Brazil

Critical Issues in Social Security
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The World Bank
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VII. APPENDIX: EXECUTIVE SUMMARY IN PORTUGUESE (SINOPSE DO RELATÓRIO) .................. 201
This report consists of two volumes. Volume I contains a detailed summary of the report’s findings and their policy implications, written for a general audience interested in the main messages of the report. Volume II is the Policy Report which is directed at policy makers and specialists, and contains discussions of the most important policy recommendations for each of the components of the Brazilian social security system.

The report was prepared by a World Bank team consisting of Indermit S. Gill (Task Manager, LCSHD), Truman G. Packard (Social Protection Specialist, LCSHD), Juan Yermo (Consultant, LCSFP, now with the OECD), Anita M. Schwarz (Senior Human Resources Economist, HDNSP) and Dimitri Vittas (Lead Economist, DECRG). The report was produced under the supervision of Gobind T. Nankani (Director, Brazil Country Management Unit – LCC5C), Suman Bery (Lead Economist, LCC5C), and Eliana Cardoso (Lead Specialist – Economic Policy, LCSPR). Robert Holzmann (Director, Social Protection, HDNSP) provided guidance and advice to the team throughout the process. The peer reviewers were Louise Fox (Lead Specialist – Pensions, HDNSP), P.S. Srinivas (Financial Economist, LCSFP), and Mariluz Cortes (Principal Operations Officer, LCSFP), and the outside reviewers were Olivia S. Mitchell (Professor, Wharton School – University of Pennsylvania) and Francisco E. B. Oliveira (IPEA – Rio de Janeiro).

This task was carried out in close collaboration with the Federal Government of Brazil, especially with officials of the Ministry of Social Security (MPAS) under the leadership of Minister Waldeck Ornelas. The report team is thankful to many persons in MPAS who patiently provided guidance and encouragement, especially Vinicius C. Pinheiro (Secretary of Social Security), Marcelo Viana Esteveu (former Secretary for Social Security), Paulo Kliass (Secretary for Complementary Social Security), and Marcelo Caetano. The report team is also grateful to officials of the Government of the State of Parana for their help in understanding the complexities of state pension systems. We would especially like to thank Governor Jaime Lerner, Renato Follador Junior (Special Secretary for State Pensions), Miguel Salomão (Secretary for Planning), Alcyone Saliba (Secretary of Education), and Claudia Busnardo.

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The collaboration of many other Government officials, other individuals and institutions is gratefully acknowledged. Nevertheless, the opinions presented here are those of the World Bank and should not be attributed to any of the individuals or institutions acknowledged above.
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>BNDES</td>
<td>National Development Bank (Banco Nacional de Desenvolvimento Econômico e Social)</td>
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<tr>
<td>CLT</td>
<td>Consolidated Labor Code (Consolidação de Lei do Trabalho)</td>
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<td>DATAPREV</td>
<td>Parastatal agency providing data support to the Ministry of Social Security (Empresa de Processamento de Dados da Previdência Social)</td>
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<tr>
<td>DB</td>
<td>Defined Benefit Pension Plan, where pensions are based on a formula based on years of service and earnings</td>
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<tr>
<td>DC</td>
<td>Defined Contribution Pension Plan, where pensions depend on contributions and investment earnings</td>
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<td>DEPEM</td>
<td>Department for Pension Regimes of States and Municipalities in the Federal Ministry of Social Security (Departamento do Regimes de Previdência dos Estados e Municípios)</td>
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<tr>
<td>EET</td>
<td>Regime that Exempts pension contributions from taxation and Exempts investment income, but Taxes pension benefits.</td>
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<tr>
<td>FAPI</td>
<td>Long-term Investment Plan administered by Mutual Fund Companies (Fundo de Aposentadoria Programada Individual)</td>
</tr>
<tr>
<td>FGTS</td>
<td>Severance Fund (Fundo de Garantia por Tempo de Serviço)</td>
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<tr>
<td>FGV</td>
<td>Getulio Vargas Foundation (Fundação Getúlio Vargas)</td>
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<tr>
<td>GDP</td>
<td>Gross Domestic Product (Produto Bruto Interno)</td>
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<tr>
<td>IBGE</td>
<td>Brazilian Institute of Geography and Statistics (Fundação Instituto Brasileiro de Geografia e Estatística)</td>
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<tr>
<td>IMF</td>
<td>International Monetary Fund (Fundo Monetário Internacional)</td>
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<tr>
<td>INSS</td>
<td>National Social Security Agency (Instituto Nacional de Seguridade Social)</td>
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<tr>
<td>IPD</td>
<td>Implicit Pension Debt</td>
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<tr>
<td>IPEA</td>
<td>Institute of Applied Economic Research (Instituto de Pesquisa Econômica Aplicada)</td>
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<tr>
<td>MPAS</td>
<td>Ministry of Social Security and Social Assistance (Ministerio da Previdência Social e Assistência Social)</td>
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<tr>
<td>NDC</td>
<td>Notional Defined Contribution Pensions (Contas Escriturais)</td>
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<tr>
<td>OECD</td>
<td>Organization for Economic Cooperation and Development</td>
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<tr>
<td>PAYG</td>
<td>Pay-As-You-Go</td>
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<tr>
<td>PGBL</td>
<td>Pension Plan administered by Open Pension Funds and assets managed by Mutual Funds (Plano Gerador de Benefício Livre)</td>
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<tr>
<td>PME</td>
<td>Monthly Employment Survey (Pesquisa Mensal de Emprego)</td>
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<tr>
<td>PNAD</td>
<td>National Household Survey (Pesquisa Nacional por Amostra dos Domicílios)</td>
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<tr>
<td>PPV/LSMS</td>
<td>Living Standards Measurement Study (Pesquisa das Padrões da Vida)</td>
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<td>PROST</td>
<td>Pension Reform Options Simulation Toolkit</td>
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<tr>
<td>Acronym</td>
<td>Description</td>
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<tr>
<td>RGPS</td>
<td>General Regime for Social Security (Regime Geral da Previdência Social)</td>
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<td>RJU</td>
<td>Pension Regime for Government Workers (Regime Jurídico Único)</td>
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<tr>
<td>RPC</td>
<td>Regime for Complementary Pensions (Regime de Previdência Complementar)</td>
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<tr>
<td>SEAP</td>
<td>Secretariat for State Administration, Federal Government of Brazil (Secretariat de Estado da Administração e do Patrimônio)</td>
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<tr>
<td>SEAP-P</td>
<td>Secretariat for Social Security – Government of the State of Parana (Secretaria Especial para Assuntos de Previdência)</td>
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<tr>
<td>SPC</td>
<td>Secretariat for Complementary Pensions (Secretaria de Previdência Complementar)</td>
</tr>
<tr>
<td>SUSEP</td>
<td>Regulatory Agency for Open Funds (Superintendência de Seguros Privada)</td>
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CURRENCY AND EXCHANGE RATES (R$/US$)

Currency Unit - Real (R$)
December 1995: R$0.97
December 1996: R$1.04
December 1997: R$1.12
December 1998: R$1.21
December 1999: R$1.84
April 2000: R$1.76

WEIGHTS AND MEASURES

The Metric System is used throughout the report.

FISCAL YEAR

January 1 to December 31

Vice President LCR: David de Ferranti
Director LCC5C: Gobind T. Nankani
Lead Economist: Suman K. Bery
Task Manager: Indermit S. Gill
I. DIMENSIONS OF THE SOCIAL SECURITY CHALLENGE

Brazil's social security system faces problems of unsustainable fiscal deficits, inequities and actuarial imbalances, unnecessarily high efficiency costs, and lack of diversification due to low coverage of funded schemes. To illustrate the need for changes, this section examines the state of the system before the effect of reforms carried out during the last few years.

Components and main problems

Brazil's social security and pensions system consists of three parts, with proposals to establish what may be regarded as a fourth:

- The national social security system (RGPS), administered by the Federal Government's Institute for National Social Security (INSS), to which about half of the labor force of 60 million contribute, and beneficiaries number 19 million.
- The pension regime for government workers (RJU), administered by the Federal Government, and all state and many municipal governments for their workers; contributors and beneficiaries each number about 3 million.
- Funded pension plans to supplement RGPS pensions (SCP): Privately managed, intended to supplement RGPS benefits; contributors number 3 million and beneficiaries 1.5 million, but the industry is dominated by pension funds of public enterprises.
- Funded plans to guarantee RJU benefits or to supplement them are being proposed, and state governments are especially keen on setting up these funds for their employees. Some states such as Bahia and Parana have already taken steps to do so.

This report examines the critical issues for reform in each of these four components, examining both the inter-linkages and balance between them as well as suggesting component-specific remedies.

In terminology popularized by the World Bank, Brazil's system of old age support has a large mandatory publicly-managed pay-as-you-go first pillar consisting of the RGPS and the RJU, and a relatively small (but growing) voluntary privately-managed funded third pillar consisting of the SCP. Brazil does not have a second pillar, viz., a mandatory funded component, which most countries in Latin America now do. Countries with a large third pillar, such as the USA, also do not have mandatory nationwide funded schemes. But after the reforms in many Latin American countries during the 1990s, Brazil is alone among its neighbors in having a large first pillar, no second pillar, and a relatively insignificant third pillar.
The reliance of the majority of Brazilians on a single source of formal old age support, viz., the federal government, leaves them vulnerable to all the risks associated with holding an undiversified portfolio. Over-reliance on government in Brazil results in pressure to maintain public pensions at high levels, leading to spiraling public financing requirements, exacerbating labor market distortions and diverting resources from social services such as education. In 1999, for the first time, government expenditures on social security on 21 million retirees exceeded its education spending on 48 million students. In a country as youthful as Brazil—with five times as many people below 20 years of age as there are above 60—these changes signal a worsening misallocation of public resources. Social security has jeopardized current growth by contributing to Brazil’s large public debt; it now threatens prosperity for many years to come by diverting resources from investments in the future.

**Unsustainable fiscal imbalances**

The most obvious indicator of the affordability of the social security system are fiscal balances. By this measure, Brazil cannot afford the social security system it has. The accounting deficits (receipts minus expenditures) in the RGPS and Federal RJU were about R$9.5 billion and R$22 billion in 1999. Simulations conducted for this report show that without reforms, RGPS and Federal Executive Branch RJU deficits will increase to R$20 billion and R$23 billion respectively in 2005, and to about R$40 billion each by 2010. RJU numbers need to be adjusted upwards by one-thirds to account for the relatively generous judicial, legislative, and military pensions, for which simulations were not carried out (see Volume II for details). Comprehensive information on fiscal imbalances in state and municipal RJUs is also not available, but Ministry of Social Security data suggest a similar magnitude for subnational RJUs combined. Using simulations for the Federal Executive RJU and these rules of thumb for extrapolation, the numbers clearly show that while the RGPS eventually would have become the larger burden, the RJU remains the more serious problem on fiscal grounds for the next 15-20 years unless deep reforms are carried out for the federal and subnational RJU (See Figure 1).

**Figure 1**

Without Reform, Brazil’s RGPS Would Have Become a Larger Fiscal Drain Than the RJU, but Only after 2015

Source: World Bank PROST
**Gaping inequities**

In a country with high levels of income inequality, even a fiscally burdensome social security system may be worthy of subsidization if it serves the poor well, or if it is redistributive in its aggregate effect. But a large part Brazil's public pensions is currently structured to subsidize the relatively well-off more than the poor. Statistics indicate that less than 1% of social security spending reaches the poorest 10% of Brazilians, while about 50% is cornered by the wealthiest 10%. Through its generosity, the system also implicitly transfers wealth from future generations to current workers/retirees. **Figure 2** also shows that the Federal Government pays about R$17,500 annually as a *per retiree subsidy* for pensions of government workers, after imputing contribution-as-employer by the government at twice the rate for employees (as in the RGPS). The annual subsidy for RJUs nationwide is about R$8,000 per beneficiary, compared with less than R$1,000 for the RGPS. These numbers reflect differences in benefit levels, eligibility rules and system dependency ratios. If left unchecked, the gap between annual Federal government subsidies to the typical RGPS and RJU participant will grow from R$16,000 to R$80,000 between 2000 and 2020. Salary, pension, and job security levels in Brazil's federal government are often higher than for similar workers in the private sector. While the average benefit in the RGPS is less than two minimum salaries (or R$ 250 per month), the average benefit for retirees from the federal judiciary is more than forty times the minimum salary (or about R$6,500). Reduction of differences between the RJU and RGPS will be a big step towards greater equity and better redistribution in Brazil's social security. Cutting RGPS benefits (e.g., through the new benefit formula) without also reforming RJU pensions will exacerbate income inequality even if it helps to contain the overall fiscal burden. **Figure 2**

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**Without reform, the gap between annual Federal government subsidies to the typical RGPS and RJU participant grows from R$16,000 in 2000 to R$80,000 by 2020**

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**Figure 2**

**Subsidies per beneficiary in Brazil's RGPS and RJU Grow but, by 2020, the RJU-RGPS Gap Grows Five-Fold to R$80,000 Annually**

Source: World Bank PROST
Unnecessarily high efficiency costs

In the case of the RGPS, these generous benefits have had to be financed by rates of payroll taxes that—despite being among the highest in the world—have proved to be inadequate. RJU benefits have largely been financed from general tax revenues, as the regime is only now taking on the contributory features of a PAYG system. Brazil raises taxes of about 33% of its GDP, among the highest rates in the world, and still has to borrow to meet its public expenditure needs. The IMF estimates that direct expenditures for public pensions and the cost of servicing the debt incurred on its behalf are almost 10% of GDP. Along with administrative weaknesses in the social security system and flawed enforcement of labor laws, onerous levels of taxation are believed to be a principal cause of the high and growing informality of employment in Brazil. Figure 3 shows a steady decline of the share of formal employment in the six largest metropolitan areas in Brazil over the last two decades. Some observers argue that the labor-related distortions due to high INSS payroll taxes make RGPS reform more urgent than RJU reform. This report reasons that tax-related distortions arising because of RJU financing needs—which are currently three times as large as those of the RGPS—may be as or more serious. When fiscal, equity, and efficiency concerns are all considered, reform of the RJU will remain the higher priority for some years to come.

Figure 3

The structure of administrative weaknesses in both the unreformed RGPS and RJU imply large tax-related distortions and labor market inefficiency.
Low coverage of funded schemes

While funded company pension plans manage about R$100 billion worth of assets, coverage of funded pension plans remains low at about 5% of the workforce (see Figure 4). The low coverage of this third pillar of old age security is somewhat surprising for a country with one of the most sophisticated capital markets in the developing world. Given this institutional strength, the likely reasons for this are an unfavorable tax treatment for retirement accounts, an inadequate regulatory/ supervisory structure that does not inspire investor confidence, and the generosity of unfunded first pillar pensions. Almost all OECD countries have an “EET” model, where pension contributions and investment returns are exempt for taxation, and only pension benefits are taxed. Brazil in contrast has what can be described as “eet” system, with limits on such exemptions but also considerable uncertainty of treatment. Reducing the tax burden and promised benefits in first pillar pension systems are the other instruments for faster growth of pension funds in Brazil. In 1980, pension fund assets as a fraction of GDP in both Brazil and Chile were 1% of GDP; today, while this ratio is about 10% in Brazil, it is more than 40% in Chile, where wide-ranging social security reforms addressed these weaknesses.

Figure 4

Source: Wolrd Bank

Setting up employer-sponsored pension funds for government workers will increase the coverage of funded schemes, but under current conditions these funds are not sustainable (more on this below).
II. THE GOALS OF REFORM

The Brazilian government's reform efforts aim to reduce fiscal deficits, lower actuarial imbalances, increase equity and redistribution, reduce collateral inefficiencies, and facilitate growth of funded pension schemes.

Reducing fiscal imbalances

Fiscal balance is the main and immediate goal of the Brazilian reform. In the RGPS, this is mainly sought by ending reduced pensions (aposentadoria proporcional) and introducing a new formula for calculating pension benefits (called fator previdenciario in this report), a change finalized recently and whose effects are yet to bear fruit. Simulations of the effect of the first measure—the elimination of reduced pensions—showed gains until 2010 over what would have occurred without this reform, as people wait longer to get unreduced benefits and the reference wage is lowered. But without further reform, the changes could, under some assumptions, even have actually worsened fiscal imbalances over the medium to long term, as those who would have retired with reduced benefits (70-99% of reference salaries) would begin to retire with unreduced (100%) benefits. The main achievement of the first round of reform was—by removing the benefit formula from the Constitution—to make deeper reform easier. The government has used this space to introduce the new formula which can result in measurable fiscal gains (see Figure 5). While not guaranteeing to return the RGPS to balance (except under optimistic assumptions regarding how individuals postpone retirement in response to incentives to work longer built into the fator previdenciario), these measures will result in measurable short-, medium- and long-term fiscal gains if implemented rigorously. But without a legal minimum retirement age, these gains cannot be regarded as certain.

Figure 5

Recent RGPS Reforms—If Implemented Rigorously—Will Yield Significant Fiscal Savings

The goals of Brazil's reform efforts are—in order of urgency—to reduce fiscal deficits, lower actuarial imbalances, increase equity and redistribution, reduce collateral inefficiencies, and facilitate growth of funded pensions.
In the RJU, the main reforms simulated are the introduction of a minimum age of 53/48 years for men/women at which retirement benefits commence and the elimination of reduced pensions. A contribution rate hike for federal workers and retirees approved by the legislature in early 1999 was struck down later by the Supreme Court. The Federal Government now is trying to amend the rules in order to introduce contributions by federal retirees (most state governments already levy such contributions, but are vulnerable to legal challenges if the Supreme Court ruling stands). The Hauly Amendment to this bill also seeks to extinguish the RJU altogether by mandating that all new hires belong to the RGPS.

Simulations indicate that even if the increased contribution rates had been approved, the effect of these changes would have been to slow down, but not eliminate, the growth of fiscal deficits in the Federal RJU. Without the reforms, for example, the deficit reaches 2.3% of GDP—from the current 1.5%—in 2015; if implemented, the reforms would have pushed this date to 2020. Including subnational RJUs as well would likely double these figures. Figure 6 shows the relatively modest gains if the government manages to introduce an 11% contribution rate for retirees in 2000. Simulations also show that the retirement ages proposed by the government (53 and 48 years for men and women respectively, rising gradually to 60 and 55 years) have little immediate effects on system balances at the current statutory replacement ratios of 100%. The effects of the Hauly amendment were not simulated, but its main effects are predictable: given the relative youth of current government workers and retirees, the beneficial effects of the Hauly amendment will not be felt for at least another generation, though subnational governments will start to experience a loss of revenue right away (because the new workers and their employers would have to contribute to the INSS).

Figure 6

![Completed and Contemplated Reforms of the RJU Result in Little or No Fiscal Saving](chart.png)

Source: World Bank PROST
Lowering actuarial imbalances

Fiscal and actuarial balance are often treated as identical by commentators on social security reform in Brazil. In fact, it is unlikely that fiscal and actuarial balances ever coincide. Fiscal balance in a PAYG system occurs when total contribution revenues match total pension benefits being paid; actuarial balance relates an individual’s expected benefits to the same individual’s past contributions. Elements affecting fiscal balance include the number of contributors and pensioners, and contribution and benefit rates. What does not enter into the fiscal balance is the relationship between benefits collected by any one pensioner and what he/she paid as contributions in the past: the contributions paid in the past were revenue then and entered previous years' fiscal balance, while benefits collected today are expenditures out of today's fiscal accounts.

Figure 7 shows the effects of the reforms for the principal programs in the RGPS and Federal RJU for male workers (the results for women are similar). Note that these numbers are computed using an implied contribution by government at twice the rate of RJU participant contributions, to make them comparable to RGPS rates of return. Rates of return in both the RGPS and RJU length of service programs fall, but by a smaller fraction for the RGPS. But in general, compared with the rather modest fiscal gains for the RJU, these numbers reflect the relatively deeper reforms for new entrants as compared with RJU incumbents. RGPS reforms affect both incumbents and newcomers, but rates of return fall by less for both relative to those in the RJU. However, RGPS reforms are relatively certain (with reforms validated as legal by the judiciary), while the reforms simulated for the RJU are still speculative in nature.

Figure 7

While reforms have reduced actuarial imbalance, especially in the RGPS, the RJU remains actuarially unsustainable.

The comparison of post-reform rates of return in Brazil with rates of return in the US social security system (see Figure 7 again) reveals how much more needs to be done to bring the Brazilian first pillar systems to actuarial balance, especially in case of the RJU. Statutory replacement rates are graduated between 29% and 62% in the US, depending on the income-level, considerably lower than the uniform 100% rate in Brazil. Higher income-earners in the US may even face negative rates of return: their replacement rate is less than one-third that of their Brazilian counterparts. In Brazil, high replacement rates with no minimum retirement age translate into large actuarial imbalances, even though contribution rates rise with wages and are generally much higher than in the US.

Increasing equity and redistribution

The third goal of social security reform in Brazil is to improve equity. One measure of inequity is the difference in the rate of return in different programs. Within the RGPS, for example, annual rates of return in the Old Age Program are 15-20%, higher than the generous RJU Special Length of Service program. But the average benefit in the Old Age Program is low, and the majority of beneficiaries may indeed qualify for means-tested social assistance. Discrepancies in rates of return between Old Age and Length of Service are perhaps a better indicator of inappropriate classification than of system inequity: the profile of Old Age Program beneficiaries provides a strong case for considering it a part of social assistance, which for transparency reasons could be funded out of general revenues rather than contribution-based social security. But there may be political economy reasons for retaining this administrative arrangement if it is believed that this increases the chances that these social assistance expenditures will continue to be funded (more on this below).

With reforms in the RGPS proceeding at a considerably faster pace than for the RJU, the gap between RGPS and RJU subsidies has grown over the period 1999-2000. It is noteworthy, though, that the most pro-poor component of the RGPS pensions—the Old Age Program—has been protected from cuts. Restricting reform to the Length of Service program in the RGPS—which is primarily urban and male—and protecting Old Age Program pensioners—predominantly rural and female—from cuts has helped to minimize adverse effects on the poor. Passage of the Hauly Amendment will ensure greater equity in the long term, but one of the most effective ways to both reduce inequity and improve the redistribution in Brazil’s public spending over the next 5-15 years is to immediately bring about more fiscal and actuarial balance in the RJU.
Reducing collateral inefficiency

There are two major inefficiencies in the Brazilian labor market, both of which can be traced at least in part to weaknesses in the social security system. First, because of the relative generosity of government pensions, there is little or no mobility from the public to the private sector. Second, the high payroll tax rates levied to finance RGPS benefits (that, together with ad hoc taxes levied to fund social security benefits, add up to about 33% of the cost of labor), and the high general tax rates needed to meet the pension deficits for government and private sector workers significantly raise the cost of doing business in Brazil's regulated sector.

Unlike many countries undergoing fiscal adjustment, government workers in Brazil are generally overcompensated relative to workers with similar attributes (such as age, education and experience) in the private sector. For example, a recent study found that:

- a male worker with a high school diploma in the federal judiciary in Brasilia gets 50% higher pay, had 80% more job security, and could expect 75% higher pensions compared to his private sector counterpart.
- a female civil servant with 12 or more years of education working in the state administration in Rio de Janeiro would get the same salary, had 70% more job security, and could expect 40% higher pensions.
- a secondary school teacher in Sao Paulo's public schools gets 15% lower pay but has 50% more job security and can expect 50% higher pensions than a similar worker in the private sector.

Large public-private differences in compensation leave no motivation for government workers to pursue possibly more productive private sector careers (this is especially true for low wage workers), and also create unintended incentives to join government service just before retiring to get higher pensions (this is especially true for high wage workers).

High payroll levies and weak links between contributions and benefits inherent in a PAYG system—made even weaker by lax administration—result in high labor costs in Brazil's regulated sector, and deepen the divide between formal and informal employment. Figure 8 illustrates that social security taxes are high in Brazil, and are exceeded only by a few European countries in the industrialized world. With reforms taking root in countries such as Argentina and Mexico, Brazil's high tax rates result in lower wages and employment in an increasingly competitive global economy.
Facilitating expansion of funded schemes

The limited macroeconomic and fiscal elbow room due to the nature and timing of Brazil's stabilization has precluded the setting up of a multi-pillar system with a mandatory funded scheme. But the consensus in Brazil is gradually moving towards greater reliance on funded schemes for old age support. This is in line with the experience of other countries. The government has taken steps to encourage voluntary funded schemes, including a set of well-designed rules for both private and government pension funds, and also plans to consolidate and strengthen supervision. But it is unlikely that it can find the fiscal space for tax incentives for individual and employer-sponsored retirement plans until deeper first-pillar reforms are completed.

The Federal government has also facilitated the setting up of complementary pension funds for government workers. While risky, this is promising from a political economy point of view: it allows government to offer its employees a "new deal" consisting of lower but more dependable pensions rather than confronting them with the bad news that their benefits will be reduced, and it ensures that privatization proceeds are used to pay down the governments' debt. To make this lasting solution, however, the government must do two difficult tasks before pension plans are created. The first is to take the RJU benefit formula out of the Constitution, introduce a minimum retirement age for current workers, lower replacement rates, and increase the reference period. Under current RJU rules, even large infusions
of cash (e.g., from privatization) are quickly dissipated: simulations for Parana's RJU show that even if a year's revenues of the state government (about R$5 billion) were parked in a pension fund and earned a high rate of return, the funds are used up in five years (see Figure 9). The second is to remedy weaknesses in the regulatory and supervisory system.

Figure 9

For most states, even putting one year's total revenues into a pension fund cannot finance state pension expenditures for more than five years.

Source: World Bank PROST
III. THE POLICY INEVITABILITIES

To attain the goals stated above, Brazil has little choice but to reduce subsidies for government pensions by lowering replacement rates, lengthen the reference period for calculating pensions in the RJU, institute a minimum retirement age in the RGPS; have greater funding of pension liabilities and, eventually, reduce payroll tax rates. While exacerbating public-private inequity, recent RGPS reforms are an important step towards improving fiscal balance and efficiency. The fiscal burden of public pensions and growing gap between RGPS and RJU pensions should be publicized using a strategic communications campaign to generate support for continued reform among those who stand to gain the most from it—the youth, private sector and the poor.

Subsidies for government pensions have to be reduced

All the findings of this report indicate that there is no recourse other than to quickly reduce the subsidy for pensions of government workers that is projected to double in magnitude by 2005, even after a generous government-as-employer contribution of 20% of payroll is imputed:

- Fiscal reasons – RJU fiscal deficits are more than twice those in the RGPS, and this would not have changed for another ten years in the absence of reforms. With the latest reform of the RGPS benefit formula, **RJU deficits will remain greater than RGPS deficits.**

- Equity reasons – On a per beneficiary basis, the federal government "subsidy" to the RGPS is less than 5% of the subsidy to RJU retirees. Without reform, this rises to 15% by 2025, **but the absolute gap in the subsidy grows five-fold to R$80,000 and, with the latest RGPS reforms, this gap will rise considerably.**

- Efficiency reasons – While the high payroll tax that finances RGPS benefits distort the labor market, **high general taxes required to fund the larger RJU deficits may be as distortionary as the INSS levy.**

- Saving-related reasons – Though the saving and capital market development rationale for pension reform is unproven, conditions in Brazil indicate that **better fiscal and actuarial balance in first-pillar pensions—especially the RJU—will allow the fiscal headroom for fostering sustainable growth of the third, funded pillar.**

Replacement rates have to be lowered

The simulations conducted in this report, while not providing failsafe quantitative projections, provide reliable measures of **relative effectiveness** of policy measures. The results show that replacement rates in the RJU have to be lowered for making any sizeable gains on the fiscal, actuarial, and equity fronts:

- Raising contributions – Increasing contribution rates is not sufficient even for actuarial balance at rates of replacement nearing 100%; **for fiscal balance, contribution rates of greater than 50% are required which are**
neither politically feasible nor economically desirable. Estimates show that only marginal improvements in equity would have resulted in the Federal RJU from the higher/graduated contribution rates of 11-25% struck down as unconstitutional in 1999.

- Reducing evasion – Reducing evasion is difficult at current high contribution rates, but simulations show that even eliminating evasion does not restore actuarial balance; at the high replacement rates and easy eligibility conditions, increasing coverage would have worsened fiscal balance. The fator previdenciario addresses this shortcoming.

- Increasing time of contribution – The elimination of reduced pensions was shown to help in the short term, but—at the high replacement rates existing at the time—this measure may have actually worsened the fiscal balance in the RGPS over the medium to long term. The fator previdenciario addresses this shortcoming effectively.

- Instituting a minimum age of retirement – Our simulations indicate that the fiscal gain to having the proposed retirement age of 60/55 years for men/women is modest but measurable in the short-term. But while this measure will help in improving actuarial balance considerably and delay retirement, there appears to be no political appetite for instituting this eligibility condition for the RGPS.

International experience suggests rules for sustainability and equity: replacement rates of 30-40% for high wage earners (with voluntary pensions as a supplement if desired) and 60-70% for low wage earners (with social assistance to supplement as needed). It is necessary to remove the benefit formula for RJU pensions from the Constitution, as done for the RGPS in 1998. For those already retired, it is reasonable—in the absence of a minimum retirement age—to expect the same rate of contribution as for those still working, otherwise the effective replacement rate is higher than 100%, providing a harmful incentive to quit working and contributing early. And the rule for benefit indexation can then be changed from salary levels to price indices.

The reference period has to be lengthened uniformly

Increasing the reference period from the current last month for the RJU and last three years for the RGPS will yield fiscal, equity, and efficiency benefits, but especially if done uniformly for both regimes.

- Fiscal gains – Since most workers earn the highest salary at the end of their careers, an end-loaded replacement formula (last 36 months in the RGPS and last month in the RJU) implied a higher pension expenditures than would result if the entire working history is taken into account in calculating pension levels. The recent change in the RGPS benefit formula to increase the reference period to almost the full working life will increase labor market efficiency. It also raises INSS revenues because workers lose if they underreport earnings, as is the current practice.

- Equity gains – Age-earnings profile of educated (i.e., wealthier) workers are higher and steeper: while a 60 year old educated man earns three times
the salary of a similarly schooled 25 year old man, this ratio is only 1.5 for less educated workers. Extending the reference period to the working life would remove pro-rich biases in the formulas of both RGPS and RJU, but—because RGPS pensions are capped at R$1255 per month and RJU pensions are not—especially for government pensions.

- Efficiency – Labor market efficiency will improve most if the increases in the reference period are uniform for both the RGPS and RJU.

The recent changes in the RGPS benefit formula accomplish this objective for private sector social security. For the greatest fiscal, equity, and efficiency gains, it is necessary to remove the RJU benefit formula from the Constitution, lower the replacement rate for current workers, change the rule of indexation from nominal salary to inflation, and increase the reference period so that the rules are the same in both the RJU and the RGPS.

A minimum retirement age has to be instituted

A minimum age at which benefits commence has to be introduced for RGPS retirees. While the fiscal gains from this measure may be modest in the short term as the retirement age is phased in, this step is critical for labor market efficiency reasons, viz., signaling that pensions are for old age support and not as an additional source of income while individuals are or should be working. Simulations show, however, that the retirement age must be at least 60 years to be effective. Work-life differences and labor force participation differences between men and women may provide some rationale for having shorter length of contribution requirements for women, but life expectancy statistics suggest that the retirement age should be the same for men and women.

Funded pensions have to grow in importance

For both fiscal and risk diversification reasons, the coverage and size of the funded pension system must grow in Brazil. Over-reliance on first-pillar pensions has resulted in political pressures culminating in adverse fiscal, equity, and efficiency outcomes. Sustainable growth in funded schemes has three major prerequisites: balanced and clear legislation, a skilled supervisory body, and actuarially balanced first pillar pensions, especially for government workers.

Taxes to finance first pillar have to be lowered eventually

Though tax rates cannot be lowered until pension benefits are lowered, it is important for planners to not assume that combined employer-employee rates of 30-35% of the salary bill are reasonable. This appears to be the case today: the maximum allowed ratio of pension deficit to net revenues of 12% at all levels of government is based on this arithmetic. International experience suggests that sharp increases in evasion occur at rates around 15% of payroll. Brazil's own experience suggests that rates higher than 15% are not politically feasible for government workers. The long term goal should be employee contributions of 7-10%, with at most matching employer contribution rates.
IV. OTHER POLICY CHOICES

While the last section discussed reforms that Brazil will in all probability have to make, this section suggests some changes that will help but may not be strictly necessary. These are to make the PAYG components of social security minimalistic, to integrate the RJU and RGPS, to rely on either mandatory or voluntary funding, and to separate contributory from noncontributory social security.

First-pillar pensions could be kept minimal

Having a well-run minimalist PAYG pension pillar that aims to provide a floor below which living standards do not fall for the elderly and the disabled has many attractive features, especially that it minimizes the distortions associated with defined benefit schemes such as the RGPS or RJU. Three changes are required for the Brazilian first pillar to be regarded as well-run and minimalist: tightened administration of the INSS, lower benefits, and a graduated replacement structure that pays a higher fraction of reference wages to those with lower incomes. Such a scheme provides a societal safeguard against poverty of the elderly by being inherently redistributive, protects governments from moral hazard by being frugal, and shields individuals from myopia by requiring mandatory contributions towards old age security. The size of the first pillar is fundamentally a societal decision—Brazil may choose to have a more generous one and pay a higher price in fiscal and efficiency terms. But there is no justification for having one that is weakly administered and highly unequal.

RJU and RGPS pensions can be integrated

Equity and efficiency-related problems facing Brazil's social security would perhaps be best addressed by merging a reformed RJU with the RGPS, essentially reverting to the pre-1988 situation. The Hauly Amendment proposes to do just this over the long term. A majority of countries maintain separate systems for government workers, so Brazil would not be an exception if it continued with the current two-part first-pillar system. But almost 40% of countries surveyed recently—such as Argentina and the US—have begun merging these components. The US Federal Employees' Retirement Scheme was introduced in 1986, and today many federal government workers rely on the national social security system for the basic pension, to which the federal government contributes on their behalf just as would a private employer. Their pensions are augmented by closed pension plans, which the federal government oversees as would any private firm with an employer-sponsored pension scheme. Employees in many states in the US and Argentina also belong to the national social security system, as is the case for smaller municipalities in Brazil. With good design and strong supervision of employer-sponsored pension plans, this design offers the most occupational flexibility.
Third-pillar growth may make second-pillar unnecessary

With its high rate of informality and early average retirement age, Brazil can benefit from the labor market advantages of having a funded pension scheme. These include stronger links between contributions and benefits that reduce the motivation to evade, reductions in the pure tax component that lower the cost of labor, increased mobility because pension rights are portable, and reduced incentives to retire early. But not too much should be expected from the creation of a funded system. In Chile, where a funded system has been in operation for almost two decades, informal sector employment has remained at about 50%. Brazil’s own experience with the FGTS—also a funded payroll-tax-financed scheme—again provides cause for caution. The causes of informality in Brazil may lie also with the manner in which labor legislation is enforced, with people with unsigned contracts receiving similar protection under the law as that afforded to those with formal labor contracts. In light of this, there are few labor-market-related reasons for government to mandate a funded component. Keeping the first pillar small and having a well-regulated voluntary pillar may well be sufficient for Brazil, just as it has been for the US.

Assistance to elderly poor could be better targeted

Approximately 6 million persons, or 33% of the pension and survivor benefit recipients under the Regime Geral, are rural men/women who have little proof of service, but can prove that they are at least 60/55 years old. The average level of these benefits is R$137, just one real more than the legally specified minimum monthly salary until mid-2000, and sum up to about R$8 billion annually, i.e., roughly the size of the RGPS deficit in 1998. By all accounts, a large share of this sum goes to the elderly poor; by one account, these transfers are between 10-15% of the GDP of the poorest northeastern states such as Maranhão and Piauí.

There are several good arguments to support replacing the contributory pensions received by rural households with targeted social assistance. The poverty impact and welfare benefits cited in Volume II would be attained, and perhaps increased if the current contributory old age pensions program were a social assistance program with a secure, more broadly-based source of revenue. As a social insurance system, the old age pension system fails on actuarial and fiscal grounds. And while it succeeds in redistributing income from urban to rural workers, the net impact on income distribution in rural areas is unclear—largely because the incidence of contributory social insurance and non-contributory social assistance cannot be analyzed separately. Additionally, retaining the old age benefit as contributory social assistance may provide workers with strong incentives to strategically abuse the RGPS. Recent reforms to the RGPS length of service program tighten pension benefit-to-contribution linkages, and cut replacement rates. Current length of service contributors thus have an incentive to opt for benefits.
under the old age system, undermining the fiscal sustainability of the reforms. The lenient eligibility requirements for an old age pension extended to rural workers increase the potential for strategic abuse. Separating the social insurance system from the social assistance function might be beneficial even if both continue to be administered by the same agency, preventing cross-subsidies from one to the other, and allowing the government to target poverty relief at one group with fewer disincentives for the other.

On the opposite side of the argument, separating the public pensions received by rural households from the mainstream social security regime may leave the program without a political constituency to defend it, and make public benefits for the rural elderly vulnerable to large budget cuts by future governments that are under pressure to reduce spending. Additionally, eliminating the contributory component of the old age pension benefit—however symbolic or nominal this may be—may trap poorer workers in a marginalized social program with no mechanism and hence incentive for eventually graduating into the general pension system.

In a country where it has been difficult to make government expenditures poverty-focused, rural pensions are exceptional and should be protected from cuts during the reform of the RGPS. While this noncontributory segment is obviously being funded with general revenues from the Treasury instead of earmarked contributions collected by the INSS, it may not serve Brazil well to institutionally transfer this program to the Secretariat of Social Assistance. While this decision is perhaps best made by those who understand both the administrative implications of these options and the complicated political economy of welfare programs in Brazil, the recommendation of this report is to keep it bundled with a system that has widespread voter interest. Hence it should be left under the INSS, but the Ministry of Social Security should sponsor a thorough evaluation of the Old Age program to make it even better targeted to needy groups such as the rural poor, for whom currently there are few other welfare options.

The decision on whether or not to separate contributory from noncontributory pensions should be made keeping in mind the complicated political economy of social assistance, not solely on the basis of fiscal or administrative considerations.
V. SUMMARY AND CONCLUSIONS

Social security is the single most important fiscal issue facing the federal and subnational governments in Brazil today. The overall pension deficit was about R$40 billion in 1998, or more than 5% of GDP. When the interest payments on public debt accumulated on behalf of public pensions are included, this ratio doubles to 10% of GDP.

The criteria for evaluating reform measures

There are many compelling reasons for reform of social security in Brazil including equity, labor market efficiency, and savings and capital market development, but fiscal concerns are correctly viewed as paramount. Accordingly, in evaluating whether or not a proposed measure is consistent with the constraints and objectives of Brazilian social policy, this report suggests five criteria—in order of importance—for evaluating any reform strategy or measure:

1. Immediate fiscal payoff,
2. Long-term fiscal sustainability,
3. Equity considerations, especially RGPS versus RJU,
4. Efficiency considerations, especially labor market distortions, and
5. Savings and capital market development impact.

The progress made

The obstacles to reform are well-known and formidable, having legislative, judicial and executive dimensions. Despite these obstacles, the Federal Government has actively pursued reform since 1997. Even in the midst of the 1998 national elections—never an easy time for governments to renegotiate social contracts with voters—the Federal Government kept up the momentum for reform. Constitutional reforms were approved in November 1998 and other measures—notably increased contributions from RJU participants—were attempted in 1999. The main reforms are:

- **RGPS**: Modest short-term fiscal relief through increased eligibility requirements but significant medium-term and long-term fiscal gains due to new benefit formula that lowers replacement rates and lengthens reference period for calculating pensions; the introduction of the benefit formula also sends a clear signal that the government is serious about using the space cleared by earlier constitutional amendments.

- **RJU**: Relatively modest fiscal relief due to increased eligibility requirements, mainly a minimum length of public service and time in job from which retirement takes place, and phased in age of retirement; main systemic change would be a clause invoking automatic employee
contribution increases if the pension deficit exceeds 12% of net current revenues at any level of government.

