expansion of the services sector, to the detriment of manufacturing – has not been fully offset by the creation of formal jobs elsewhere. But these trends need to be assessed with caution, because of considerable methodological differences in Brazil's main labour market surveys, often leading to conflicting interpretations.[2] In any case, rising informality has heightened the vulnerability of certain social groups. Formal labour demand has shifted towards more skilled labour, underscoring the need for greater emphasis in social policies on human capital development. Nearly 70 per cent of the unemployed have a low level of schooling, as the demand for labour is placing an increasingly higher premium on additional years of formal education. In line with international trends, in the larger metropolitan areas, upper-secondary education and basic computer knowledge are pre-requisites even for routine and operational tasks. Job turnover is also high in the informal sector, creating disincentives for adequate investment in job-specific human capital.

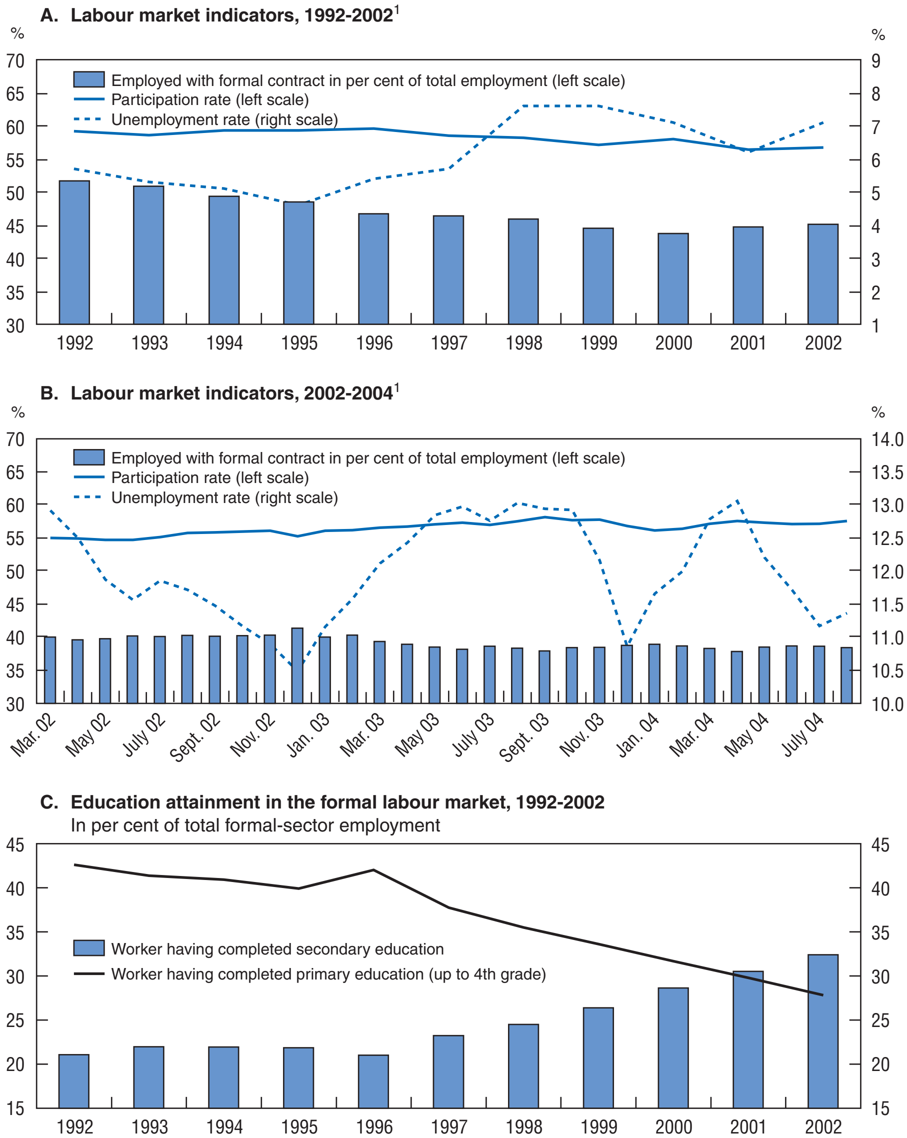
Assessing EPL rigidity

On the basis of an indicator constructed by the OECD (methodology described below), the rigidity of Brazil's employment protection legislation (EPL) is comparable to the OECD average (Table 4.A1.1).[3] This is due to a combination of below-average rigidity for regular contracts and above-average rigidity for fixed-term and temporary-work contracts. Brazilian legislation poses relatively few procedural and practical restrictions on firing workers with open-ended contracts. Brazil is more flexible than most OECD countries with regard to large-scale or "collective" dismissals, imposing no additional constraints in such cases other than those that apply to individual dismissals. Dismissals are therefore less costly to employers in Brazil than in many European and Latin American countries, though more expensive than in North America or the United Kingdom.

Standard dismissal procedures are routinely called "unfair" in Brazil's legal terminology.[4] This results from incentives created by severance pay legislation (FGTS). The payment of severance benefits is financed by a payroll contribution, which employers must pay regardless of whether or not they dismiss workers. On unfair dismissal ("*sem justa causa*"),

Figure 4.A1.1. **Labour market trends**

In per cent