- **SCP:** Major improvements can result if rules marking a shift to defined contribution plans with lower employer contributions are implemented, and entities other than enterprises (such as professional groups) are allowed to set up closed pension funds.

**The challenges ahead**

The principal challenges are to reduce the generosity of both RGPS and RJU pensions while keeping a safety net element, reduce differences between RGPS and RJU pensions, and encourage sustainable growth of funded plans by paring down RGPS and RJU (unfunded) pensions and by strengthening regulation. The reform of a complicated social security system such as that of Brazil under the fiscal, administrative and political constraints that it faces must be viewed as a step-by-step process, with the sequencing determined both by strategic and tactical considerations. Table 1 presents the steps that would be consistent and inconsistent with the long-term goals of a sustainable, efficient, and just social security in Brazil. Table 1 also summarizes these goals. The steps consistent with these goals would be:

- **Reduce RJU fiscal deficits:** The main reforms needed are reduction of statutory replacement ratios from current 100% for fiscal and equity reasons, and increasing the reference period from the last salary to the full working life; both require amending the Constitution, the urgency of which will be better appreciated through revelation of imbalances through actuarial audits of federal and state RJUs and open discussions (see Table 2 for details). Having retirees contribute at the same rate as active workers helps on fiscal, equity and efficiency grounds, but should not be considered the primary measure for restoring balance.

- **Control growth of RGPS deficits and improve redistribution:** The first priority should be the administrative strengthening of the Ministry of Social Security, especially the INSS. The main design-related reform needed is a retirement age of at least 60 years; this would require a constitutional amendment. Fiscal and efficiency gains from the recent reform of the Length of Service program’s benefit formula depend critically on the administrative capacity of government to prevent leakage to other programs, especially the Disability and Old Age programs. Other implementation-related steps involve maintaining the rural old age pensions program but refining its administration to lower fraud (see Table 3 for details).

- **Increase pension fund coverage:** The main reforms needed are better supervision of employer-sponsored plans and friendlier tax treatment of individual retirement accounts (see Table 4 for details); employer-sponsored plans should be set up under similar rules as for in the private sector, but after current RJU rules are changed through negotiations with government...
employees, preceded by strategic communications to inform the electorate of the benefits from social security reform (see Table 5 for details).

Reforms of the RJU should now take priority over further changes in the design of the RGPS. RJU reform will undoubtedly be politically challenging. To facilitate these reforms, the adverse equity effects of completed RGPS reforms without reductions in the generosity of RJU pensions should be widely publicized to generate grassroots support for comprehensive reform of the RJU. Pension funds for state pensions, or introducing a funded component in pensions of Federal government workers can be a facilitating factor for making RJU reform politically palatable, but—given that all pension systems are already in deficit even with high rates of contribution—do not constitute a feasible reform strategy on their own. There are few convincing reasons to liquidate taxpayer-financed government assets in order to continue paying unsustainably high pensions to a relatively small group of economically privileged government workers, after having reduced pensions for otherwise similar workers who just happen to work in the private sector.

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The unfairness of reduced RGPS pensions without similar reductions in the generosity of government pensions should now be widely publicized to generate support for deeper RJU reform.
Table 1
THE OBJECTIVES OF SOCIAL SECURITY REFORM, AND MEASURES CONSISTENT AND INCONSISTENT WITH THESE GOALS

<table>
<thead>
<tr>
<th>Objective</th>
<th>Steps Consistent with Objective</th>
<th>Steps Inconsistent with Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiscal balance</td>
<td>(1) Structural reform of RJU, along the lines of RGPS reform</td>
<td>(1) Not increasing the reference period for the RJU. (2) Introduce reserve funds for government workers—allowing states to move pensions off-budget—without first reforming the RJU.</td>
</tr>
<tr>
<td></td>
<td>(2) Longer reference period in RJU, along the lines of RGPS reform</td>
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<td></td>
<td>(3) Minimum retirement age in both regimes</td>
<td></td>
</tr>
<tr>
<td>Equitable</td>
<td>(1) Increase reference period uniformly for RJU and RGPS</td>
<td>(1) Pay past dues of INSS to state and municipal RJUs to keep paying unsustainably high RJU pension benefits</td>
</tr>
<tr>
<td></td>
<td>(2) Introduce graduated replacement rates, with lower ratios for high wage earners.</td>
<td>(2) Use privatization proceeds to pay unsustainably high RJU benefits.</td>
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<td></td>
<td>(3) Higher contribution rates for RJU retirees and workers</td>
<td>(3) Maintain special regimes for primary and secondary school teachers in PAYG component.</td>
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<td></td>
<td>(4) End all special regimes, except for few risky occupations</td>
<td>(4) Have lower age of retirement for women.</td>
</tr>
<tr>
<td></td>
<td>(5) Have a lower time of contribution for women, but the same age of retirement</td>
<td>(5) Restricting funded component only to high wage earners.</td>
</tr>
<tr>
<td></td>
<td>(6) Merge federal, state and municipal RJUs with RGPS</td>
<td></td>
</tr>
<tr>
<td>Redistribution and safety net</td>
<td>(1) Introduce graduated replacement rates, with lower ratios for high wage earners.</td>
<td>(1) End rural old age pensions, or making rural pensions susceptible to budget cuts by separating its administration from contributory pensions</td>
</tr>
<tr>
<td></td>
<td>(2) Continue rural old age pensions</td>
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<tr>
<td></td>
<td>(3) Make first pillar &quot;minimal&quot;</td>
<td></td>
</tr>
<tr>
<td>Actuarial balance</td>
<td>(1) Extend reference period for PAYG components to entire working life</td>
<td>(1) Restricting funded component only to high wage earners.</td>
</tr>
<tr>
<td></td>
<td>(2) Make all funded components defined contribution (DC)</td>
<td></td>
</tr>
<tr>
<td>Labor market efficiency</td>
<td>(1) Merge federal, state and municipal RJUs with RGPS</td>
<td>(1) Raise INSS payroll tax rates (2) Raise share of employer (currently 20%) in payroll tax (3) Index to salary levels (4) Reform RGPS further without also reforming RJU</td>
</tr>
<tr>
<td></td>
<td>(2) Reduce employer to employee payroll tax ratio, currently 2:1 in the RGPS and RJU</td>
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<tr>
<td></td>
<td>(3) Introduce retirement age of at least 55-60 years in RGPS</td>
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<tr>
<td></td>
<td>(4) Indexing to inflation</td>
<td></td>
</tr>
<tr>
<td>Savings and long-term capital markets</td>
<td>(1) Stronger regulation of private funds.</td>
<td>(1) Have separate agencies for regulating open and closed funds. (2) Introduce reserve funds for government workers without first reforming the RJU.</td>
</tr>
<tr>
<td>development</td>
<td>(2) EET rules for open funds</td>
<td>(3) Raise first pillar benefits.</td>
</tr>
<tr>
<td></td>
<td>(3) Reduce first-pillar benefits.</td>
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<tr>
<td></td>
<td>(4) Convert the FGTS into a mandatory retirement plan.</td>
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</tr>
</tbody>
</table>

Source: World Bank staff assessments.

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Table 2
THE REGIME GERAL DA PREVIDENCIA SOCIAL:
PROBLEMS, BEST PRACTICE, AND POLICY RECOMMENDATIONS

<table>
<thead>
<tr>
<th>Problem</th>
<th>Diagnosis</th>
<th>Best Practice</th>
<th>Policy Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lenient eligibility, with no minimum age of retirement</td>
<td>With no minimum retirement age, the result is equal periods of time contributing and receiving benefits.</td>
<td>Individuals in most countries spend twice or three times as long contributing as receiving pensions. Minimum retirement age of about 55-60 years is key factor in inducing this behavior.</td>
<td>1. Establish a minimum retirement age at which retirement benefits commence; while the “fator previdenciario” lowers benefits for early retirees, it does not eliminate the need for a minimum retirement age.</td>
</tr>
<tr>
<td>High benefits</td>
<td>The Constitutional Amendment of 1998 makes the replacement rate 100% of gross wage, well above 100% of net wage.</td>
<td>Mandatory benefits of 30-50% of average wage are more likely to be fiscally sustainable without huge labor market distortions.</td>
<td>2. Lower first-pillar benefits to replace a fraction of average lifetime earnings, accomplished to a significant degree by the new benefit formula.</td>
</tr>
<tr>
<td>High evasion</td>
<td>Contribution rates are about 30% and pension is based on last 36 months’ salary, leading to underreporting of earnings.</td>
<td>Contribution rates not much above 15% lead to lower evasion. Countries moving toward using lifetime earnings for determining pensions.</td>
<td>3. Diversify the burden and risk of income security in old age to multiple pillars.</td>
</tr>
<tr>
<td>Multiple receipt of benefits</td>
<td>It is possible to complete requirements for both length of service and old age pensions and receive two pensions.</td>
<td>Internationally, individuals receive only one pension: old age, or disability, or as survivors.</td>
<td>4. The new benefit formula marks a move toward lifetime earnings for calculating pension; however, diversifying into multiple pillars would allow lower mandatory contribution rates.</td>
</tr>
<tr>
<td>Contributory system functions as social assistance system</td>
<td>Old age program – especially rural pensions – serves as a valuable social assistance system, but at a cost to contributory pensions.</td>
<td>Social assistance and social insurance are generally separated, so that unintended redistribution is minimized.</td>
<td>5. Eliminate multiple benefits; the new benefit formula requires stronger control against workers switching to relatively lenient Old Age pensions and Disability benefits.</td>
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</table>

Source: World Bank staff assessments.
Table 3
THE REGIME JURIDICO UNICO: PROBLEMS, BEST PRACTICE, AND POLICY RECOMMENDATIONS

<table>
<thead>
<tr>
<th>Problem</th>
<th>Diagnosis</th>
<th>Best practice</th>
<th>Policy Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generous benefits</td>
<td>RJU has highest statutory replacement rates in the world, combined with least demanding vesting rules.</td>
<td>Trend toward funded plans, and integration into national first-pillar systems. If stand-alone regime is maintained, benefits are aligned with private sector pensions.</td>
<td>1. Reduce replacement rates. 2. Institute ceiling on first-pillar benefits from the RJU, aligned with RGPS. 3. Reliance on funded plans for retirement income above the first-pillar ceiling.</td>
</tr>
<tr>
<td>Indexation to current salary of post from which retired</td>
<td>Makes RJU pensions generous and results in productivity-increasing reform being costly.</td>
<td>Trend towards indexation of pensions to changes in some price index, or an index combining salaries and prices.</td>
<td>4. Index benefits to inflation.</td>
</tr>
<tr>
<td>End-loaded benefit formula</td>
<td>Basing benefits on last month’s salary increases abuse and public-private inequity.</td>
<td>Benefits based on average lifetime earnings.</td>
<td>5. Reference salary based on 80% highest salaries, just like the RGPS. 6. Replacement determined by accrual per year of service.</td>
</tr>
<tr>
<td>Loosely applied vesting requirements</td>
<td>Many current retirees became vested under the RJU after “last minute” migration into government service.</td>
<td>Vesting requirements should be uniform in first-pillar systems and strictly enforced.</td>
<td>7. Vesting periods aligned with the RGPS. 8. Full transfer of acquired rights and of contribution revenue between regimes.</td>
</tr>
<tr>
<td>Early retirement and no restrictions on benefits upon re-employment</td>
<td>Government workers have incentive to retire early to receive a stream of tax- and contribution-exempt income.</td>
<td>No first-pillar benefits before a minimum age. Actuarial penalties for early retirement. Restriction on multiple pensions and reduced benefits if employed.</td>
<td>9. Establish minimum age at which benefits commence. 10. Actuarially fair reductions in benefits for early retirement. 11. Restrictions on multiple benefits, and reduced benefits from first-pillar if employed.</td>
</tr>
<tr>
<td>Inequity between first-pillar systems</td>
<td>The RJU directly contributes to income inequality, and leads – through fiscal instability and reduced economic growth – to higher poverty.</td>
<td>First-pillar generally provides only a minimum benefit. Tax-financed replacement rate does not exceed 3 times the contribution rate. First-pillar is safety net; second and third-pillar provide bulk of pensions.</td>
<td>15. Strategic communications campaign to draw attention to first-pillar inequalities. 16. Integration of RGPS and RJU and/or cut in first-pillar benefits. 17. Strong supervision and regulation of third-pillar SCPP and creation of second pillar.</td>
</tr>
</tbody>
</table>

Source: World Bank staff assessments.
<table>
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<th>Problem</th>
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<th>Best practice</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Restricted coverage</td>
<td>Maximum benefit in RGPS is R$ 1,255 per month, used by companies as a break point for contributing to complementary system.</td>
<td>Most OECD countries do not have eligibility constraints related to salary level.</td>
<td>1. Supervisory agency to ensure that plans are offered to all employees, regardless of salary level.</td>
</tr>
<tr>
<td>Uncertain tax treatment</td>
<td>Government has maintained a dispute with pension funds over the need for EET taxation.</td>
<td>Most OECD countries have EET taxation.</td>
<td>2. Commitment to EET taxation, where contributions and fund earnings are exempt, but benefits are taxed.</td>
</tr>
<tr>
<td>High administrative costs</td>
<td>Operational costs in closed funds (employer-provided, mainly DB) higher than in Chile (individual, only DC). High fees of open funds, often above minimum return of 6%.</td>
<td>Not identified, but well regulated and supervised employer pension plans should in principle have much lower administrative costs than individual pension plans.</td>
<td>3. Evaluate causes of high administrative costs among closed funds. 4. Eliminate 6% minimum return rule in open funds, or 5. Ensure comparability between plans and transparency</td>
</tr>
<tr>
<td>Inadequate regulatory structure</td>
<td>No vesting and portability rules, low funding and auditing standards, weak sanctions, poor investment rules, distortionary minimum return rules, limited disclosure.</td>
<td>The Netherlands for vesting, portability, funding, auditing, and disclosure standards. Netherlands and Chile for valuation and diversification rules.</td>
<td>6. Update regulatory framework, as envisaged in proposed complementary legislation.</td>
</tr>
<tr>
<td>Ineffective supervision</td>
<td>Duplicated supervisory roles in SPC and SUSEP. Understaffing and lack of autonomy of SPC. Weak supervision and low information requirements of pension funds.</td>
<td>The Netherlands, and the newly created independent agencies in Latin American countries such as Argentina and Mexico.</td>
<td>7. Integrate closed and open fund supervisory agencies into one. 8. Ensure administrative, functional, and financial autonomy of new supervisory agency.</td>
</tr>
</tbody>
</table>

Notes: "EET" signifies a tax regime where contributions and fund earnings are exempt, but benefits are taxed. DB is the acronym for defined benefit pensions, where the benefit level is determined by length of service and salary levels. DC is the acronym for defined contribution pensions, where the benefit levels are determined by the contributions made by and on behalf of the individual, and the investment returns on these funds. SPC is the Secretariat of Complementary Pensions in the Ministry of Social Security, which regulates closed or company-sponsored pension plans. SUSEP, in the Ministry of Finance, is the supervisory agency for other funded pension plans, insurance companies. OECD is the Organization for Economic Cooperation and Development.

Source: World Bank staff assessments.
### Table 5
PENSION FUNDS FOR GOVERNMENT WORKERS: PROBLEMS, BEST PRACTICE, AND POLICY RECOMMENDATIONS

<table>
<thead>
<tr>
<th>Problem</th>
<th>Diagnosis</th>
<th>Best practice</th>
<th>Policy recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of diversification of sponsor risk and limited risk-pooling in RJU plans.</td>
<td>Civil servants' plans (RJU and pension funds) are administered by the same entity, the sub-national government.</td>
<td>US FERS consists of three mandatory parts: national social security, a DB pillar administered by the government, and a funded DC pillar managed by mutual funds.</td>
<td>1. Integration of at least a major component of the RJU plans with the RGPS.</td>
</tr>
<tr>
<td>Imminent depletion of fund reserves.</td>
<td>Pre-funding pension liabilities is not viable unless drastic parametric reforms are carried out in the RJU.</td>
<td>Fully-funded systems with viable contribution and benefit structures, such as the FERS and most state pension plans in the US.</td>
<td>2. Creation of pension fund should be conditional on adequate parametric reforms.</td>
</tr>
<tr>
<td>Inefficient administrative and supervisory structure of two component, two-fund, DB plan.</td>
<td>If both the basic plan and complementary plan are DB plans, there will be a duplication of administrative and supervisory functions.</td>
<td>The Netherlands has an integrated supervisory structure for all employer pensions and individual insurance plans. Parana has proposed a single-fund DB plan subject to a single set of regulations.</td>
<td>3. If DB, integrate basic and complementary plans into a single fund, regulated by supervisory agency of complementary pension system, or 4. Funded plans to be only defined contribution.</td>
</tr>
<tr>
<td>Lack of adequate regulation and external supervision of RJU (reserve fund) plans.</td>
<td>RJU plans fall outside the jurisdiction of the federal government: no guarantee that states will have full-funding of RJU plans, or adequate governance for reserve funds to mitigate political interference.</td>
<td>Parana is moving in the right direction, with a law that calls for full funding, and establishes a governance structure for the reserve fund similar to that of closed funds in the federal complementary system.</td>
<td>5. Full RJU plan – not only complementary part should be supervised by agency regulating complementary pensions. 6. If this is not possible, Law 9717 should refer to the complementary pension law, or states should introduce the same laws.</td>
</tr>
<tr>
<td>Complexity and inadequate regulation of government - sponsored DB pension plans.</td>
<td>DB plans are more difficult to regulate than DC plans, and lead to controversial issues like corporate governance of private firms. DC plans ensure benefit-contribution links, and allow portability.</td>
<td>No country has dealt adequately with state's intrusion into corporate governance of private firms; ownership control limits (on the share of company equity that any fund can hold) mitigate this problem somewhat.</td>
<td>7. Establish a significant component of RJUs as a DC plan. 8. Regardless of the size of the DC component, regulatory framework and capacity of complementary pension agency must be improved.</td>
</tr>
</tbody>
</table>

Notes: FERS is the US Federal Government Employees Retirement Scheme, introduced in 1986. DB is the acronym for defined benefit pensions, where the benefit level is determined by length of service and salary levels. DC is the acronym for defined contribution pensions, where the benefit levels are determined by the contributions made by and on behalf of the individual, and the investment returns on these funds.  
Source: World Bank staff assessments.
I. SOCIAL SECURITY AND PENSIONS IN BRAZIL: COMPLETED REFORMS AND REMAINING AGENDA

BACKGROUND AND MAIN POLICY QUESTIONS

Social security reform is a priority concern in Brazil's efforts to carry out a lasting fiscal adjustment. Government statistics show that the overall pension deficit was 4.8% of GDP in 1998. Estimates by the International Monetary Fund (see Kopits, et. al., 1999) indicate that when the estimated interest payments on public debt accumulated on behalf of public pension programs are included, this ratio doubles to 9.5% of GDP. The large primary imbalances in public pensions and the high interest rates at which Brazil has to finance its public sector deficit make social security reform both important and urgent. There are other compelling reasons for reform of social security, including equity, labor market efficiency, and savings and capital market development. But fiscal concerns have correctly been perceived as paramount.

The Government has responded to this challenge by changing some clauses in the Constitution that create the conditions for deeper reform of the general regime for social security (the RGPS) and through passage of a set of reforms to put the general regime on a better actuarial base. In case of the pension regime for government workers (the RJU), the government has changed eligibility requirements while also attempting to increase pension contributions by active and retired civil servants. In the case of the RJU, the reforms implemented to date are the first steps towards building a sustainable and just social security system that fits both the country's budgetary constraints and its social objectives. In the case of the RGPS, if implemented rigorously, the reforms will go a long way towards redressing the fiscal imbalance of the system. But in both cases, the changes have contributed to the creation of a climate for debate and rethinking of the role of Government in old age security. Economic concerns about social security are no longer politically incorrect in Brazil (see Veras, 1998). This report was written with the objectives of contributing to the process of open discussion and debate that has begun and that is necessary for building the social consensus that is a precondition for any sustainable reform, and as an input to the formulation of the Brazilian Government's pension reform strategy to construct a system that match both its purse and purpose.

The report brings together recent and ongoing analytical work done by the Government of Brazil, the World Bank and other institutions and researchers in a structured and comprehensive manner. In keeping with the country's priorities, it focuses on the fiscal aspects, though quantitative evidence on equity and efficiency aspects is also provided where pertinent. In keeping with the comparative advantage of the World Bank, it presents relevant lessons of experience of other countries in designing and implementing social security reform. The experiences of other countries are not presented here with the objective of egging Brazil onto paths chosen by earlier reformers. Every country must construct a system of old age security that fits its own social and economic circumstances, and Brazil will arrive at a uniquely Brazilian solution to the problem that it faces today. The value of international experience lies in avoiding the mistakes made by others, and in learning more about the measures that are necessary to successfully implement affordable options for ensuring reasonable support for the elderly, the infirm and the unfortunate.
The Brazilian social security system can be thought of as having three components:

- a large mandatory, unfunded, defined benefit component consisting of programs under the *Regime Geral da Previdência Social* (RGPS), which covers workers in private firms and public sector employees who were also hired under the Consolidated Labor Code and the Federal, state and municipal *Regimes Jurídico Único* (RJUs), which covers tenured government employees in the executive, legislative, and judicial branches and the military;

- a rapidly growing but less important funded, defined contribution/benefit component consisting of closed and open pension funds together classified as the *Sistema Complementar da Previdência* (SCP), so named because it was designed to be complementary to the RGPS;

- A nascent voluntary, fully-funded, defined contribution component consisting mainly of *Fundos de Aposentadoria Programada Individual* (FAPIs) and *Planos Gerador de Beneficio Livre* (PGBLs) with enormous growth potential given the low coverage and Brazil's relatively sophisticated capital market, including mutual funds and insurance companies.

Table 1.1 summarizes the main characteristics of the first two components.

**Table 1.1: Brazil’s Social Security and Pension System**

<table>
<thead>
<tr>
<th>Regime</th>
<th>RGPS</th>
<th>RJU</th>
<th>SCP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants</td>
<td>Workers in the private sector and in state-owned enterprises (SOEs)</td>
<td>Military, judiciary, legislative, and civil servants in federal, state and local government</td>
<td>Workers in private sector and state enterprises earning more than R$1,200/month</td>
</tr>
<tr>
<td>Population</td>
<td>36 million active, 18 million retired</td>
<td>3.9 million active, 3 million retired</td>
<td>3.1 million active, 1.5 million retired²</td>
</tr>
<tr>
<td>Administrator</td>
<td>INSS</td>
<td>SEAP for Federal RJU, state and municipal governments for their respective RJUs</td>
<td>SCP/MPAS for closed funds, SUSEP for open funds</td>
</tr>
<tr>
<td>Pension Plan</td>
<td>Mandatory defined-benefit</td>
<td>Mandatory defined-benefit</td>
<td>Voluntary defined-benefit, or defined-contribution and hybrids</td>
</tr>
<tr>
<td>Other Benefits</td>
<td>Disability, survivor, various social assistance programs</td>
<td>Disability, survivor, various social assistance programs</td>
<td>Disability, survivor</td>
</tr>
<tr>
<td>Finance Structure</td>
<td>Payroll tax on workers and employers</td>
<td>Payroll tax on workers and transfers from government treasuries</td>
<td>Voluntary contributions from workers and employers, with some subsidies from SOEs</td>
</tr>
<tr>
<td>Pillar</td>
<td>First (tax-financed, publicly managed)</td>
<td>First (tax-financed, publicly managed)</td>
<td>Third (contribution-financed, privately/publicly managed)</td>
</tr>
</tbody>
</table>

¹ Figure does not include municipal RJUs, on which data are incomplete.
² Approximate – data on number of beneficiaries from open funds may be inaccurate.


Workers in the formal private sector and state enterprises belong to the federal social security system (RGPS), which is administered by the *Instituto Nacional de Seguridade Social* (INSS). Employer and employee contributions for social security add up to about 30% of payroll, one of the highest rates in the world. Relatedly, while Brazil has an economically active population of more than 60 million, active contributors to the INSS number less than 30 million. Workers in Brazil’s public sector—at the federal, state and municipal levels of government—participate in mandatory, defined-benefit pension plans established under the *Regime Jurídico Único*. Each tier of
government administers separate RJU schemes for its employees that afford them benefits ranging from contingent payments for medical expenses and disability, to retirement and survivorship income. The RJU for federal workers is managed by Secretaria de Estado da Administração e do Patrimônio (SEAP), while the plans for state and municipal workers are run independently of the federal system by institutions at their respective levels of government.¹ States and municipalities were first allowed to create their own pension plans in 1988. Currently, all states and about 1,400 municipalities (of a total of 7,000) have their own RJU plans².

It is worth emphasizing at the outset that the RJU as conceived under the Constitution of 1988 was not a pension system, as found in other countries—where employees and/or employers contribute to old age security—but, rather, a set of rules governing continued compensation for government employees after they completed active service. Thus, while the RGPS is a pay-as-you-go (PAYG) social security system, the RJU—with the imposition of pension contributions by civil servants in the federal government and some states in the mid-1990s and the tightening of eligibility in 1998—is still on its way toward operating within a PAYG framework. Current and future reforms of the RJU should be viewed keeping this in mind: "pension reform" has become synonymous with the process of PAYG systems being changed to conform to principles of actuarial fairness and fiscal balance, but reform of Brazil's RJU is a step behind in that these changes will in fact continue the transformation of a set of rules for deferred compensation for government employees, into a PAYG system of old age security, albeit a generous one.

Annual government pension-related spending under the RGPS and RJU adds up to more than R$100 billion. Benefits guaranteed under the RJUs at the federal, state, and municipal levels account for about half of spending but a much larger share of the financing gap, and hence present a more immediate challenge to fiscal solvency than that posed by the RGPS, which forms the other half. Measured deficits in the RJUs are expected to be about R$40 billion in 1999, with more than half of this at the federal level. RGPS deficits are expected to be about R$11 billion in 1999. Besides the obviously unsustainable fiscal burden of RJU pensions, they also pose equity and efficiency related problems: the benefits relative to contributions are much higher than in the Regime Geral. As an illustration, while the average RGPS pension is less than twice the minimum salary, average RJU pensions are as much as 40 to 54 times the monthly minimum salary for federal judicial and legislative branch workers respectively (see MARE, 1999). Beside violating principles of social justice, these differentials reduce labor mobility from the public to the private sector and encourage abuse. The report examines the structural weaknesses that underlie these imbalances to answer the following questions:

- What are the fiscal and equity-related effects of the reforms carried out so far in both the RGPS and the RJU? What are the fiscal, equity and efficiency effects of the “second generation” reforms being implemented in case of the general social security system and being contemplated in case of the pension regime for government workers? Are these adequate to

¹ In mid 1998, a unit called Departamento dos Regimes de Previdência dos Estados e Municípios (DEPEM) was established within the federal Ministério da Previdência e Assistência Social (MPAS) to monitor the activities of the state and municipal RJUs. Many states have created special units to initiate reform of state RJUs: Parana's agency is called the Secretaria Especial para Assuntos Previdenciários (SEAP-P). This report uses data and analysis compiled by DEPEM and SEAP-P.

² The rest of the municipalities are affiliated to the private sector pension system, the RGPS.
Brazil: Critical Social Security Issues

return the regimes to fiscal balance over the medium to long term, given the size of the problem in Brazil and/or the experience of other countries with similar reforms?

- What is the set of reforms adequate to tackle the social security problem, given the dimensions of the problem and the lessons suggested by the experience of other countries? Which redistributive elements of the old system should be phased out and which should remain in the system, and how should these be funded? How should the phase-out be operationalized?

- What is a realistic time frame for implementing these reforms, given the administrative capacity of government agencies, especially at the Federal level?

Unlike other Latin American countries, Brazil has a long history of non-state pension funds. Private pension funds have existed since the 1920s, although these funds were gradually absorbed into the state social security system in the 1970s (see Yermo, 1998). A system of complementary pension funds (Sistema da Previdencia Complementar), comprising of closed funds established by companies for their employees was re-launched in 1977. These have assets of more than R$100 billion (or about 11% of GDP). Funds established by insurance companies or other financial institutions have assets of about R$6 billion. There are both defined-benefit plans (where the pension depends on an accrual rate for each year of service and a reference salary) and defined-contribution plans (where the pension depends on accumulated balances from annual contributions and investment income and an annuity conversion factor). Recent legislation authorized the creation of individual retirement funds (Fundos de Aposentadoria Programada Individual or FAPIs). The reforms of 1998 also open the possibility of funded plans to supplement RJU benefits, and state governments are especially keen on setting up these funds for their employees.

Brazil is fortunate in comparison to other developing countries in Latin America and elsewhere in that it has a sophisticated financial system with a large number of institutional investors (pension funds, insurance companies and mutual funds) in addition to active securities markets. Additionally, it has a well-developed sector of service providers, such as accountants, actuaries, lawyers, and fund managers. But Brazil also has a history of “market-unfriendly” federal-state fiscal relations, as evidenced by fiscal profligacy of sub-national governments and Federal Government bailouts of states in fiscal distress. These strengths and weaknesses, compounded by the complexities of Brazil's pension systems, make recent developments in the area of pension funds especially hard to evaluate. Nevertheless, the report attempts a rigorous analysis of the relevant issues, including but not limited to the following policy questions:

- What are the changes required in both the regulatory framework and the capacity of supervisory bodies to encourage the sustainable growth of private pension funds in Brazil?

- Is pre-funding in a reserve fund sustainable in Brazil for government pensions at the state and federal levels? In particular, is the current regulatory framework sufficient to ensure the success of reserve funds as a solution to the funding problem?

- How will the restriction of investing in sub-national debt affect the investment regime of reserve funds and the fiscal situation of states and municipalities? Is the complementary pension system prepared to absorb civil servants' pension funds?
Some important overarching policy issues are also addressed in the report, again through a combination of quantification of pension-related variables in Brazil and relevant international experience. The main issues are:

- Is it sensible and feasible for Brazil to have an integrated system for workers covered under the Regime Geral da Previdencia and Federal, state, and municipal Regimes Juridico Unico?

- If the answer to this question is yes, should the Government's strategy be gradualist (viz., first making the benefit and contribution structures in these systems relatively uniform and then merging them some years down the road) or more drastic (viz., changing constitutional provisions immediately or providing strong incentives to facilitate a rapid merger of federal, state and municipal Regimes Juridico Unico with a reformed federal social security system)? What are the likely costs and benefits of these alternative strategies?

- What are the implications of these changes in Brazil's first-pillar schemes for Brazil's second-pillar systems: the pension funds under the Regime Complementar? What are the implications—if any—of these changes for Brazil's voluntary savings pillar?3

FISCAL IMBALANCES IN THE RGPS AND RJU

The relatively high expenditures in the Brazilian Regime Geral da Previdencia Social arise from the generous benefit structure and eligibility conditions, coupled with relatively minimal contribution requirements. Until 1998, individuals could retire either on the basis of length of service or age. If retiring on the basis of length of service, men (women) had to have 35(30) years of service to receive a pension of 100% of the average of salary for the last three years (aposentadoria integral). Those in special occupations (such as teaching) were subject to a further five year reduction. With five fewer years of service, individuals could receive pensions worth only 70% of the last three years' average wage (aposentadoria proporcional). These pensions were not subject to age restrictions, resulting in women often retiring in their late forties and men in their early fifties. Alternatively, retirement could take place on the basis of age, with men allowed to retire at age 65 with only 102 months of service and women at age 60 with the same 102 months, with agricultural workers and other privileged workers, again, allowed to retire five years earlier. The pension in this case was 70% of the average of the last three years' average salary, plus 1% for each year of service up to a maximum of 30%.

The 1998 Constitutional Amendment made some changes to this structure which will provide some fiscal relief but, more importantly, open avenues for further reform. Several reforms such as changing the length of service requirement to length of contribution are beneficial, but the main effects are likely to kick in only after the INSS has overcome its current data limitations. Immediate fiscal relief comes from changing the requirements from years of service to years of contribution and from eliminating the reduced pension of 70% available for those with fewer than the 35/30 required years of contribution (see Table 1 in Kopits, et. al, 1999, and Table 1.2 below). The facilitation of further reforms to the RGPS comes from the amendment that removed the benefit formula (the mathematical rule for calculating the benefit from average wages over the last three

3 The issue of the effects of these changes on aggregate domestic savings in Brazil is not addressed in this report; see Thompson (1998) for a rationale for treating the link between pension design and saving rate with skepticism.
years and the replacement ratio) out of the Constitution. Benefit levels can now be determined by changes in law, which requires approval by only a simple majority in Congress. In 1999, the Government displayed its intention to use the space created by the Constitutional amendment by putting in place a new benefit formula for the RGPS called the “fator previdenciario” (See Box I.1).

Box I.1: The New RGPS Formula

The new law proposes that the pension be based on the entire work history. July 1994—the start of the Real Plan—is established as the starting-point, and the base for pension is the period between the pension date of each worker and July 1994. To protect workers with highly variable earnings (such as women), the average pension will be based on the 80% highest annual wages over the working life.

The pension is now defined as \( S_b = M \times f \), where here \( S_b \) is the pension level, \( M \) is the average of the 80% highest contribution wages of the insured workers during the contribution time, indexed by past inflation and \( f \) is an actuarial coefficient defined as

\[
f = \frac{T_c \times a \times \left( f + l_d + T_c \times a \right)}{E_s \times 100}
\]

where \( T_c \) is contribution time of each insured worker; \( a \) = contribution rate of the insured worker including the employer’s contribution (0.31); \( E_s \) = life expectancy for a certain age of the insured worker in the retirement date; and \( l_d \) is the insured worker’s age at retirement.

The first part of the actuarial coefficient formula equilibrates the contribution period of each insured worker to the average time the benefit is received (life expectancy for a certain age). For example, suppose an insured worker has worked for 30 years, this worker has given 100% of his wage to the Social Security actually for 9.3 years (30 x 0.31). Therefore, if the life expectancy for a certain age of this person is 9.3 years the first part of the formula is balanced, and the result of the division between the contribution time times the rate by the life expectancy for a certain age will be one (1).

The second part of the actuarial coefficient is a “bonus” given to insured workers who work longer. It can be thought of as an interest rate paid on the resources accumulated during the insured worker contribution period. Thus, for example, an insured worker “A” who has entered the labor market with 18 years old and has retired at 53 after 35 years of contribution will have a 0.79 actuarial coefficient, while an insured worker “B” who leaves the labor market at 62 years and who also entered at 18 will have an actuarial coefficient of 0.51.

The changes in the calculus methodology makes insured workers receive their pensions according to the value and the time of contributions. For the first time conditions are being introduced to encourage workers to keep their activities even after meeting all the legal qualifications to the retirement. In the final version of the project approved, a rule of transition included to allow insured workers to make better plans for retirement. The transition will be made through a gradual application of the actuarial coefficient of 1/60 per month. Thus, at the end of five years, the transition will be complete.

Fiscal impact

According to government estimates, application of the new formula does not begin to have an effect (viz., noticeable difference from a no-reform simulation) until 2002, when the deficit becomes 1.2% of GDP with reform versus 1.3% without reform. MPAS estimates show that the medium term fiscal impact of the new formula is marginal. The savings do not become significant until 2009-2010: deficit of 1.4% of GDP with

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4 In contrast with changes in the Constitution, which require 2/3rds majority vote in the upper and lower houses, twice.
reform versus 1.8% without reform. In the long term (by 2020), the RGPS deficit with the reform is 1.9% of GDP, as opposed to 2.5% with no reform. Even this long term fiscal payoff depends on hypothesized increases in participation (coverage) due to correction of current perverse incentives.

Other positive points

*Beneficiaries get what they pay for (at least theoretically).* The new formula ties benefits to contributions - workers who retire earlier will receive a lower pension than those that stay in the labor force. Pensions will be based on a large part of work/contribution history. Since the final RGPS pension will be calculated on 80% of a worker’s best salaries, there is less room in the new formula for strategic underreporting of wages.

*Better actuarial balance.* The internal rates of return estimates show that the new formula takes steps toward correcting current actuarial imbalances in the RGPS.

*Partial protection against demographic risk.* A portion of the new formula endogenously adjusts pensions by a retiree’s life expectancy at the time of retirement. This will partially protect the RGPS from demographic changes that typically aggravate imbalances in rigid PAYGO systems around the world. However, this protection is not sufficient to guarantee that the contribution revenue from current workers will always equal benefit payout to current retirees, and could be improved.

Weaknesses

*The formula is somewhat complicated.* This is true of the formulas applied in most PAYG systems, however, the new formula with its “factor previdenciario” (the actuarial coefficient) adds further complications that make understanding difficult for pensions specialists, to say nothing of workers and employers. This lack of transparency can only add to the incentives to question the reform and to evade.

*The new calculation may implicitly increase the burden of payroll taxes on employers.* While forcing workers and employers to pay the real cost of RGPS pensions is a positive step from a fiscal perspective, the new formula implicitly increases the tax on labor. Given currently high levels of informality in Brazil, the new formula is likely to encourage greater evasion. A rule of thumb often quoted in pension circles (although generally referring to a PAYG-to-funded reform) is that a good reform should not involve a net transfer from the private to the public sector. This formula does not conform to this simple rule.

To summarize, applying the new formula may lead to fiscal savings in the long term (by 2010). However, this outcome depends critically on a decrease in evasion. While the formula links benefits to contribution history, the link is far from transparent and many of the labor market gains may not be forthcoming in the absence of a minimum age at which retirement benefits commence. The incentive structure of the new formula may actually add to the disincentives to participate in the RGPS, and increase evasion.

*See Omelas and Vieira (1999) for details of the new formula.*

In the short run, the Government estimates the reforms passed in 1998 to result in modest fiscal gains (see, e.g., Oliveira, et. al, 1999). While the first round of reforms passed in 1998 will help in the short term and make further reforms of the RGPS easier, they could have worsened the medium- to long-term fiscal outlook (see Figure 1.1). If further reforms were not undertaken, RGPS operational deficits would have worsened steadily over the next decade, and then deteriorated rapidly afterwards to reach 8% of GDP by 2025. The main reason for both the short term improvement and the medium-term worsening due to the first phase of reforms is the elimination of reduced pensions, while retaining the 100% replacement rate for unreduced pensions: this results in a gain while people wait longer for unreduced pensions, but a worsening of the fiscal situation when these workers start to receive unreduced pensions. Chapter II summarizes the results of World Bank simulations of the fiscal and redistributive effects of the new benefit formula. The net
fiscal effects of the second round of reforms appear to be significant: under the most optimistic conditions regarding how well the government can implement the new rules and how much workers may postpone retirement in response to the new formula (the RGPS still does not have a minimum age of retirement) the reforms may even eliminate the deficits temporarily.

The RJUs have generous benefits, end-loaded replacement formulae, privileges for influential groups, lenient vesting requirements, and indexation of pension payments to current salaries (not prices). The generosity of RJU pensions is striking both in absolute terms and relative to the RGPS. This is indicated in gross terms by the fact that although the RJUs currently support less than 15% of Brazil's retirees, RJU retirees receive approximately half of all public pension benefits paid, and account for 75% of the pension deficit. In 1997, pension spending net of contributions of the federal and state RJUs amounted to 2.3% and 1.8% of GDP, respectively, while RGPS deficits were less than 1% of GDP. RJU expenditures at federal, state and municipal levels opened a financing gap of R$34 billion in 1998, expected to grow to almost R$40 billion in 1999. After adjusting the RJU deficit to make it comparable to the RGPS - where employers contribute 20% of payroll - this subsidy is almost R$14,000 per beneficiary for the Federal RJU and R$8,500 per beneficiary for RJUs as a whole. When compared with the shortfall of R$475 deficit per beneficiary in the RGPS, RJU fiscal imbalances appear excessive and inequitable.

The 1998 Constitutional Amendment 20 made a few changes to this structure, notably introducing a retirement age (53 and 48 years for men and women respectively) at which benefits commence for new workers, and requiring a minimum tenure of ten years in government service and five years in the position from which retirement occurs (See Table 2 in Kopits, et al., 1999, and Table I.2 below). For Federal Government employees, the legislature approved an increase in contributions from civil servants, and introduced the same level of contributions from retirees (see Chapter III for details), but these rate hikes were successfully challenged in courts. The government is now in the process of amending the Constitution to allow imposition of contributions by retirees (which in all likelihood will be no more than 11%, the contribution rate for current federal employees. If all of the measures approved in 1998 and 1999 had taken effect, this would have resulted in a noticeable improvement in Federal RJU finances (see Figure I.2). But even after this, the fiscal burden of the Federal RJU continues to worsen from the current 1.5% to an eventual 2.5% of GDP. The outlook for subnational RJUs varies across states and municipalities, but is unlikely to be much better at an aggregative level.

In quantifying the imbalances in the public pension system, this report sheds light on some of the most important issues in Brazil today: the fiscal burden of civil service pensions, the yawning gaps between public and private sector pensions, and the size and composition of implicit pension debt (IPD) borne by the state RJUs that limit options for reform. The report provides quantitative assessments of the long-term fiscal imbalance of the RJUs for federal and state civil servants, a measure of actuarial imbalance in these systems, an assessment of inequities within a State RJU (e.g., returns to teachers versus other employees), and the likely changes in these magnitudes under alternative reform scenarios. Since the report also computes similar measures for the RGPS, this allows more reliable indicators of inequity between the RGPS and RJU.
### Table I.2. Systemic Weaknesses, Main Proposed/Completed Reforms, and Likely Effects

<table>
<thead>
<tr>
<th>Weakness</th>
<th>Main Reforms Aimed at Addressing Weakness</th>
<th>Likely Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fiscal Imbalances</strong></td>
<td>1. New formula will—through longer reference period—lower base salary and hence the pension level. 2. Reduced pensions (at 70% of base salary) to be phased out.</td>
<td><strong>Sizeable</strong> savings for RGPS in short, medium and long term if implemented well, but <strong>modest</strong> savings for RJU. Remaining obstacles are 100% replacement ratio, low/no retirement age, and double-dipping or multiple pension/salary benefits.</td>
</tr>
<tr>
<td><strong>Actuarial Imbalances</strong></td>
<td>Minimum retirement age of 53/48 years for men/women (proposed but defeated).</td>
<td><strong>Medium</strong>: rates of return for new entrants fall considerably in the RGPS; also fall in the RJU but remain unsustainably high; the statutory retirement age is low relative to current actual retirement ages; DC restriction in SCP is only for new entrants.</td>
</tr>
<tr>
<td><strong>Inequities</strong></td>
<td>1. Longer reference period in new formula reduces pro-high wage earner bias (1997 survey shows much steeper age-earnings profiles for the more educated) 2. Many special regimes abolished.</td>
<td><strong>Modest</strong>: Inequalities increase between RGPS and RJU pensions, but reforms will lower inequality between high and low income earners in the RGPS. Uniform replacement rates by wage level is key obstacle to sizeable equity gains.</td>
</tr>
<tr>
<td><strong>Labor Market Inefficiencies</strong></td>
<td>1. Time of contributions to be used instead of time of service; may lower informality. 2. New formula may result in greater evasion as payroll tax burden on employers effectively increases.</td>
<td><strong>Minimal</strong>: last minute switches to public service will end, but government compensation remains high relative to private in many occupations. Informality will stay high without labor reforms.</td>
</tr>
<tr>
<td><strong>Misreporting, Evasion/Abuse and Low Coverage</strong></td>
<td>1. Longer reference period lowers incentive to underreport wages. 2. CNIS and improved INSS information will lower evasion rates.</td>
<td><strong>Medium</strong>: Improved INSS administration will pay rewards in lower evasion after 3-5 years; Camata Law effectiveness postponed by 2 years.</td>
</tr>
</tbody>
</table>

*Note: This table presents a very simplified version of the reforms to these three regimes. For more details see MPAS (1999), MPAS (1998) and Kopits et at. (1999). Effects increase in strength from *minimal* to *modest* to *medium* to *sizeable*. Source: World Bank staff assessments.*
Figure I.1: Social Security Deficits, Base Case and 1998-2000 Reforms


Figure I.2: Federal Govt. Pensions Deficits, Base Case and 1998-99

Source: World Bank PROST Simulations
INEQUITY AND ACTUARIAL IMBALANCES IN THE RGPS AND RJU

The multiplicity of pension programs in Brazil results in workers with similar attributes contributing towards their pensions at differing rates, and retiring with vastly different benefits. Both government-managed tax-financed (first-pillar) programs promise overly generous retirement benefits to covered workers in relation to the contributions they make, thus implicitly transferring money from future to current generations or — what often amounts to the same thing — from other publicly financed programs such as basic education, to social security. Given the complexity of Brazil’s first-pillar pension regimes, it is difficult to accurately isolate their equity or redistributive effects. In any system, but especially in traditional PAYG plans, fiscal imbalances are easier to measure than actuarial imbalances. This report uses both fiscal imbalances and actuarial calculations to assess whether the first-pillar regimes can be considered equitable from both within-generation and intergenerational viewpoints.

World Bank (1995) calculated the rates of return in the three largest programs of the RGPS (Old Age, Length of Service, and Special Retirement) for more than 5,000 groups of participants (see Box 1.2 for a summary of its findings). This report presents more recent rate of return estimates computed using PROST in assessing the effects of completed and planned reforms in both the RGPS and the RJU. While all these numbers should be interpreted cautiously (e.g., because these rates are calculated post factum when in fact we often require ex ante rates for our analysis), the rate of return estimates can be useful in assessing both actuarial imbalances and inequity within and across the RGPS and RJU.

The simulations in this report suggest that the main findings of World Bank (1995) were still valid for the RGPS in 1998. In the 1998 pre-reform case, given the more lenient vesting requirements enjoyed by women, the rates of return to women are always higher than those to men, but especially so in the Old Age program of the RGPS. Unsurprisingly, the rates of return in the Special Length of Service programs are much higher than the ordinary Length of Service schemes. Finally, the apontadoria proporcional or reduced pensions (retiring up to five years before qualifying for unreduced pensions) afford workers higher rates of return than unreduced pensions or apontadoria integral.

But this report also finds that the rates of return in RJU Length of Service and Special Length of Service programs are about twice as high as similar programs in the RGPS. If government-as-employer contributions are recognized using the same factor of proportionality for employer-employee contributions as in the RGPS (viz. by simulating the effects of a hefty 33% contribution rate: 22% from employer, 11% from employees), RJU returns fall to 6.7% and 10.7% for the unreduced Length of Service for men and women respectively, 7.3% and 9.4% for the reduced Length of Service for men and women, and 8.3% and 10.3% for the Special Length of Service program. These rates are higher than RGPS rates of return, and still imply a sizable transfer to civil servants. These findings suggest that, aside from the need to bring government salaries in line

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5 As seen above, the report also contains other indicators of inequity such as the per beneficiary subsidy financed by general tax revenues.
6 See Gill and Packard (1999, 1999b) for details.
with market rates, inequity in Brazil’s first-pillar social security regimes can be reduced by: (i) lowering the generosity of RJU pensions relative to the RGPS, (ii) increasing the required contribution period in the Old Age program, and (iii) eliminating all special pension regimes. Encouragingly, the government has made efforts in all these areas.

Box I.2. Inequality Within the RGPS: Results From a 1995 World Bank Study

World Bank (1995) computed rates of return by estimating the age-earnings profile of different types of workers, imputing their likely contributions, and using mortality tables to calculate the post-retirement life span for each group. The main results were:

- **All RGPS programs gave rates of return that are considerably higher than market rates.** The rates of income replacement that generate these returns are unsustainably high. Above-market rates imply that the pension programs – intentionally or otherwise – sought to either redistribute wealth from younger to older generations of Brazilians, or to continually subsidize the old age security of everyone at the expense of other investments such as education.

- **The Old Age program was the most generous, followed by Special Retirement and the two Length of Service alternatives of reduced and unreduced benefits.** Even after extending the length of the contribution period for the Old Age program to 15 years, rates of return are almost twice those of the Length of Service program. Under the current required contribution period (eight years in 1998), participants in the Old Age program enjoy annual rates of return of about 30-40 percent. At current levels of income replacement, rates of return do not approach sustainable levels until workers in the Old Age program have contributed for more than 35 years. This said, it is important to note that most beneficiaries of the Old Age pension program are poor rural workers, while those who benefit from the early retirement, Length of Service option are urban, middle/upper class workers. The rural old age program may be justifiable as a social assistance program for the poor.

- **While informality increased the rates of return, it did not change the basic result that returns to all programs are too high and those to the Old Age program were much higher than other programs.** Therefore, even reducing informality to zero through perfect record-keeping and enforcement would not eliminate actuarial and fiscal imbalances in the RGPS.

- **Special retirement programs** (e.g., for primary and secondary school teachers) have rates of return that are between 25-50% higher than Length of Service programs since beneficiaries retire 15-25% earlier under the Special Retirement programs, and enjoy a longer post-retirement life span.

- **Since all programs allow women to begin receiving social security benefits five years before men, even assuming no mortality differentials, women earn higher rates of return than men.** Thus, for example, while the annual rates of return in the Old Age program (with 12 years of contribution) and Length of Service (with 25/30 years of service) for men were 13% and 7% respectively, they were 17% and 9% for women. Taking mortality differentials into account shows that the average female in the Old Age program receives almost 50% more social security benefits than her male counterpart.

- **Rates of return by salary level of the worker, show that the Old Age program is the most "progressive" in that there is a sharp fall in the rates of return as we move up the income ladder.** The Length of Service program is moderately progressive, and the Special Retirement program is not at all progressive. Paradoxically, therefore, the most extravagant program (Old Age) appears to be the most progressive. This finding fits with the observation that the majority of the beneficiaries of the Old Age program are rural women.

- **Accounting for regional mortality differentials reduces some of the distributional attractiveness of the Old Age program: while the rate of return to the program (with 12 years of contribution) is about 15% for all regions of the country without accounting for regional mortality differentials, rates of return in Rio de Janeiro were a full one-thirds higher than the poor Northeast when these differentials are taken into account.**

Source: *World Bank (1995).*
To fully appreciate the generosity of Brazil's first-pillar systems, contrast the above rates with those facing participants in US social security. Table I.3 reports the internal rates of return in the US Social Security system. Comparing the numbers discussed for Brazil and those in Table I.4, three features stand out:

- First, compared with programs in Brazil's RGPS and RJU, the rates in US social security are one-fourth the magnitude or lower.
- Second, the rates in the US have fallen over time as the parameters have been changed to maintain fiscal balance, even though the system is still running an operational surplus.
- Third, the rates of return in the US are consistently higher for lower wage earners; this pattern has been maintained even as the rates have fallen over time.

The last feature is because of falling statutory replacement ratios (the ratio of pensions to reference earnings) as earnings rise. Thus, while the replacement rate in the US is 62% for those with annual taxable wages of $10,000, it is 42% for those with $30,000, and 29% for those with earnings of $60,000 or more (Gramlich, 1998).

**Table I.3. Rates of Return in US Social Security, by Year of Birth and Earnings(Percent)**

<table>
<thead>
<tr>
<th>Birthdate</th>
<th>Low</th>
<th>Average</th>
<th>High</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1920</td>
<td>4.4</td>
<td>2.8</td>
<td>2.5</td>
<td>2.4</td>
</tr>
<tr>
<td>1930</td>
<td>3.1</td>
<td>1.9</td>
<td>1.5</td>
<td>1.2</td>
</tr>
<tr>
<td>1937</td>
<td>2.7</td>
<td>1.6</td>
<td>1.2</td>
<td>0.7</td>
</tr>
<tr>
<td>1943</td>
<td>2.4</td>
<td>1.3</td>
<td>0.8</td>
<td>0.3</td>
</tr>
<tr>
<td>1949</td>
<td>2.4</td>
<td>1.4</td>
<td>0.8</td>
<td>0.2</td>
</tr>
<tr>
<td>1955</td>
<td>2.5</td>
<td>1.4</td>
<td>0.8</td>
<td>0.1</td>
</tr>
<tr>
<td>1964</td>
<td>2.4</td>
<td>1.3</td>
<td>0.6</td>
<td>-0.1</td>
</tr>
<tr>
<td>1973</td>
<td>2.3</td>
<td>1.3</td>
<td>0.6</td>
<td>-0.2</td>
</tr>
<tr>
<td>1985</td>
<td>2.2</td>
<td>1.1</td>
<td>0.4</td>
<td>-0.4</td>
</tr>
<tr>
<td>1997</td>
<td>2.0</td>
<td>0.9</td>
<td>0.3</td>
<td>-0.5</td>
</tr>
<tr>
<td>2004</td>
<td>1.8</td>
<td>0.8</td>
<td>0.2</td>
<td>-0.6</td>
</tr>
</tbody>
</table>


For the RGPS and the Federal RJU, the report estimates the rates of return conditional upon the rigorous implementation of reform measures passed by Congress. For the RJU, these reforms consist of the introduction of a minimum age (60/55 for males/females) at which retirement benefits can commence and introducing contribution rates on many retirees to 11% (note that many states already impose these contributions but Federal Government efforts to do so have been defeated. What is noteworthy is that even the steep increases in contributions of 11-25% from *ativos* and *inativos* that were approved by the legislature (but overturned by the Supreme Court) do not change matters in the RJU radically: rates of return do fall, but remain unsustainably high. Increased employee and employer contribution rates are not sufficient to address the equity problems of the RJU: until benefits are reduced, the imbalances between the two regimes will remain. For the RGPS, the eliminating the option of early retirement with a reduced pension (aposentadoria proporcional) results in rates of return falling by 10-15% for RGPS programs but, again, rates of return still remain unsustainably high for all programs, and there are still large
Brazil: Critical Social Security Issues

differences across programs. Overall, the simulations indicate that the reforms of 1998 and 1999 improved matters somewhat but still leave the system economically unsustainable (viz., in fiscal imbalance) and socially unjust (viz., inequitable). The Government is correctly convinced that much more needs to be done, and—as discussed in Chapter II—has managed to take steps that will address the fiscal imbalances of the RGPS quite effectively if implemented well. But the Government has not been as successful in trimming RJU deficits. The widening differentials in rates of return between the RGPS and RJU will be seen as unfair and also impose efficiency costs in terms of labor market distortions.

EFFICIENCY COSTS OF THE FIRST-PILLAR SCHEMES BEFORE REFORM

Flaws in the design and enforcement of social security laws for private sector workers under the RGPS are correlated with a high degree of informality in Brazil, which is estimated at about 50-60% of total employment. The chief design flaw (until the recent reforms) in the RGPS was a weak link between benefits and contributions, and the main enforcement-related shortcoming remains the lack of accurate records of contributions and work histories. Informality in Brazil appears mainly to be a fiscal—not a legal or legislation-related—phenomenon. That is, informal labor contracts are explained more by the level of payroll and other taxes, and less by the effect of restrictive labor laws within the private regulated sector. The main difference between informal and formal employees is their relationship—and hence that of their employers—with the government in terms of payroll taxes, the main one being social security contributions: while the employers of about 95% of workers classified as formal (viz., those having a work contract ratified by the Ministry of Labor) paid INSS dues, this ratio is less than 5% for informal sector workers (Amadeo, Gill and Neri, 2000). In sharp contrast, labor legislation seems to uniformly affect the work relationships (wages, hours, and payment practices) in both the regulated and informal sectors.

While improvements in the design of labor and social security laws may or may not reduce informality substantially, the manner in which these laws have been enforced is a critical but underemphasized determinant of informality in Brazil. Even a move to privately managed, pension system of individually capitalized accounts does not appear to have increased the number of workers (as a portion of total employment) who contribute to social security, nor reduced the size of the informal sector in Chile even after more than 15 years. Poor record-keeping by the Brazilian social security agency – currently the INSS – has strengthened the incentives to workers to remain in informal contracts for long periods and “formalize” to take advantage of the poor checks and balances required for qualifying for RGPS pensions. Ambiguities in the design of labor legislation combined with slanted enforcement by labor courts have led to workers effectively being accorded the same labor rights regardless of whether they work in the formal or informal sector. And while social security redesign may be the single most important reform for labor market efficiency reasons, informality in Brazil will remain a problem as long as labor laws are ambiguous leading to frequent disputes which are arbitrated by courts with a clear pro-labor bias.

Perhaps even more important is the contribution of the RJU to rent-seeking and segmentation in Brazil’s labor market. While some may argue that the distortions imposed by the RJUs are

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7 The rates of return would also change if a minimum retirement age in the RGPS (a measure that although would have been included in the first phase, but did not pass in Congress). A minimum retirement age if immediately effective – while significantly cutting annual deficits – would have very little additional impact on rates of return from the system.
contained by government hiring policies, this would be valid only if the fiscal burden imposed by the
system is small in relation to the Government's overall financing needs. But given the large RJU
deficits of about 5% of GDP which have to be financed through general taxes or borrowing, the
distortion—in the form of a high tax burden of about 33% of GDP and/or high interest rates—which
is caused in sizable measure by RJU deficits pervades all areas of economic activity. On economic
efficiency grounds, this may in fact have made RJUI reform an even more urgent priority than the
reform of the RGPS. Politically, however, the reform of the RJU has posed be far more challenging
than that of the RGPS. While the Government's efforts have been equally strong on both fronts,
more progress has been made in reforming the RGPS.

WEAKNESSES IN REGULATION & SUPERVISION OF PENSION FUNDS

Complementary pension funds are authorized by a 1977 law. They are divided into closed and
open funds, with the former subdivided further into those established by public and private sector
employers. There are 350 closed funds in which only the employees of the sponsoring companies
are eligible to participate, of which almost 100 have been set up by public sector entities. Closed
pension funds cover 2 million participants, of which 1.7 million are active workers and 0.3 million
are pensioners. 1 million active workers are in pension funds of private sector firms. These
numbers indicate both a system in relative infancy, and also point to a huge growth potential: the
coverage is less than 5% of the formal labor force. Closed funds have grown at a rapid pace
recently, partly reflecting the creation of new funds and expanded coverage and partly the
combination of a long-term nature of pension fund saving and positive real returns.

State-owned companies were the first to sponsor pension funds, but in recent years growth in the
industry has been in private closed funds (see Yermo, 1999). In mid-1998, closed pension funds
controlled assets of R$95 billion (11% of GDP), with pension funds of public sector entities
accounting for 70% of assets. Most public sector funds are defined-benefit plans, while the
majority of private funds offer hybrid defined-benefit, defined-contribution schemes. Investments
are well-diversified domestically, with 35-40% placed in equities, a similar amount in marketable
bonds, and the rest in real estate, mutual funds and other assets. Closed pension funds do not
appear to benefit from a favorable tax treatment (see Vittas, 1999, Yermo, Vittas, and Gill, 1999,
and especially Chapter IV for details and updated numbers). Employee contributions are not tax
deductible, but employer contributions are deductible from both income and social security taxes.
This provides a strong incentive for the creation of funds, even for those earning less than R$1,255
per month.

In addition to the closed pension funds, there are also more than 80 open private funds, almost
50 of which are operated as retirement insurance companies, more than 30 by nonprofit
associations, and only 4 by profit-seeking entities. The supervisory agency, SUSEP, estimates
worker participation at about 1.4 million. The total technical provisions of open funds amounted in
July 1998 to R$6 billion, up from R$5 billion in 1997 and R$3 billion in 1996. There are some 135
insurance companies in Brazil. The largest five companies account for more than 40% of the total
market. Gross premiums in 1997 amounted to R$18 billion (2.3% of GDP) and total assets to R$23
billion (2.8% of GDP). Brazil probably has the largest mutual fund sector in the developing world
with nearly 2,500 funds with over R$104 billion in total assets (13% of GDP) at the end of 1997.
Brazil: Critical Social Security Issues

90% of assets were invested in debt instruments, with only 10% in equities. Mutual funds are currently bigger than pension funds, but the latter are expected to overtake them soon.

The main policy challenge identified by the report is to expand coverage of the private pension funds in the formal labor market. There is considerable scope for this, given the low participation rates in these funds. The anticipated restructuring and downscaling of the different parts of the social security system will create room for further expansion of private pension provision. In addition, the small coverage of the existing private pension funds suggests that an expansion in their coverage and role should take place even if the restructuring of social security is delayed.

Three initiatives are identified by the report as essential for this expansion to occur:

- a resolution of the long-standing dispute concerning the tax treatment of pension funds;
- adoption of prudential and protective regulations that safeguard the interests of workers without suppressing investment returns and
- development of a more effective supervision agency to strengthen confidence in the financial soundness of pension funds.

Accordingly, this report examines if the regulatory framework meets reasonable standards of security, fairness, efficiency, tax treatment, and supervisory effectiveness (see also Vittas, 1999, and Yermo, Vittas and Gill, 1999). The main issues examined are the key aspects of pension fund regulation in Brazil, how the regulatory framework can be made to better conform to prudential and protective principles, whether and how the tax treatment of pension funds can be improved, and how the supervisory function can be strengthened. The existence of a large pension fund sector in Brazil with a preponderance of employer-sponsored closed funds suggests that the future structure of the Brazilian pension system and its regulatory framework should aim to incorporate the lessons of experience in the United States and other Anglo-American countries. Pension reforms in neighboring Latin American countries that created mandatory systems based on heavily regulated open funds have relatively few lessons and implications for Brazil. The report bolsters this argument with evidence, and the international experience section accordingly emphasizes the lessons learned from Anglo-American practice.

THE FEASIBILITY OF PENSION FUNDS FOR GOVERNMENT WORKERS

Three important steps were taken in the Constitutional Amendment of November 1998: (i) subnational governments can set up pension reserve funds, which must follow the rules established in a law; (ii) the maximum level of benefits is restricted to that established for private sector workers (benefits can only be offered up to a maximum specified salary, currently R$ 1,255 per month), while total benefit payments is limited to 12% of current income; and (ii) sub-national governments can organize complementary pension plans for their workers which would be regulated and supervised under the current system.

8 So far, only two states, Bahia and Sergipe have created these funds, but many others are in the process of doing so (Rio, Sao Paulo, Paraná).
The immediate implication of these reforms is that, for the first time, governments will have a mechanism for managing social security contributions and for pre-funding pension liabilities. Together with the necessary parametric reforms needed for long-term actuarial balance, the new system will gradually resemble a two-pillar structure, where the first pillar would be a partially funded, publicly managed, defined benefit system and the second pillar would be a fully-funded pillar, with an as-yet-undefined management and risk-bearing structure.\footnote{The decision to reform the pension plans for civil servants mirrors the experience of other Latin American countries, like Argentina and Panama. Argentina has gradually integrated the pension system of civil servants’ into the national system based on private management of individual pension fund accounts (World Bank, 1998). Panamá is the only country that has reformed the pension system of public sector workers before that of the private sector. Workers choose one of four financial institutions to manage their mandatory retirement savings. Another example is the Federal Employee Retirement System in the USA, where workers can choose between three funds of different risk.}

The report discusses the fiscal effects of setting up pension funds for government workers and analyzes whether these measures lead to improved outcomes if implemented immediately or only if preceded by reform of the RJU, the regime that the funds are intended to complement (see also Gill and Yermo, 1999). It then presents design options for any new government workers’ complementary pension pillar, evaluates the impact of restrictions on investment in sub-national debt on the finances of states and municipalities and state-federal fiscal relations, and identifies the weaknesses of the Brazilian complementary pension system with a view to its expansion to states and municipalities. Based on these considerations, the report suggests a strategy for reforming the current system in a manner that will ensure its sustainable growth in the future.

While subnational efforts to increase the funded element of pension should be encouraged, the report finds little justification for creating reserve funds unless the basic rules and enforcement of the RJU are comprehensively reformed. Estimates indicate that under current RJU parameters, these funds are not sustainable. Assuming that the system is brought into operational balance by a combination of constitutional reforms to lower the generosity of benefits, contribution rate increases and tightened enforcement of eligibility rules, risks would be best diversified by having all workers belong to a universal system such as a reformed Regime Geral da Previdência Social, and optional employer pension plans including closed funds for government employees.

A ROAD MAP TO THE REPORT

The report examines the critical issues in each component of the Brazilian social security system – the general regime, pension plans of government workers, the complementary regime for pension funds for private sector workers, and the proposed pension funds for government workers:

- **RGPS.** Chapter II of the report quantifies systemic imbalances and the effects of reform of the programs of old age support under the general social security regime. It (i) provides analysis of the pre-Constitutional amendment finances; (ii) provides simulations detailing the extent of the changes in the Constitutional amendment of 1998; and (iii) simulates the effects of the main reform options that were debated during 1998-1999, such as parametric reforms to the existing system, introduction of notional accounts, and the setting up of a multi-pillar system. The discussion on notional accounts pays special attention to issues such as the setting of the
notional rate of return, the evolution of replacement rates, the importance of a statutory age at
which retirement benefits commence, the feasibility of creating a buffer fund, transition issues,
and administrative requirements for notional accounts. Finally, the chapter reports the results
of simulations of the latest reform—the introduction of the new benefit formula. The instrument
used for assessment is the World Bank Pension Reform Options Simulation Toolkit (PROST).
Recommendations are based both on empirical assessments and relevant international
experience.

- **RJUs.** Chapter III focuses on the retirement, disability and survivor benefits enjoyed by
Brazil's public servants in the federal and state governments. The report (i) quantifies the fiscal
implications for the federal and state governments of leaving the current parameters of the
Regime unchanged; (ii) presents quantitative evidence of inequity within the Regime, and the
generosity of public-sector benefits when compared with first-pillar guarantees to private sector
workers; (iii) analyzes the composition of government implicit liabilities at the federal and state
level to identify groups that would be most affected by reform; (iv) measures the fiscal and
equity implications of parametric and structural reforms; and (v) explores the feasibility of
consolidating the separate schemes for government workers into a single national plan. Again,
the instrument used for empirical assessment is PROST. Lessons are drawn from quantitative
assessments of Brazil's own systems, and from experiences of pension plans for government
workers in OECD countries, and from Latin American countries with federative structures.

- **Funds complementary to the RGPS.** Chapter IV of the report (i) reviews Brazil's institutional
investment sector; (ii) critically examines the regulatory and supervisory framework for pension
corporations in Brazil; (iii) contrasts Brazil's experience in this regard with that of other countries;
and (iv) makes policy recommendations on how to improve and strengthen the robustness of this
framework. The discussion of international experience emphasizes the importance of
regulatory and supervisory issues, analyzes the use of prudential and protective regulations in
Brazil, and compares Brazil's experience with that of both developed (especially Anglo-Saxon)
and developing countries.

- **Funds complementary to the RJUs.** The Constitutional Amendment of 1998 opened up the
possibility for states, municipalities and employee associations to create reserve funds for their
as well as their own complementary pension plans. This involves the creation of a
differentiated two-pillar structure for the RJU as currently exists for the RGPS. Chapter V aims
at (i) evaluating this reform proposal and identifying the choices that sub-national governments
will face in their aim to move their pension systems into a sustainable track; (ii) assessing the
likely impact of investment rules on the finances of states and municipalities, (iii) scrutinizing
the weaknesses of the regulatory and supervisory framework and their implications for reform,
taking into account the state of the complementary pension system.

For each of these four subsystems, based on the findings in the report, Chapter VI summarizes: (a)
the main problems facing Brazil and the underlying structural factors, (b) the key lessons
suggested by experience in Brazil and abroad, and (c) the principal policy recommendations
derived by juxtaposing (a) and (b).
REFERENCES FOR CHAPTER I

World Bank and International Monetary Fund Reports


Other References


II. THE NATIONAL SOCIAL SECURITY SYSTEM

INTRODUCTION

Brazil's 36 million formal, private-sector workers participate in the Regime Geral da Previdência Social (RGPS) - a mandatory, defined-benefit, PAYG social security system that offers pensions and a variety of contingent benefits. The RGPS is the largest of Brazil's first-pillar social security systems in terms of coverage, making payments for pensions, survivorship and disability to over 18 million beneficiaries. Under the administration of the Instituto Nacional da Seguridade Social (INSS), the general regime is characterized by generous rates of replacement, high administrative costs, widespread evasion and, consequently, serious short- and long-term fiscal imbalances.

In 1998 the system incurred a deficit of R$7.8 billion (approximately 0.9% of GDP) that in 1999 deepened to about R$12 billion or 1.2% of GDP. The regime's deficits are large, particularly when the youth of Brazil's population is taken into consideration. RGPS deficits represent a rapidly growing public liability that, in addition to draining public resources, erodes investor confidence and increases the vulnerability of Brazil's economy.

The chapter is organized as follows. Section II.2 summarizes the parameters of the various benefit programs offered under the general regime, presents results of simulations of the long term fiscal impact and social inequities imposed by the system, and outlines the major structural weaknesses of the RGPS and their adverse effects on the wider economy. Section II.3 outlines the package of reforms passed in 1998 and 1999, and presents simulations of their impact (using the no-reform, base case scenario in Section II.2 as a benchmark). Alternative scenarios for further reforms including deeper parametric adjustments to the RGPS' parameters, a shift to notional accounts, and the introduction of a funded pillar are discussed in Section II.4. Section II.5 concludes.

THE RGPS BEFORE THE 1998/1999 REFORM

Programs and Participation

The various programs offered under the RGPS extend to both the urban and the rural sectors of the Brazilian economy. Benefits are defined for participating formal-sector employees and employers, the self-employed, domestic servants, individuals working in family-owned small enterprises, and voluntary participants such as students and housewives. The share of the economically active population that is contributing to the RGPS fell from 43% to 35% between 1990 and 1995, and is estimated to be between 35-40% today (see Table II.1).

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1 This section draws from Bonnerjee and Gill, 1998.
The system earns revenues by imposing payroll taxes on all insured members. Employer’s payroll taxes for social security amount to 22% of the wage bill along with contributions of roughly 0.4% to 2.5% for workmen’s compensation schemes. The self-employed contribute roughly 20% of earnings. Employee contributions for social security are based on a progressive scale and vary between 8% and 11% depending on the level of wages. Table II.2 summarizes the contribution schedule for employees.

### Table II.2: Employee and Employer Contribution Rates, By Wage Level

<table>
<thead>
<tr>
<th>Level of wages</th>
<th>Employee Contribution</th>
<th>Employer Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00 - 2.58 min. wage</td>
<td>7.82</td>
<td>20.0</td>
</tr>
<tr>
<td>2.59 - 3.00 min. wage</td>
<td>8.82</td>
<td>20.0</td>
</tr>
<tr>
<td>3.01 - 4.30 min. wage</td>
<td>9.00</td>
<td>20.0</td>
</tr>
<tr>
<td>4.31 - 8.60 min. wage</td>
<td>11.00</td>
<td>20.0</td>
</tr>
<tr>
<td>Above Ceiling</td>
<td>0.00</td>
<td>20.0</td>
</tr>
</tbody>
</table>

Source: DATAPREV calculations

Employee contributions are subject to a wage ceiling, which was roughly R$1,000 a month in 1995 and has since been raised above R$1,200.² The average wage of all contributors in 1995 amounted to about five times the minimum wage (R$510) and so the average contributor paid about 11% of gross wages for social security taxes. The total payroll tax for social security amounts to about 30% of the wage bill – a steep tax rate when compared with contribution rates to similar PAYG systems in developing and developed countries. The burden of reporting payroll

² The minimum benefit is linked to the legal minimum wage. Benefits greater than R$1,255 and the maximum contribution, while not constitutionally linked to the official minimum wage, tend to be correlated since both are correlated with the cost of living index. When the monthly minimum wage was R$100, the benefit ceiling in the RGPS was R$1,000. When the minimum wage was raised to R$120, the ceiling was raised to R$1,200. But because the ceiling is imperfectly indexed to minimum wages, the de facto limit varies between 8.5 and 10. Thus, while the minimum wage was raised to R$136 in May, 1998, the limit on benefits remained at R$1,200 until 1999, when it was raised to R$1,255.
taxes and of dividing payment between each of the administrations that hold a claim on this revenue is an onerous task with high costs of compliance, especially for small enterprises. Further, high payroll taxes hamper the competitiveness of Brazilian firms and introduce a major distortion in the labor market – the incentive to retain workers "informally" or outside all labor/wage legislation.

Other sources of revenue to the system include transfers from the federal budget for administrative and other costs (in 1995, this was roughly 7% of INSS revenue) and income from rent and dividends. In the first half of the 1990’s, total revenue as a share of GDP remained constant at around 6% of current GDP. In the face of declining or constant coverage, this reflects rapid wage growth in excess of GDP growth rates.

The INSS administers a number of benefit programs for participants:

- **Old age** benefits are paid to both rural and urban workers. The age of retirement is 65 years for men and 60 years for women working in the urban sector. Presently, rural workers can retire five years earlier than their urban counterparts. For those who retired prior to 1991, only five years of contributions were needed to qualify for old age pensions; recent legislation has increased the minimum vesting period so that it increases by six months per year until it reaches 15 years in 2011. In 1998, the minimum period of contribution to be eligible was 8.5 years. The replacement rate is 70% of the wage base for reaching the retirement age subject to the minimum vesting period plus an additional 1% per year of service up to a limit of 100%. The reference wage for entry pensions is the average of the last 36 months' salaries subject to contribution, adjusted for inflation.

- **Length of service** pensioners begin receiving benefits after meeting a required number of years of service irrespective of age. Currently the minimum vesting periods are 30 years for men and 25 years for women, for individuals to receive 70% of their reference wage as pensions. The annual accrual rate for additional years of service is 6% which implies that a man could receive 100% replacement rates after 35 years of service while a woman could retire with the price-indexed average of her last three years of wages after 30 years of contribution. The reference wage—the average of the last 36 months—is the same as that for old-age pensions, as are the maximum and minimum level of benefits. Since 1994, pensions have been adjusted to inflation and the minimum benefit has increased in real terms.

- **Special length of service** can be claimed by individuals working in sectors considered to be arduous after 15, 20 or 25 years of service depending on the nature of the activity. The replacement rate for this category of service is 85% with an additional 1% for each year of service in addition to the stipulated minimum vesting period. The actual replacement rate generally amounts to 100% of the reference salary.

- **Disability pensions** are paid to those individuals certified by an INSS doctor as permanently handicapped and unable to exercise any economic occupation. The minimum qualification period for this pension is 12 months. The reference wage is the average of actual wages up to the last three years of service if applicable. Replacement rates are at 80% of the reference

---

3 Since rural workers can not prove contributions, until 2006 they receive 1 minimum wage in benefits. After 2006, rural and urban workers will be subject to the same benefit rules.
wage with the accrual rates for additional years of service at 1%. A separate, more generous workmen’s compensation benefit is offered for disabling injuries on the job.

- **Survivors and orphans** of deceased pensioners receive 100% of the pensions due to the deceased contributor. Such benefits are paid even if the contributor had only a single day of recorded work. The replacement rate is based on an average of the wages actually received by the individual if the individual’s work history does not reflect three years of work. If the deceased individual were already receiving benefits, these are transferred to the survivors or orphans.

- **Workmen’s compensation** is paid to any individual’s suffering from a work-related, permanent disability. The benefit is 100% of the wage on the day the individual was disabled.

<table>
<thead>
<tr>
<th>Benefit Type</th>
<th>Eligibility condition</th>
<th>Replacement Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Old age</td>
<td>Urban: 65 (males) 60 (females) Rural: 60 (males) 55 (females) 5 years of contribution if retired prior to 1991, After 1991, between 5 and 15 years (in 2011) of contribution.</td>
<td>70% (flat) + 1% for every year of service. (5 year worker gets 75% in 1991)</td>
</tr>
<tr>
<td>Length of service</td>
<td>Males: 30 Years of service Females: 25 Years of service</td>
<td>70% (base) + 6% for each year of service in excess of stipulated minimum. Max 100% RR (for 35 years of contribution if male &amp; 30 if female).</td>
</tr>
<tr>
<td>Special length of service</td>
<td>15/20/25 years of service, depending on type of work.</td>
<td>85% RR + 1% per year of service in excess of minimum vesting period.</td>
</tr>
<tr>
<td>Disability</td>
<td>Certifiable disability with at least 1 year of contribution.</td>
<td>80% + 1% for each year of contribution in excess of 1 year.</td>
</tr>
<tr>
<td>Survivors/Orphans</td>
<td>Survivors of contributor with at least 1 day of contribution or survivors of retiree Work related disability</td>
<td>100% of contributiors reference wage or 100% of retirees benefits.</td>
</tr>
<tr>
<td>Workmen’s compensation</td>
<td></td>
<td>100% of wages on day of work injury.</td>
</tr>
</tbody>
</table>

Source: Ministry of Social Security, Brazil.

In addition to the benefits listed above, the RGPS also pays benefits for sickness, maternity, and payments to the relatives of felons. Further, it provides a range of social transfers overseen by the Secretaria da Assistencia Social and administered by the INSS.

INSS pension expenditures increased from about 3% of GDP in 1990 to 5.4% in 1997. Given the rapidly aging demographic profile and the generosity of the pension system, these expenditures may be expected to increase rapidly in years to come. Since pension revenues are stagnating, while pension expenditures are increasing, increasing deficits are to be expected unless the system is reformed. The pressure on expenditures comes from both demographics (reflected in the number of beneficiaries) as well as from generous levels of benefit payments. These are reflected in Tables II.4 and II.5 below.

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4 In most cases, the minimum benefit has to be greater than 1 minimum wage and less than about 10 minimum wages.
The stock of beneficiaries increased by more than 20% in just four years with length-of-service beneficiaries dominating this expansion. Length-of-service pensioners account for about 12% to 16% of beneficiaries yet absorb 33% to 38% pension expenditures. Old-age pensioners, survivors and orphans, and disability pensioners more or less maintained their relative shares, though in absolute numbers all categories of pensions show a significant rise.

It should be noted that while old-age beneficiaries consist of chiefly of female rural retirees, almost all length-of-service retirees were males from the urban sector. The rising number of old-age pensioners could be explained by the reduction in the mandated retirement age for rural workers which made it much easier for rural workers, especially women – whose retirement age was lowered by 5 years from 60 to 55 in 1992 – to qualify for old-age pensions.
Financial Outlook for the RGPS—Simulating the Base Case

The starting year for the simulation is 1997, and the simulation horizon extends for 78 years to 2075. All of the data for the simulations were provided by DATAPREV. Historical data on the rate of growth, inflation and real interest in 1997 and 1998, as well as IMF, World Bank and government projections of these indicators for 1999, are used to establish the macroeconomic framework of the simulation. Table II.6 outlines the macroeconomic indicators used in the simulation. By the year 2030 we assume a stable macroeconomic environment that has reached its long-run steady state, where the rate of GDP and productivity growth, the rate of inflation, and the real interest rate all remain constant for the rest of the simulation horizon.5

Table II.6: Macroeconomic Assumptions for RGPS Simulations

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP Growth (at Market Price, Real)</td>
<td>3.7</td>
<td>1.0</td>
<td>-1.0</td>
<td>1.0</td>
<td>5.0</td>
<td>3.0</td>
<td>3.0</td>
</tr>
<tr>
<td>Productivity Growth</td>
<td>3.7</td>
<td>1.0</td>
<td>-1.0</td>
<td>1.0</td>
<td>4.0</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Inflation Rate</td>
<td>4.3</td>
<td>3.2</td>
<td>10.0</td>
<td>7.0</td>
<td>5.0</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Real Interest Rate</td>
<td>25.0</td>
<td>28.4</td>
<td>15.0</td>
<td>10.0</td>
<td>6.0</td>
<td>4.0</td>
<td>4.0</td>
</tr>
</tbody>
</table>

Source: PROST Assumptions, RGPS

Simulations of the rates of participation, retirement, revenue collection, and benefit payments indicate that current revenues are not sufficient to cover projected expenditures of the RGPS programs. The pension system is already running a deficit: in 1998 which in 2000 is expected to rise to 1.0% of GDP; see Table II.7. Current deficits deepen to 1.4% of GDP in 2005 and 3.2% in 2015. While revenues remain within the range of 6% to 10% of current nominal GDP throughout the simulation horizon, expenditures increase from about 6.7% of GDP in the base year to well over 20% of GDP in later years.