1. Due to a methodological change in 2002, these indicators are not comparable over time.

Source: Monthly Employment Survey (PME), IBGE; Ministry of Labour; IPEA, Ministry of Planning and Budget.

the worker receives the fund balance and the employer must pay a severance "indemnity" in addition. While the severance indemnity provides employers with a financial incentive to avoid dismissal, other features in the system may have the opposite effect. In particular, the combination of a below-market rate of return on fund assets and limited options for withdrawal may incite workers to accept, or even to bring about their own dismissal, in order to withdraw their fund balances.[5] This practice appears to explain an observed tendency for voluntary quits to be reported as unfair dismissals, and it is probably one of several factors behind the high separation rate.

Table 4.A1.1. **Rigidity of employment protection legislation in OECD countries, Brazil and Chile, 2003**[1]

Scores (0-6), Countries ranked from lowest to highest overall rigidity

	Termination of indefinite contracts				Collective dismissals (additional procedures)	Temporary jobs[4]	Overall score[5]
	Procedural inconveniences[2]	Notice and severance pay	Difficulty of achieving dismissal[3]	Average			
United States	0.0	0.0	0.5	0.2	2.9	0.3	0.7
United Kingdom	1.0	1.1	1.3	1.1	2.5	0.4	1.0
Canada	1.0	1.0	2.0	1.3	2.9	0.3	1.1
New Zealand	2.0	0.4	2.7	1.7	0.4	1.3	1.3
Ireland	2.0	0.8	2.0	1.6	2.4	0.6	1.3
Australia	1.5	1.0	2.0	1.5	2.9	0.9	1.5
Switzerland	0.5	1.5	1.5	1.2	3.9	1.1	1.6
Hungary	1.5	1.8	2.5	1.9	2.9	1.1	1.7
Chile	1.0	2.8	3.3	2.3	0.0	2.0	1.8
Japan	2.0	1.8	3.5	2.4	1.5	1.3	1.8
Denmark	1.0	1.9	1.5	1.5	3.9	1.4	1.8
Czech Republic	3.5	2.7	3.8	3.3	2.1	0.5	1.9
Korea	3.3	0.9	3.0	2.4	1.9	1.7	2.0
Slovak Republic	5.0	2.7	2.8	3.5	2.5	0.4	2.0
Finland	2.8	1.0	2.8	2.2	2.6	1.9	2.1
Poland	3.0	1.4	2.3	2.2	4.1	1.3	2.1
Austria	2.5	0.9	3.8	2.4	3.3	1.5	2.2
Brazil	**0.0**	**2.2**	**2.0**	**1.4**	**0.0**	**3.9**	**2.2**
Netherlands	4.0	1.9	3.3	3.1	3.0	1.2	2.3
Italy	1.5	0.6	3.3	1.8	4.9	2.1	2.4
Germany	3.5	1.3	3.3	2.7	3.8	1.8	2.5
Belgium	1.0	2.4	1.8	1.7	4.1	2.6	2.5
Norway	2.0	1.0	3.8	2.3	2.9	2.9	2.6
Sweden	3.0	1.6	4.0	2.9	4.5	1.6	2.6
France	2.5	1.9	3.0	2.5	2.1	3.6	2.9
Greece	2.0	2.2	3.0	2.4	3.3	3.3	2.9
Spain	2.0	2.6	3.3	2.6	3.1	3.5	3.1
Mexico	1.0	2.1	3.7	2.3	3.8	4.0	3.2
Turkey	2.0	3.4	2.3	2.6	2.4	4.9	3.5
Portugal	3.5	5.0	4.3	4.3	3.6	2.8	3.5
Average OECD	2.2	1.7	2.7	2.2	3.0	1.8	2.2