The total financing gap – the estimate of how much it would cost if the RGPS were to continue with the current parameters until 2075 – is R$1451 billion, or 161% of 1998 GDP. This is the sum of the present discounted value of all deficits, current and future, and is unsustainable. A big share of the increase in expenditures is accounted for by length-of-service pensions. Individuals can claim these benefits as early as age 40 years (and even earlier for special sectors). Old age pensions are also expensive for the pension system because in many instances they involve payments to the rural sector with little or no evidence of any contributions from rural workers.

Although already high by international standards, the average rate of combined employer-worker contributions to the RGPS at 30% of payroll, does not actuarially sustain pension benefits. For the

5 The steady state macroeconomic assumptions are taken from international average rates for each indicator. We limit our base case simulations to a single macroeconomic scenario since the impact of changing these parameters on the simulation results is marginal.
RGPS to be in operational balance, the Government would have to raise the average rate of contribution to 53%, or to lower the average rate of replacement to 19%. While the first adjustment would aggravate Brazil's labor-market distortions, increase production costs and hurt competitiveness, the second adjustment – earlier constitutionally impossible – is likely to be politically unacceptable and would lead to higher evasion as the benefits promised are lower than the contributions required on an annual basis.

Table II.7: RGPS Base Case Simulation Results – Fiscal Indicators

<table>
<thead>
<tr>
<th>Index</th>
<th>Magnitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>RGPS Operational Deficit (% of nominal GDP)</td>
<td></td>
</tr>
<tr>
<td>1998</td>
<td>1.0</td>
</tr>
<tr>
<td>2005</td>
<td>1.4</td>
</tr>
<tr>
<td>2010</td>
<td>2.2</td>
</tr>
<tr>
<td>2075</td>
<td>14.1</td>
</tr>
<tr>
<td>Present value current deficits (R$ billions)</td>
<td>1451</td>
</tr>
<tr>
<td>Affordable indexes (%)</td>
<td></td>
</tr>
<tr>
<td>Affordable replacement, given contributions</td>
<td>19</td>
</tr>
<tr>
<td>Affordable contribution, given replacement</td>
<td>53</td>
</tr>
<tr>
<td>Implicit pension debt (% of nominal GDP)</td>
<td></td>
</tr>
<tr>
<td>1998</td>
<td>146.5</td>
</tr>
<tr>
<td>2005</td>
<td>199.1</td>
</tr>
<tr>
<td>2010</td>
<td>228.8</td>
</tr>
<tr>
<td>2075</td>
<td>418.9</td>
</tr>
</tbody>
</table>

Source: PROST Projections

Benchmark simulations place the system's implicit pension debt (IPD) at about 146% of GDP in 1998. The regime’s liabilities rise to 199% of GDP as soon as 2005, and 228% in 2010. By the end of the simulation horizon – the year 2075 - the IPD would be 418% of nominal GDP, indicating a huge implicit debt that would eventually have to be financed by the government.

In addition to the apparent fiscal imbalance of the PAYG system, all the retirement programs currently in place gave rates of return that are considerably higher than market rates. The rates of income replacement that generate these returns are unsustainably high. Above-market rates imply that the pension programs - intentionally or otherwise - redistribute wealth from younger to older generations of Brazilians, or continually subsidize the old age security of everyone. Benefit rules and vesting requirements for the various retirement income programs offered under the RGPS differ considerably, so it is not surprising that these programs yield very different rates of return to participants. The individual cases selected in Table II.8 profile (i) retiring men and women under normal Length of Service (LoS) vesting parameters (with 100% income replacement), (ii) workers retiring five years earlier (with 70% income replacement) and teachers (and other workers qualifying under special regimes) retiring earlier with no reduction in benefits, and finally (iv) men and women retiring under the Old Age program with 5, 8 and 15 years of contributions.
Table II.8: Internal Rates of Return to RGPS Retirement Benefits

<table>
<thead>
<tr>
<th>Individual – (years of contributions')</th>
<th>IRRs (%) Pre-Reforms</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Men</strong></td>
<td></td>
</tr>
<tr>
<td>Unreduced LoS (35)</td>
<td>5.5</td>
</tr>
<tr>
<td>Reduced LoS (30)</td>
<td>6.3</td>
</tr>
<tr>
<td>Special Unreduced LoS (100% with 30)</td>
<td>6.6</td>
</tr>
<tr>
<td>Special Reduced LoS (25)</td>
<td>6.8</td>
</tr>
<tr>
<td>Old Age (5)</td>
<td>34.0</td>
</tr>
<tr>
<td>Old Age (8)</td>
<td>25.0</td>
</tr>
<tr>
<td>Old Age (15)</td>
<td>14.0</td>
</tr>
<tr>
<td><strong>Women</strong></td>
<td></td>
</tr>
<tr>
<td>Unreduced LoS (100% with 30)</td>
<td>6.1</td>
</tr>
<tr>
<td>Reduced LoS (70% with 25)</td>
<td>6.4</td>
</tr>
<tr>
<td>Special Unreduced LoS (100% with 25)</td>
<td>7.0</td>
</tr>
<tr>
<td>Special Reduced LoS (70% with 20)</td>
<td>7.1</td>
</tr>
<tr>
<td>Old Age (5)</td>
<td>41.0</td>
</tr>
<tr>
<td>Old Age (8)</td>
<td>26.0</td>
</tr>
<tr>
<td>Old Age (15)</td>
<td>16.0</td>
</tr>
</tbody>
</table>

1. The pre-reform case should be years-of-service, but we assume years of contribution for both pre- and post-reform estimates. We assume that individuals meet the full vesting requirements (no gaps in employment) of each benefit category.
2. LoS – Length of Service pension benefits.

Source: World Bank PROST projections, 1999

Within the RGPS, the Old Age program is the most generous, followed by special retirement regime for teachers and, finally, the two Length of Service (LoS) alternatives. Although the inequity between returns to the former and the later retirement benefits is clear, it is important to point out that many of the beneficiaries of the Old Age program are poor rural workers, while those who benefit from the early retirement, Length of Service option are urban, middle/upper class workers. Redistribution from the latter to the former may be justifiable.

**Structural Weaknesses of the RGPS and Adverse Effects**

As noted above, RGPS benefits sustain the high costs of labor, contribute to a growing fiscal burden that fuels Brazil’s public sector borrowing requirement, and constrains economic growth. The current financial stress of the RGPS is not the result of demographic processes alone, but an outcome of the system’s generous design features. What follows is a discussion of specific structural weaknesses of the system, that may help maximize the returns from future reforms.

High payroll taxes with no transparent link between benefits and contributions encourage evasion and induce distortions in the labor market. Labor market distortions have the same negative impact on the economy as deadweight losses and adversely affect production and economic efficiency. The probability of evasion rises with high payroll tax rates, absence of any link between contributions and benefits, poor information systems, and the inability to treat evasion as a punishable offense. Workers have no incentive to participate in the pension system once they
have contributed past their vesting period since there is no minimum legal age for receiving pensions under the Length of Service Pensions. Older workers can choose to retire under the Old Age Pensions category with barely 108 months (8.5 years) of contributions. Finally, to the extent that employers choose to avoid burdensome taxes on formal contracts, workers may not be offered formal employment and thus be excluded from social security. The system's coverage as a fraction of the economically active population has declined from about 43% in 1990 to about 35% in 1995, and is low even when compared to rates of participation in other Latin American countries.

**Excessively generous benefit entitlements** imply increasing taxes. Future generations will have to pay increasingly larger shares of their wages to fulfill pension promises. **End-loaded reference wage bases** encourage misreporting of salaries. The reference wage base is the price-adjusted average of the last three years of wages. In the absence of systematic tracking of individual work records and the history of high inflation, this may indeed be a 'practical' approach to determine an appropriate reference wage base. However, such a benefit formula tends to encourage the manipulation of reported earnings and results in high costs, both real and economic, with regressive pension distributions since high earners with the steepest age/earnings profiles tend to benefit the most. **Early retirement** seems to be an inevitable outcome of low retirement ages, lax vesting periods and the accrual rate structure inherent in the benefit formulas. The justification for low mandatory retirement ages based on low life expectancies at birth is flawed, since life expectancy at retirement is a more accurate predictor of an individual's expected duration of life upon retirement. Under the current rules, working an extra year beyond the average contributing period imposes a high implicit tax\(^6\) on additional labor supply. At present, the average age of new retirees under the length-of-service retirement plan was only 49 years in 1997\(^7\). This leads to a reduction in the supply of valuable and experienced human capital.

**Special retirement schemes**, if loosely legislated, as is the case with the RGPS, perpetrate inequities and distortions. Though a social justification is often claimed for providing retirement subsidies to individuals working in strenuous jobs, a pure cross subsidization by means of a common payroll tax provides no incentives for employers to update their technology or attempt to make the job less hazardous. Further, these privileges also extend to administrative and supervisory staff – individuals not necessarily involved with the risk activity *per se*. The prevailing high disability replacement rates and workmen’s compensation awards expose the system to abuse and moral hazard problems.

**Absence of a sound administrative infrastructure and a coherent database** and tracking system implies that the onus of the proof of payroll tax payment is left to the individual (b) the ability to distinguish between years of service and years of contribution was – until the recent reform – compromised. These attributes exacerbate the problem of evasion.

**Imperfect and incomplete indexation** to inflation allowed for a partial default of pension obligations at the expense of pensioners left to deal with falling real values of benefits during

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\(^6\) The implicit tax may be viewed as payroll tax plus loss of benefits due to a year of work – foregone increment in pension benefits for an additional year of work. These components need to be adequately discounted.

\(^7\) The average age of new entrants to the old age pension system is about 51, the majority being women from the rural sector.
Brazil: Critical Social Security Issues

periods of high inflation. This has changed since 1994, when the Real Plan was introduced and inflation rates fell to single digits. The practice of indexing minimum benefits (which is relevant for a large number of beneficiaries) to the minimum wage continues to impose a dilemma because when wages of lower-earning current workers are raised it implies higher pension benefits for retirees, and aggravates the fiscal imbalance of the system.

De facto combination of social insurance and social assistance systems for the elderly also complicates matters. RGPS offers pensions either on the basis of length of service or on the basis of age with minimal requirements on length of service. Since the years of service of urban workers is relatively easier to determine, most tend to collect benefits under the length of service scheme, while most rural workers collect benefits under the old age scheme. The average benefit paid to the length of service pensioner is also much higher than to the old age pensioner, even though the benefit structure is not that different, implying that the poor tend to qualify as old age pensioners while the higher income pensioners are qualifying under length of service. This disparity poses a difficult problem for reformers in that all attempts to reduce benefits or make the system more actuarially fair will result in decimating the old age pensioners and increasing poverty among the elderly. Already many length of service pensioners, after beginning to collect length of service pensions, can continue to contribute and are able to collect old age pensions as well.

These characteristics tend to create and foster distortionary effects on the economy. As already mentioned, high payroll taxes loosely linked to benefits tend to raise labor costs, may reduce Brazil’s competitiveness in the world market, and encourage evasion and informal production techniques. There is also a risk – as yet unproven – that the current RGPS scheme may be inhibiting national saving. At the private level, because of the large expected benefits upon retirement, workers may not save enough on their own. At the public level, debt financing of the RGPS deficits crowds out other productive investments. Finally, as the de facto insurer of last resort, the Brazilian government may ultimately bear responsibility for the large implicit pension liabilities amounting to about 150% of GDP from the RGPS alone – a figure which would rise sharply unless further corrective measures are taken.

CONSTITUTIONAL REFORMS OF 1998 AND THEIR IMPACT

In 1998 the Brazilian Congress passed a constitutional amendment that removed the 100% income replacement guarantee for private sector workers from the 1988 Federal Constitution. In addition to the amendment, Congress passed a package of reforms to the country’s social security system. Reforms to the pension regime for civil servants and to regulation of the complementary private pension system are detailed in later chapters of this report. Among the measures passed in 1998, specific reforms to the RGPS included: (i) changes to vesting requirements from years of service, to years of contribution; (ii) the elimination of early retirement with a partial pension (70%) in the length of service program; (iii) restriction of special benefit regimes for higher-risk industries

If the old age system is spared reform, then there is an incentive for the current length of service contributors to opt for benefits under the old age system, undermining the fiscal sustainability of the reforms. Separating the social insurance system from the social assistance function might be beneficial even if both are administered by the same agency, preventing cross-subsidy, and allowing the government to target poverty relief efforts at one group with fewer disincentives for the other.
The chief fiscal impact of the Constitutional reforms lies in the elimination of the proportional pension (70% of average of the worker’s last three years salaries) and in the flexibility to enact a new benefit structure by law, rather than through Constitutional process. Although the most difficult of the 1998 reforms—and that with the most important medium and long term implications—the removal of the Constitutional guarantee did not on its own lower the regime’s liabilities. Without a new benefit formula, the elimination of early retirement (aposentadoria proporcional) actually increases the government’s pension liabilities. While a large number of RGPS-covered workers prior to 1998 retired with 70% replacement after 30 or 25 years (implying an annual accrual rate of 2.3% and 2.8% for men and women respectively) after the 1998 reforms all covered workers received benefits at 100% replacement (that implicitly accrue at 2.8% and 3.3% annually). Thus, had the constitutional amendment of 1998 not been followed up with a revision of the benefit formula (a cut in the annual rate of accrual, or lengthening of the averaging period) the package of

Table II.9: Impact of 1998 RGPS Reforms – Fiscal Indicators

<table>
<thead>
<tr>
<th>Index</th>
<th>Base Case</th>
<th>1998 Reforms</th>
</tr>
</thead>
<tbody>
<tr>
<td>RGPS Operational Deficit (% of nominal GDP)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1998</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>2005</td>
<td>1.4</td>
<td>0.9</td>
</tr>
<tr>
<td>2010</td>
<td>2.2</td>
<td>1.6</td>
</tr>
<tr>
<td>2075</td>
<td>14.1</td>
<td>29.2</td>
</tr>
<tr>
<td>Present value current deficits (R$ billions)</td>
<td>1451</td>
<td>1305</td>
</tr>
<tr>
<td>Affordability Indexes (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affordable replacement, given contributions</td>
<td>19</td>
<td>20</td>
</tr>
<tr>
<td>Affordable contribution, given replacement</td>
<td>53</td>
<td>50</td>
</tr>
<tr>
<td>Implicit pension debt (% of nominal GDP)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1998</td>
<td>146.5</td>
<td>138.5</td>
</tr>
<tr>
<td>2005</td>
<td>199.1</td>
<td>189.5</td>
</tr>
<tr>
<td>2010</td>
<td>228.8</td>
<td>224.1</td>
</tr>
<tr>
<td>2075</td>
<td>418.9</td>
<td>454.3</td>
</tr>
</tbody>
</table>

Source: World Bank staff projections, 1999

The chief fiscal impact of the Constitutional reforms lies in the elimination of the proportional pension (70% of average of the worker’s last three years salaries) and in the flexibility to enact a new benefit structure by law, rather than through Constitutional process. Although the most difficult of the 1998 reforms—and that with the most important medium and long term implications—the removal of the Constitutional guarantee did not on its own lower the regime’s liabilities. Without a new benefit formula, the elimination of early retirement (aposentadoria proporcional) actually increases the government’s pension liabilities. While a large number of RGPS-covered workers prior to 1998 retired with 70% replacement after 30 or 25 years (implying an annual accrual rate of 2.3% and 2.8% for men and women respectively) after the 1998 reforms all covered workers received benefits at 100% replacement (that implicitly accrue at 2.8% and 3.3% annually). Thus, had the constitutional amendment of 1998 not been followed up with a revision of the benefit formula (a cut in the annual rate of accrual, or lengthening of the averaging period) the package of
reforms may have worsened the projected fiscal indicators of the regime dramatically, as shown in the table on the last page, and in the figure below.

Figure II.1: RGPS Financial Imbalances: Pre-Reform and Effects of Amendment 20

![Figure II.1: RGPS Financial Imbalances: Pre-Reform and Effects of Amendment 20](image)


Compared with their effects on financial imbalances, the 1998 reforms have a more positive impact on the intergenerational inequities of the RGPS system.\(^9\) To the extent that a waiting period is gradually introduced for current workers in the Length of Service programs by eliminating the option of early retirement with reduced benefits, rates of return in these programs (especially for younger workers) fall. Prior to the 1998 reforms men and women retiring with 35/30 years respectively earned 5.5% and 6.1% internal rate of return on their “investment” in formal social security. The passage of the package of reforms in 1998 brought these returns down to 4.9% and 5.8%. However, since the package had no affect on the Old Age program, the reforms could increase the gap between returns to the Length of Service and Old Age retirement benefits, opening another source of labor market segmentation and providing incentives to strategically evade contributing and to qualify for the latter benefit.

Box II.1: The Beni Veras Reform Proposal

\(^9\) However, our simulations assume equality between length-of-contributions and length-of-service. Therefore, changing vesting requirements to length-of-contributions – one of the main constitutional reforms passed in November 1998 – will have no effect on these results.
The main elements of the reform proposal by Senator Beni Veras in 1997 that are relevant for the RGPS system are described below. A large component of the reform bill deals with re-structuring civil service pension schemes to make them more equitable and comparable with the INSS pension.

- **Retirement criteria**: Individuals need to have at least 35 years of contributions if males or 30 if female and, for new entrants, in addition to these time of contribution requirements, be at least 65 years of age (for males) or 60 if female.

- **Transition rule** for people who are in the existing system: 20% increment added to the remaining vesting period for those not yet fulfilling their vesting period in order to qualify for 100% replacement rate (RR). The time of service required to reach 70% RR has been increased by 40%. The minimum age required to qualify (only for transition) is 53 years for males and 48 for females.

- **Special length of service pensions** to be merged with the old age pensions except in special circumstances warranting the existence of a separate scheme.

- The last ten years of an individual's earnings history prior to retirement will be used for the pensionable wage base. These would be price adjusted.

The original Beni Veras reform proposal would have led to an immediate decrease in the implicit pension debt of the RGPS system. The system would have emerged from a current deficit position in 2002 and stayed in surplus until 2035. To keep current account balance, the average payroll tax rate over the simulation period would have had to rise to 38% from the current 30%. These results indicate that the original package of reforms, while not adequate, were not timid either.

Two changes to the Beni Veras proposals, raising the reference period to 20 years – instead of 10 years – and reforming the RGPS disability program as well would have resulted in further gains. The implicit pension debt would rise only marginally in the next decade. The financing gap would fall to less than R$500 billion over the simulation period. The average payroll tax rate to keep the system in balance would have risen only to about 33%. Deeper parametric reforms, while not eliminating the perverse disincentives created by a traditional, generous, PAYG system would have resulted in considerable fiscal savings over the longer term.

The Beni Veras package (as pertains to RGPS) did not go beyond parametric reforms that would give a short run boost to the pension system. However, the reforms would not have changed the long run picture substantially because they did not address the structural inefficiencies of the present regime.


**TOWARDS A STRATEGY FOR SUSTAINABLE REFORM – OPTIONS & CONSTRAINTS**

The Need for Further Reforms and Reform Alternatives

According to international best practice, the ratio of contributing years to benefit years in a PAYG pension system should be between two and three. Long term fiscal sustainability in PAYG systems demands that the ratio between the replacement rate (benefit rate) and the contribution rate match the ratio between the contributing years and the benefit years. Thus, for example, a system which charges 15% contribution rates could afford to offer benefits in the range of 30-45%. Prior to reforms, under international norms the RGPS benefit structure, particularly for the Length of Service pension is too high. Replacement rates of 100% simply cannot be sustained by contribution rates of 30%. The proportional pension (70%) and the Old Age pension might be feasible if contributing years and vesting requirements were set according to international norms.
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In addition to overly generous benefits, the current scheme provides benefit eligibility at very young ages in the length of service system and for very few years of service in the old age system. As a result, the number of years of contribution are roughly equal to the number of years of benefits or fewer. Translating into fiscal effects for a PAYG system, the 30% contribution rate in the current system can only support a benefit rate of 30% or less, compared with the current rates of 70% or 100%. The system has only survived thus far due to the youth of Brazil's population, which allowed for far more contributors than retirees. However, this is changing fast as evidenced by the PAYG deficit, which will only become more pronounced as further aging occurs in the population.

What can be done to reform the system? The replacement rates can be reduced. However, a reform which proportionally reduces the replacement rate for all beneficiaries will result in pensions for the old age beneficiaries many of whom already get nothing more than the minimum wage, which will leave them well below the poverty line. Providing the minimum pension will provide an adequate floor for the old age pensioners, but at a cost of further lowering replacement rates for length of service pensions. If the length of service pensioners are not receiving substantially more than old age pensioners, their incentives to contribute for 35/30 years instead of just 15 also diminishes, further exacerbating the revenue problem.

<table>
<thead>
<tr>
<th>Table 11.10: Payroll Tax Rates for Pensions, 1991 (percentage[a])</th>
<th>Latin America</th>
<th>OECD</th>
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<tbody>
<tr>
<td>Argentina</td>
<td>27</td>
<td>France</td>
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<tr>
<td>Bolivia</td>
<td>12</td>
<td>Germany</td>
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<tr>
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<td>Mexico</td>
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<td>Ireland</td>
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<td>Italy</td>
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</table>

Source: World Bank, rounded to nearest integer.

An alternative strategy is to increase the number of contributing years relative to benefit years while reducing or holding constant the replacement rate. For the length of service system, establishing a minimum retirement age of 65/60 years for example will result in raising the number of contribution years to almost 3 times the number of benefit receipt years for men, but only to 1.5 times for women, requiring little reduction required in the replacement rate for men, although still substantial reduction in the replacement rates for women. For the Old Age program, this would require increasing the number of years of service. Even the 15 year requirement already legislated is insufficient to put this program on an actuarially sound footing, and requires recognizing the social assistance function of this type of pension to justify continuing it without further reform.
The final policy option could be to raise the contribution rates. However, this choice is not recommended. Contribution rates in Brazil are already much higher than the international average of around 15%. Among OECD countries, the only country that imposes contribution rates as high as Brazil's is Portugal, with a 35% contribution rate. However, Portugal is a much "older" (in demographic terms) country than Brazil and has only arrived at those rates recently. The high contribution rates lead to evasion, as both workers and firms try to avoid perceived irrecoverable taxes on labor, and to higher labor costs in sectors where evasion is more difficult. Furthermore, Brazil's regional neighbors, Argentina and Uruguay, which imposed contribution rates almost as high, have steadily enacted policies which reduce contribution rates, particularly in export sectors. If Brazil does not keep pace, it risks a loss of competitiveness.

Are Notional Defined Contribution Accounts the Answer?

A move to notional accounts was considered by the Government as a mechanism to improve the RGPS system. Notional accounts (pioneered by Sweden and Italy but first implemented in Latvia, see Box 11.2) retain the financing of a PAYG system, but change the way benefits are calculated. Instead of an explicit ex ante benefit formula, benefits are based on accumulated contributions together with interest payments assessed on the balances annually. A "notional interest rate" is determined based on a formula derived by the Government. The accumulated "balance" on paper is then annuitized upon retirement, also based on the formulation specified ex ante by the government. However, since the system is still financed on a PAYG basis, the Government still retains a liability to pay pensions now defined by the notional account parameters. Nothing in the notional account formulation is automatically self-financing, thus depending on the parameters in the ex ante formulation, the system can either run surpluses or deficits. Since NDC systems still operate on a PAYG basis, fiscal sustainability will still be determined by the ratio of benefit rates to contribution rates relative to the ratio of contributing years to years in retirement.

What are the advantages of the notional accounts approach? The most important benefit of going with an NDC reform is the rationale it provides for lowering benefits. The Government no longer needs to specify ex ante that it is reducing benefit rates, but instead specifies a mechanism for determining the pension which will result in significantly lower pensions if individuals do not adjust their behavior. As long as the mechanism is perceived as fair, notional accounts might be able to provide a politically acceptable method of de facto reducing pension benefits – if workers complain that their pensions are too low, they can be encouraged to increase the value of their pensions by working longer and delaying retirement.

A second benefit of NDC systems is that the notional accounting ties benefits received upon retirement tightly to contributions paid by the worker throughout his working career. The current Brazilian system ties the benefits a worker receives only to the salary the worker declares in his last three years before retirement. Thus, the worker has a massive incentive to under-declare earnings during the years prior to the last three in order to minimize payments to INSS. This results in far lower revenues to the RGPS system, which in part explains the high deficits.

By removing this incentive to misreport, one could expect that workers will correctly declare their earnings, leading to higher revenues in the RGPS system. The same benefit would arise if the
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Government, instead of basing the pension on the last three years’ salary, based the pension on lifetime earnings as is common in many countries. However, to the extent that workers prefer more money in their pockets now and worry less about retirement, this incentive might not be fully effective in encouraging correct declaration of worker earnings. Similarly, employers who pay two-thirds of the contribution or more and who receive no additional benefits if the worker’s pension is higher or lower during retirement still have incentives to underreport. The employee would be prone to take the employer to court if such underreporting occurs, but employer contributions above the salary of R$ 1255 per month do not affect the employee’s pension and are not matched by employee contributions. This portion of employer contributions would thus still provide incentives for strategic underreporting.

What are the disadvantages of notional accounts? First, they do not guarantee fiscal sustainability. While they may be successful in reducing replacement rates, an ex ante formula for determining the notional interest rate will result in a stream of benefits which the Government is obligated to provide regardless of its future financing capability. While notional accounts reduce the benefit rate, whether they do so sufficiently to insure fiscal sustainability will depend on the determination of the notional interest rate. A relatively high interest rate will naturally undermine the system, while a low interest rate will lead to greater fiscal sustainability. Regardless of the ex ante determination chosen, there are bound to be factors, both expected and unexpected, which will result in temporary or sustained fluctuations in expenditure flows. The Swedish proponents of notional account systems strongly favor establishing reserve funds to cover these contingencies, particularly the large and sustained fluctuation that arises from declining fertility.

Second, the impact of notional account systems in effectively reducing replacement rates, encouraging later retirement, and correct reporting of earnings depends crucially on the public’s perception of the arrangement. If people feel that they are getting a fair and just pension, they will respond positively. However, if the arrangement is perceived as unfair or a bad deal for workers, they will respond negatively undermining the system. For better or worse, the notional account system makes it clear to workers whether the pension system is beneficial to them or is yet another tax on their incomes, making redistribution within the system more difficult. Workers can easily compare their notional interest rates to market interest rates they receive on financial sector assets. Redistribution from outside the system, financed by general government revenues toward poor pensioners can still occur, but redistribution within the system is severely limited.

Finally there is a trade-off between providing a good deal for workers and what is fiscally sustainable. The higher the notional interest rate on workers’ paper balances, the better a deal the scheme will be for workers, but the worse it will be for fiscal sustainability. Conversely, the lower the interest rate for workers, the worse the system is for them (and transparently so), although the fiscal results will initially appear better. However, the evasion which inevitably accompanies workers’ perception of a bad deal will soon worsen the fiscal results as well.

The Government considered (but later rejected) a proposal to introduce notional accounts for all workers immediately, with workers being given initial notional capital balances to compensate for their past contributions to INSS. The rejection was based on the fear of lawsuits over the appropriate calculation of the initial notional capital. Instead, the current proposal looks at lengthening the years of service on which the pension is based (the reference period) from an
initial jump to 5 years from the current 3 years in 1999 and a subsequent addition of one year annually until the full length of service is covered.

By pursuing this option, INSS could gain the advantage of basing the pension on full career history without an explicit move to notional accounts. New entrants (those who have no past contributions for which no compensation must be provided) could go directly into a notional account system without Government having to risk legal jeopardy. The Government proposed to set a notional interest rate fixed at 3% in real terms, independent of changes in other economic parameters. The 3% was chosen to match the interest rate on FGTS deposits, currently fixed also at 3% real. However, since real interest rates on passbook savings are currently fixed by law at 6%, a mandated NDC system at the proposed rate of 3% could be considered a form of financial repression.

Purely on the basis of lengthening the reference period used for calculating the pension, the RGPS' fiscal deficit improves temporarily from what it would have been in the no reform scenario, but ends up about the same as it was before the 1998 constitutional reforms. Table II.11 and Figure II.2 show the impact of an annual increase in the reference period on current deficits, as well as the introduction of notional accounts.

The initial improvement relative to the base case occurs due to the constitutional amendment which increased revenue by requiring greater years of service before collecting benefits. By 2010 the impact of the increased reference wage begins to have an effect, reducing the rate of replacement and thus overall expenditures. The pension benefits in 2010 under the constitutional amendment would be 117% of the average economy wide covered wage for the length of service pension, but only 105% if the salary base is lengthened. However, as the last column shows, by 2075, the lengthening of the reference period is unable to reverse the negative fiscal impact of the constitutional reform, discussed earlier.

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<td>1.40</td>
<td>1.96</td>
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<td>12.10</td>
<td>15.98</td>
<td>13.43</td>
</tr>
<tr>
<td>Scenario II: Lengthen Reference Period</td>
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<td>1.29</td>
<td>1.34</td>
<td>1.40</td>
<td>1.70</td>
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<td>9.95</td>
<td>14.07</td>
<td>11.97</td>
</tr>
<tr>
<td>Scenario III: Notional Accounts System</td>
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<td>1.16</td>
<td>1.28</td>
<td>1.34</td>
<td>1.40</td>
<td>1.70</td>
<td>5.29</td>
<td>9.27</td>
<td>11.10</td>
<td>5.20</td>
</tr>
</tbody>
</table>

Source: World Bank PROST simulations, 1999

Introducing the notional accounts system for new entrants further reduces expenditure. New entrants would receive a rate of interest which is 3% above the rate of inflation paid by the social security system, and upon retirement their account "balance" would be divided by the relevant life
expectancy to determine the initial pension. This pension would then be indexed for inflation. By the end of the period, the combined deficit is reduced to 5.2% of GDP.

However, there is a cost to this reduction. Male replacement rates fall to about 50% of the economy wide wage under the notional accounts reform (for the length of service pensioner), compared with a replacement rate of 97% under the scenario where only the reference salary is lengthened, and 135% under the 1998 reforms. Replacement rates for the male old age pensioner fall further to 34% under notional accounts as compared with 77% under the lengthening of the salary base and 72% previously. Women who have fewer mandatory years of service and retire earlier, receive sharply reduced pensions in the old age system, only 19% of average covered wage under notional accounts. People could choose to voluntarily delay retirement to improve their pensions; however (and more likely), they could choose to evade the system entirely. The logic of contributing 30% a year to take home pensions worth little more than their contributions is difficult to accept. If workers choose to participate in the NDC system and delay retirement, the fiscal impact will be improved further. However, if they chose to evade – a more likely choice given the predominant sector choices in Brazil - the fiscal impact would be decidedly negative.

Furthermore, there will be steep drop in the replacement rates from the level projected in scenario II to the that projected in the NDC scenario, depending on whether the individual enters the workforce in 1999 or 2000. This halving of the replacement rate from one year to the next will inevitably be perceived as unfair and will serve to further undermine the system. A more gradual implementation of the reform would be strongly recommended.

In addition, despite the sharp drop in replacement rates with the introduction of the NDC accounts, the system still runs deficits throughout the simulation period. These deficits decline only after 2030 when workers with notional accounts begin to retire. With deficits projected throughout the simulation horizon, there is no fiscal margin/leeway to allow the necessary reserve fund to be established or maintained.

From the perspective of redistribution, men retiring under the old age system will be receiving only 34% of the covered wage (which is currently almost the same as minimum wage), while women will be receiving only 19% of the covered wage, about 60% of the current minimum wage. Readers should recall that these are average values, so there will also be men receiving pensions well below the minimum wage. The Government would then face a dilemma. Either the Government could choose to top up these individuals to the minimum wage level as is currently the case or allow a substantial number of pensioners to fall below the poverty line. Topping up these individuals' benefits to the minimum wage would have significant costs since 65% of RGPS pensioners receive benefits under the old age scheme, with 62% of those being women. The costs of the top-up would need to be added to the yearly operational deficits for notional accounts quoted above in order to provide a fair comparison, holding old age poverty levels constant. This would still imply cost reductions when moving to notional accounts, but the cost reductions would be considerably limited.
The results above also do not take into account behavioral changes. While proponents of notional accounts often argue that people will delay retirement in order to improve their pensions, this change in behavior is not incorporated in our simulations.\(^\text{10}\) The simulations also include no improvement in underreporting of wages. However, the extent of evasion in Brazil is reportedly large under the current RGPS system which offers internal rates of return to covered workers ranging from 5.5% to 19.4%, as shown in Table II.8. It may be argued that lowering the rates of return to 3% is unlikely to eliminate evasion or improve compliance or convince people to contribute for longer periods of their working lives.

\(^{10}\) PROST does not endogenously apply improvements in compliance. Any such inclusion would be made as an exogenous assumption.
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Box II.2: Four Countries, Four Notional DC Systems

In the last five years, four countries adopted the notional defined contribution approach in reforming their public pension systems: Italy (1995), Latvia (1996), Sweden (1998) and Poland (1998). Latvia, Sweden and Poland are combining the public NDC system with a second pillar of privately managed accounts.

Why were NDC systems adopted?

All four countries needed to cut benefits in their old defined benefit system, as their systems were unsustainable. In particular, the old systems had the following characteristics:

- 20 years or less of contributions were required for a full pension and pensions were based on the last years' earnings, which discouraged labor force participation and contribution to the system in the early years. In Sweden, this structure was viewed as unfair to blue collar workers, who do not have less steep age-earnings profiles as compared with higher-paid white collar workers;

- Except for Sweden, retirement ages were low, and numerous special privileges for selected occupations proliferated. These privileges lowered the average effective retirement age even further, which was too costly.

Proposals to reform the system but maintain the DB character had been discussed for several years in all countries, but these were not proving politically acceptable. In Poland, Sweden, and Italy, this reform process was especially grueling, so there was a strong desire to adopt a reform that would stabilize the system for the medium term. The automatic stabilizers of NDC systems – benefits are linked to life expectancy and to the growth of the real economy through the choice of notional indexor – were particularly appealing to these countries, as they offered built-in adjustments to the demographic and economic risks of a PAYG system, as well as a chance to increase intergenerational fairness in the face of unexpected changes in life expectancy. The NDC system also seems to offer a more comfortable transition to funded schemes. As contributions are allocated to the funded scheme, benefits in the unfunded scheme automatically decline. Finally, in Sweden, Poland and Latvia, the desire to move away from some of the hidden and not-so-hidden redistribution of the previous system to one where benefits are based contributions seemed fair in a post-Soviet world. In other words, the framing of the issue by the reformers worked, politically. In Italy, the NDC language provided an opening to harmonize the multiple schemes, enhancing labor mobility.

What are the key features?

All countries' systems have the same basic structure: benefits depend on the amount of capital in the account, divided by life expectancy. The application of this formula are quite different from country to country. Three key design issues are: (a) the notional interest rate, (b) the indexation of benefits in payment, and (c) the transition rules – how is the notional account filled for workers already in the existing public system, with DB rights.

How is the notional interest rate fixed?

In Latvia and Poland, capital in the account is indexed to the growth of the covered wage bill. The goal was to have liabilities grow with payroll tax revenues, and thus provide a very stable system in the face of long run demographic or economic shocks (e.g., changes in the size and rate of growth of the labor force due to changes in fertility or labor force participation). This approach in effect assumes that payroll tax rates will remain earmarked for public pensions.

In Italy, capital in the account is indexed to the growth of GDP(five year moving average). The goal was to have liabilities growth at the rate of economy-wide productivity growth and the overall tax base, and thus stabilize liabilities as a share of GDP. Since the size of the labor force is expected to decline, this may mean that other revenues would be needed to supplement the payroll tax to pay expected benefits.

In Sweden, capital in the account is indexed to the growth of average covered wages. This index was chosen to provide continuity with old system, to link benefits to growth in labor productivity and to roughly link liabilities to revenues.
**How are benefit payments indexed?**

In Poland, benefits in payment are price-indexed (old and new system, beginning 1999) with a provision for special indexation if economic conditions permit. This was one of the major changes in system, and is designed to substantially reduce the expected pension debt. In Latvia, benefits are price indexed until 2000 (old and new system), and wage and price indexed after 2000. The exact share of wage indexation is yet to be decided, and is left vague in the law.

In Sweden and Italy, the formula is quite complicated. In Sweden, benefits are wage indexed. The actual benefit is in effect "pre-indexed", based on projected wage growth of 2% real growth (to smooth out real benefits over the post retirement life), and then only adjusted nominally for price changes. If real wages do not grow at 2%, the price adjustment is reduced accordingly. In Italy the "pre-index" is GDP growth, and the projected growth is a more modest 1.5%.

**What are the rules of transition?**

In Sweden and Poland, accurate records of wages and contributions exist, so previous contributions are simply translated into notional accounts. However, these contributions earned different benefits under the old system. To account for these acquired rights, Sweden decided that (a) those born before 1938 are not covered under the new system; and (b) that those born in 1938 have 20% of their pension calculated according to the new rules and 80% calculated according to the old rules. The proportions change successively with increments of 5% in the new system. Persons born after 1953 are entirely in the new system. In Poland, those over 50 years are excluded from the reform. For those under 50, initial capital is entered into their accounts according to their acquired rights. However, in order to lower future obligations, this capital receives only partial nominal indexation during a transition period.

In Latvia, everyone who had not taken a pension prior to 1996 is included in the system. Calculating individual capital was problematic. Individual records of years of service and wages existed but the hyperinflation of 1991-92 made these old rouble salary records difficult to use. Any method to set a value on these would have been arbitrary. One of the key goals of the pension reform was to improve incentives to contribute, in order to reduce the deficit of expenditures over contributions. One way to encourage contributions while honoring past work histories was to set a value for initial capital by using service year records and current earnings levels. It was decided to base initial pension capital (and thus in a large measure future pensions) on contributions in the years immediately following the reform. This was in effect placing a very high social value on contributions in the first years of the system. For those who had acquired rights to early retirement, their capital was increased proportionate to their service.

In Italy, only those with work histories less than 18 years are affected, although those with more years can voluntarily enter the system. For those already in the labor force, only the contributions after 1996 will be calculated according to the NDC rules.

**Sources:** Latvia: Fox and Palmer, 1999; Sweden: Palmer, 1999; Italy: Tumbarello, 1999; Poland: Gora and Rutkowski, 1998. Box contributed by Louise Fox.

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**Alternative Proposals – Deeper Parametric Reforms or Transition to a Multi-Pillar?**

Why is the notional account system as was envisaged in past reform proposals insufficient to bring about fiscal sustainability in the RGPS? The notional account option attempts to return the system to fiscal equilibrium by adjusting a single parameter of the PAYG structure alone: the rate of income replacement. Given the large initial imbalances in the system, adjustment through changes in only one parameter naturally requires a massive adjustment in this parameter. This adjustment would have significant implications both for the political viability of the system proposed, as well as on old age poverty. Even so, the notional account system described here is insufficient to bring the
system to equilibrium: the equilibrium benefit rate is closer to 30% requiring a notional interest rate below 2%, rather than what the notional account system promises to pay. Such low transparent rates would be politically difficult to sell and would have affect old age poverty adversely in Brazil unless it is countered by large subsidies from general government revenue.

An alternative would be to distribute the burden of adjustment between two or more parameters. Three parameters are available to adjust PAYG systems: the rate of replacement, the contribution rate, and the retirement age. As discussed earlier, contribution rates are already high in Brazil and raising them is not recommended. Setting a retirement age will involve another Constitutional amendment, but will have a powerful impact on reducing expenditures. Adjusting this parameter has the added advantage of not adversely affecting poverty among the elderly. There are few poverty repercussions from not allowing individuals below the age of 50 years to collect pensions. Most of these individuals are in good health and are in fact working while collecting a pension. If the retirement age could be set at 65 years over time at least for men (but ideally for both men and women), the time in retirement would be a little more than one-third the time spent contributing in active employment, making much smaller cuts in the replacement rate possible. There could also be cuts in contribution rates, which could help in increasing competitiveness. Financial space would also be provided for the option of introducing a mandatory funded pillar.

The benefits of introducing a funded pillar are many but, in this context, funded systems pay a rate of return equal to market interest rates. PAYG systems (notional or otherwise) can only fiscally pay a rate of return equal to the growth of real wages in the long run, which is usually at least two percentage points below market interest rates, based on international experience. Thus, the same contribution will go farther toward providing adequate benefits in a funded system rather than in a PAYG/NDC system. That allows room for reducing contributions or reducing public benefits while maintaining overall benefits or even providing better benefits at lower fiscal costs.