1. Refers to the state of legislation in 2003 for all countries, and 2004 for Brazil.
2. Refers to procedures and delays before giving notice.
3. Refers to valid reasons, possible probationary period before new workers are entitled to protection, compensation for unjustified dismissal, extent of reinstatement.
4. Refers to fixed-term contracts and temporary-work agencies. For Chile and Mexico, the scores estimated for fixed-term contracts are taken to apply to temporary-work agencies as well.
5. The following weights are used: indefinite contracts, 5/12; collective dismissals, 2/12; and temporary jobs, 5/12.

Source: OECD (2004b), OECD (2003c), and Annex 4.A1.

Against this background, the possibility of reforming FGTS should be considered in conjunction with Brazil's unemployment insurance (UI) paid through FAT, which also covers formal-sector workers. OECD experience shows that UI is preferable to severance benefits because it can be combined with more effective measures to promote re-employment, despite the fact that the FGTS savings accounts in some ways have desirable, non-distortive features. Also, monitoring and enforcing a legal job-search requirement for

UI can be problematic, especially where many of the jobless have informal jobs and if the public employment service has few formal-sector jobs to offer.

Moreover, the probationary period, during which employees are not fully covered by EPL provisions and unfair dismissal claims cannot be made, is relatively short and possibilities for reinstatement are foreseen by law. The main sources of rigidity in Brazil, as measured by the OECD's scoring method, are the restrictions placed on fixed-term and temporary-work contracts. Fixed-term contracts are subject to several restrictions, including trade union consent, and are limited to 24 months in duration. Temporary-work agencies cannot assign workers for more than three months. Restrictions on fixed-term and temporary-work contracts appear to discourage the use of formal contracts in such jobs, as evidenced by the fact that jobs of short duration are often informal. It is also important to note that a more comprehensive evaluation of the impact of EPL on the economy remains difficult, because the relative ease for firms to operate informally, in contrast with many OECD countries.

Widespread informality makes the targeting of government spending on labour protection programmes difficult. Due to short job tenure and high job turnover, FGTS balances are typically low for low-income workers who also often fail to qualify for unemployment insurance.[6] As a result, unemployment insurance and the salary bonus may end up benefiting the non-poor more than the poor, who typically do not have formal labour contracts.[7] Other labour programmes, such as worker's nutrition, job creation, and training, are estimated to be better targeted to low-income workers. It has been argued that the incidence of the worker' nutrition programme has improved by extending the programme to smaller enterprises, where labour compensation is typically lower.

Calculating EPL scores

The Secretariat has constructed an index of rigidity of employment protection legislation (EPL) by focusing on legal provisions for regular employment and temporary work in OECD countries. The original indices, based on the state of legislation in 1998, have now been re-calculated to take account of changes in regulations during 1998-2003.[8] Outside the OECD area, estimates of EPL rigidity following this methodology are also available for Chile. Estimates for Brazil, reported in the main text, are based on the answers by the Brazilian authorities to a standard questionnaire (below).

The EPL index ranges between 0 and 6, with "0" indicating the lowest, and "6" the highest, level of rigidity. Scoring is based predominantly on labour legislation, but also tries to take into account judicial practices and court interpretations of legal and contractual provisions. On the basis of the information provided by individual countries on their legislation, a multi-step procedure is used to compile cardinal summary indicators of EPL rigidity that allow for international comparisons. The EPL indicator system has the form of a pyramid with 22 low-level detailed items at the bottom and an overall summary indicator at the top. At a first stage, the 22 detailed items, expressed in different units (*i.e.,* time, scores on an ordinal scale, etc.), are converted into cardinal scores ranging from 0 to 6. These scores are subsequently weighted to calculate three sets of indicators summarising regulations on: *i)* permanent contracts, *ii)* temporary contracts, and *iii)* collective dismissals. Finally, an overall indicator is calculated for each country based on the three underlying groups, assigning a lower weight to collective dismissals than to the other two components. This is because collective dismissals only reflect additional employment protection relative to regulations on individual dismissals, which is modest in most countries.

Answers to EPL questionnaire

This annex reports the answers provided by the Brazilian authorities to the questionnaires used to construct the EPL summary index, reflecting the state of legislation in August 2004.

	Components of EPL	Description
1.	Notification procedures	Oral or written notice.
2.	Delay before notice can start	Once notice is given, termination becomes effective upon expiration of the respective period of notice. If the employer reconsiders the dismissal before the end of the notice period, the worker may accept or reject that decision. If the worker accepts reconsideration or continues to work after the notice period expires, the employment contract will remain valid as if no notice had been given.
3.	Notice/tenure	Advance notice of at least 8 days for workers paid on a weekly basis, or 30 days for those paid on a fortnightly or monthly basis or who have worked in the firm for more than 12 months.
4.	Severance pay/tenure	In the case of "unfair" (*sem justa causa*) dismissal, private-sector workers are entitled to an indemnity (*multa*) of 40 per cent of the total amount deposit in their name in the *Fundo de Garantia por Tempo de Serviço* (FGTS). To constitute this fund, the employer deposits 8 per cent of the worker's monthly earnings into a saving account in the worker's name. The indemnity is paid over and above the deposits in the employee's FGTS account during the employment contract. Note that this applies only as of the fourth month of the employment contract, the first three months being considered, although not embodied in legislation, as a probationary period.
5.	Definition of justified or unfair dismissal	The following cases constitute grounds for "fair" (*com justa causa*) dismissal: *i)* dishonest acts; *ii)* immoral conduct or misbehaviour; *iii)* regular conduct of business by the worker for his own or another person's account, without the employer's permission, in competition with or to the detriment of the employer; *iv)* criminal conviction, unless the sentence has been suspended; *v)* negligence; *vi)* habitual or on-the-job drunkenness; *vii)* breach of company secrecy; *viii)* breach of discipline or insubordination; *ix)* abandonment of the job; *x)* physical or verbal aggression in the workplace against any person, except in self defence or in defence of third parties; *xi)* physical or verbal aggression against the employer or a superior, except in self defence or in defence of third parties; *xii)* habitual gambling. Acts prejudicial to national security, if proven in administrative proceedings, also constitute grounds for fair dismissal. A worker may deem his contract terminated, and may claim due indemnity, when: *i)* the employer seeks to impose on the employee the execution of services beyond the scope of the employment contract, or beyond the employee's physical capacity, or that constitute legally prohibited or morally degrading acts; *ii)* the employee is subject to excessive disciplinary action by the employer or a superior; *iii)* the employee is exposed to considerable hazards; *iv)* the employer fails to perform his/her obligations under the employment contract; *v)* the employer or its agents engage in acts against the honour or reputation of the employee or his family; *vi)* the employer physically attacks the employee, except in self defence or in the defence of third parties; and *vii)* the employer reduces the employee's workload, thereby reducing the employee's salary significantly. A worker may stop providing service or may terminate the employment contract when required to perform legal obligations incompatible with continued employment. In the event of the death of an employer constituted as an individual enterprise, the employee is entitled to terminate the employment contract. In items *iv)*, *v)*, and *vii)*, the worker may request the termination the employment contract and receive the respective indemnities, and may at his/her discretion continue to provide service until the case is decided.
6.	Trial period	Not covered by legislation.
7.	Compensation following unfair dismissal	Private-sector workers are entitled to an indemnity of 40 per cent of the total amount registered in their name in FGTS, discussed above.
8.	Possibility of reinstatement following unfair dismissal	The law provides for this possibility, but it is rarely used because of the indemnity paid through FGTS.
9.	Valid cases for use of fixed-term contracts, other than "objective" or "material" situation	A fixed-term contract will only be valid in cases where: *a)* the nature of the job justifies establishment of a fixed term; *b)* the activities of the business are of a temporary or seasonal nature; and *c)* the contract is probationary.
10.	Maximum number of successive fixed-term contracts	May be extended once, not to exceed 2 years.
11.	Maximum cumulated duration of successive fixed-term contracts	24 months.