In the Old Age system, length of contributions and other vesting requirements would have to be increased or the system could be transformed into an explicit social assistance program. Some analysis will need to be undertaken to determine whether forcing individuals to contribute for a greater period of time would increase poverty substantially during their working years. Lower contribution rates could be considered for low income workers, but in this case workers would need to be segregated into categories to prevent high income workers from benefiting from lower contribution rates or as occurs now from collecting both types of pensions. In either case, whether the ultimate decision is toward a revamped PAYG, notional or otherwise, or toward a multi-pillar with a funded component, raising the retirement age will avoid drastic painful cuts in the benefit rates, cuts so drastic that they essentially undermine the rationale for a public pension system.
Box II.3: The Multi-pillar Pensions Model in Latin America: Diversifying Risk to Income Security in Old Age

The Latin American Region is the recognized leader in designing and implementing innovative responses to meet the world-wide crisis in publicly provided social security. To date Chile, Argentina, Uruguay, Colombia, Peru, Bolivia, Mexico and El Salvador have introduced a system of government regulated, privately managed and invested, individually capitalized retirement accounts. Together with government minimum pension guarantees, and voluntary arrangements between private employers and their employees, demographic, longevity and financial risk that once was born solely by the state, is diversified between society, employers and individual workers in a multi-pillar structure. The diversification of risk in these multi-pillar systems, although not yet optimal, is considered a dramatic improvement over that which prevailed under the single-pillar, tax financed systems.

The multi-pillar model in Latin America, can be illustrated by the reformed systems in Argentina and Uruguay. Although there is considerable room for improvement and scope for a second round of structural reforms in each country (specifically in paring down reformed PAYG schemes, and strengthening the private savings component), both have accepted the concept of multi-pillar risk diversification and have structured their reformed systems accordingly. Argentina and Uruguay have decided to retain a substantial, tax-financed first pillar with a specific objective of intra- and inter-generational social risk sharing and income redistribution; have established a second pillar of individual retirement accounts with tax incentives and private investment; and are formalizing the regulatory framework for a third pillar of voluntary pension plans between employers and their employees.

In both countries, structural reform of the bankrupt national PAYG systems, and the establishment of the funded second pillar was welcomed both by workers and investors (domestic and international alike). In Argentina where workers were given a one-off choice to affiliate with the private AFJP system, 95% of new entrants to the labor force in each year since the inception of the new system decided to opt for an individual retirement account (over the reformed PAYG pillar). In Uruguay where younger workers were obligated to affiliate with a private AFAP while workers over 45 were left to choose between the old regime and the new private pillar, the majority chose to save towards retirement in an individual account. In the case of both countries, the move away from unfunded government liabilities and toward greater reliance on individual savings to fund retirement, was applauded by investors as a sign of sound, forward thinking economic policy.

Although the popularity of privately managed retirement accounts significantly increased the fiscal costs of reform in both countries, neither allowed transitions costs to become an insurmountable barrier to critical structural adjustments to social security. Both countries have demonstrated that the costs of transition to a multi-pillar, although formidable, can be managed by setting appropriate retirement ages and strictly enforcing vesting requirements under downsized first pillars, establishing cut off ages for worker eligibility in the second pillar (or, in the extreme, restricting participation to only new entrants), and shifting responsibility for the bulk of retirement income to well regulated private programs, mandated and voluntary.

Source: World Bank staff assessments.

Should Brazil consider diversifying the risk to income security in old age, with a shift to a multi-pillar pension system? Simulations of a multi-pillar reform scenario indicate that this option should not be overlooked. 11 Once a minimum retirement age is passed (which will be critical to avoid a default

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11 Parameters of the multi-pillar reform simulation: The de facto retirement age for Length of Service is 53/48 years (men/women) since the Constitutional amendment 1998 eliminated proportional pensions. Starting in 2001, we model a six month increase in the retirement age until the ages of 60/55 years is reached in 2014. After that the pace slows to three months per year until 65/60 in 2035. The simulations include the lengthening of the salary base for calculating pensions, as foreseen in notional accounts proposal and our NDC simulation. Notional accounts, as before, apply only to new entrants and have a real interest rate of 3%. The multi-pillar begins in 2005, with the 10% workers' contribution going to a defined-contribution, individual account system on a voluntary basis for those older than 40. We assume that the youngest cohort switches at 100% (i.e., all switch to the DC system), while the oldest
on pension liabilities), most of the advantages of choosing a notional accounts system over multi pillar structure disappear (see Figure II.3). At the end of the simulation horizon the deficits of the multi pillar amount to only 0.4% of GDP, compared with 4.5% of GDP if notional accounts are chosen. In the medium term, both schemes result in lower deficits than those that would obtain should the government go no farther than the 1998 package of reforms. While it is true that in the medium term the notional account scheme does offer lower deficit, the difference between these and the deficits generated by the costs of transition to a multi pillar are only marginal. The extra marginal costs of embarking on a structural reform could be financed by lending from international institutions ready to support solutions that prove to be sound in the longer-term.

It should be noted that the parameters of the multi-pillar simulation are not absolute: there are tradeoffs. First, there is the tradeoff between raising the retirement age and lowering pensions. What is modeled here is only one of many options, for example, keeping the retirement age at 60/55 years for men/women and reducing pensions further is an option that would mean smaller deficits in the first few years after the reform. Second, within multi pillar systems, when the defined-contribution, second pillar begins to collect contributions, who is allowed to switch (generally workers up to a fixed age), how much of their contribution is switched (i.e., how much of the current 30% goes to an individual account) are all parameters that can be adjusted to find an optimal, least-cost multi-pillar reform strategy.

It should be noted that a reduction in pensions would hurt Length of Service pensioners. In the base case, prior to Constitutional amendment of 1998, average replacement for men was 87% and 53% for women. Under the multi-pillar scenario, men would receive 73% compared with 76% replacement under notional accounts. Women would receive 47% from a multi-pillar system, compared with 34% under notional accounts. Old Age pensions are sharply reduced under both scenarios. However, in the case of multi-pillar reform the deficits fall sufficiently to allow fiscal leeway for the Old Age program to be financed as social assistance. This option would not exist under a notional accounts scenario.

It is also worth noting that even though under the multi-pillar option there is still an operational deficit, within five years the fund reserves in the funded scheme (second pillar) are more than sufficient to cover that deficit. While it would wrong for the government to require the private fund administrators to finance the deficit, even if they were to invest one-third of their portfolio in government bonds until 2010 — not an unreasonable ratio given precedents in Latin America — the deficit would be fully covered and the portion of investment in public paper required to cover the deficit would fall over time.

cohort, age 40 doesn’t switch at all. Non-switchers get only 1% accrual for all years after the reform, and receive full recognition of rights acquired in years prior to the reform.
THE LIKELY IMPACT OF THE NEW RGPS BENEFIT FORMULA

As part of the Government's second phase of social security reforms to build on the momentum of the 1998 Constitutional Amendment, Ordinary Law No. 9876/99 introducing a new formula for the calculation of pension benefits in the RGPS, was approved on November 26, 1999. The new formula incrementally extends the reference wage to eventually include a worker's entire working life, and establishes an endogenous accrual rate determined by years of contribution and life expectancy at retirement.

The new law proposes that the Length of Service pension be based on the entire work history but, to protect workers with highly variable earnings (such as women), the average pension will be based on the 80% highest annual wages over the working life. Pensions are now defined as $S_b = M \times f$, where $S_b$ is the pension level, $M$ is the average of the 80% highest contribution wages indexed by past inflation, and $f$ is an actuarial coefficient, or "fator previdenciario". The first part of the actuarial coefficient formula balances the contribution period of each insured worker with the average time the benefit is received (life expectancy at retirement, by age). The second part of the actuarial coefficient is a "bonus" given to insured workers who postpone retirement. Therefore, the new formula introduces parameters that encourage workers to keep working even after meeting all the legal qualifications for retirement. In the final version of the project approved, a transition rule was included that applies the actuarial coefficient gradually over five years.
Under specific assumptions the new benefit formula delivers significant fiscal savings. The formula has a number of attractive features: **Beneficiaries get what they pay for, at least theoretically.** The new formula ties benefits to contributions - workers who retire earlier will receive a lower pension that those that stay in the labor force. Pensions will be based on a large part of work/contribution history. Since the final RGPS pension will be calculated on 80% of a worker’s best salaries, the new formula penalizes strategic underreporting of wages. **The formula delivers better actuarial balance.** The internal rates of return estimates show that the new formula takes steps toward correcting current actuarial imbalances in the RGPS. **There is partial protection against demographic risk.** A portion of the new formula endogenously adjusts pensions by a retiree’s life expectancy at the time of retirement. This will partially protect the RGPS from demographic changes that typically aggravate imbalances in rigid PAYG systems around the world.

While the new formula has significant advantages, it also suffers from important weaknesses. **The formula is complicated and difficult to understand.** This is true of the formulas applied in most PAYG systems. However, the new formula in the RGPS with it’s actuarial coefficient adds further complications that make understanding difficult for even pensions specialists, to say nothing of workers and employers. This lack of transparency can only add to incentives to question the reform and to evade. **The new calculation implicitly increases the burden of payroll taxes on employers and may encourage evasion or strategic manipulation of RGPS benefits.** While forcing workers and employers to pay the real cost of RGPS pensions is a positive step from a fiscal perspective, the new formula implicitly increases the tax on labor. Given currently high levels of informality in Brazil, the new formula may encourage greater evasion. The new parameters may also encourage workers to illegally opt for more easily attainable RGPS benefits, like the Old Age pension or the benefit for disability.

Concern has been raised as to the possible negative impact of recent reforms in the RGPS on the incomes of poor (mostly rural or female-headed) households that are dependent on benefit payments from the RGPS as an important source of income. It should be noted that the reforms to the RGPS passed in 1998 and measures passed by Congress in 1999, mainly target the parameters of the Length of Service pension benefit – largely corresponding to urban, male, formal sector workers. The eligibility and benefit parameters of the Old Age program and special eligibility conditions for rural workers, were not effected by the constitutional amendment. However, the new formula can apply to both Old Age as well as Length of Service pensions.

Workers who qualify for an Old Age pension can choose not to have the new formula applied if they think they would fare better under the old rules. Workers qualifying for Length of Service do not have the same choice. Further, there is an “lower bound” set at the minimum wage past which the new formula will not be applied to calculate retirement benefits. Since the majority of Old Age pension recipients earn (or earned) the minimum wage, the parameters of their pensions will not be changed. The majority of beneficiaries of the Old Age program are women, while the poor benefit the most from special concessions in the regime to rural workers.
Making use of the space created by the Constitutional amendment from the previous year, the Government introduced a new benefit formula in September 1999. The fiscal effects of the reform are difficult to estimate, because they depend on (a) the effectiveness of the formula in inducing workers to retire later, since there is still no minimum age at which length of service pensions commence (the “fator previdenciario” in the formula increases replacement ratios the longer a worker contributes to the system); (b) the ability of the government to counteract the increased incentives to evade as the generosity of the benefits decline; and (c) the effectiveness of government efforts to prevent participants from illegally switching to other retirement programs, especially the Old Age and the Disability pensions, since these programs now become relatively generous compared with Length of Service pensions. To take account of the uncertainty on the degree to which the formula is successful in inducing workers to retire later, fiscal benefits under three alternative behavioral scenarios are estimated:

✓ **Fator Scenario 1: No change in retirement patterns**, so that earliest retirement age is 48 years for women and 53 years for men, as currently observed under the RGPS.

✓ **Fator Scenario 2: Moderate change in retirement patterns**, which assumes that women who would have retired between 48 and 53 years and men between 53 and 58 years under the old formula, now respond to the incentives to retire later and delay retirement until 53 and 58 years respectively.

✓ **Fator Scenario 3: Drastic change in retirement patterns** – the most optimistic scenario – which assumes that women who would have retired between 48 and 60 years, and men between 53 and 65 years under the old formula, now respond to the incentives to retire later and delay their retirement until 60 and 65 years respectively.

These simulations assume that the government will take reform and enforcement measures to prevent illegal switching to the Old Age and Disability Pension programs. The new formula drastically cuts replacement rates in the length of service scheme (30/35 years contribution period requirement) and leaves the Old Age scheme (15 years contribution requirement) untouched, therefore the incentives to contribute only for 15 years and take only slightly lower old age benefit are strong. To obtain an idea of how important this phenomenon could be, a fourth simulation is included:

✓ **Fator Scenario 4: No change in retirement patterns and 20% switch from Length of Service to Old Age retirement scheme.** This simulation assumes that 20% of 48/53-60/65 length of service retirees take this incentive, initiating a 10% drop in male and a 4% drop in female contributors. This leads to a 10% drop in INSS revenues (this negative effect on revenues would have been even larger if collection rates in Brazil were higher), but the drop in expenditure resulting from this switch is only 4%. Although an increase in reported cases of disability is likely to increase, we assume no change in the take up rate of disability benefits.

This last simulation (Fator Scenario 4) is the most conservative scenario for measuring the likely impact of the new formula (although the scenario assumes that there would be no rise in the
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number of disability benefits). Accordingly, Figure II.4 plots RGPS fiscal deficits as a share of GDP under the base case, the 1998 Amendment eliminating early retirement with a reduced pension, and the new benefit formula (assuming no change in retirement behavior and the inter-program switching described above). Under the assumptions made, these simulations show sizeable fiscal savings from the new benefit formula in the short, medium and long-term. The most optimistic of our scenarios, shows the reformed RGPS in fiscal balance by 2003, and in surplus of almost 1% of GDP by 2010, before the regime returns to deficit again by 2020. To repeat, the strong incentives to switch make scenario 1 (where there is no change in current retirement behavior) and scenario 4 (where we simulate a switch to Old Age benefits), the most conservative.

![Figure II.4: RGPS Financial Imbalances—Simulated Effects of New Benefit Formula Under Alternative Scenarios](image)

The fiscal savings in the new benefit system come primarily from two sources: (i) reduction of the average replacement rate from about 100% of reference salaries to about 70%-75% of current levels through the introduction of the new benefit formula, and (ii) lengthening of the reference period gradually to (almost) the full working life.

12 Disability benefits are typically subject to abuse in publicly administered social security systems. Until now, disability benefits were only a small share of benefits paid by the RGPS, however, this probably reflected the generosity of Brazil's unique 100% replacement rates. Since income replacement has been cut sharply by reforms, the attraction of disability benefits and the incentives for abuse are likely to grow.

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While the new benefit formula delivers significant fiscal gains in the long-term, these gains will depend on a drop in Brazil's formidable rates of evasion. Given the high levels of evasion that were observed when RGPS pensions replaced 100% of participating workers' average salary in the last 3 years, it is not clear why workers and employers would now comply with the new, more stringent contribution requirements, given the lower benefits promised by the formula. If implemented rigorously and if accompanied by a tightening of the other RGPS programs—Old Age and Disability—the reforms promise significant fiscal and labor market efficiency benefits. However, the elimination of reduced pensions with the 1998 Amendment and the changes in the benefit formula should ideally be followed up with the establishment of a minimum retirement age, a critical piece of the 1998 amendment that failed to pass in Congress.

SOCIAL SECURITY OR ASSISTANCE FOR BRAZIL'S RURAL POOR

There has been a substantial increase in the coverage of social security in Brazil in the last decade. The 1988 Federal Constitution established the universal right to social security and instituted special eligibility conditions for rural workers under the *Regime Geral da Previdência Social* (RGPS), Brazil's public pension system for workers in the private sector. However, these new conditions—which increased both the accessibility and generosity of RGPS benefits—were not effectively extended to rural areas until implementing legislation was passed by Congress in 1991. Social security benefits paid to rural households as income support for workers in old age, for the surviving spouses and children of deceased workers, and for the temporarily injured and permanently disabled, have grown steadily in number and size ever since.

The Importance of Rural Pensions

Recent analysis based on the 1996-1997 *Pesquisa Sobre Padrões de Vida* (PPV) survey, found that the proportion of rural households receiving pensions from public institutions averages 30% in Brazil's poorer Northeast, and 24% in the Southeast. In 1999 the National Social Security Institute (INSS)—an arm of the Ministry of Social Security and Social Assistance (MPAS)—paid R$10.8 billion in benefits to 6.3 million rural beneficiaries—three times as many benefits paid prior to the implementation of the new eligibility rules in 1991. Benefits to rural households made up over 18% of total RGPS benefits paid by INSS in 1999.
This section will focus on the impact of social security on rural poverty. First, it reviews the structure of RGPS benefits and the special eligibility parameters available to rural workers, as well as provides a breakdown of benefits paid in 1999. The role of social security in reducing rural poverty is investigated, and it appears that while public pensions are an increasing share of total household income in rural areas and have contributed to a lower incidence of rural poverty, there is no evidence that the positive impact of social security can be attributed to the successful implementation of contributory social insurance, or simply to the expansion and increased generosity of non-contributory social assistance transfers. So while rural pensions play a valuable role and should be protected, an argument can be made—on purely economic grounds—that for the sake of fiscal transparency and efficiency the program should be restructured as social assistance and financed out of general revenues, instead of being maintained as social insurance financed with payroll contributions from workers and employers. Nevertheless, there can be political economy arguments for keeping Old Age Pensions as a component of contributory social security, as argued in Volume I. We close this section by explaining the implications of recent reforms to the RGPS on the pension benefits received by rural households.

To avoid the complex maze of benefits and eligibility requirements in the Brazilian social security system as they pertain to workers in rural areas, a simplifying generalization can be made: Of the two contributory retirement benefits paid by the RGPS—the Length of Service pension and the Old Age pension—recipients of the Old Age benefit are typically rural households, often headed by elderly male agricultural workers or by widowed women. The typical recipients of length of service pensions, on the other hand, are the once formally employed, urban workers. In 1999 over 70% of RGPS Old Age pensions were paid to rural workers, while 99% of Length of Service pensions were paid to urban workers.
The special contribution and benefit parameters for rural workers introduced in the 1988 Constitution and implemented in 1991, make the old age pension more attractive and more likely to be taken up by farmers, the self employed, and workers in small rural enterprises. Rural workers are allowed to receive an old age pension five years earlier than private sector workers in urban areas – at age 60 for men and 55 for women. For those retiring prior to 1991, only 5 years of contributions were needed to qualify for old age pensions. Recent legislation has increased the minimum vesting period so that it reaches 15 years by 2011. Figure II.5 shows how the total amount paid by RGPS to rural households was distributed between the various social security benefit programs in 1999.

The Old Age retirement benefit is paid as 70% of a worker's average earning in the last three years (36 months) before retirement, plus an accrual of 1% of average earnings for every year the worker actually contributed to the system. As it is difficult for MPAS/INSS to verify the earnings and contribution histories of workers in rural areas, and since many rural workers earn incomes below the legal minimum wage, rural recipients of Old Age pensions on average receive a "top up" from RGPS - either a default, 100% replacement of their last declared wage, or the legal minimum benefit in the RGPS (equal to the minimum wage), whichever amount is higher. As is shown in the frequency distribution of RGPS benefits in Figure II.6, most rural beneficiaries receive the minimum pension - equal to the minimum wage since the 1988 Constitution.

Figure II.6: Frequency Distribution of RGPS Benefits by Amount in No. of Minimum Benefits, 1999

![Frequency Distribution of RGPS Benefits by Amount](source: Ministry of Social Security.)

In addition to contributory pensions (length of service and old age), the RGPS pays a non-contributory social assistance benefit for old age and disability to poor workers without a documented work/contribution history (to avoid confusion this benefit will be referred to as the
"social assistance pension"). Workers can receive the social assistance pension upon reaching 70 years of age, or if they become disabled. Almost 20% of social assistance pensions for retirement and disability are paid to rural households. While the amount of the social assistance pension and that of the average old age pension received by rural beneficiaries is almost identical (see Figure II.7), the average old age pension paid to urban beneficiaries is 65% greater than the average social assistance pension.

![Figure II.7: Average Benefit Amount, Rural and Urban, by Benefit Category, 1999](image)

Source: Ministry of Social Security.

**The Impact of Rural Pensions on Poverty and Welfare**

Does the Brazilian social security system help or hurt the rural poor? This is a particularly important question for researchers to address, especially in evaluating the impact of the large expansion in coverage to rural areas since the 1988 Constitution, and in charting the present course of reforms to the social security system. This section will employ two different approaches to answer the question above: (i) analysis of the benefit structure of the contributory old age pension; and (ii) review of empirical findings from studies using household level data.

Most social security systems in developing countries that operate on a pay-as-you-go (PAYG) basis --where the contributions of current workers pay the pensions of current beneficiaries--can be regressive (intentionally and unintentionally) in a number of ways (World Bank, 1994).

- first, PAYG pensions are typically financed with a flat tax on covered wages up to a maximum taxable income, with no exemptions for workers earning lower wages;
- second, pension benefits are based on earnings rather than on need, and are often calculated to favor better educated workers with rising age-earnings profiles;
third, contributions from poorer workers with higher average mortality often subsidize the pensions of longer-lived, higher income workers;

fourth, and related the above, poorer workers tend to begin working and contributing earlier than those who are better off – often the poor contribute longer during their active lives, for a shorter stream of benefits in retirement;

fifth, formal sector workers or workers in larger enterprises usually enjoy better access to pensions coverage; and

finally, the unfunded pension liabilities of a privileged few who enjoy coverage and the deficits of fiscally unbalanced systems, are often passed on to the broader, uncovered population in the form of distorting taxes today or crippling debt in the future.

Both the length of service and old age pension programs fall into the PAYGO category, and suffer from many of the regressive features listed above. Having said this, the two contributory benefits are intended to carry out different social functions. The length of service pension is (at least) intended to be an actuarially fair social insurance system that ties benefits closely to contributions and efficiently transfers participants' income from their working lives to when they can no longer work - especially since the reforms passed in 1998 and 1999. The old age pension, on the other hand, is meant to act as a contributory safety net or back-stop to prevent workers with shorter or irregular work histories from sliding into poverty in retirement. The special eligibility and benefit parameters of the old age pension program for rural workers correct several of the usual regressive structural biases seen in PAYGO systems in the Region.

Earlier access to benefits partially corrects the bias against poorer rural workers with higher average mortality, lengthening the stream of benefits they receive when they can no longer work;

A shorter minimum contribution period shifts the cross subsidy away from higher earning workers who enter the labor market later in life, toward workers from poorer households who often have to start working earlier;

The minimum pension guarantee explicitly redistributes income to many rural workers whose earnings fall below the minimum wage;

The incidence of pension and survivor benefits is highest among rural households headed by women (Beltrão et. al., 1999), indicating another positive redistribution of income to workers who often face wage discrimination on the labor market.

Despite these positive features, the old age pension system still suffers from several of the regressive features of a PAYGO scheme. To the extent that some rural workers receive less than an actuarially fair return on their contributions to the RGPS while others receive higher than market returns, the scheme may not benefit the poorest households and still may impose a cross subsidy from the relatively less well off to the better off. In terms of the contribution of RGPS pensions to household income, preliminary results suggests a regressive profile. As shown in Figure 4, the importance of pensions (as share of income), increases with income. Readers should note that most household level data in Brazil do not allow separate analysis of contributory old age and length of service benefits, from non-contributory social assistance pensions. Thus while the
incidence of contributory pensions and survivor benefits may be regressive, the social assistance pensions may not be.

In a recent study by IPEA, Beltrão et. al. (1999) test if the greater incidence of pension benefits in rural areas since 1988 is due to aging of the population and greater number of elderly in rural households, or due to the new special eligibility conditions for rural workers. The study found that the increased share of pensions in the income of rural households is due to both factors, but that the doubling of benefits with the establishment of the minimum pension and easier eligibility conditions, had a dominant effect.

Figure II.8: Incidence of Pensions and Share in Household Income, By Income Group
Beltrão et. al. (1999), go on to find that while the population over 60 years of age in rural households rose from 7% in 1988 to 9% in 1996, over the same time period the population over 60 in households with lower incomes fell from 2.7% to 1.6%, and in higher income households the share of elderly rose from 8.6% to 15.7%. To the extent that the members of wealthier households in rural areas live longer, the cross subsidies structured into old age pension scheme will increasingly flow toward the better off. Thus, the incidence of pension benefits may be regressive since there are on average a larger share of elderly in richer households to take advantage of higher benefits and easier eligibility conditions passed in the 1988 Constitution.

Two other studies of the impact of pensions on rural poverty paint a more positive picture. Delgado (1999) finds strong evidence that implementation of the 1988 eligibility and benefit criteria has been effective in lowering the incidence of poverty among rural households. Using data from a survey of rural households headed by retired workers or widows in the Northeast and the South of Brazil, the study found that pension benefits represent 42% and 71% of household income in each region, respectively.

A similar study using data from the PNAD survey finds that 13% of rural households across the country receive over half of their income in the form of retirement and survivor pensions from the government (David, et al, 1999). The study shows that the incomes of 3 million rural workers, or 10% of the rural population, were significantly increased by receipt of retirement or survivor benefits, raising their household income above the poverty line. The authors’ evidence of the incidence of poverty in rural areas when pensions are included and omitted from total household income, are tabulated below. As mentioned above, efforts to separate the poverty impact of the contributory old age pension and the non-contributory social assistance pension, are frustrated by the lack of separate data on the incidence of each benefit.
Table II.12: Percentage of Rural Poor**, by Region (%)
When Social Security is Included & Omitted from Household Income

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<tbody>
<tr>
<td>Northeast, pensions included</td>
<td>59.82</td>
<td>41.19</td>
<td>43.12</td>
<td>43.95</td>
</tr>
<tr>
<td>Northeast, pensions omitted</td>
<td>59.92</td>
<td>53.65</td>
<td>56.17</td>
<td>57.13</td>
</tr>
<tr>
<td>Southeast, pensions included</td>
<td>33.75</td>
<td>20.64</td>
<td>19.61</td>
<td>18.85</td>
</tr>
<tr>
<td>Southeast, pensions omitted</td>
<td>33.82</td>
<td>27.82</td>
<td>27.84</td>
<td>26.42</td>
</tr>
<tr>
<td>South, pensions included</td>
<td>26.96</td>
<td>15.75</td>
<td>16.29</td>
<td>14.38</td>
</tr>
<tr>
<td>South, pensions omitted</td>
<td>27.04</td>
<td>22.92</td>
<td>24.72</td>
<td>22.23</td>
</tr>
<tr>
<td>Center West, included</td>
<td>32.82</td>
<td>24.3</td>
<td>18.69</td>
<td>17.84</td>
</tr>
<tr>
<td>Center West, omitted</td>
<td>32.82</td>
<td>29.02</td>
<td>23.68</td>
<td>21.77</td>
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</tbody>
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Source: David et. al. (1999), with data from IBGE - PNADs 1992 - 1997

**Authors define poverty line at ¼ the minimum wage in 1997.

Both studies expand their focus to include the impact of pension and survivor benefits on household welfare—measured by quality of family residence and access to consumer durables. Delgado finds that 27% of rural households in the South reported moving to a better residence (better access to utilities and infrastructure) upon receiving pensions. The 72% of responding benefit recipients that did not report changing residence, reported making improvements to their homes. David et al find a similar positive impact on welfare with steady improvements in the living conditions of rural benefit recipients from 1992 to 1997, relative to households not receiving benefits. Both studies found that households receiving pension benefits had increased their holdings of consumer durables.16

Additionally, the benefits of expanding social security payments to rural areas may extend beyond the household and into the productive sector. The majority of rural households receiving a pension are involved in family agriculture as their primary work activity. Although an unintended outcome of the increase in coverage of social security, RGPS pensions may have become the indirect insurance for family farming in Brazil (David, et. al., 1999). The guarantee of a stable minimum income reduces the risks inherent in agricultural activity, allowing farmers to make production decisions with greater protection and confidence. Studies show that 44% of rural households in the South and 34% in the Northeast report using pension income as working capital for their farming and non-farming activities (Delgado, 1999).17

16 The authors also explore the impact of public pensions on school attendance. David et. al. (1999) find that the frequency of school attendance of children aged 7 – 14 in households receiving a benefit, increased from 1992 – 1997. However, the authors cannot show direct causality, since they have no data on school attendance of children in households that do not receiving benefits from RGPS.

17 David, et. al., try to take their analysis of externalities a step further. The authors attempt to determine the impact of pension income on investment in rural businesses, crossing data from the PNAD survey with a national survey of rural firms. The study finds that while pension income contributes to well over 50% of the total incomes of self employed farmers and employers, especially in the poorer Northeast, that impact is limited since the largest business expenditure of self employed and rural employers was on hired labor and rented farm land, rather than investment in new technology.
Since the expansion of coverage and the increase in the minimum RGPS benefit, studies show that publicly provided pensions are an *increasing share of total household incomes* in rural areas; that benefits have *contributed to lower incidence of rural poverty*, and that there are measurable *improvements in the welfare of rural households* that receive benefits. Furthermore, there is evidence that rural pensions and survivor benefits *play an important insurance role*, especially for family farmers and rural employers - an unintended outcome of the measures taken in 1988/1991, but one that is entirely consistent with poverty alleviation.

However, the findings presented do not provide a clear answer to the question posed at the start of this section. The evidence provided indicates that the Brazilian social security system helps the rural poor. However, there is no evidence as to whether the positive impact of rural pensions can be attributed to the successful implementation of contributory social insurance for rural workers, or simply to the expansion and increased generosity of non-contributory social assistance transfers.

**Should Rural Old Age Pensions be Replaced with Social Assistance?**

A critical feature of the RGPS is the de facto combination of social insurance and social assistance systems for the elderly under the single regime. This feature is especially important to note when analyzing the impact of public pensions on the welfare of rural households in Brazil.

As cited in section 2 of this chapter, in rural areas the average amount of the contributory old age pension and the non-contributory social assistance benefit is almost identical. The only statutory difference between the two benefit programs is that the former is *exclusive* - requiring that beneficiaries contribute to qualify for benefits - while the latter is *universally available* to any worker who reaches the age of 70. Whether the current benefit structure for rural workers should be maintained as an exclusive social insurance system financed with payroll contributions, or restructured into a universal social assistance benefit financed out of general tax revenues, is an argument that must be made on the related counts: (i) the efficiency of the contributory pension scheme as an actuarially and fiscally balanced mechanism for smoothing consumption over the life-cycle; (ii) the administrative costs of social insurance versus that of targeted social assistance; and (iii) the implications of maintaining the rural old age program along side other contributory programs offered by the RGPS, in light of recent reforms.

To start it is helpful to review how contributory social insurance is different from social assistance. Social insurance systems rely on earmarked taxes levied on payroll, tie individual claims or acquired rights to benefit payments, relate benefits to contributions and/or earnings, and maintain accounts that are usually separated from general revenues. Social assistance operates on explicit taxes and transfers, is financed from general revenues rather than earmarked taxes, does not
operate on the concept of acquired rights, relates benefits strictly to need, and is universally accessible (Cohen and Friedman, 1972).

In evaluating the actuarial efficiency of a contributory pension system, it is common to equate contribution with similar long term investments, and to compare the rates of return from the pension "investment" with the market rate of interest. Actuarially balanced systems should deliver a rate of return on a worker's investment roughly in line with the market rate of interest. All the retirement programs in place previous to the 1998/1999 reforms gave rates of return that were considerably higher than market rates. Since it has remained largely unaffected by recent reforms the returns from the average Old age pension remain the same. Above-market rates imply that the pension programs - intentionally or otherwise - redistribute wealth from younger to older generations of Brazilians, and to the extent that benefits are unfunded and taxes are borne by the lower income workers, from the poor to the non-poor (World Bank, 2000).

The individual cases selected in Table II.13, profile retiring men and women under normal Length of Service (LoS) vesting parameters, and men and women retiring under the Old Age program with 5, 8 and 15 years of contributions.

Within the RGPS contributory pension schemes, the Old Age program is the most generous in terms of the returns to the contributions made by rural workers. Although the inequity between returns to the Old Age and the Length of Service retirement benefits is clear, as mentioned earlier most recipients of the Old Age pension program are poor rural workers, while those who benefit from the early retirement, Length of Service pensions are urban, middle/upper class workers. However, while redistribution between these groups may be justifiable, the old age program is clearly inefficient when judged on purely actuarial criteria.

In fiscal terms, the program fares little better. The RGPS as a whole went from a current surplus of 0.3% of GDP in 1991, to a deficit of 0.9% of GDP in 1999. Since the doubling of the minimum RGPS benefit in 1988 and the expansion of coverage to rural areas in 1992, the current PAYGO deficit of the old age scheme has jumped dramatically. MPAS/INSS have managed to collect roughly half of the contribution revenue needed to pay for current pension and survivor benefits.

<table>
<thead>
<tr>
<th>Table II.13: Internal Rates of Return in RGPS Contributory Pension Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Individual – (years of contributions)</strong></td>
</tr>
<tr>
<td><strong>Men</strong></td>
</tr>
<tr>
<td>Unreduced LoS² * 100% Replacement (35)</td>
</tr>
<tr>
<td>Reduced LoS * 70% Replacement (30)</td>
</tr>
<tr>
<td>Special (teacher) Unreduced</td>
</tr>
<tr>
<td>Special Reduced LoS (25)</td>
</tr>
<tr>
<td><strong>Women</strong></td>
</tr>
<tr>
<td>Unreduced LoS - 100% Replacement (30)</td>
</tr>
<tr>
<td>Rural² urban</td>
</tr>
<tr>
<td>Old Age (5)</td>
</tr>
<tr>
<td>Old Age (8)</td>
</tr>
<tr>
<td>Old Age (15)</td>
</tr>
</tbody>
</table>
The National Social Security System

Reduced LoS - 70% Replacement (25) 6.4
Special (teacher) Unreduced (25) 7.0
Special Unreduced LoS (20) 7.1

Rural  urban
Old Age (5)  41  41
Old Age (8)  27  26
Old Age (15) 16  16

1. Before 1998 eligibility was by years-of-service, but we assume no evasion and that years of service equal years of contribution. We assume that individuals meet the full vesting requirements (no gaps in employment) of each benefit category.
2. LoS – Length of Service pension benefits.
3. Calculation assumes worker earning legal minimum wage, no difference in rate of earnings growth between men and women, workers entering formal employment at 20 for LoS pension, inflation at 5%, market interest 4%
4. Differing assumptions on earnings, growth in earnings and mortality between urban and rural workers, have been avoided. This is likely to understate the differential between returns of the system to rural and urban workers. The only difference in the calculations between IRRs for rural and urban recipients of Old Age benefit, is that rural workers begin receiving pensions 5 years earlier.

Source: World Bank PROST Simulations 2000

Furthermore, retaining the old age benefit as contributory social insurance along side the reformed length of service program, may provide workers with strong incentives to strategically abuse the RGPS. Recent reforms to the length of service parameters, discussed in World Bank 2000, dramatically tighten pension benefits to contributions, and cut the generous replacement rates that drove the RGPS into deficit. Current length of service contributors have an incentive to opt for the now relatively generous benefits of the old age program, which could undermine the fiscal sustainability of the reforms. By restricting reforms of the RGPS to the length of service pension, the Government laudably intended to protect the incomes of poorer households, however, the lenient eligibility requirements for an old age pension extended to rural workers increase the potential for strategic abuse.

While it might be argued that the old age program should not be judged on the grounds of fiscal and actuarial efficiency, or that a social program that redistributes from urban to rural workers should not be expected to be self-financing, (David, et al, 1999) current actuarial and fiscal imbalances call into question the sustainability of contributory social insurance for poor rural households.

- First, as discussed in the previous section, when an income subsidy program intended to redistribute from the wealthy to the poor is combined with social insurance that aims to relate benefits with contributions, unintended redistribution can result.
- Second, although redistribution to poorer rural areas is probably justified in a country like Brazil with one of the worst rates of income inequality in the world, one might ask why RGPS affiliates in the urban private sector should bear the brunt of this redistribution alone. Currently, workers and employers in the informal sector that easily evade pay-roll taxes, civil
servants in federal and local government, the police and the armed forces are exempt from this responsibility.

- Third, as policy makers take further steps toward actuarial balance between contributions and benefits in the RGPS with the 1998/1999 reforms, the magnitude of redistribution between the length of service and old age programs becomes increasingly inconsistent, may increase the perception of RGPS benefits as “unfair”, and provide further incentives for workers to evade or abuse public pensions programs.

Furthermore, separating the social insurance system from the social assistance function might be beneficial even if both continue to be administered by the same agency, preventing cross-subsidies from one to the other, and allowing the government to target poverty relief at one group with fewer disincentives for the other. There is evidence that length of service pensioners after beginning to collect length of service pensions, continue to contribute and are able to collect old age pensions (World Bank 2000). In order for recent reforms to succeed, MPAS/INSS will have to improve their information systems both to prevent this “double dipping” and to increase collection efficiency. The resources currently spent by MPAS/INSS on collecting pension contributions from the workers in rural areas, might be better spent on more efficient means of targeting a social assistance pension and on preventing leakage to households already receiving length of service pensions, thus ensuring that public benefits truly reach the poorest. Whether there are efficiency gains to be had from restructuring MPAS/INSS contributory programs into targeted social transfers, lies outside the scope of this note, but is a question worthy of consideration.

From a political perspective the arguments on both sides are less clear cut. By laying the burden of income redistribution to rural households solely on the shoulders of workers and employers in the private sector - especially as reforms shift the RGPS away from redistribution and towards actuarially fair public pensions - policy makers risk providing workers with additional motives to evade participation. On the other hand, by locking the public pensions received by rural households, contributive and non-contributive alike, firmly within a system benefiting a large constituency of poor and non poor, policy makers may effectively insulate a critical poverty alleviation program from careless budget cuts. This said, a new institution of “protected” social protection programs has recently emerged from the fiscal crisis of 1998/1999. If there were significant savings and efficiency gains to be had from restructuring the pension and survivor benefits for the rural poor as targeted social assistance, future governments in Brazil would probably find it very difficult to cut an effective poverty reducing social program from the federal budget.

There is reason to believe that the poverty impact and welfare benefits cited in the previous section would be attained, and perhaps increased if the current contributory old age pensions program were restructured as social assistance with a more secure, more broadly based source of revenue. As a social insurance system the old age pension system largely fails both on actuarial and fiscal grounds, and while it succeeds in redistributing income from urban to rural workers, the redistributive effect between rural households and the net impact on income distribution in rural areas is ambiguous - largely because the incidence of contributory social insurance and non-contributory social assistance cannot be analyzed separately.
Should the Old Age Program be Restructured as Social Assistance?

There are several reasons to support replacing the contributory pensions received by rural households with targeted social assistance. The poverty impact and welfare benefits cited in this note would be attained, and perhaps increased if the current contributory old age pensions program were a social assistance program with a more secure, more broadly based source of revenue. As a social insurance system the old age pension system fails both on actuarial and fiscal grounds, and while it succeeds in redistributing income from urban to rural workers measures, the net impact on income distribution in rural areas is ambiguous—largely because the incidence of contributory social insurance and non-contributory social assistance cannot be analyzed separately.

Additionally, retaining the old age benefit as contributory social assistance may provide workers with strong incentives to strategically abuse the RGPS. Recent reforms to the length of service program, dramatically tighten pension benefits to contributions, and cut generous replacement rates. Current length of service contributors have an incentive to opt for benefits under the old age system, undermining the fiscal sustainability of the reforms. The lenient eligibility requirements for an old age pension extended to rural workers increase the potential for strategic abuse. Separating the social insurance system from the social assistance function might be beneficial even if both continue to be administered by the same agency, preventing cross-subsidies from one to the other, and allowing the government to target poverty relief at one group with fewer disincentives for the other.

On the opposite side of the argument, separating the public pensions received by rural households from the mainstream social security regime, may leave the program without a political constituency to defend it, and leave public benefits for the rural elderly vulnerable to budget cuts by future governments seeking quick fiscal gains in a crisis. Additionally, eliminating the contributory component of the old age pension benefit—however symbolic or nominal this may be—might trap poorer workers in a marginalized social program with no mechanisms for eventually graduating them into the general pension system.