	Components of EPL	Description
12.	Types of work for which TWA employment is legal	Work in urban areas to meet a temporary or seasonal need for regular and permanent employees, or to cope with an extraordinary workload increase.
13.	Are there any restrictions on the number of renewals of a TWA contract?	Yes. The maximum term of a temporary work contract is 3 months, unless otherwise authorised by the Ministry of Labour and Employment.
14.	Maximum cumulated duration of temporary work contracts	3 months.
15.	Definition of collective dismissal	No legal provisions exist.
16.	Additional notification requirements in case of collective dismissals	No legal provisions exist. The matter may however be covered by collective bargaining.
17.	Additional delays involved in case of collective dismissals	No legal provisions exist. The matter may however be covered by collective bargaining.
18.	Other special costs to employers in case of collective dismissals	No legal provisions exist. The matter may however be covered by collective bargaining.

Notes

1. See Camargo, Neri and Reis (2000) and Chahad and Cacciamali (2003), for more information.
2. Employment surveys focusing on metropolitan areas, such as the Monthly Employment Survey (*Pesquisa Mensal de Emprego*, PME) tend to understate job creation in other areas, as evidenced by the Ministry of Labour's RAIS and CAGED datasets, which are based on administrative records for formal-sector workers, and have broader geographical coverage. See Paiva (2004), for more information.
3. The World Bank Employment Laws Index (World Bank, 2004*b*), places Brazil among the countries with most rigid EPLs in the world including both OECD and non-OECD countries. The World Bank index is more comprehensive than the EPL scores presented here, as it also focuses on work conditions, such as regulations on working hours and annual leave, as well as on minimum wage regulations.
4. For more information, see Amadeo *et al.* (2000) and Gonzaga (2003).
5. If a worker wants to be dismissed in order to have access to his/her FGTS balance, he/she might be willing to forgo the 40 per cent indemnity.
6. Gonzaga (2003) estimates the average duration of informal jobs to be around one year for informal employees who subsequently became unemployed.
7. Barros, Corseuil, and Foguel (2000) show that only about one-third of unemployment benefit and salary bonus recipients is poor. Likewise, Ramos (1999) shows that over 40 per cent of unemployment insurance payments accrue to households with income between 20 and 30 minimum wages, against less than 6 per cent in the case of households with income between 3 and 5 minimum wages. See also World Bank (2000a), for more information.
8. The methodology used to calculate the EPL index is described in Chapter 2 of 1999 *Employment Outlook* (OECD, 1999). See also OECD (2004*b*) for the updated EPL scores and summary of legal provisions in member countries, reflecting changes in regulations during 1998-2003.