Since the expansion of coverage and the increase in the minimum RGPS benefit, studies show that publicly provided pensions are an increasing share of total household incomes in rural areas; that benefits have contributed to lower incidence of rural poverty; and that there are measurable improvements in the welfare of rural households that receive benefits. Furthermore, there is evidence that rural pensions and survivor benefits play an important insurance role, especially for family farmers and rural employers - an unintended outcome of the measures taken in 1988/1991, but one that is entirely consistent with poverty alleviation. However, the findings presented do not provide a clear answer as to whether the positive impact of rural pensions can be attributed to the successful implementation of contributory social insurance for rural workers, or simply to the expansion and increased generosity of non-contributory social assistance transfers. Further work is needed to determine whether there would be significant efficiency gains from restructuring the current contributory program into better targeted social assistance.

REFERENCES FOR CHAPTER II


III. THE PENSION REGIME FOR GOVERNMENT WORKERS

INTRODUCTION

This chapter provides a quantitative assessment of the impact of reforms to the pension regime for public servants in Brazil. The instrument used is the World Bank’s Pension Reform Options Simulation Toolkit (PROST). The chapter evaluates—from both a fiscal and an equity perspective—the current system along with some of the reform proposals and provides a set of indicators which may help guide reform efforts. The chapter’s scope is limited to a detailed examination of the Federal and the State of Parana RJU civil servant benefit programs, though an attempt is made to provide an aggregate account of the consolidated—at the federal, state and municipal levels of government—Regime Jurídico Unico.

Workers hired under the statute for employment as tenured government employees (called estatutarios) participate in mandatory, defined-benefit pension plans established under the Regime Jurídico Unico. Each tier of government administers separate RJU schemes for its employees that afford them benefits ranging from contingent payments for medical expenses and disability, to retirement and survivor income. The RJU for federal workers is managed by the Secretaria de Estado da Administração e do Patrimônio, (SEAP, earlier Ministerio da Administração Federal e Reforma do Estado), while the plans for state and municipal workers are run independently of the federal system by institutions at their respective levels of government.¹

While the RJUs have only 15% of Brazil’s 20 million social security beneficiaries, they receive approximately half of all pension benefits paid in the country and account for three-quarters of pension deficits. The average pension relative to average wage is commonly much higher for civil servants than for workers in the private sector. The average public-sector pension can reach as high as 140% of the average wage. Given the generosity of the RJU and the low level of contributions paid by civil servants, high taxes on private output and employment amount to a subsidy of high pension benefits for government workers. In 1997, pension expenditure of the federal and state RJUs were 2.3%, and 1.8% of GDP, respectively. Expenditure at all three levels is expected to open a deficit of R$34 billion in 1998, that will grow to R$39 billion in 1999 (see Table 1). Generous benefits, end-loaded replacement formulae, special privileges for politically influential groups, lenient vesting requirements, and the indexation of pension payments to

¹ In mid 1998, a unit Departamento dos Regimes de Previdência dos Estados e Municipios (DEPEM) was established within the federal Ministério da Previdência e Assistência Social (MPAS) to monitor the activities of the state and municipal RJUs. Many states have created special units to initiate reform of state RJUs: in Parana, this unit is called the Secretaria Especial para Assuntos Previdenciarios (SEAP). Our analysis used data provided by DEPEM and SEAP.
increases in current salaries, have pushed the public-sector schemes – that have only recently and gradually begun to exact contributions from participants – deep into deficit.

The pension regime for civil servants is a formidable and mounting burden on Brazil’s public resources, and presents a more immediate challenge to the Government’s objective of fiscal solvency than even that posed by the Regime Geral da Previdência Social (RGPS) for workers in the private sector, where the current deficit exceeds 1% of GDP. To the extent that RJU deficits are financed from federal, state and municipal treasuries, the cost of generous public-sector pensions is passed on to current and future tax payers.

Table III.1: Contributions, Expenditures and Deficits in the Regime Juridico Unico (All Figures in R$ Billions)

<table>
<thead>
<tr>
<th></th>
<th>1997</th>
<th>1998</th>
<th>1999</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal RJUs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contributions</td>
<td>2.6</td>
<td>2.6</td>
<td>2.8</td>
</tr>
<tr>
<td>Pensions and Survivor Benefit Expenditures</td>
<td>19.7</td>
<td>21.0</td>
<td>24.9</td>
</tr>
<tr>
<td>Measured Deficit</td>
<td>17.1</td>
<td>18.3</td>
<td>22.1</td>
</tr>
<tr>
<td>Deficit with imputed “Govt. as Employer” Contributions*</td>
<td>11.9</td>
<td>13.1</td>
<td>16.5</td>
</tr>
<tr>
<td>State RJUs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contributions</td>
<td>3.4</td>
<td>3.6</td>
<td>3.9</td>
</tr>
<tr>
<td>Pensions and Survivor Benefit Expenditures</td>
<td>15.9</td>
<td>17.2</td>
<td>17.9</td>
</tr>
<tr>
<td>Measured Deficit</td>
<td>12.6</td>
<td>13.6</td>
<td>14.0</td>
</tr>
<tr>
<td>Deficit with imputed “Govt. as Employer” Contributions*</td>
<td>5.8</td>
<td>6.4</td>
<td>6.2</td>
</tr>
<tr>
<td>Municipal RJUs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contributions</td>
<td>0.4</td>
<td>0.4</td>
<td>0.4</td>
</tr>
<tr>
<td>Pensions and Survivor Benefit Expenditures</td>
<td>2.7</td>
<td>2.9</td>
<td>3.0</td>
</tr>
<tr>
<td>Measured Deficit</td>
<td>2.3</td>
<td>2.5</td>
<td>2.6</td>
</tr>
<tr>
<td>Deficit with imputed “Govt. as Employer” Contributions*</td>
<td>1.5</td>
<td>1.7</td>
<td>1.8</td>
</tr>
<tr>
<td>All RJUs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contributions</td>
<td>6.3</td>
<td>6.6</td>
<td>7.1</td>
</tr>
<tr>
<td>Pensions and Survivor Benefit Expenditures</td>
<td>38.3</td>
<td>41.1</td>
<td>45.8</td>
</tr>
<tr>
<td>Measured Deficit</td>
<td>32.0</td>
<td>34.4</td>
<td>38.8</td>
</tr>
<tr>
<td>Deficit with imputed “Govt. as Employer” Contributions*</td>
<td>19.4</td>
<td>21.2</td>
<td>24.6</td>
</tr>
</tbody>
</table>

Source: DEPEM, MPAS, World Bank Staff Calculations.
Notes: * “Government as Employer” contributions are assumed to be twice the actual contributions by civil servants.

This chapter examines the structure of the federal and state tiers\(^2\) of the RJU and presents empirical evidence on the deficits in the system and the need for reform. Section 1 summarizes

\(^2\) There are presently 1,388 municipalities that pay workers benefits along the lines of the RJU. MPAS has determined that the bulk of these do not have the administrative capacity nor a sufficient number of participants to make the municipal schemes actuarially viable. The municipal RJUs function along the same lines as the Federal and state plans, but are relatively small: in 1998, pension expenditures at this level was 7% of total civil service pension spending. To keep this report focused, this analysis will be limited to the federal and state plans.
the structural parameters and imbalances in the Federal RJU. The section continues by presenting the results of simulations using the World Bank's Pension Reform Options Simulation Toolkit (PROST) of the effects of doing nothing at all (the base case) and the likely impact of selected measures passed by Congress during 1998-1999 on the long-term health of the regime, using data from the executive branch of the federal government. Section 2 contains a diagnosis of state RJUs, based on the results of PROST simulations on data from the RJU of the State of Parana. Section 3 reviews international experience with civil service pensions and details the parameters of public-sector benefit systems from OECD countries. Section 4 summarizes the results of PROST simulations, explores the magnitude and roots of the RJU's imbalances, comments on recently passed reforms, and suggests policies for further restructuring the regime.

THE FEDERAL REGIME JURIDICO UNICO

The Federal RJU, administered by the Secretariat of State Administration (SEAP) serves about two million active and retired public servants from every branch of the Federal Government. Nearly one million of these are either receiving pensions or have eligible survivors. Staff in the federal ministries, legislators in the national congress, federal judges, the military, and other government institutions (fundações) are all required to participate in the federal scheme. Civil servants in the executive branch account for nearly 85% of federal employees covered under the regime. Table III.2 provides a breakdown of active and retired participants in the federal RJU, by branch of government.

Table III.2: Number of Federal Civil Servants & Pensioners, by Branch, November 1998

<table>
<thead>
<tr>
<th>Branch</th>
<th>Current Active</th>
<th>Retired w/Pension</th>
<th>Deceased w/Survivors</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive</td>
<td>516,241</td>
<td>393,526</td>
<td>192,602</td>
<td>1,102,369</td>
</tr>
<tr>
<td>Military</td>
<td>277,698</td>
<td>127,049</td>
<td>159,946</td>
<td>564,693</td>
</tr>
<tr>
<td>Legislative</td>
<td>18,752</td>
<td>5,463</td>
<td>2,342</td>
<td>26,557</td>
</tr>
<tr>
<td>Judiciary</td>
<td>76,336</td>
<td>15,132</td>
<td>4,755</td>
<td>96,223</td>
</tr>
<tr>
<td>Transfers</td>
<td>103,717</td>
<td>34,151</td>
<td>20,800</td>
<td>158,668</td>
</tr>
<tr>
<td>Total</td>
<td>992,744</td>
<td>575,321</td>
<td>380,445</td>
<td>1,948,510</td>
</tr>
</tbody>
</table>

Source: MARE 1998

Only since 1992 have federal employees been required to contribute towards their pensions. Contribution rates to the federal RJU were first set as a progressive scale – the rate of contribution rising with salary level. In 1997, the scale was replaced with a flat contribution rate of 11% for all federal workers that raised the contributions of lower-wage workers, and lowered the contributions of higher-salaried civil servants. Over a quarter of the military – soldiers and federal military police – are still not required to contribute to the scheme. The government makes no statutory contribution to the Federal RJU.

Until the introduction of employee contributions, eligibility was based on years of employment - the "employment" requirement applied in the broadest sense to include not only employment in the

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3 RJU statistics are not kept on the number of survivor benefits paid, but rather on the number of deceased public sector workers to whom current survivor benefits can be attributed.
federal government, but employment anywhere, including the private sector. Civil servants were also considered “employed” when taking leaves of absence for study and other sabbaticals. To qualify for a reduced pension – *aposentadoria proporcional* at 70% replacement of the last month’s salary – men and women are required to serve 30 and 25 years respectively. Workers receive a 6% annual accrual for every year they put off retirement thereafter. For an unreduced pension – *aposentadoria integral* at 100% replacement – men and women must be employed 35 and 30 years respectively. Benefits commence immediately upon leaving active service: there is no waiting period or minimum age for those who have met these years of service requirements. There is no statutory annual rate of accrual for years of service above the minimum required for a full pension, and civil servants are required to retire by their 70th birthday.

Special vesting arrangements are offered to teachers. Although most publicly employed teachers are paid at the state level of government, the Federal government employs a considerable number of teachers who qualify under the Federal RJU for shortened service requirements to be vested for both full- and partial-pension benefits. Under the special regimes, primary and secondary school teachers (and, until the 1998 reforms were implemented, university staff) can begin receiving benefits five years earlier than other civil servants.

### Table III.3: Benefits and Vesting Parameters Under the Federal RJU

<table>
<thead>
<tr>
<th>Benefit Type</th>
<th>Vesting Requirement (years of service)</th>
<th>Replacement</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Aposentadoria Integral” (unreduced length of service pension)</td>
<td>Men: 35, Women: 30</td>
<td>100% of last month’s salary</td>
</tr>
<tr>
<td>“Aposentadoria Proporcional” (reduced length of service pension)</td>
<td>Men: 30, Women: 25</td>
<td>70% of last month’s salary</td>
</tr>
<tr>
<td>Full length of service benefit for teachers</td>
<td>Men: 30, Women: 25</td>
<td>100% of last months salary</td>
</tr>
<tr>
<td>Reduced length of service benefit for teachers</td>
<td>Men: 25, Women: 20</td>
<td>70% of last month’s salary</td>
</tr>
<tr>
<td>Disability</td>
<td>From 1st day of Employment</td>
<td>100% of salary before injury</td>
</tr>
<tr>
<td>Survivor’s</td>
<td>From 1st day of Employment</td>
<td>100% of deceased’s salary</td>
</tr>
</tbody>
</table>

*Source: Ministry of Social Security.*

Until 1998, there was no established minimum age at which federal workers could begin receiving retirement benefits, nor were these benefits forfeited or reduced if retired civil servants found a new job. There was no ceiling on pension benefits that federal workers could receive; by January 1999, pension, disability and survivor incomes were not subject to any form of taxation; and payments remain indexed to increases in current salaries of the government positions the pensioners once occupied. The military are allowed to retire at one grade above their last grade in active service – as for civil servants in other branches of government, the higher benefit is indexed to the salaries of the higher grade throughout their retirement.

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*4 By way of contrast, retirees in the RGPS cannot receive more than R$1,255.*
Pension benefits paid by the federal RJU are more generous than those paid by the system for private-sector workers. In 1997, the ratio of the average annual benefit paid by the federal RJU to the average contribution was roughly 7:1, while in the RGPS system the same ratio was 3:1. In 1999 the average monthly public sector pension was more than 15 times the minimum wage, while that paid to a retiree from the private sector was less than twice the minimum wage. (See Table 4.) The ratios of the average monthly pensions paid to retirees from the executive, legislative and judiciary branches, to the average monthly salary paid to active workers in each branch were 106%, 103% and 140%, respectively. These replacement ratios are reflected in the distribution of active and retired civil servants in the executive branch by salary/pension cohort, presented in Figure III.1. Most civil servants in the executive branch receive a monthly salary of R$751 to R$1,000 – the largest number of pension recipients are in the same cohort.

Table III.4: Brazil: Some Measures of Public-Private Pension Differentials, 1997-1999

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Year, Unit</th>
<th>RGPS</th>
<th>Regime Juridico Unico</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Federal Only</td>
<td>All</td>
</tr>
<tr>
<td>Number of Beneficiaries</td>
<td>1997, millions</td>
<td>17.0</td>
<td>2.86</td>
</tr>
<tr>
<td>Number of Contributors</td>
<td>1997, millions</td>
<td>29.0</td>
<td>3.13</td>
</tr>
<tr>
<td>Total Contributions*</td>
<td>1997, R$ billions</td>
<td>43.00</td>
<td>6.30</td>
</tr>
<tr>
<td>Total Benefits</td>
<td>1997, R$ billions</td>
<td>46.75</td>
<td>38.10</td>
</tr>
<tr>
<td>Current Deficit</td>
<td>1998, R$ billions</td>
<td>7.8</td>
<td>34.4</td>
</tr>
<tr>
<td>Current Deficit Adjusting for Imputed Employer Contributions**</td>
<td>1998, R$ billions</td>
<td>7.8</td>
<td>24.5</td>
</tr>
<tr>
<td>Adjusted Deficit per Beneficiary</td>
<td>1997-1998, R$</td>
<td>475</td>
<td>8,475</td>
</tr>
<tr>
<td>Average Benefit/Contribution</td>
<td>1997, ratio</td>
<td>3:1</td>
<td>7:1</td>
</tr>
<tr>
<td>Average Benefits/Minimum Salary</td>
<td>1998, Ratio</td>
<td>1.8</td>
<td>n.a.</td>
</tr>
<tr>
<td>- Executive Branch</td>
<td>1999, Ratio</td>
<td>-</td>
<td>14.2</td>
</tr>
<tr>
<td>- Military</td>
<td>1999, Ratio</td>
<td>-</td>
<td>17.4</td>
</tr>
<tr>
<td>- Legislative Branch</td>
<td>1999, Ratio</td>
<td>-</td>
<td>54.0</td>
</tr>
<tr>
<td>- Judicial Branch</td>
<td>1999, Ratio</td>
<td>-</td>
<td>39.8</td>
</tr>
</tbody>
</table>


Note: RJU uses last salary as salary base to compute pensions; RGPS uses average of last 3 years. Salary deteriorates over 3 years, therefore, even with same replacement rates, RJU will pay more. RJU is uncapped, while RGPS is capped. Almost half of benefits paid in RJU are above cap. RJU is wage-indexed; RGPS is price-indexed. So average benefit falls relative to average wage in RGPS over time, while remaining constant in the RJU. Minimum salary was R$120 in January 1998, R$130 in May 1998, and has been R$136.4 since May 1999.

Demographic Structure of the Federal RJU

Brazil's federal civil servants begin receiving retirement benefits at a young age relative to their counterparts in other countries. Of the universe of current retirees under the federal plan, the average age of retirement with an unreduced pension was 56 years – the average age of workers retiring with reduced pension was 51 years. However, as shown in Figure III.2, the highest number of civil servants who retired with unreduced- and reduced-pensions did so between the ages of 51 – 55 and 46 – 50, respectively. Most of the youngest recipients of unreduced pensions
are primary and secondary school teachers, and of these about 70% are women who become eligible to retire five years earlier than men, and have longer life expectancies around the age of retirement.

The Federal RJU is also generous to the orphaned children and surviving spouses of deceased public sector workers. While the orphans of civil servants can only receive benefits until they reach 21 years of age, their spouses and the orphans and spouses of deceased military personnel can receive benefits throughout their lifetime. As with pensions, survivor benefits rise with every increase in the current salary of the government position the deceased occupied while in active service. From January to July 1998, the Federal RJU made payments to the survivors of former pension recipients in the amount of R$1.6 billion, or 0.18% of the GDP in 1997. In a system that is only a decade old, this figure forebodes a massive financial burden in the near future.

---

5 A 1960 law requires that the government pay lifelong pensions to more than 58,000 unmarried daughters of deceased members of the Armed Forces. In 1999, the cost of these survivor benefits was about R$900 million, more than the capital budget of the military and averaging to a monthly pension of about R$1,300, or close to ten times the minimum salary (which is also the pension level received by a majority of the 18 million retirees in the private sector).
The number of disability payments, as a percentage of the total number of benefits paid by the federal RJU, varied between 7.8% to 9.2% from 1996 to 1998. Disability is difficult to determine, and in public PAYG systems has often been used to allow workers to retire early when they do not have sufficient years of service to qualify for a full retirement benefit. Disability payments as a
portion of total number of benefits paid by the Federal RJU is likely low due to the generosity of the partial pension and the ease with which civil servants can opt for early retirement.

Financial Outlook for the Federal RJU

The federal government does not maintain a reserve fund for retirement, survivor and disability benefits unlike, e.g., the Social Security Reserve in the United States. As structured in 1988, pensions and other benefits for retired workers were an extension of payroll. Personnel spending of the federal government — salaries for active workers and pensions of current retirees — has increased in the past decade. Annual personnel expenditure has risen by R$26.5 billion; from 3.5% of GDP in 1987 to 5.7% of GDP in August 1997. Over the same period pension payments as a portion of personnel expenditure have risen at a much faster rate. Table III.5 separates personnel expenditure by the federal government in the last twelve years into salaries and pension payments. As shown in Figure III.3, since 1987, the index of federal pension payments has risen at more than twice the rate as the index of expenditures on salaries and benefits.6


<table>
<thead>
<tr>
<th></th>
<th>Total Personnel Expenditure</th>
<th>Index 1987 = 100</th>
<th>% of GDP of Personnel</th>
<th>% of GDP of Revenue</th>
<th>% of Revenue of Personnel</th>
<th>On Salaries &amp; Benefits 1987 = 100</th>
<th>On Pensions 1987 = 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>1987</td>
<td>19.7</td>
<td>100.0</td>
<td>3.46</td>
<td>44.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>1988</td>
<td>24.2</td>
<td>122.7</td>
<td>4.26</td>
<td>55.8</td>
<td>127.3</td>
<td>125.5</td>
<td></td>
</tr>
<tr>
<td>1989</td>
<td>29.9</td>
<td>151.6</td>
<td>6.68</td>
<td>46.0</td>
<td>156.7</td>
<td>149.7</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>34.4</td>
<td>174.7</td>
<td>4.26</td>
<td>55.8</td>
<td>128.2</td>
<td>128.2</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>28.2</td>
<td>143.3</td>
<td>4.83</td>
<td>57.9</td>
<td>156.9</td>
<td>148.0</td>
<td></td>
</tr>
<tr>
<td>1992</td>
<td>23.0</td>
<td>116.7</td>
<td>4.58</td>
<td>57.2</td>
<td>123.1</td>
<td>135.5</td>
<td></td>
</tr>
<tr>
<td>1993</td>
<td>31.1</td>
<td>157.7</td>
<td>4.89</td>
<td>60.4</td>
<td>138.5</td>
<td>257.2</td>
<td></td>
</tr>
<tr>
<td>1994</td>
<td>35.9</td>
<td>181.9</td>
<td>5.06</td>
<td>56.2</td>
<td>154.3</td>
<td>321.2</td>
<td></td>
</tr>
<tr>
<td>1995</td>
<td>46.6</td>
<td>236.5</td>
<td>5.76</td>
<td>62.6</td>
<td>191.2</td>
<td>433.1</td>
<td></td>
</tr>
<tr>
<td>1996</td>
<td>45.3</td>
<td>229.8</td>
<td>5.43</td>
<td>62.1</td>
<td>196.8</td>
<td>400.9</td>
<td></td>
</tr>
<tr>
<td>1997</td>
<td>45.7</td>
<td>231.7</td>
<td>5.74</td>
<td>55.5</td>
<td>197.3</td>
<td>411.6</td>
<td></td>
</tr>
<tr>
<td>1998</td>
<td>47.2</td>
<td>240.5</td>
<td>5.31</td>
<td>50.4</td>
<td>201.9</td>
<td>437.4</td>
<td></td>
</tr>
<tr>
<td>1999 to</td>
<td>47.7</td>
<td>242.0</td>
<td>n.a.</td>
<td>51.0</td>
<td>n.a</td>
<td>n.a</td>
<td></td>
</tr>
</tbody>
</table>

March

Source: MARE 1999.
Pension benefits in 1997 amounted to 25% of the federal government's total revenues for that year and 2.3% of GDP. Applying the 11% rate of contribution, the federal RJU should have received approximately R$2.7 billion or 0.3% of 1997 GDP. Benefit payments in 1997 outweighed contributions to the system by nearly R$16.9 billion or 2% of GDP, which as the federal government's explicit liability in 1997 implies a government-as-employer contribution of 68% to civil servant pensions.\(^7\) The PAYG financing gap, between current contributions and benefit payments, is paid out of the federal government's revenues from general taxation. For benefit payments to be brought into balance with contributions with no change in the current benefit structure, civil servants' mandatory contribution rate would have to be raised dramatically. Federal authorities recognize that the current PAYG benefit and contribution parameters are unsustainable.

![Figure III.3: Evolution of Federal Spending on Pensions and Salaries, 1987 - 1998](image)

**Source:** MARE 1998

### A Simulative Look at the Federal RJU

This section presents the results of simulations performed on data from the Federal RJU using the Pension Reform Options Simulation Toolkit (PROST), developed by the World Bank. Our simulations begin with an analysis of the current parameters of the federal pension scheme - or the "base case" - under varying macroeconomic assumptions. Simulations of alternative reform scenarios based on proposals being developed and executed at the state level of government, are also conducted using the Federal data. Specific details on the data, parameters, and assumptions used in the simulations are available upon request.

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\(^7\) Implicit employer contribution is calculated as: (employee contribution rate \times deficit) / total amount contributed by employee.
The base case simulation is contained to pension, disability and survivor payments made to civil servants from the executive branch of the federal government. The simulations do not include the legislative and judicial branches, and the military. Nevertheless, since executive civil servants comprise 85% of the universe of public-sector workers covered by the RJU, the results are quite relevant. Also, since pensions are even more generous in the omitted branches of the federal government than in the executive branch, the fiscal and equity impact of public-sector pensions as inferred from these simulations should provide a strong warning that matters are likely to be even worse when the simulations are extended to all branches of the federal government. So while the results discussed here are very preliminary, we are nevertheless able to highlight important issues pertinent to the discussion of civil-service pension reform through this exercise, principally by providing quantitative evidence of the long term costs of the RJU as it is currently structured, and the benefits of alternative reforms.

The starting year for the simulation is 1997, the year for which the most complete data are available. The simulation horizon extends for 78 years to 2075. Almost all of the data for the simulations were provided by SEAP and DEPEM. Since the Federal RJU is a closed pension system, the demographic assumptions normally required by PROST are ignored, as the “population” contributing to and receiving benefits from the scheme is based on the federal government's stated hiring policies. The rate of coverage is assumed at 100% since contributions are collected at source before salaries are paid, and civil servants are unable to evade.

Simulating the federal base case

Historical data on the rate of growth, inflation and real interest in 1997 and 1998, as well as IMF, World Bank and Government of Brazil projections of these indicators for 1999, are used to establish the macroeconomic framework of the simulation. From a 3.7% rate of growth in 1997, and 1% in 1998, we assume that Brazil's current recession will deepen to -1%, and inflation will reach 10%. By the year 2004 we assume a stable macroeconomic environment where the rate of GDP and productivity growth, the rate of inflation, and the real interest rate all remain constant for the rest of the simulation horizon. Due to the sensitivity of the simulation results to changes in certain macroeconomic assumptions, five different scenarios were used to simulate the base case parameters of the regime. Table III. 6 outlines the five macroeconomic scenarios used in the simulation. The parameters and results from Scenario 3 – assumed to be the likeliest – are shown in bold in Tables III. 6 and III. 7.

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* Data on salaries, and RJU benefit payments are available for the legislative and judiciary branches of the federal government, however, these have not yet been sufficiently disaggregated between the sexes and by age cohorts, as required by PROST. Although, the data could have been disaggregated according to the sex and age distribution of executive branch workers, the value of the simulation would have been compromised by a significant downward bias, as the average salaries in judicial and legislative branches are 2.5 and 2.8 times greater than those in the executive.
The Pension Regime for Government Workers

Table III.6: Federal RJU Base Case Simulation, Macroeconomic Scenarios, 2004 - 2075(%)

<table>
<thead>
<tr>
<th>Scenario</th>
<th>GDP Growth (at Market Price, Real)</th>
<th>Productivity Growth (Growth in Civil Servant Salaries)</th>
<th>Inflation Rate</th>
<th>Real Interest Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scenario 1</td>
<td>3</td>
<td>1.5</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Scenario 2</td>
<td>3</td>
<td>1.5</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Scenario 3</td>
<td>3</td>
<td>2.5</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Scenario 4</td>
<td>5</td>
<td>2.5</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Scenario 5</td>
<td>5</td>
<td>3.5</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

Source: PROST Assumptions, Federal RJU – Base Case Scenarios, 1999

This analysis is limited to the following indicators of the fiscal health and equity of the RJU plan: the current balance (current expenditures minus current contributions) as a percentage of the covered GDP; the present value of current deficits throughout the simulation horizon; the affordable (zero-balance) rates of contribution and replacement; the implicit pension debt in selected years of the simulation horizon; and the internal rates of return to average participants (male and female).

In the year 2000, with no change to the regime's current parameters, the total benefits paid under the federal RJU amount to R$21 billion. At the 11% contribution rate, SEAP collects only R$2.3 billion leaving an operational deficit for the federal government of R$18 billion, or 1.7% of GDP. As shown in Table III.7, the Federal RJU's current financing gap widens rapidly to 2.1% of national income in 2010, and 2.7% in 2030. The net present value of the accumulated deficits throughout the simulation horizon is R$440 billion, or about half of Brazil's expected GDP in 1999.

Table III.7: PROST Federal RJU Base Case Simulation Results – Fiscal Indicators

<table>
<thead>
<tr>
<th>Scenario</th>
<th>RJU Deficit (R$ billions)</th>
<th>RJU Deficit as % of GDP</th>
<th>Affordable Contribution (%)</th>
<th>Affordable Replacement (%)</th>
<th>NPV Financing Gap (R$ billions)</th>
<th>IPD as % of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scenario 1</td>
<td>2000 18.2</td>
<td>2000 1.7</td>
<td>&gt;75</td>
<td>5</td>
<td>-745.0</td>
<td>21.8</td>
</tr>
<tr>
<td>Scenario 2</td>
<td>2010 46.7</td>
<td>2010 1.9</td>
<td>&gt;75</td>
<td>6</td>
<td>-354.7</td>
<td>43.2</td>
</tr>
<tr>
<td>Scenario 3</td>
<td>2030 244.7</td>
<td>2030 2.1</td>
<td>&gt;80</td>
<td>6</td>
<td>-440.1</td>
<td>39.9</td>
</tr>
<tr>
<td>Scenario 4</td>
<td>2075 5,115.0</td>
<td>2075 1.3</td>
<td>&gt;80</td>
<td>6</td>
<td>-440.1</td>
<td>24.5</td>
</tr>
<tr>
<td>Scenario 5</td>
<td>2000 18.2</td>
<td>2000 1.7</td>
<td>&gt;75</td>
<td>5</td>
<td>-745.0</td>
<td>21.8</td>
</tr>
<tr>
<td>Scenario 6</td>
<td>2010 46.7</td>
<td>2010 1.9</td>
<td>&gt;75</td>
<td>6</td>
<td>-354.7</td>
<td>43.2</td>
</tr>
<tr>
<td>Scenario 7</td>
<td>2030 244.7</td>
<td>2030 2.1</td>
<td>&gt;80</td>
<td>6</td>
<td>-440.1</td>
<td>39.9</td>
</tr>
<tr>
<td>Scenario 8</td>
<td>2075 5,115.0</td>
<td>2075 1.3</td>
<td>&gt;80</td>
<td>6</td>
<td>-440.1</td>
<td>24.5</td>
</tr>
</tbody>
</table>

Source: World Bank Staff Estimates (PROST Simulations), 1999

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Brazil: Critical Social Security Issues

The rates of replacement enjoyed by retiring and disabled executive civil servants cannot be sustained by an 11% rate of contribution. For the net present value (NPV) of the current balance between contributions and payments to the executive branch to be zero, the average rate of replacement would have to be lowered to 6%, while contributions would have to be raised to 87% in 2000 and to well over 100% shortly thereafter. Either adjustment in the PAYG parameters of the regime is politically inconceivable. If Brazil chooses to offer its civil servants 100% income replacement, it will either have to dramatically increase contributions, or continue to subsidize the growing RJU deficits out of general revenue.

A potentially more accurate indicator of the fiscal consequences of the current regime is the Federal RJU implicit pension debt (IPD). A scheme like the Federal RJU, involves a commitment by the plan provider to pay pensions to both current pensioners and workers when they retire. This liability - the hidden implicit debt of social security - indicates the amount of funds the government would need in order to honor its pension obligations - both to current pensioners for the rest of their lives, as well as to current active workers when they retire. Given the generosity of the Federal RJU, the PROST estimate of the IPD in 2000 is R$226 billion, 21% of GDP in that year, growing to 37% in 2010, and to 42% in 2030. Continued adherence to the current parameters of the RJU scheme implies an unsustainable implicit debt which will have to be financed directly by the federal government.

It is clear from Table III.7 that the fiscal burden imposed by the Federal RJU is determined to a large extent by the rate at which civil servants' salaries are assumed to grow. This correlation is not surprising given the regime's full salary replacement guarantee and the indexation of benefits to growth in current wages. Holding all other parameters constant, a one-percentage point increase in the rate of wage growth in the federal public sector, increases the net present value of the financing gap by R$85 billion, and sets the growth of the IPD (as a share of GDP) on a much higher tangent. Since the rate of growth of civil servants' salaries is a policy variable, and subject to considerable political pressure, the direct link between wages and benefits is one of the principal points of fiscal vulnerability of the regime.

The generosity of the benefit regime to executive civil servants - both in absolute terms as well as relative to workers belonging to the RGPS - can be more explicitly demonstrated by calculating the internal rate of return of the system, given the "investment" made by individuals (by contributing at 11% of their salaries) with different employment histories. Readers should note that the simulation assumes a history of contributions on the part of covered civil servants, and thus only illustrates returns to workers who entered the federal public sector since RJU contributions were introduced in 1992. Readers should further note that national mortality data are used in the RJU simulations, and therefore, that the IRRs discussed here are most likely understated since civil servants are likely to have much lower mortality than national average.

According to the current vesting requirements for full and partial retirement benefits under the federal plan, the duration of employment and retirement patterns of men and women profiled in the PROST calculation represent the following civil servants, respectively: (i) teachers of both sexes qualifying for early retirement, (ii) teachers qualifying for full retirement, and non-teacher civil
servants qualifying for early retirement; and finally (iii) non-teacher civil servants qualifying for full retirement. Based on Brazil’s average age of entry into the labor force, all profiled civil servants are assumed to begin making contributions to the system at the age of 21.

As shown in the rates of return in Table III.8, the incentive structures in federal length-of-service pensions favor those who retire early. The internal rate of return is higher than the market return (assumed at 6% real) for all civil servants, which implies a large positive transfer to RJU beneficiaries. However, returns are twice the market rate for teachers who retire with a partial retirement benefit. As mentioned previously, the returns from a PAYG system for women are higher because they tend to retire earlier, and have longer average lives in retirement. This pattern is present in the Federal RJU where women earn higher returns than their male counterparts.

### Table III.8: Federal RJU Internal Rates of Return (%)

<table>
<thead>
<tr>
<th>Civil Servant Type</th>
<th>Pre-Reform</th>
<th>Post-Reform</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Men</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21 – 46 years</td>
<td>11.1</td>
<td>8.2</td>
</tr>
<tr>
<td>21 – 51 years</td>
<td>9.6</td>
<td>7.0</td>
</tr>
<tr>
<td>21 – 56 years</td>
<td>8.5</td>
<td>6.3</td>
</tr>
<tr>
<td><strong>Women</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21 – 41 years</td>
<td>14.8</td>
<td>11.6</td>
</tr>
<tr>
<td>21 – 46 years</td>
<td>13.0</td>
<td>10.1</td>
</tr>
<tr>
<td>21 – 51 years</td>
<td>12.7</td>
<td>10.6</td>
</tr>
</tbody>
</table>

*Source: World Bank PROST estimates.*

### Simulating the effects of the 1998-1999 reforms

In 1998 Congress passed some measures aimed at lowering the fiscal burden imposed by the civil-servant pension regime. Among these were the elimination of early retirement with a partial pension, and the imposition of a minimum retirement age of 60/55 years on new (male/female) hires and 53/48 years for current workers. In January 1999, Congress passed a second package of reforms that, *inter alia*, raised the contribution rate of federal civil servants earning monthly salaries higher than R$1,200, and imposed mandatory contributions from retired civil servants receiving pensions. To capture the effect of these measures, we assume that the new minimum retirement ages take effect in the year 2021, simulate an average rate of contribution on all executive branch civil servants of 15%, and reduce the average replacement rate of benefit recipients by 14.9%. The preferred Scenario 3 macroeconomic assumptions are retained.

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The new rates of contribution are set to a progressive scale. Retirees receiving less than R$600 a month are exempt from contributing, while active workers earning up to R$1200 contribute 11%, from R$1,201 – R$2,500 both active and retired workers contribute 20% on the portion of their salaries above R$1,200, and those earning R$2,501 or more contribute 25% on their salaries above R$2,500. Retirees over 70 years of age and disabled civil servants receiving less than R$3,000 are also exempt. Disabled retirees receiving more than R$3,000 will be obliged to contribute the same as would a recipient of length of service pensions.

PROST can only simulate a single rate of contribution at a time. For simplicity, the expected revenue/savings from the January 1999 measure were calculated according to the wage/benefit distribution of executive civil servants in...
Simulating the new rate of contribution and the implied reductions in retirement benefits over the same horizon, current revenues from employee contributions still fall far short of covering RJU benefits to executive branch civil servants. The new contribution and benefit rates take effect in 2000. In that year the regime’s operational deficit is R$17 billion, widens to R$46 billion in 2010, and to R$289 billion in 2030. The net present value of accumulated deficits to 2075 has been lowered by R$48 billion to R$392 billion, or 45% of GDP in 1999. Although these savings are substantial, the fiscal burden of the Federal RJU remains financially unsustainable.

The federal government’s implicit liabilities to active and retired workers in the year 2000 have been reduced by R$35 billion by the January 1999 hike in contributions and the implied cut in benefits. As a percentage of Brazil’s nominal GDP, the IPD has been lowered from 21% to 18% in the year 2000. Pension liabilities to federal executive branch workers rise to 30% of domestic product in 2010, down only seven percentage points from 37% of GDP in the base case simulation.

Since the measures passed in January 1999 include an implicit cut in retirement benefits through the imposition of contributions from retirees whose income was previously exempt from any form of “taxation”, the impact on the rates of return is significant. However, the returns from the regime (especially those to women) are still well above the market benchmark, implying that the system remains fundamentally unbalanced and over-generous.

Conclusions from the Simulations

In summary, the Federal RJU is—through tightened eligibility and increases in contribution rates—being transformed from a regime to pay civil servants partial or full salaries for life, into a traditional but still overly-generous PAYG system. These changes have helped to make obvious that, as a pension scheme, the Federal RJU is fiscally unsustainable and that the subsidies it entails are unfairly generous relative to the federal social security scheme for private sector workers. The generosity of the RJU has in the past been justified as a compensating differential for the low wages that Brazilian civil servants purportedly earn relative to private sector workers. But there is evidence that—at least at the federal level and on average—government employees earn considerably higher salaries and benefits than their private sector counterparts (see World Bank, 1998). This public sector premium was especially large for judicial and legislative workers, but was also significant for the average federal executive branch worker. The main group of workers that were—on average—paid less in the government than in the private sector were primary and secondary school teachers, but they also enjoyed especially generous pensions due to shorter time of service requirements.

1998, and an average contribution rate was derived which, when imposed on the entire sample, generated the expected revenue/savings. A similar procedure was followed to derive an average rate of reduction in benefits.

11 The package of measures passed by Congress took effect in June 1999, but is being challenged in courts of law.
THE REGIMES JURIDICO UNICO AT THE STATE LEVEL

Each of Brazil's 27 state governments (26 states and the federal district) offers RJU benefits to its workers. Prior to the enactment of the 1988 Constitution, most state civil servants participated in the RGPS system. The 1988 Constitution grants each state and municipal government entity the right to establish an independent pension plan for its employees. As in the federal case, this does not necessarily require that a reserve fund be created. The distinction between pension and survivor benefits becomes more important in an analysis of the state RJUs. The Regime Jurídico Único requires that all state administrative workers be paid pensions of 100% of exit salaries out of their respective state treasuries. Under the regime, states and municipalities have established separate social security plans (RJUs) that primarily pay survivor benefits. Only in recent years have the RJUs begun to receive contributions for retirement benefits.

Characteristics of Subnational RJUs

State and municipal schemes combined account for 47% of consolidated government expenditure on civil service pensions. The state RJUs vary widely in the variety of contingent and retirement benefits that they offer, their generosity, and whether or not and how much they extract from salaries in the form of contributions. In 1997 the dependency ratio of retirees to active workers in the state and municipal tiers of the public-sector pension regime was 95%, with 1.9 million pensioners nominally supported by 2.1 million active workers.

State governments cannot legislate changes in benefit parameters that conflict with the clauses of the 1988 Constitution. Vesting requirements for a full- and partial-pension under the various state RJUs have been patterned after the federal system. However, unlike their federal counterparts, state civil servants were required to contribute to their RJUs from the very inception of the plans. Another critical difference between the federal and state schemes is that either pension or survivor benefits paid by the state RJUs, and in some cases both, are taxed. Table III.9 shows the different rates of contribution required in each state’s system, at the end of 1998.

The majority of currently active state civil servants are expected to qualify for retirement benefits in the next five to ten years. The distribution of active state workers by age cohorts in Figure III.4, shows that 35% of workers fall into the 40 to 49 age group - 66% of these workers are women. In addition, the majority of publicly employed teachers receive their pensions under the state plans. Teachers can comprise as much as 30% of some states' workforces. Since most teachers are

---

12 There are now two classes of federal, state and municipal workers – the "estatutários" or administrative workers that contribute and receive benefits from the state under the RJU requirement, and the “celetistas” after C.L.T., or consolidações das leis do trabalho: contracted, “temporary” workers who contribute and receive benefits from INSS under the RGPS.

13 There are many inconsistencies in the numbers of active and retired government workers at the state and municipal levels reported by MARE and MPAS. RAIS data is collected annually with a lag of two years, but only counts active workers. Authorities hope that the quality of data on number of pensioners and the monetary amounts of pensions received will improve, as DEPEM builds on its new database.

14 This tax on benefits is commonly referred to as a "contribution" to the system by retirees and survivors.
also women and tend to retire earlier, that the majority depend on the state RJUs for their retirement income greatly increases the states' implicit liabilities. Furthermore, the bulk of each state's police force receives the same treatment – exemption from contributions and lifetime, tax-free survivor benefits – as do military personnel in the federal RJU.

### Table III.9: RJU Statutory Contribution Rates: Pensions, Survivor and Health Benefits, 1998

<table>
<thead>
<tr>
<th>Government Entity</th>
<th>From Treasury (% of Wage)</th>
<th>From Salaries (% of Salary)</th>
<th>From Pensions &amp; Survivor Benefits (% of Benefit Payments)</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal</td>
<td>0</td>
<td>11</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Selected States</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sao Paulo</td>
<td>6</td>
<td>8</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Minas Gerais</td>
<td>4</td>
<td>8</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Rio de Janeiro</td>
<td>2</td>
<td>11</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Rio Grande do Sul</td>
<td>4</td>
<td>11</td>
<td>11</td>
<td>2% of contributions does not fund RJU</td>
</tr>
<tr>
<td>Parana</td>
<td>0</td>
<td>9.3</td>
<td>9.3</td>
<td></td>
</tr>
<tr>
<td>Distrito Federal</td>
<td>0</td>
<td>12</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Pernambuco</td>
<td>4</td>
<td>8</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Santa Catarina</td>
<td>4</td>
<td>8-12</td>
<td>8-12</td>
<td>Depends on Income Level</td>
</tr>
<tr>
<td>Goias</td>
<td>0</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Bahia</td>
<td>10-17</td>
<td>10-17</td>
<td>10-17</td>
<td>Depends on Income Level</td>
</tr>
<tr>
<td>Espirito Santo</td>
<td>10</td>
<td>7</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Para</td>
<td>10</td>
<td>8</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Ceara</td>
<td>3-5.5</td>
<td>6-11</td>
<td>0</td>
<td>Treasury pays half of worker contribution</td>
</tr>
<tr>
<td>Maranhao</td>
<td>7</td>
<td>9-12</td>
<td>0</td>
<td>Depends on salary level</td>
</tr>
</tbody>
</table>

Source: DEPEM/MPAS.

Note: Parana numbers do not add up to the 23% contribution (13% employer and 10% employee) that is used in the Parana simulations of the planned reform.

The impending retirement of the majority of state workers is sure to entail a considerable financial burden on the state systems that, like their federal counterpart, calculate pension benefits based on workers' last month's wages. In 1997, 52% of state civil servants were earning more than four minimum wages, while 28% received more than seven minimum wages. Given the pattern of transition from salary to pensions observed in the past, it is expected that most state civil servants will receive a promotion immediately prior to retirement, thus causing the pension liabilities of the state systems to balloon.
A comprehensive database of benefits paid by the states does not yet exist. However, some benefit data are available on a state-by-state basis. Figure III.5 shows the distribution of pensioners in two state systems (see Beltrao and Oliveira, 1997 and 1997b for details). Although the largest number of retired workers in Mato Grosso receive a pension between one and three minimum wages, over 43% receive a pension worth more than five minimum wages.
In 1995, the largest group of retired state civil servants in Para received a pension worth more than 80 minimum salaries. This cohort represents over 35% of the state's benefit recipients. In the same year, 23% of active state workers received an equivalent salary. Evidence is not yet available to determine whether the benefits paid by the state governments of Mato Grosso and Para are typical of the pensions paid by other state RJUs. However, the data on these two states in addition to the results of the state RJU simulation in the next section, serve as a tentative indication of the nature of the RJU liabilities faced by state governments.

Source: Barreto de Oliveira, F., Iwakami Beltrao, K., 1997
A Simulative Look at the State RJU of Parana

This section presents the results of simulations performed on data from the State RJU of Parana. As in the Federal case, our simulations include analysis of the current parameters of Parana's pension scheme under varying macroeconomic scenarios, as well as analysis of the reform developed by SEAP, the state government's special unit on pensions, and passed into law in December 1998. A more detailed discussion of the parameters of the simulation of Parana's RJU is provided in Gill and Packard (1999).

Table III.10: Parana in Relation to Other States

<table>
<thead>
<tr>
<th>State</th>
<th>Population (Thousands)</th>
<th>Government Workers</th>
<th>State GDP (R$ millions)</th>
<th>Pension Share of Wage Bill (%)</th>
<th>Wage Bill Share of Net Revenue (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acre</td>
<td>514</td>
<td>26,144</td>
<td>1,399.2</td>
<td>9.5</td>
<td>66.1</td>
</tr>
<tr>
<td>Alagoas</td>
<td>2,688</td>
<td>47,354</td>
<td>5,615.2</td>
<td>29.3</td>
<td>74.3</td>
</tr>
<tr>
<td>Amazonas</td>
<td>2,521</td>
<td>54,161</td>
<td>9,988.2</td>
<td>29.3</td>
<td>42.5</td>
</tr>
<tr>
<td>Amapa</td>
<td>421</td>
<td>5,882</td>
<td>1,119.5</td>
<td>0.8</td>
<td>75.3</td>
</tr>
<tr>
<td>Bahia</td>
<td>12,532</td>
<td>155,536</td>
<td>41,695.1</td>
<td>19.0</td>
<td>52.5</td>
</tr>
<tr>
<td>Ceara</td>
<td>6,810</td>
<td>15,671</td>
<td>14,821.7</td>
<td>18.0</td>
<td>61.2</td>
</tr>
<tr>
<td>Distrito Federal</td>
<td>1,877</td>
<td>68,106</td>
<td>21,020.4</td>
<td>28.0</td>
<td>77.3</td>
</tr>
<tr>
<td>Espirito Santo</td>
<td>2,853</td>
<td>32,704</td>
<td>13,027.0</td>
<td>21.4</td>
<td>65.4</td>
</tr>
<tr>
<td>Goias</td>
<td>4,640</td>
<td>77,539</td>
<td>23,560.0</td>
<td>38.1</td>
<td>61.7</td>
</tr>
<tr>
<td>Maranhao</td>
<td>5,295</td>
<td>51,872</td>
<td>8,097.8</td>
<td>25.5</td>
<td>66.5</td>
</tr>
<tr>
<td>Minas Gerais</td>
<td>16,905</td>
<td>219,724</td>
<td>84,418.0</td>
<td>34.6</td>
<td>80.0</td>
</tr>
<tr>
<td>Mato Grosso do Sul</td>
<td>1,964</td>
<td>40,569</td>
<td>15,961.3</td>
<td>10.5</td>
<td>65.2</td>
</tr>
<tr>
<td>Mato Grosso</td>
<td>2,288</td>
<td>30,868</td>
<td>12,146.0</td>
<td>23.1</td>
<td>60.7</td>
</tr>
<tr>
<td>Para</td>
<td>5,651</td>
<td>77,636</td>
<td>17,350.8</td>
<td>19.7</td>
<td>69.5</td>
</tr>
<tr>
<td>Paraiba</td>
<td>3,332</td>
<td>54,618</td>
<td>5,642.7</td>
<td>24.0</td>
<td>45.7</td>
</tr>
<tr>
<td>Pernambuco</td>
<td>7,467</td>
<td>90,468</td>
<td>19,286.0</td>
<td>30.5</td>
<td>70.9</td>
</tr>
<tr>
<td>Piaui</td>
<td>2,696</td>
<td>3,581</td>
<td>4,363.8</td>
<td>22.7</td>
<td>69.7</td>
</tr>
<tr>
<td>Parana</td>
<td>9,142</td>
<td>95,548</td>
<td>58,841.6</td>
<td>36.4</td>
<td>68.8</td>
</tr>
<tr>
<td>Rio Grande do Sul</td>
<td>9,762</td>
<td>132,212</td>
<td>68,845.8</td>
<td>38.8</td>
<td>84.9</td>
</tr>
<tr>
<td>Rio de Janeiro</td>
<td>13,556</td>
<td>220,871</td>
<td>91,413.5</td>
<td>37.4</td>
<td>79.7</td>
</tr>
<tr>
<td>Rio Grande do Norte</td>
<td>2,594</td>
<td>68,877</td>
<td>6,250.6</td>
<td>24.6</td>
<td>66.6</td>
</tr>
<tr>
<td>Rondonia</td>
<td>1,276</td>
<td>25,216</td>
<td>4,994.7</td>
<td>6.9</td>
<td>83.0</td>
</tr>
<tr>
<td>Roraima</td>
<td>254</td>
<td>91</td>
<td>684.7</td>
<td>0.1</td>
<td>23.2</td>
</tr>
<tr>
<td>Santa Catarina</td>
<td>4,958</td>
<td>47,636</td>
<td>29,738.8</td>
<td>32.0</td>
<td>66.9</td>
</tr>
<tr>
<td>Sergipe</td>
<td>1,657</td>
<td>42,053</td>
<td>5,689.1</td>
<td>20.2</td>
<td>65.3</td>
</tr>
<tr>
<td>Sao Paulo</td>
<td>34,752</td>
<td>391,125</td>
<td>293,732.4</td>
<td>34.8</td>
<td>62.3</td>
</tr>
<tr>
<td>Tocantins</td>
<td>1,081</td>
<td>25,594</td>
<td>2,735.2</td>
<td>5.5</td>
<td>43.8</td>
</tr>
</tbody>
</table>

Source: DEPEM/MPAS

Table III.10 presents some economic and fiscal indicators for Brazil's states and the Federal district. Parana is the sixth largest state in terms of population and number of civil servants, is fifth-
largest in terms of GDP, has the fourth-highest share of pension as fraction of wage bill among all states, and has the tenth highest share of personnel costs as a fraction of net revenues. The ratio of government employees to the state population in Parana is about 1%, compared with the average for Brazil of about 1.3%. So government workers appear to be better compensated – especially in terms of pensions – than workers in the average state.

**Simulating the base case in Parana**

Using the same macroeconomic assumptions as in the Federal RJU simulations, Table III.11. presents the state plan’s fiscal indicators from five separate base case scenarios. Readers should note that in the state-level simulations, GDP is replaced by the state-government’s current revenue from taxation. As in the Federal RJU base case simulations, the fiscal impact of civil-servant pensions depends critically on the assumed rate of public-sector salary growth. Although Parana’s state government has enacted policies that would limit the rate of salary growth in the civil service to 1.5% annually (Scenario 2), as mentioned earlier, this variable is notoriously vulnerable to future political pressure. For this reason a more pessimistic view is taken. The results from our preferred scenario – Scenario 3, that assumes 2.5% salary growth – are presented in bold.

**Table III.11: Parana RJU Base Case Scenarios - Fiscal Indicators**

<table>
<thead>
<tr>
<th>Scenario</th>
<th>RJU Deficit (R$ millions)</th>
<th>RJU Deficit as % of State Current Revenue</th>
<th>Affordable Contribution (%)</th>
<th>Affordable Replacement (%)</th>
<th>NPV Financing Gap (R$ millions)</th>
<th>IPD as % of Current Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2000</td>
<td>932</td>
<td>19</td>
<td>78</td>
<td>-34,720</td>
<td>499</td>
</tr>
<tr>
<td></td>
<td>2010</td>
<td>2,213</td>
<td>19.8</td>
<td>78</td>
<td>-16,941</td>
<td>346</td>
</tr>
<tr>
<td></td>
<td>2030</td>
<td>11,595</td>
<td>21.7</td>
<td>81</td>
<td>-20,848</td>
<td>388</td>
</tr>
<tr>
<td></td>
<td>2075</td>
<td>237,188</td>
<td>21.3</td>
<td>81</td>
<td>-26,579</td>
<td>485</td>
</tr>
</tbody>
</table>

**Notes**

Scenario 1: GDP growth 3%, productivity growth 1.5%, real interest 3%
Scenario 2: GDP growth 3%, productivity growth 1.5%, real interest 6%
Scenario 3: GDP growth 3%, productivity growth 2.5%, real interest 6%
Scenario 4: GDP growth 5%, productivity growth 2.5%, real interest 6%
Scenario 5: GDP growth 5%, productivity growth 3.5%, real interest 6%

*Source: World Bank PROST simulations.*
In the year 2000, with no change to the state plan, the total benefits paid to retired state civil servants amount to R$1.2 billion. At the 9.3% contribution rate charged to active and retired workers, Parana’s treasury collects only R$288 million leaving an operational deficit for the state government of R$932 million, or 19% of current revenue. The state RJU’s current financing gap widens to 22% of total revenue in 2010, and 29% in 2030. The net present value of the accumulated deficits throughout the simulation horizon is R$21 billion, over five times the state’s total expected revenues in 1999.

The RJU’s contribution and benefit parameters as applied at the state level, are just as unbalanced as in the Federal plan. For the net present value (NPV) of the current balance between contributions and payments to be zero, the average rate of replacement to a retired state civil servant would have to be lowered to 13%, while contributions would have to be raised to 81%.

Parana’s implicit pension debt, although not as explosive as that accruing to the federal executive branch, is fiscally unsustainable. The PROST estimate of the state’s IPD in 2000 is R$19 billion, almost four times the state’s revenues that year. The implicit liabilities imposed by the RJU grow to four-and-a-half times total revenue by 2010, and five times total revenue by 2030.

**Isolating the burden of teachers’ benefits in the base case**

As mentioned earlier, the majority of teachers employed in Brazil’s public education system receive their salaries and benefits from state governments. As in the federal civil-servant pension system, teachers enjoy special arrangements under state RJUs. As teachers can retire with full benefits after only 30/25 years of service, since many retire even earlier with proportional benefits, and because the majority are women with longer average life spans, they receive an important portion of the states’ contingent liabilities. Teachers, therefore, represent a key constituency whose support will be critical to whatever reform program state and Federal governments choose to adopt. This section presents the results of PROST simulations performed using salary and benefit data on Parana’s teachers. The teachers’ data are isolated from the universe of civil servants in order to appreciate the fiscal weight of their special benefit parameters on the state budget. For simplicity, we have limited our simulations to the base case assumptions in Scenario 3.

Parana’s implicit pension liability to its teachers in 2000 is R$ billion – almost 150% of the state’s total revenue in 1999, and 40% of the IPD to the universe of civil servants in the same year. By 2030, the IPD to teachers has risen to R$ billion or % of pension liabilities overall. **Table III.12** illustrates the weight of teachers’ benefits in terms of benefits to all retired state civil servants.
Table III.12: PROST Parana Simulation Results – Fiscal Indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Universe of Civil Servants</th>
<th>Teachers only</th>
<th>Weight of Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present value (R$ billions)</td>
<td>25.9</td>
<td>8.1</td>
<td>31%</td>
</tr>
<tr>
<td>Payments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revenue</td>
<td>5.1</td>
<td>0.8</td>
<td>15%</td>
</tr>
<tr>
<td>Current deficit</td>
<td>-20.8</td>
<td>-7.4</td>
<td>35%</td>
</tr>
<tr>
<td>Affordability Indices (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affordable replacement, given contributions</td>
<td>13%</td>
<td>3%</td>
<td>---</td>
</tr>
<tr>
<td>Affordable contribution, given replacement</td>
<td>81%</td>
<td>&gt;90%</td>
<td>---</td>
</tr>
</tbody>
</table>

Implicit pension debt (% of total current revenue)

<table>
<thead>
<tr>
<th>Year</th>
<th>Universe of Civil Servants</th>
<th>Teachers only</th>
<th>Weight of Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>388%</td>
<td>154%</td>
<td>37%</td>
</tr>
<tr>
<td>2010</td>
<td>455%</td>
<td>212%</td>
<td>44%</td>
</tr>
<tr>
<td>2030</td>
<td>500%</td>
<td>162%</td>
<td>31%</td>
</tr>
</tbody>
</table>

Source: PROST Projections, 1999

Note: Teachers' impact presented as a % of universal indicators, where applicable

Table III.13 presents the internal rates of return from the state RJU simulations. As in the federal simulation, analysis is contained to three men and women with working periods of differing lengths. We repeat the assumption that all state civil servants begin working at the age of 21, that they have a full contribution history, and that their initial salaries and salary growth is the same. We assume that the first man/woman retires after 25/20 years, to capture the rate of return from the system to teachers retiring with partial benefits. The second of each sex, represents teachers retiring will full pensions after 30/25 years, or non-teacher civil servants retiring early with proportional under the normal vesting parameters of the system. The last pair represent those tireless civil servants who retire after meeting the vesting requirements for a full pension.15

It is clear from the rates of return tabulated above, as under the Federal regime, the incentive structures inherent in Parana's length-of-service pensions favor those who retire early. The statutory rates for all of the civil servants in the simulation are at least double the market rate. Not surprisingly, teachers enjoy the highest returns to their contributions towards pensions. As in the federal simulation, the returns to women are in most cases higher than those to their male colleagues with similar employment histories, but only slightly.

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15 As in the Federal RJU simulations, national mortality data are used in the simulations on Parana. Civil servants are likely to have much lower mortality than national level, therefore, IRRs are understated. Similarly, Parana is a fairly high income state, and its civil servants are even more likely to have lower mortality than overall, so the results are most likely understated even further.
Table III.13: Parana RJU, Internal Rates of Return (%),

<table>
<thead>
<tr>
<th>Civil Servant</th>
<th>Employee Contribution-based (9.3)</th>
<th>Statutory</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex, Age Group</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(teacher) 21 - 46</td>
<td>20.8</td>
<td></td>
</tr>
<tr>
<td>21 - 51</td>
<td>18.9</td>
<td></td>
</tr>
<tr>
<td>21 - 56</td>
<td>17.4</td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(teacher) 21 - 41</td>
<td>21.5</td>
<td></td>
</tr>
<tr>
<td>21 - 46</td>
<td>18.8</td>
<td></td>
</tr>
<tr>
<td>21 - 51</td>
<td>18.8</td>
<td></td>
</tr>
</tbody>
</table>

*Source: PROST Projections.*

**Simulating the December 1998 reform - ParanaPrevidencia**

In December 1998, Parana’s state legislature passed legislation that will imply dramatic structural adjustments to the pension regime for the state’s civil servants. Contributions from active and retired public sector workers will be raised from 9.3% to an average rate of 11.12%, and a matching 11.12% average contribution from the state-as-employer will be formalized, raising total revenues earmarked for RJU benefits to 22.24% of payroll and pension expenditure. It should be noted that Parana’s government is limited in the possible reforms to the state RJU that it can enact by the 1988 Constitution. The state legislature cannot pass changes in benefit and vesting parameters independently of the federal government. Although Parana has effectively cut benefits by raising the average contribution rate paid by pensioners from 9.3% to 11.12%, the state’s reform efforts are constrained by the 100% replacement guarantee.

In addition to raising contributions, Parana’s government will create a pension reserve fund for current workers under 50/45 years (men/women) and all newly hired civil servants, that will be subject to the same investment and disclosure regulation as Brazil’s EFPPs. A fuller description of the Parana proposal, as well as a discussion of the strengths and weaknesses of the new state pension fund’s governance structure, are included in Chapter V of this report.

An important feature of the reform, and one critical to the short and medium-term viability of the new fund, is the separation of contribution revenue from “younger-active” and new civil servants (the **switchers**), from “older-active” and retired public sector workers (the **non-switchers**). Under the state’s constrained reform, both groups will receive 100% of their last salary, and a separation of contribution revenue will be strictly enforced. Funds from the younger-actives and new civil servants should accumulate in the new pension fund to be invested, while the contributions from older-actives and retired civil servants, together with substantial transfers from the state treasury, will finance the transition costs. Table III.14 presents the results of simulations of the reform proposal. For simplicity, we have limited our analysis to two scenarios: wage growth at 1.5% and at 2.5%, holding GDP (tax revenue) growth constant at 3%.
As shown in Table III.14, Parana’s reform proposal achieves significant cuts in the state RJU current deficits as well as in the state’s implicit pension debt. The reform lowers Parana’s IPD to 84% of what it would have been in 2000 had no reform been undertaken. The IPD in 2030 is lowered to 34% of the state’s liabilities in the base case. However, RJU deficits remain an onerous fiscal burden deficits as a percentage of current revenue. The 100% replacement guarantee keeps the reformed system in deficit until 2064 when the last of the transition generation and its survivors stop receiving benefits.

Table III.14: Fiscal Indicators of Parana’s RJU Reform Proposal

<table>
<thead>
<tr>
<th>Panel I - Combined Switchers and Non-Switchers</th>
<th>Scenario 1: 1.5% Wage Growth</th>
<th>Scenario 2: 2.5% Wage Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>RJU Deficit as % of State Current Revenue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>-10.4</td>
<td>-10.4</td>
</tr>
<tr>
<td>2010</td>
<td>-9.6</td>
<td>-10.4</td>
</tr>
<tr>
<td>2030</td>
<td>-4.3</td>
<td>-5.7</td>
</tr>
<tr>
<td>First Year in Balance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2064</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reformed System IPD as % of Pre-reform Liabilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>86.5</td>
<td>84.1</td>
</tr>
<tr>
<td>2010</td>
<td>68.8</td>
<td>66.6</td>
</tr>
<tr>
<td>2030</td>
<td>35.8</td>
<td>34.4</td>
</tr>
</tbody>
</table>

Source: World Bank PROST Simulations, 1999
The state government proposes to finance the benefits of the non-switchers with a combination of proceeds from privatization of state assets, lending from the federal government and international institutions, and recently won transfers from INSS. Figure III.6 shows the evolution of the Parana RJU deficit assuming a one-time transfer from the government equal to 50%, 100% and 150% of the state’s current revenues to fund post-reform RJU benefits, with 1.5% annual wage growth (conservative assumption), 3% annual growth in tax revenue and a 6% real return on whatever portion of these transfers remain for investment after beneficiaries are paid.

Clearly, these large infusions of capital to the regime cannot sustain benefit payments during the transition. If Parana manages to transfer to the RJU a sum equivalent to 150% of the government’s annual tax revenues, the regime will still enter into operational deficit in 2007, and begin eating into its fund reserve until this too depleted in 2015. Our simulations of the new pension fund for switchers, meanwhile, are promising. However, while the new fund remains in surplus in the first ten years after the reform, the depth of the new plan’s operational deficits and the life of the fund reserve, depend critically on the rate of wage growth (and consequently growth of RJU benefits) as well as the real rate of interest earned on investments.

Table III.15: Fiscal Indicators of Parana’s New Pension Plan

<table>
<thead>
<tr>
<th>Fund Balance as % of State Current Revenue, 3% return</th>
<th>Scenario 1: 1.5% Wage Growth</th>
<th>Scenario 2: 2.5% Wage Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>5.8</td>
<td>5.8</td>
</tr>
<tr>
<td>2010</td>
<td>1.6</td>
<td>-2.8</td>
</tr>
<tr>
<td>2030</td>
<td>-5.5</td>
<td>-7.2</td>
</tr>
<tr>
<td>2075</td>
<td>-1.7</td>
<td>-3.5</td>
</tr>
<tr>
<td>First Year in Operational Deficit</td>
<td>2013</td>
<td>2012</td>
</tr>
<tr>
<td>Year Reserve Fund is Depleted</td>
<td>2019</td>
<td>2018</td>
</tr>
<tr>
<td>Fund Balance as % of State Current Revenue, 6% return</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>5.8</td>
<td>5.8</td>
</tr>
<tr>
<td>2010</td>
<td>3.3</td>
<td>3.3</td>
</tr>
<tr>
<td>2030</td>
<td>-5.5</td>
<td>-7.2</td>
</tr>
<tr>
<td>2075</td>
<td>-1.7</td>
<td>-3.5</td>
</tr>
<tr>
<td>First Year in Operational Deficit</td>
<td>2014</td>
<td>2014</td>
</tr>
<tr>
<td>Year Reserve Fund is Depleted</td>
<td>2022</td>
<td>2021</td>
</tr>
<tr>
<td>Fund Balance as % of State Current Revenue, 10% return</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>5.8</td>
<td>5.8</td>
</tr>
<tr>
<td>2010</td>
<td>6.5</td>
<td>6.5</td>
</tr>
<tr>
<td>2030</td>
<td>0.1</td>
<td>-5.6</td>
</tr>
<tr>
<td>2075</td>
<td>-1.7</td>
<td>-3.5</td>
</tr>
<tr>
<td>First Year in Operational Deficit</td>
<td>2031</td>
<td>2022</td>
</tr>
<tr>
<td>Year Reserve Fund is Depleted</td>
<td>2044</td>
<td>2030</td>
</tr>
</tbody>
</table>

Source: World Bank PROST Simulations, 1999

16 Reimbursing pension contributions of state civil servants to the RGPS prior to 1988 when the state RJU was created
Table III. 15 isolates fiscal indicators for the switchers in the new pension fund, at varying real rates of return on the fund's investment. Even in the most optimistic scenario, where annual wage growth is held at 1.5% and the pension fund earns an unrealistically high 10% real return, generous RJU benefits re-open a deficit in 2031.

A Snapshot of the Remaining State RJUs

In 1997 Brazil's state treasuries paid out R$15.8 billion in pension and survivor benefits – approximately 31% of the states' total personnel expenditure, 21% of their current revenue, and 1.8% of the country's GDP. According to the 1997 consolidated wage bill and the reported rates of contribution, the states should have collected R$3.4 billion in contributions, implying a combined, total deficit of R$12.6 billion or 1.4% of GDP. This financial picture is expected to rapidly deteriorate and the combined deficit of the state RJUs to grow to R$14 billion in 1999, deepening shortly thereafter as the largest cohort of workers approaches the average age of retirement.

Data on expenditures and revenues of municipal RJUs is still being compiled by MPAS. Federal authorities expect the consolidated RJU deficit at the municipal level to reach R$2.5 billion in 1998, and to grow to R$2.6 billion in 1999. These figures, while not trivial, are not important enough by themselves to radically alter the conclusions drawn from using estimates of state RJU imbalances as representative of the problem of subnational civil service pensions.

Although contributions from the salaries of active workers, and taxes/contributions on pension payments have been in effect since their inception, this does not guarantee an earmarked stream of revenue to a RJU "reserve fund" in every state. MPAS authorities report that in most states contributions flow directly to the treasury and become part of the state's general revenues, rather than being set aside for investment, as is the case of social security contributions in the United States. With data from 1997, Table III.16 shows what the major states paid out in pension benefits in absolute terms, what they collected as contributions, and their current financing gap. The precarious financial situation of the state RJUs is apparent from the static picture of the stock of benefits, contributions and the financing gap in 1997.

MPAS officials have begun working with their state counterparts to assemble data for a full actuarial audit of each state's implicit pension debt given current contribution and benefit parameters. Extrapolating from the results of the Parana simulation exercise and using information on the weight of Parana in total state RJU expenditures, we provide conjectural estimates of the current deficits, implicit pension debt, and financing gap for the state RJUs as a whole over the next fifty years. These estimates provide only illustrative measures of the problem of public-sector pensions and cannot substitute for a state-by-state actuarial audit. Nevertheless, the report provides the first measure of the fiscal consequences should states fail to reform their RJUs.

17 MPAS estimate of collected contributions, made by applying the reported rates of contribution to the current wage bill.
Table III.16: RJU Fiscal Indicators, 1997

<table>
<thead>
<tr>
<th>Government Entity</th>
<th>RJU Expenditures</th>
<th>Contributions</th>
<th>Financing Gap over Current Revenue</th>
<th>RJU Expenditures to Personnel Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal</td>
<td>19,514.4</td>
<td>2,583.0</td>
<td>21.8</td>
<td>45.2</td>
</tr>
<tr>
<td>All States</td>
<td>15,788.2</td>
<td>3,359.9</td>
<td>16.8</td>
<td>31.3</td>
</tr>
<tr>
<td><strong>Selected States</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sao Paulo</td>
<td>5,025.3</td>
<td>740.9</td>
<td>19.2</td>
<td>34.8</td>
</tr>
<tr>
<td>Minas Gerais</td>
<td>1,817.1</td>
<td>419.7</td>
<td>21.3</td>
<td>34.6</td>
</tr>
<tr>
<td>Rio de Janeiro</td>
<td>1,781.8</td>
<td>268.0</td>
<td>25.3</td>
<td>37.4</td>
</tr>
<tr>
<td>Rio Grande do Sul</td>
<td>1,517.0</td>
<td>273.4</td>
<td>27.0</td>
<td>38.8</td>
</tr>
<tr>
<td><strong>Parana</strong></td>
<td><strong>1053.8</strong></td>
<td><strong>231.6</strong></td>
<td><strong>19.6</strong></td>
<td><strong>36.4</strong></td>
</tr>
<tr>
<td>Distrito Federal</td>
<td>829.7</td>
<td>256.2</td>
<td>14.9</td>
<td>28.0</td>
</tr>
<tr>
<td>Pernambuco</td>
<td>489.2</td>
<td>108.8</td>
<td>16.8</td>
<td>30.5</td>
</tr>
<tr>
<td>Santa Catarina</td>
<td>481.5</td>
<td>150.4</td>
<td>14.7</td>
<td>32.0</td>
</tr>
<tr>
<td>Goias</td>
<td>407.3</td>
<td>39.7</td>
<td>21.2</td>
<td>38.1</td>
</tr>
<tr>
<td>Bahia</td>
<td>380.1</td>
<td>170.1</td>
<td>5.5</td>
<td>19.0</td>
</tr>
<tr>
<td>Espirito Santo</td>
<td>238.5</td>
<td>78.0</td>
<td>9.4</td>
<td>21.4</td>
</tr>
<tr>
<td>Para</td>
<td>224.5</td>
<td>73.3</td>
<td>9.2</td>
<td>19.7</td>
</tr>
<tr>
<td>Ceara</td>
<td>203.8</td>
<td>79.1</td>
<td>6.7</td>
<td>18.0</td>
</tr>
<tr>
<td>Maranhao</td>
<td>191.5</td>
<td>60.3</td>
<td>10.3</td>
<td>25.5</td>
</tr>
</tbody>
</table>

Source: DEPEM/MPAS.

Before proceeding further, we provide some justification for this approach. In particular, we briefly survey state RJU fiscal indicators to show that the problems faced by Parana's are not atypical of other Brazilian state government pension systems.

- Parana accounts for about 7% of state-level RJU spending. As shown in Table III.16, it is the fifth largest state in this regard. Parana and the four largest states in terms of economic activity and RJU expenditure — Sao Paulo, Minas Gerais, Rio de Janeiro and Rio Grande do Sul — together constitute three-fourths of state pension expenditures, contributions and deficits.

- The ratio of Parana's RJU payments to state personnel expenditures exactly matches that of the four largest states, and is about 5 percentage points higher than the average for all states. At the very least, therefore, Parana's pension spending is representative of 75% of the nation's state RJU problem. The wage bill as a share of net current revenues (the Camata ratio) is about 70%, similar to that of the largest four states.

- In other fiscal aspects, Parana is more representative of the average Brazilian state. Contributions as a share of RJU spending in Parana and its RJU payments as a share of state GDP are representative of the average.
Parana RJU contributions as a share of total contributions was 6.88%, the state's RJU expenditures as a share of total state RJU expenditures was 6.67% and Parana's RJU deficit as a share of total state RJU deficits was 6.54%. Civil servants in Parana as a share of total state government employees was 4.55%, and Parana's share in the nation's population was 5.73%. These numbers suggest an “expansion factor” of approximately 15. That is, the magnitude of the fiscal challenge faced by the state RJUs, is assumed to be fifteen times the problem faced by the government of Parana alone.

Based on Parana simulations and our assumed expansion factor, the challenges faced by the state RJUs as a whole would be as follows:

- A current deficit that in 1998 totalled R$11.4 billion that by 2010 more than triples to R$36.09 billion.
- An implicit pension debt (viz., the cost of stopping the system at a point in time and paying off all accrued liabilities) that is stable over the simulation period, at roughly 30% of Brazil's GDP.
- The net present value of the aggregate state financing gap (viz., the cost of continuing to run the system in its current form over the period 1998-2075) is about R$312 billion, or roughly 35% of Brazil's GDP.

A CROSS-COUNTRY COMPARISON OF GOVERNMENT PENSIONS

The origins of the national, government-mandated social security model lie in the compensation and benefit systems developed for public-sector workers in Europe in towards the end of the 19th century. How these original benefit schemes for civil servants were structured was an influential factor in the design of the national pension systems for workers in the private sector that followed. Researchers have noted a “demonstration effect”, by which over time the parameters of civil-servant pension and survivor benefits in many OECD countries were not only replicated in other government-mandated, first-pillar systems, but often came to be expected from employer provided, third-pillar plans. (IMF, 1994) Such an effect implies that in the long term, the institutional consequences of vesting parameters and benefit guarantees set for civil servants will manifest outside the public sector, and that in establishing systems for its workers government has a greater responsibility for ensuring that these are fiscally sustainable.

Parameters and Importance of Civil Servant Pension Systems

In Western Europe, the development of public-sector pension systems has followed two basic models: (i) the extended earnings model: where pensions are regarded as extended (sometimes reduced) earnings, to be paid for out of the national budget in the same way as wages for public employees (civil servants who were public officials during their active careers, are treated as such upon and during their retirement); and (ii) the deferred earnings model: where pension societies are established and savings invested to support members in their old age, and pre-funding is based largely on actuarial principles. (OECD, 1997)
In most OECD countries, the first model became the norm. The prevalence of the extended earnings model in the public sector in Europe and the U.S was justified by the perception of “civil service” as a sacrifice in these countries. A close link between retirement benefits and final salary was seen as a way to smooth income for a portion of the labor force that chose to forgo higher salaries for a career in public service.
earnings in the private sector. The parameters of the extended earnings, defined benefit systems offered to public sector workers in four OECD countries, are presented in Table III.17.

Although the extended earnings model came to dominate in most countries, nowhere were civil servants (or private sector workers, for that matter), guaranteed 100% of their exit salaries. Retirement ages varied from 52 to 70 years, the reference wage was usually a fraction of the last months salary, and average benefits were as often higher as they were lower than average benefits in the private sector. In comparison, the generosity of Brazil's RJU, in terms of vesting requirements and replacement rate guarantees is immediately apparent. Table III.18 presents the average rates of replacement offered in a larger selection of OECD countries, as well as the average earnings replacement received by retired state civil servants in the US (by years of service, and salary level).

Table III.18: Replacement Rates in First-Pillar Pension Systems

<table>
<thead>
<tr>
<th>a. Ratio of Average Pension to Average Wage in Selected OECD Countries, 1980</th>
<th>b. Replacement Rates in U.S. Civil-Servant Pension Plans (Retirement Benefit as % of Final Earnings)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada 34</td>
<td>After 20 years of service</td>
</tr>
<tr>
<td>Denmark 29</td>
<td>➢ Salary of $15,000 34</td>
</tr>
<tr>
<td>Germany 49</td>
<td>➢ Salary of $25,000 34</td>
</tr>
<tr>
<td>Italy 69</td>
<td>➢ Salary of $35,000 34</td>
</tr>
<tr>
<td>Netherlands 44</td>
<td>After 30 years of service</td>
</tr>
<tr>
<td>Sweden 68</td>
<td>➢ Salary of $15,000 52</td>
</tr>
<tr>
<td>Switzerland 37</td>
<td>➢ Salary of $25,000 52</td>
</tr>
<tr>
<td>United Kingdom 31</td>
<td>➢ Salary of $35,000 44</td>
</tr>
<tr>
<td>United States 44</td>
<td></td>
</tr>
<tr>
<td>OECD average 45</td>
<td></td>
</tr>
</tbody>
</table>

In addition to vesting and benefit parameters, the right choice of indexation mechanism – indexation of pension benefits to inflation or to current wages – is critical to the long-term viability of pension regimes. Research has shown that pension indexation to wages threatens the viability of defined-benefit systems when the number of benefit recipients increases in relation to the number of supporting active workers. Furthermore, where pensions are tax exempt, wage indexation implies a net increase in retirement income relative to net wages, thus increasing both the incentives to retire early and the rate at which government's pension liabilities accumulate. (Vording, 1997) In Europe, the US and Japan, there is a clear trend away from pension indexation to wages, and toward indexation to prices (or a combination of the two). Of the 16 OECD countries listed in Table III.19, only four index first-pillar pension benefits to current wages.

In addition to institutional precedents, the impact of pension regimes for public sector workers on the larger economy can be more direct. When the government acts as employer, the benefit schemes it chooses to offer its employees are not subject to the same constraints as those faced...
by private firms. (Marks, et al, 1988) Government’s power of taxation and the ability to issue “sovereign” guaranteed debt, soften budgetary constraints – it becomes easier to lose sight of the costs, and to focus primarily on benefits. (Mitchell & Carr 1995) In addition to softer constraints, civil-servant pension systems are in most instances designed by civil servants themselves, who have every incentive to set high benefit guarantees and loose vesting requirements.

Table III.19: Pension Indexation in Selected OECD Countries

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>P</td>
<td>P</td>
<td>P</td>
<td>P</td>
<td>P</td>
</tr>
<tr>
<td>Denmark</td>
<td>P</td>
<td>P</td>
<td>P</td>
<td>P</td>
<td>W</td>
</tr>
<tr>
<td>Finland¹</td>
<td>P</td>
<td>P</td>
<td>P</td>
<td>P</td>
<td>P</td>
</tr>
<tr>
<td>France</td>
<td>W</td>
<td>W</td>
<td>W</td>
<td>W</td>
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<tr>
<td>Germany</td>
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<td>W/P</td>
<td>W/P</td>
<td>P</td>
</tr>
<tr>
<td>Japan</td>
<td>--</td>
<td>--</td>
<td>W/P</td>
<td>W/P</td>
<td>P</td>
</tr>
<tr>
<td>New Zealand</td>
<td>--</td>
<td>--</td>
<td>P</td>
<td>W</td>
<td>--</td>
</tr>
<tr>
<td>Switzerland</td>
<td>--</td>
<td>--</td>
<td>W/P</td>
<td>W/P</td>
<td>W/P</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>--</td>
<td>--</td>
<td>W/P</td>
<td>P</td>
<td>P</td>
</tr>
<tr>
<td>United States</td>
<td>--</td>
<td>--</td>
<td>P</td>
<td>P</td>
<td>P</td>
</tr>
</tbody>
</table>

Source: Vording, 1997, p. 35
P: benefits indexed to CPI, W: benefits indexed to wages, W/P: benefits indexed to combination
1. Finland: flat rate pension indexed to CPI, while wage-related pension indexed to combination W/P

Where contributions from the government-as-employer are not specified, the rationale behind the level of public spending on benefits to civil servants is opaque. The state’s benefit obligations are bundled together with non-pension related deficit spending, and eventually passed on to the private sector in the form of higher taxes. Thus, all of the well documented negative fiscal externalities and perverse incentives of unfunded PAYG, defined-benefit systems are compounded in public-sector pension regimes. For this reason, there is an growing shift away from the unfunded, extended earnings principle, toward deferred earnings models of retirement security for employees in the public sector (OECD 1997).

Trends in Civil Service Pension Reform

In 1996, the World Bank commissioned a survey of civil service pension regimes in 53 countries. The survey found that in most countries, as in Brazil, pension benefits to public sector workers had (or would soon) become an unsustainable burden on public resources. The challenges faced by governments ready to reform the pension schemes for their civil servants, are similar to those that arise in the reform of broader national social security systems. Immediate measures that have
been taken to cut costs and slow the accumulation of pension liabilities include parametric reforms such as setting higher retirement ages and/or longer vesting periods, tightening early retirement provisions, and raising contribution rates. Some countries have opted for deeper structural reforms such as the establishment of DC plans either to complement or substitute the unfunded DB plans, or even full privatization of their pension schemes.