ANNEX 4.A2

FUNDEF and its effect on school enrolment

Background

FUNDEF (*Fundo de Mantenção e Desenvolvimento do Ensino Fundamental e de Valorização do Magistério*) was created in 1996 and implemented in January 1998 in most states.[1] It changed the mechanism for financing sub-national spending on education in two main ways. *First,* a national spending floor was introduced per student enrolled in primary and lower-secondary education (1st to 8th grades), coupled with a framework for the allocation of funds between the state and municipal public school networks. *Second,* it requires the federal government to top up spending in those states that cannot afford the national spending floor. Since 2000, different floors have been set for primary education (1st to 4th grades), and for lower-secondary education (5th to 8th grades), at 5 per cent above the value for primary education. The spending floors have been adjusted over time, keeping their real value roughly constant.[2]

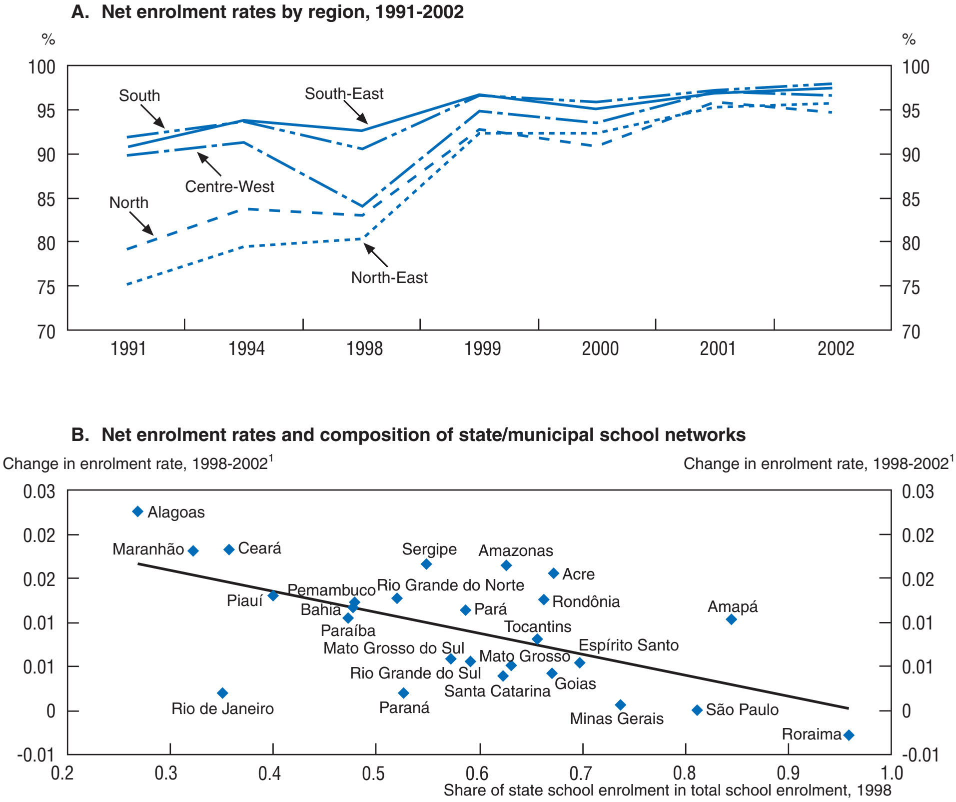
FUNDEF is financed by earmarking 15 per cent of *i)* the state and municipal allocations in the revenue-sharing funds with the federal government (*Fundo de Participação dos Estados*, FPE, and *Fundo de Participação dos Municípios*, FPM), *ii)* revenue from the state value-added tax (ICMS), *iii)* revenue from the federal value-added tax levied on exports (IPIexp), and *iv)* federal transfers to the states associated with *Lei Kandir*.[3] FUNDEF resources are allocated within each state according to the number of students enrolled in the state and municipal public school networks. At least 60 per cent of FUNDEF allocations must be spent on personnel, with the remaining share being spent on operations and maintenance. Within FUNDEF, the municipalities are required to spend at least 25 per cent of their revenue on education (at least 15 per cent on primary education).

Enrolment rates have risen sharply since the early 1990s, particularly after 1998, when FUNDEF was implemented (Figure 4.A2.1). Although this increase cannot be attributed solely to FUNDEF, there appears to be a strong association between changes in enrolment rates and the composition of enrolment between state and municipal schools, which has been changing over time in favour of the municipal school network (Table 4.A2.1).

Empirical evidence

The hypothesis to be tested is that the creation of FUNDEF has had a discernible impact on state-level net enrolment rates. This can be done by regressing the rate of change in net enrolment rates in each state on the initial enrolment rate and a number of control variables, including state-level *per capita* GDP (to control for differentials in income

Figure 4.A2.1. **Net enrolment rates: primary and lower-secondary education**



1. Average annual per cent change in net enrolment rate during 1998-2000.

Source: Ministry of Education and OECD calculations.

Table 4.A2.1. **The composition of enrolment by region, 1998-2004**

Ratio of enrolment in primary and lower-secondary education in state to municipal school networks (in per cent)

	1998	2001	2004[1]
North	63.1	45.4	40.3
North-East	42.7	35.2	28.0
South-East	71.4	59.5	53.2
South	57.3	54.7	51.8
Centre-West	64.0	57.3	50.9

1. Preliminary estimate.

Source: Ministry of Education, and OECD calculations.

and development), repetition rates (to control for quality differentials in the provision of education services), public spending on education (to control for municipal spending that is unrelated to FUNDEF). Indicators that are specific to the functioning of FUNDEF are also considered, including a dummy variable identifying the period 1998-2001; the ratio of state to municipal school enrolment, reflecting the relative size of state and municipal school networks, and changes in the real value of FUNDEF transfers per student, reflecting the availability of funds to finance sub-national spending on education.

The data set includes 26 states (excluding the Federal District) and spans the period 1991, 1994, and 1998-2001. The data sources are as follows. Data on net enrolment rates are available from the Ministry of Education (INEP) for the years 1991, 1994, 1998, 1999, and 2000, and from IBGE for 2001 (PNAD) and 2002. Data for GDP *per capita* are available from IPEA. Data on repetition rates are available from the Ministry of Education (INEP). The value for 1994 was not readily available, and therefore the closest value (1995) was used instead. Data on transfers per student under FUNDEF are available from the Ministry of Education for the period 1998-2001. Data on enrolment rates in state and municipal schools are available from the Ministry of Education for the post-1998 period. Data on total municipal spending on education and culture are available from the Ministry of Education for the post-1994 period.

The empirical findings, reported in Table 4.A2.2, suggest that the implementation of FUNDEF is associated with an increase in enrolment in primary and lower-secondary education: enrolment rates rose by more than 2 per cent per year faster after the introduction of FUNDEF than in the period 1991-98 (Model 1).[4] To be sure that this is due at least in part to FUNDEF, two indicators were included in the regressions: the ratio of state to municipal school enrolment and changes in the value of transfers under FUNDEF (Model 2). While the share of enrolment in the state school network seems to affect enrolment negatively, FUNDEF transfers are important determinants of school enrolment: the higher the transfers, the faster the increase in enrolment rates. The control variables are by and large as expected. The initial level of enrolment is strongly significant and has the expected negative sign, suggesting convergence in enrolment rates among the states, with laggards catching up with their better performing counterparts. Municipal spending on education/culture has a strongly significant and positive impact on the evolution of enrolment, as expected (all models). Income differentials also matter, with GDP *per capita*

Table 4.A2.2. **Brazil: FUNDEF and net enrolment rates**[1]

Dep. Var.: Yearly change in net enrolment rate (in per cent)

	Baseline	Model 1	Model 2
Initial enrollment rate (log)	–0.26***	–0.35***	–0.84***
	(–6.93)	(–8.43)	(–7.17)
GDP *per capita* (log, lagged)	0.001	0.007	0.01*
	(0.22)	(1.58)	(1.69)
Repetition rate (lagged)	0.000	0.000	–0.001
	(0.91)	(0.06)	(–1.61)
Change in public spending on education (lagged)	0.017***	0.021***	0.021***
	(3.70)	(4.73)	(3.53)
FUNDEF dummy (post-1998 period)		0.02***	
		(4.13)	
State/municipal enrolment ratio (log, lagged)			–0.016*
			(–1.70)
Change in spending per student (FUNDEF, lagged)			0.092**
			(2.22)
Intercept	1.16***	1.49***	3.757***
	(6.57)	(8.08)	(7.01)
No. of observations	130	130	78
No. of states	26	26	26

1. All models have been estimated by random effects. The absolute values of z statistics are reported in parentheses. Statistical significance at the 1, 5, and 10 per cent levels is indicated by, respectively, ***, **, and *.

Source: OECD calculations.

having the expected positive sign (although not always at a classical level of significance), indicating that richer states have higher enrolment rates. Repetition rates, proxying for differences in performance, do not seem to have a strong effect on enrolment.

Notes

1. With the exception of the state of Pará, where it was implemented in July 1997.
2. See Ministry of Education (2003), for more information.
3. Complementary Law No. 87/96 (*Lei Kandir*) requires the federal government to compensate the states for the revenue losses associated with the exemption of exports of primary and semi-manufactured goods from value added taxation (ICMS).
4. Running various regressions using dummies for each year confirms this result. While the growth rate in enrolment from 1999 to 2000 was not statistically different from the period before 1998, the other three time periods carry coefficients that are strongly significant, positive, and vary over time, indicating that growth rates in enrolment rates have been largely higher after 1998 than before.

ISBN: 92-64-00747-4
OECD Economic Surveys
Brazil

List of acronyms

ANA	National Water Agency *Agência Nacional de Águas*
ANATEL	National Telecommunications Agency *Agência Nacional de Telecomunicações*
ANEEL	National Electricity Agency *Agência Nacional de Energia Elétrica*
ANP	National Petroleum Agency *Agência Nacional do Petróleo*
ANTAQ	National Water Transport Agency *Agência Nacional de Transportes Aquaviários*
ANTT	National Land Transport Agency *Agência Nacional de Transportes Terrestres*
ANVISA	National Public Health Agency *Agência Nacional de Vigilância Sanitária*
BB	Bank of Brazil *Banco do Brasil*
BCB	Central Bank of Brazil *Banco Central do Brasil*
BNDES	National Economic and Social Development Bank *Banco Nacional de Desenvolvimento Econômico e Social*
BOVESPA	São Paulo Stock Exchange *Bolsa de Valores de São Paulo*
BVRJ	Rio de Janeiro Stock Exchange *Bolsa de Valores do Rio de Janeiro*
CADE	Administrative Council for Economic Defense *Conselho Administrativo de Defesa Econômica*
CEF	National Savings Bank *Caixa Econômica Federal*
CMN	National Monetary Council *Conselho Monetário Nacional*
COPOM	Monetary Policy Committee *Comitê de Política Monetária*

CVM	Securities and Exchange Commission *Comissão de Valores Mobiliários*
FAT	Unemployment Insurance Fund *Fundo de Amparo ao Trabalhador*
FGTS	Unemployment Severance Fund *Fundo de Garantia por Tempo de Serviço*
IBGE	Brazilian Institute of Geography and Statistics *Instituto Brasileiro de Geografia e Estatística*
INEP	National Institute of Studies and Research on Education *Instituto Nacional de Estudos e Pesquisas Educacionais Anísio Teixeira*
INSS	National Social Security Institute *Instituto Nacional de Seguridade Social*
IPEA	Institute of Applied Economic Research *Instituto de Pesquisa Econômica Aplicada*
SDE	Secretariat for Economic Law *Secretaria de Direito Econômico*
SEAE	Secretariat for Economic Monitoring *Secretaria de Acompanhamento Econômico*
SPC	Secretariat of Complementary Pensions *Secretaria de Previdência Complementar*
STN	National Treasury *Secretaria do Tesouro Nacional*
SUSEP	Department of Private Pensions *Superintendência de Seguros Privados*
TCU	Federal Court of Accounts *Tribunal de Contas da União*

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Title: OECD Economic Surveys: Brazil – Volume 2005 Issue 2

ISBN: 92-64-00747-4 OECD Code (printed version): 10 2005 02 1

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OECD PUBLICATIONS, 2, rue André-Pascal, 75775 PARIS CEDEX 16
PRINTED IN FRANCE
(10 2005 02 1 P) ISBN 92-64-00747-4 – No. 53863 2005
ISSN 0376-6438