Governments in developing as well as developed countries are increasingly seeking to integrate civil service pension plans with the larger national systems. Full integration is taking hold as a fiscally prudent strategy for reform in every region of the world, but particularly among industrialized countries and in Latin America. This integration can be pursued either by (i) treating civil service pensions as third-pillar, employer-provided plans; (ii) conducting a formula-based transfer of accrued rights to the social security system; or (iii) wholesale absorption of civil servants into the national system (World Bank, 1996).

**Box III.1. Reform of Civil Servant Pensions in the US – Any Lessons for Brazil?**

The provisions made by the US government to transfer public-sector workers to the national social security system, provide valuable lessons for Brazil on how it might merge its two first pillar regimes.

The present federal civil service pension system in the US, consists of two regimes: a Civil Service Retirement System (CSRS) covering public-sector workers hired prior to 1984 and a Federal Employee Retirement System (FERS) that applies to workers hired since 1983 or who elected to transfer out of the CSRS. Due to the enormous fiscal burden it imposes, the CSRS is being phased out. CSRS workers who transfer to FERS receive credit for their years of service under CSRS. As an incentive to switch, CSRS workers who transfer also receive matching government contributions on a portion of their voluntary contributions into a special savings plan.

FERS, established in 1986, requires that participants are covered by the national social security system. FERS comprises three pillars: (i) social security, (ii) a basic annuity plan, and (iii) a thrift savings plan (TSP). The first two components are defined-benefit plans, while the third is a defined-contribution plan. FERS participants are required to pay the full social security contribution in addition to a small contribution towards the basic annuity component. It is possible for FERS affiliates to contribute up to 10% of salary toward the tax-deferred TSP. Allocating this money among three investment funds devoted to government securities, common stock, and/or fixed income investments, respectively.

The CSRS benefit formula, with its higher accrual rate of 1.5-2%, is applied to years of service up to the date of transfer. The FERS benefit formula consists of a lower standard accrual rate of 1-1.1% for years of service after the time of transfer, and a social security supplement that approximates the social security benefit earned while the worker was employed by the federal government.

As an incentive to civil servants to switch into FERS, the government matches social security contributions as well as up to 5% of the employee’s contribution to TSP. Workers who remain in the CSRS can invest up to 5% of earnings in the TSP but do not receive any matching government funds.

*Source: World Bank (1996)*

As economic development leads to growth in private employment opportunities, the importance of aligning the vesting and benefit parameters – and of eventually integrating first-pillar pensions
systems for public and private sector workers - rapidly increases. Such an alignment, along with the establishment of sustainable, well governed and regulated second and third-pillars to diversify old-age and investment risk, will increase inter-sectoral labor mobility and enable individuals to pursue economic activities better suited to enhancing prospects for economic growth.

Governments today are more likely to shift responsibility for civil-service pensions to the private sector, for both fiscal and ideological reasons. Since the 1980s the historical public/private divide with respect to pension provision has been quickly eroding. Whereas in the earlier half of this century their seemed to be a clear consensus on the division of social and private responsibilities vis a vis old-age income security, as more and more countries become aware of the benefits to national savings and the enhanced long-term growth prospects possible form privatizing at least a portion of pension schemes, the set of viable options for pension reform has widened considerably.

SUMMARY AND CONCLUSIONS

The Magnitude of the Problem

The main findings of simulations are presented in Table III.20. Note once again that the Federal RJU simulation is contained to executive branch civil servants, and thus understates the problem at the Federal level. Including retirement, disability, and survivor benefits currently enjoyed by the military, judiciary and legislature would increase the magnitudes reported here substantially. The results reported for the state RJU sector as a whole may also change when state by state actuarial assessments are compiled, though it is uncertain whether this would result in sums greater or smaller than those imputed here.

The results presented in Table III.20 can be summarized as follows:

- Without any reforms, current deficits in the Federal RJU quadruple from R$13.5 billion to R$50.7 billion in less than fifteen years. The rate at which the system accumulates liabilities is even greater: the implicit pension debt as a percentage of GDP increases more than four times to 36.8%. The cost of continuing to run the RJU without any reforms until 2075 is R$440 billion for just federal executive branch workers.

- Without any reforms, current deficits in the state RJUs more than triple from R$11.5 billion to R$36 billion. However, the liabilities of the system appear to have reached steady state, although at an unsustainably high level of about 30% of the country’s current GDP. The cost of running the state RJU until 2075 is about R$312 billion.

- By 2010 between 40-45% of the state RJU implicit pension debt is attributable to teacher pensions.
Table III.20: Summary of Key Simulation Indicators
Base Case and Approved Reforms

<table>
<thead>
<tr>
<th>Current Deficit (Billion R$)</th>
<th>IPD as Share of GDP (%)</th>
<th>NPV of Financing Gap (Billion R$)</th>
<th>Affordable Rates (average %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal RJU – Executive Branch Only</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Base Case</td>
<td>13.5 18.1 50.7</td>
<td>10.6 20.9 36.8</td>
<td>440 &lt;6 &gt;100</td>
</tr>
<tr>
<td>Transition to 60/55 yrs &amp; Increased Contributions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12.8 17.0 45.7</td>
<td>9.2 17.7 29.8</td>
<td>392 &lt;8 &gt;100</td>
</tr>
<tr>
<td>Parana RJU¹</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Base Case</td>
<td>0.77 0.93 2.40</td>
<td>14.1 19.0 50.8</td>
<td>20.8 13 81</td>
</tr>
<tr>
<td>Teachers in the Base Case</td>
<td>0.32 0.46 1.2</td>
<td>3.6 7.4 22.7</td>
<td>7.3 3 &gt;100</td>
</tr>
<tr>
<td>Parana’s Reform (Scenario 3)</td>
<td>--- 0.51 1.0</td>
<td>--- 16.1 31.9</td>
<td>--- 14 14</td>
</tr>
<tr>
<td>All State RJUs – Imputed from Parana Simulations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Base Case</td>
<td>11.5 13.9 36.0</td>
<td>24.0 26.0 30.0</td>
<td>312 --- ---</td>
</tr>
</tbody>
</table>

Notes: See text for details.
1. IPD Numbers for Parana are in R$ billions, while those for the federal and state RJU systems are as a share of GDP.
2. Imputed state RJU magnitudes are obtained by applying an expansion factor of 15 to the estimates for Parana. See Annex # for derivation of expansion factors.
Source: World Bank staff estimates.

The theoretical cost of shutting down the state RJUs (viz., paying off its accumulated debts, R$249 billion in 1999) is equal to about 80% the discounted present value of continuing to operate the state systems for the next 75 years. In contrast, the implicit pension debt of the Federal RJU in 1999 (about R$170 billion) is less than 40% of the NPV of the financing gap. These numbers reveal the different stages at of maturity of the state and federal regimes: if these numbers hold up under greater scrutiny, it would appear that while the state RJU bomb has already gone off, the federal RJU has yet to explode.

The Roots of the Problem

Civil servant pensions in Brazil, linked tightly through Constitutional mandates to salaries earned by these workers when they retire from active service, are a source of inequity between public sector workers and the rest of the population. The generosity of civil service pensions also leads to inequity between current and future generations: to the extent that mounting deficits in the RJU are financed from federal, state and municipal treasuries, the cost of over-generous pensions, disability
The Pension Regime for Government Workers

and survivor benefits for a privileged minority, is passed on to current and future generations of taxpayers. Furthermore, the regime’s deficits inflate the public sector’s borrowing requirements and lead to erratic and low rates of economic growth, thus negating the only possible rationale for passing on the costs of pensions for today's retirees to future taxpayers, viz., that future generations are likely to be much wealthier.

Until the recent reforms, payments received by civil servants were not perceived as “pensions”, as the term is understood in other countries, either by the government or by the recipient. Rather, pension payments are viewed simply an extension of salaries to retired workers. The argument that generous pensions are simply compensation for low public sector salaries does not have support in theory (since it would be more efficient to raise salaries) or in fact (since workers in the legislative and judicial branches are on average paid more than their private sector counterparts, while federal and state executive branch workers are by no means underpaid).

The RJU deficits and their adverse impact on Brazil's public accounts are the result of sheer largesse of the regime, specific structural factors, and statutory features, including:

- **Generous benefits indexed to current salaries.** RJU pension benefits are guaranteed at 100% replacement rate of reference wages, these benefits have been exempt from taxation (in the federal scheme), and indexed to increases in current public-sector salaries, has allowed replacement rates to rise as high as 140%, making Brazil's RJU one of the (if not the) most generous pension systems in the world.

- **Benefits based on last month's salary.** The extreme end-loading in the benefit formula under the RJU introduces strong incentives for abuse. Whereas in the RGPS system an end-loaded benefit formula encourages evasion and strategic misreporting of wages, it was not uncommon for public-sector workers to receive ample promotions in the months just before they retire.

- **Loosely applied vesting requirements.** Since the 1988 Constitution does not specify a minimum age of retirement, the only binding requirement that civil servants have to meet to be vested is years-of-service. However, this requirement binds only loosely. Anecdotal evidence suggest that a large number of current retirees became vested under the RJU for full and partial pensions after years of employment in the private sector and last minute migrations into government service.

- **Early retirement and no restrictions on benefits upon re-employment.** Lax vesting requirements and the accrual rate structure inherent in the benefit formula, encourage early retirement. It is optimal for a civil servant to claim early retirement since there are no actuarial penalties for doing so and pension benefits (at full replacement of last month’s salary) are tax-exempt (under the federal scheme). Under the current regime, working an extra year beyond the average contributing period imposes a high implicit tax on additional labor supply. Federal workers have every incentive to retire as early as they can to receive a stream of tax-exempt income, and even to re-enter the federal government in the same or a higher-paying position than the one they held previously. Anecdotal evidence indicates that this is a common strategy among federal employees.
Brazil: Critical Social Security Issues

- **Special retirement schemes.** While generous pensions and special vesting requirements for primary and secondary teachers may be justified given the low level of their salaries, that the majority are women who can retire after only 20 years of service and live longer (on average), significantly increases the expected value of the stream of pension benefits they will receive, and thus the government's implicit liabilities. The special schemes are also offered to university lecturers whose average level of remuneration may or may not justify special treatment.

- **Inequity between first-pillar systems, lack of inter-regime transfers, and labor market distortion.** In Brazil, people retire from the first-pillar pension regime that they last worked in, regardless of how little time they spent in their last occupation. Since the RJU is more generous than the RGPS, people have a great incentive to join public service late in life and retire from public service. As mentioned earlier vesting parameters only require that employees complete 35/30 years of contributions, not contributions to the RJU. Two problems arise: first, no money is transferred from RGPS to RJU to cover the many cases where RGPS collects contributions, but RJU is left with the total pension liability. Although the RJU does not make any transfers to the RGPS either, workers are more likely to flow into the public sector than to flow out since the RJU is so much more generous; second, lack of inter-regime transfers encourages people to stay in public service, limiting portability.

The Inadequacy of Reforms to Date

This chapter presented empirical evidence of the need for reform of the pension regime for civil servants. While the results of our simulations on data from the Federal RJU and that of the State of Parana can serve only as a preliminary indication of the present and future liabilities incurred by the federal and state treasuries, it is safe to conclude that the benefits promised under the present system cannot be sustained. To date, the government's advances in reforming the RJU can be viewed as moving the *Regime Juridico Unico* toward a PAYG pension framework: by requiring that contributions be reserved to pay benefits; imposing more realistic minimum vesting requirements; increasing contribution rates; eliminating tax-exemption; and restricting "double dipping"—the receipt of multiple benefits from the different public sector pension and social security schemes.

However, given the magnitude of the adjustments in the rates of contribution and replacement required to bring benefits and contributions into balance, government at the federal, state and municipal levels will find it politically difficult to confront their growing liabilities by tinkering with parametric reforms to the PAYG structure. Even the fiscal advances made in Parana with the creation of a separate pension fund, soon fall victim to the 100% replacement guarantee. Applying Parana's reform model to the Federal RJU seems even more futile in the medium term. Both the federal and state simulations demonstrate that the regime for Brazil's civil servants will continue to suffer from staggering financial imbalances\(^\text{18}\) despite efforts to increase contributions, create reserve funds, and limit the number of new beneficiaries at each tier of government.

3.84 Clearly a more radical structural reform is called for that will eliminate the perception of retirement income as an entitlement, and strengthen the concept of pensions and social security as

\(^{18}\) With the exception of three state RJUs, all ran deficits in 1997.
contractual, precautionary savings to minimize risk and to achieve income security in old age. Whether this entails a deep parametric adjustment, or a transition to individual, notional defined-contribution accounts, or a more dramatic switch to fully capitalized accounts, will have to be decided based on a full actuarial accounting of the implicit pension debt of the federal government and of each state, and the capacity of government to prevent abuse of pension fund resources if a funded approach is found to be effective.

REFERENCES FOR CHAPTER III


IV. THE COMPLEMENTARY PENSION SYSTEM

INTRODUCTION

The purpose of this chapter is to assess the functioning of the Complementary Pension System (Sistema de Previdência Complementar), and to identify the main obstacles to its future development. Designed as a voluntary complement to the first pillar\(^1\), this component consists of employer pension plans with so-called "closed" funds (Entidades Fechadas de Previdência Privada) and individual pension plans in "open" funds (Entidades Abertas de Previdência Privada). In addition, since 1997, there exist long term investment instruments (Fundos de Aposentadoria Programada Individual or FAPIs) which can be managed directly by either open or mutual funds.

The main weaknesses of the complementary system (both closed and open funds) are low coverage, uncertain tax treatment, inadequate regulatory and supervisory framework, and high administrative costs. In 1997, however, the government began a process of reform, which includes the overhaul of the regulatory and supervisory framework established by Law 6435 in July 1977. The new framework, consisting of three complementary laws submitted to Congress in March 1999 and related regulations still in the design stage, is expected to place greater emphasis on the financial security of pension plans and the rights of beneficiaries. In addition, the Ministry of Social Security has submitted a proposal for transforming the existing regulator of closed pension funds (Secretaria de Previdência Complementar) into an independent new agency (Agencia Nacional de Previdência Complementar), with a broader and more pertinent mandate than the existing one. The complementary system has also recently been expanded, creating new forms of individual, defined contribution pension plans and long term investment instruments (like the FAPIs). A further expansion is expected in the near future, as the Constitutional Amendment of December 1998 opened the possibility for the establishment of closed funds for civil servants and employee associations. These reforms (except the new individual pension plans) are only dealt with in broad terms, since their specific design are still to be developed. The general analysis, therefore, is based on a pre-reform scenario, where the complementary pension system is still desegregated, exclusive, and subject to inadequate regulation and ineffective supervision.

This chapter provides some evidence on these issues, and compares the situation in Brazil with the experience of OECD and Latin American countries. The variety of privately managed retirement instruments is found to be in sharp contrast with the reform experience in Latin America and other developing countries. In particular, Brazil has a large system of occupational, mainly DB

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\(^1\) The first pillar consists of programs under the Regime Geral da Previdência (RGPS), which covers workers in private firms and public sector employees who were also hired under the Consolidated Labor Code and the Federal, state and municipal Regimes Jurídico Único (RJUs), which covers tenured government employees in the executive, legislative, and judicial branches and the military. These systems are discussed in Chapters II and III, respectively. The Constitutional Amendment of November 1998 allowed the establishment of complementary funds for the RJUs; the implications of this change are discussed in Gill and Yermo (1999) and Chapter V.
pensions that is unique by Latin American standards. In a region where individual, DC accounts managed by specialized financial institutions are the norm for newly established pension systems, Brazil faces alternatives that are closer to those prevailing in OECD countries.

The closed fund system forms the core of the funded component of pensions, being the largest in terms of assets and participants. The funds added up to almost R$114 billion in 1999. The system, however, suffers from the same problems as similar schemes in OECD countries, like low levels of funding in DB plans, lack of fiduciary standards, insufficient disclosure (to regulator and participants), as well as other problems which are more accentuated in Brazil like low coverage, excessive employer contributions, lack of portability, insufficient investment controls, non-transparency on investment returns, and high operational expenses.

Many of these problems are caused by an inadequate regulatory and supervisory structure. Brazil, however, should be careful to consider what “international best practice” is in the field of regulation and supervision of defined benefit plans and annuities, so as to avoid the mistakes of many OECD countries. The experience of Latin American countries that have instituted private pension systems also offers lessons for Brazil on investment regulation, information disclosure, and effectiveness of supervision.

This report also identifies the main failings in the other leg of the complementary system, the open funds. The total amount of assets was less than R$5 billion in 1998, small for a country that has a developed financial sector. This industry suffers from a high level of concentration and administrative costs, which can be at least partly traced to the lack of transparency of investment products and stringent minimum profitability rules. Supervision too needs to be strengthened and extended to oversee the investment, performance, fees, and reporting requirements of open pension funds.

Finally, the report describes the characteristics of new individual pension plans based on DC schemes, which are the most similar in design to other Latin American private pension systems. These products offer high levels of transparency and portability, and are subject to an adequate regulatory and supervisory regime. Moreover, the fact that they are DC plans eliminates the need for regulation over funding and actuarial balance. However, it is unlikely that these plans will achieve as low administrative costs as those managed by closed funds. Hence, DC schemes should be encouraged among closed funds, while individual DC plans should be seen as an additional option within Brazil’s developing third pillar for additional voluntary retirement savings by richer individuals.

The chapter is structured as follows. Section IV.2 contains an introduction to the complementary pension system, a description of the general structure of the system, and the main weaknesses of the system, including coverage, tax treatment, and administrative costs. Section IV.3 concentrates on the regulatory and supervisory framework. Section IV.4 describes the FAPIs and mutual funds. Section IV.5 summarizes the main findings and concludes.
THE COMPLEMENTARY PENSION SYSTEM (CPS)

The Brazilian complementary pension system (CPS) was developed on the experience of OECD countries such as Canada, the US, and the UK. Prior to this system there had existed since 1923 private pension funds, known as Caixas (later Institutos) de Aposentadorias e Pensões, which were regulated by the state. During the 1960s, the Institutos were gradually absorbed into the state apparatus, coming to form part of what would eventually be the Social Security Agency (Instituto Nacional de Previdência Social).

The enactment of Law 6435 in 1977 in a way reinstated the Institutos de Aposentadorias e Pensões, by regulating the creation and operation of open pension funds (Entidades Abertas de Previdência Privada). These were to be constituted as profit/non-profit insurance companies covering any worker. Law 6435 also permitted a new form of funds increasingly common in industrialized nations, the closed pension funds (Entidades Fechadas de Previdência Privada). These were to be constituted as employer-sponsored, non-profit organizations covering the employees of a particular firm or group of firms.

The Closed Funds

The closed pension plans are based on defined benefit (DB), defined contribution (DC), and hybrid schemes that combine DB and DC features. DB schemes guarantee a fixed monthly payment after retirement. In DC schemes, on the other hand, benefits are determined by contributions and asset returns. In 1997, the average retirement age in the complementary pension system was 61 years.

All public plans are either DB or hybrid plans. DB are predominant among public sector firms, but DC plans are increasingly popular among both public and private firms. Since the early 90s, there has been a marked move to DC plans, particularly in private company plans. By June 1997, 11% of private plans were of this type, and another 40% had combined features. In terms of affiliates, however, the concentration in DB plans is still high, especially among public company plans; see Table IV.1.

| Table IV.1: Closed Pension Funds, Affiliates, % of Total, 1997 |
|-----------------|-----------------|-----------------|-----------------|-----------------|
|                 | Defined Benefit | Defined Contribution | Hybrid | Total |
| Public          | 81              | 0                 | 19    | 100   |
| Private         | 52              | 12                | 36    | 100   |
| All plans       | 65              | 7                 | 28    | 100   |

Source: Secretaria da Previdência Complementar
Benefit levels in DB plans vary widely between companies. They tend to be higher in public company plans, and in some cases seem unsustainable given the level of contributions paid into the system. The ratio of average benefit to average salary in the 10 largest public pension plans (by affiliates) are generally higher than 0.7. In some cases, the ratios are as high as 1.5. In private firms, on the other hand, this ratio tends to be much lower, usually below 0.5.

The ratio of employer to employee contributions are also higher among public sponsored pension plans. Table IV.2 contains a summary of this ratio for public and private company plans, which is subject to a statutory minimum of 0.3:1. The figures include normal contributions as well as "amortization" payments for service prior to the establishment of the plan. The industry average employer-employee was higher for public company plans than for private companies. It was particularly high in large federal companies. If one excludes amortization payments, the ratios are lower. The ceiling of 1:1 on contributions by public companies imposed by the Constitutional Amendment of November 1998 will have a significant impact on the actuarial viability of these plans.

<table>
<thead>
<tr>
<th>Employer: Employee Contribution ratio</th>
<th>Total contributions (R$ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal 2.3</td>
<td>2,680</td>
</tr>
<tr>
<td>State 2.1</td>
<td>999</td>
</tr>
<tr>
<td>Municipal 1.2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total Public</strong> 2.3</td>
<td><strong>3,681</strong></td>
</tr>
<tr>
<td>Private National 1.9</td>
<td>1,082</td>
</tr>
<tr>
<td>Private Foreign 2.3</td>
<td>371</td>
</tr>
<tr>
<td><strong>Total Private</strong> 1.9</td>
<td><strong>1,453</strong></td>
</tr>
<tr>
<td><strong>All Plans</strong> 2.2</td>
<td><strong>5,134</strong></td>
</tr>
</tbody>
</table>

*Source: Secretaria da Previdência Complementar*

In October 1999, there were 358 pension funds, sponsored by a total of 2,207 companies. While public companies were the first to organize closed pension plans, the process of privatization and continuous expansion in the private sector has led to a predominance of funds sponsored by private firms. In October 1999 there were 263 pension funds sponsored by private companies against 95 sponsored by public companies. The latter, however, still hold the vast share of assets (69%), although they account for less than half of all affiliates.

The closed fund industry is highly concentrated by region. Four states in the southeast (Rio de Janeiro, Sao Paulo, Minas Gerais, Espirito Santo) account for two-thirds of all pension funds. Concentration by assets is high, though this is explained by one fund, Banco do Brasil's Previ.

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2 When the closed pension plans were set up, most public employer took the decision to accrue employee pension rights for the period of service prior to the establishment of the pension plan. Each company has to define an amortization plan to pay off this liability.
which accounts for a quarter of all assets. As shown in Table IV.3, the largest six funds account for one half of all assets. Of these, only one, Sistel, is a closed fund for private sector workers.

Table IV.3: Concentration of Assets, November 1999

<table>
<thead>
<tr>
<th>Plan Assets (Billions R$)</th>
<th>Cumulative Assets (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previ</td>
<td>28.4</td>
</tr>
<tr>
<td>Funcef</td>
<td>7.6</td>
</tr>
<tr>
<td>Fundacao CESP</td>
<td>6.1</td>
</tr>
<tr>
<td>Sistel</td>
<td>6.6</td>
</tr>
<tr>
<td>Petros</td>
<td>5.5</td>
</tr>
<tr>
<td>Centrus</td>
<td>4.0</td>
</tr>
</tbody>
</table>

Source: Secretaria da Previdência Complementar

The Open Funds

The open fund sector is the closest Brazil has to the private pension fund administrators (AFPs) of other Latin American countries. The critical difference is that in Brazil the plans have been traditionally structured as deferred annuities. Hence, the main players in this market are insurance companies which carry out the four main services of a pension system: contribution collection, account administration, asset management, and benefit payment.

There are two types of plans: traditional and the new *Plano Gerador de Beneficio Livre* (PGBL), created in 1998. Traditional plans can be either DB or DC, but most of the plans are DB, in the form of inflation-indexed deferred annuities. Contribution rates in DB plans are fixed when the contract is signed, the minimum being R$30 per month. In DC plans contributions may be altered during the life of the plan. The plans offer a guaranteed 6% real rate of return and a portion of the excess return that ranges between 50% and 75% of the actual excess return. At retirement, the investor has the option of drawing partially or wholly the accumulated balance. The retirement age is established by the affiliate and can be set anywhere between the ages of 50 and 70 years. Open pension plan administrators also offer other benefits, such as death, survivors, and disability insurance.

The PGBL is a DC scheme with flexible contribution and investment options, and without return guarantees. Companies can contract PGBL plans for their employees, like the 401(k) plans in the USA. Contribution rates may be altered and investors may choose between three different funds: a "sovereign" fund (government securities), a fixed income fund, and a mixed income fund. The PGBL administrator can only invest contributions in one of these three funds which are managed.

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3 Traditional DC plans are rare, and are not promoted by the larger institutions that provide them.
4 The actual amount varies between funds. Normally, the maximum that can be transferred is only achieved after a few years in the plan (about 5 on average). The excess return accumulated in a year can be retrieved or allowed to accumulate in the fund.
exclusively by mutual fund companies. At retirement the accumulated assets are used by the PGBL administrator to buy an inflation-indexed annuity.

Open pension plans can be offered by three types of institutions: insurance companies, for-profit open pension fund administrators and non-profit open pension fund administrators. The market is dominated by insurance companies, which account for 80% of all reserves (October 1998). Open funds have also suffered from lack of exposure to international best practice in pension design. Foreign companies are banned from owning open pension funds, hence there has been none of the heavy involvement by foreign banks and insurance companies as in the private pension systems of other Latin American countries. Foreign financial institutions, however, can offer the newly established PGBLs.

The industry is highly concentrated, with one fund, Bradesco, accounting for over half of all pension reserves. The three largest companies account for over 70% of industry reserves, while the five largest companies account for 84% of reserves; see Table IV.4.

<table>
<thead>
<tr>
<th>Instrument/Asset Class</th>
<th>Reserves (R$ million)</th>
<th>Cumulative (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRADESCO</td>
<td>3,372</td>
<td>50.9</td>
</tr>
<tr>
<td>PREVER</td>
<td>758</td>
<td>62.3</td>
</tr>
<tr>
<td>SASSE</td>
<td>630</td>
<td>71.8</td>
</tr>
<tr>
<td>BRASILPREV</td>
<td>587</td>
<td>80.7</td>
</tr>
<tr>
<td>ITAU</td>
<td>250</td>
<td>84.4</td>
</tr>
<tr>
<td>OTHERS</td>
<td>1,032</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>6,629</strong></td>
<td></td>
</tr>
</tbody>
</table>

Source: SUSEP.

Coverage

The complementary pension system caters mainly for middle- and high-income employees working for large industrial and service sector companies, and for the professional self-employed. In October 1998, open funds had 1.5 contributors and had another million of retirees and survivors. Affiliates to the closed fund system numbered 1.5 million in active workers and 470 thousand in pensioners and survivors. In addition, there are over 3.96 million dependents of participants that are served by the closed pension plans. The number of contributors has declined in the past three years, from 1.9 million in 1995 to 1.5 million in 1999, while the number of pensioners/survivors has increased (from 0.38 million in 1995 to 0.47 million in 1999). Some of those affiliated to closed funds also have individual pension plans in the open funds. Total participants in the closed fund industry represent only about 5 percent of the economically active population. As shown in Figure IV.1, the low coverage contrasts dramatically with the levels in all OECD countries other than Italy.

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Each exclusive fund may receive contributions from more than one PGBL plan, as long as they have similar characteristics. The funds, however, are only open to investment from PGBLs.
The system was designed as a complement to retirement income of workers earning more than a specified amount (currently R$ 1,255 per month), and who are affiliated to the general regime for social security (RGPS). Since both provision and employee participation is voluntary, this design has imposed a significant constraint on the size of the sector, since only 35% of the workforce is covered by the RGPS\(^6\), and many of these earn less than R$1255 per month\(^7\). Having said this, however, the open funds do not impose restrictions on participation, while the closed funds are legally bound to offer the same pension plans to all their workers, including those earning below the RGPS threshold. Hence, in principle lower income workers employed in the formal sector can opt for at least the minimum benefits offered by closed funds as well as individual pension plans offered by open funds. Small and medium sized companies with a significant percentage of workers earning around or below the RGPS threshold, however, have no incentive to set up closed funds.

In OECD countries employer-sponsored pension plans are open to all salaried employees whose employers have decided to offer such plans. In some countries, like France, Finland, Switzerland, and Australia, and all the newly privatized pension systems in Latin America, the provision of such plans by employers is compulsory. In other countries, these plans are voluntarily provided (e.g. Canada, Germany, Japan, the United Kingdom and the United States), but no restrictions on eligibility are normally imposed, and when they are, they address very specific groups of workers with particular work circumstances. For example, in Switzerland, small employers and employees working less than a minimum number of hours are excluded.

The restricted coverage of employer pension plans is understandable in countries where the public pillar is efficiently run and offers a high rate of replacement of life cycle income after retirement. In

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\(^6\) There is a downward trend in coverage, as a result of increased informal activities in the economy and an increase in evasion (Chapter II and Bonnerjee and Gill, 1998).

\(^7\) Uruguay imposes a similar income threshold for participation in its private pension system.
Brazil, however, the basic pillar, composed of the pension system for private sector workers (RGPS) and the myriad of state and municipal employees pension systems (RJUs) all suffer from endemic operational imbalances and administrative inefficiency. Hence, first pillar pensions, despite their generosity, and in fact because of their excessive generosity in the past, are subject to a high degree of risk. Workers that are excluded from the complementary pension system, therefore, only have access to a limited number of formal tools with which to diversify risk and secure sufficient income for their retirement.

Assets

There has been rapid growth of closed funds, both in number and in assets held, particularly during the 1990s. There has also recently been a spurt in growth among open funds, but they are still small relative to the closed funds. In October 1998, the assets of the open funds were only about 5% of those held by the closed funds.

While in absolute terms Brazil has the largest private pension industry in Latin America (R$ 113.9 billion in October 1999, in the closed funds alone), in relation to the size of the economy the industry is at an early stage of development (12% of GDP in October 1998). For such an early starter in private pension provision, growth has been disappointing, particularly during the 1980s; see Table IV.5. The contrast is most marked with Chile, a country that started its private pension system four years after Brazil, but which has accumulated nearly four times as much in pension assets relative to the size of the economy. This difference is largely due to the fact that in Chile the private pension system is a compulsory first pillar, while in Brazil it is a voluntary third pillar.

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Switzerland</td>
<td>51</td>
<td>69</td>
<td>117</td>
</tr>
<tr>
<td>Netherlands</td>
<td>46</td>
<td>77</td>
<td>87</td>
</tr>
<tr>
<td>UK</td>
<td>23</td>
<td>55</td>
<td>75</td>
</tr>
<tr>
<td>US</td>
<td>24</td>
<td>43</td>
<td>58</td>
</tr>
<tr>
<td>Singapore</td>
<td>28</td>
<td>76</td>
<td>-</td>
</tr>
<tr>
<td>Malaysia</td>
<td>18</td>
<td>41</td>
<td>55</td>
</tr>
<tr>
<td>Brazil</td>
<td>1</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>Chile</td>
<td>1</td>
<td>25</td>
<td>42</td>
</tr>
</tbody>
</table>

Note: Singapore’s 1980 amount is actually for 1976; 1980 numbers for Chile are actually for 1981.

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8 See Chapters II and III and the informal World Bank reports on the RGPS and RJUs – Bonnerjee and Gill (1998) and Gill and Packard (1999) – for a financial modeling analysis of these systems.
The Complementary Pension System

Tax Treatment

Tax policy plays an important role in the promotion of private pension funds. Most OECD countries encourage their creation by adopting an EET regime (Exempt contributions; Exempt investment income; Tax benefits), where contributions and investment income are free from income tax, but benefits are taxed. Contributions tend also to be exempt from social security taxes, which offers an additional, powerful incentive. However, limits on these exemptions are often imposed for both budgetary and fairness reasons while additional measures, such as a government co-contribution (subsidy) may be required to encourage participation by low-income workers. Tax policies also affect the use of annuities instead of lump sums at retirement.

In Brazil, the tax treatment of private pension funds is in principle (lowercase) "eet" with limits on individual exemptions. In practice, however, the benefits of tax exemption have been challenged by the income tax authorities and the issue has been unresolved for the past 15 years or more. Given the importance of expanding the coverage of private pension funds, a speedy and equitable resolution of this issue is essential. The cost of fiscal incentives and to the best way of designing them for maximum benefit should be considered seriously.

Open funds are subject to a similar tax treatment as the closed funds which is understandable since a differentiated regime would create unfair advantages. There is a maximum of 12% of the salary that is tax-deductible. If the plan is terminated, the accumulated assets are also subject to income tax.

Administrative Costs

Administrative costs in pension systems arise from various services: collection of contributions, account management and switching, asset management, information reporting, advertising and marketing, and insurance. Account switching and advertising and marketing expenses are linked, and are less of a problem in closed pension fund systems than in open ones, where they often account for the majority of operational expenses.

In open funds, individual workers, many of them financially unsophisticated and unfamiliar with the workings of financial markets, deal with the managers of pension fund companies or with the selling agents retained by such companies. The need for monitoring and even regulating fees and commissions is great. This is also true in the case of annuity providers, who also often incur high acquisition costs and charge hefty commissions.

The lack of portability of closed pension plans ensures that there are no account-switching costs. Hence, the only advertising or marketing related costs arise from asset managers selling their services directly to the plan sponsors. This has lower costs than direct selling to individuals.

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9 In open fund systems, these costs account for between a third and a half of all administrative costs (James et al, 1998).
Brazil: Critical Social Security Issues

In general, therefore, one should expect administrative costs in closed funds to be lower than those in open fund systems.

In fact, World Bank (1995) found that operating costs (relative to wages) were higher among Brazilian closed funds than among the Chilean AFPs, despite the fact that Brazilian closed funds do not face the switching costs and marketing expenses associated with the competitive setting of Chilean funds and are not mandatory. Costs in Brazil averaged 2.8% of wages in 1990, compared to 1.5% in Chile. This suggests the existence of a considerable inefficiency in the management of Brazilian closed pension funds. State owned companies were also found to have higher costs than the rest. For instance, 39% of state owned funds had administrative costs exceeding 12% of contributions. By contrast, only 4% of multinationals and 13% of private nationals were in this cost range.

Access to fee information on open funds is very restricted, since the regulator does not require the funds to report their fee levels and the funds themselves are very reticent to publicize their fees. There are restrictions on the level of fees that can be applied to open pension plans. The upper limits for traditional plans are set at 30% of contributions, a level that is high by international standards and reflects the prevalence of insurance-based products. The administrators can levy fees instead on accumulated assets, but these are not subject to any limit. As a result, nearly all plans have commissions expressed as a percentage of assets managed.

Current levels of fees on traditional plans for individual investors are very high by international standards, ranging from 4 to 10% of assets managed\textsuperscript{10}. The average for the four largest plans (which account for 80% of reserves) is 8%. Bearing in mind that fixed income mutual funds in Brazil charge an average of 2.7% on assets, the implicit insurance premium for the 6% real return guarantee plus the excess return is about 5.3%.

It is difficult to evaluate whether these fees are too high\textsuperscript{11}. The guarantee would be valueless if the open funds invested only in savings accounts, which have a government-required minimum 6% annual real return. Open funds, however, invest more than 50% of their portfolio in assets that do not have a guaranteed rate of return. Moreover, they return a portion of the excess return to the affiliate as well as guaranteeing the 6% real return.

Even if the premiums can be justified on the basis of management costs, the degree of insurance offered, and the excess return, they have turned the traditional pension plans into an unattractive investment instrument. Many of the larger open funds actually charge a fee that is larger than the minimum return of 6%. Hence, investors must be offered a significant portion of the excess return in order to at least obtain a positive rate of return. Since term deposit accounts have been offering

\textsuperscript{10} Corporate plans tend to have lower fees, between 0 and 5% of assets managed.

\textsuperscript{11} In recent years guaranteed investment contracts have gained popularity in developed financial systems. These contracts guarantee that over a period of a few years (up to a maximum of about 3) the original capital investment is returned.
real yields of over 10 percent net of fees in the past few years, one may wonder why anyone would want to invest in these products. Nevertheless, the issue of fees cannot be resolved until the open funds report the actual value of the commissions they charge. The commissions would then have to be standardized, permitting an evaluation of the option value of the guarantee.

It is also worth noting that the fees are higher than stipulated by the legislation. Table IV.6 lists the contribution-based equivalent fee for different asset-based fees. For the 30% contribution, which is the maximum set in the legislation, the equivalent asset based fee would be 1.3%, which is much less than the fee charged by any of the open funds. The open funds have taken advantage of the possibility to charge fees on assets (which are not subject to a limit).

<table>
<thead>
<tr>
<th>Contribution-based</th>
<th>Asset-based</th>
</tr>
</thead>
<tbody>
<tr>
<td>91</td>
<td>10</td>
</tr>
<tr>
<td>72</td>
<td>5</td>
</tr>
<tr>
<td>55</td>
<td>3</td>
</tr>
<tr>
<td>30</td>
<td>1.3</td>
</tr>
<tr>
<td>23</td>
<td>1</td>
</tr>
</tbody>
</table>

*Note:* calculations are based on a 40 year, uninterrupted investment period.
*Source:* World Bank staff estimates.

Another abnormal characteristic of administrative costs is their wide variation across companies. In the Latin American DC pension systems, fees are charged on contributions or salaries. In the new pension system in El Salvador, for example, fees vary between 2.7 and 3.4% of salaries. While differences in administrative efficiency can create some variation in fees across funds, the most important factor is the fact that the plans can have very different designs. While all traditional plans guarantee a minimum return of 6%, and fees are charged on assets managed, the plans offer different levels of excess returns that are returned to the investor's reserve account. This makes it impossible to judge whether a plan is cost-effective purely on the basis of administrative fees. One would need an option valuation model to determine whether a plan charging a 5% fee and offering a 50% excess return provision is more cost-effective than one charging a 10% fee and offering a 75% excess return provision.

In the new PGBL plans, the ceiling on fees is subject to a maximum of 10% of contributions, which is approximately equivalent to a 0.4% commission on assets managed12. The funds, however, will not be able to charge commissions on assets13, which will increase the transparency of the fee structure. The ceiling on fees will impose a very tight restriction on the management of PGBL funds, despite the fact that they are DC schemes. As a way of comparison, the management fees in index-tracking mutual funds in the USA are rarely below this level. Also, the front-load structure of the fee will put a high burden on investors with a shorter investment horizon.

12 This assumes a 40 year investment horizon.
13 If fund management is contracted out, the asset managers will be able to charge fees as a percentage of assets.
The limit on fees is highly relevant because the PGBLs will be similar to the private pension funds of Latin America, which have been criticized for their high commission rates. Like the traditional open pension plans, the PGBLs will be marketed directly to individuals, and will be more portable than traditional plans.

REGULATION AND SUPERVISION OF COMPLEMENTARY PENSIONS

Historically, the open fund industry has been better regulated and supervised than the closed fund industry, particularly in regard to financial aspects. The regulatory framework of closed funds has traditionally suffered from laxity and lack of definition. Efforts began in 1994 to revamp this regulatory regime and are currently well under way, with the submission to Congress of three draft complementary pension laws in March 1999 and the development of new investment, accounting, and actuarial models by the regulatory agency. This section, therefore, should be viewed in the light of these processes. Many of the weaknesses identified can be expected to be eliminated in the coming years.

Vesting and Portability

Vesting refers to the acquisition of pension and other benefit rights by employees and is an important aspect of pension plans. It is a bigger issue in defined-benefit plans but it may also be relevant in defined-contribution plans with regard to the contributions of employers and to investment income on accumulated balances. Vesting rules are a potential source of worker immobility and/or unfairness to individual workers if pension plans contain features that penalize workers who do not stay with the same employer until they retire.

In OECD countries, because of past abuses in occupational schemes, regulations have been enacted that impose minimum vesting standards, with Japan constituting an important exception. Vesting periods range from zero (e.g. Australia, France, Switzerland) to ten years (Germany). In general, it is advisable that full vesting should be required within four to five years of joining a pension plan, with proportional vesting in earlier years. Vesting is clearly important for protecting

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14 The three complementary laws are: PLP 8 that regulates the institutional relationship between government agencies and pension funds (especially stipulating that the ratio of employer to employee contributions cannot exceed one), PLP 9 allows the federal, state, and municipal government to set up pension funds for their employees) and PLP 10 consolidates all rules regarding closed funds.
15 The main distinction is between immediate vesting, when pension rights vest on joining a scheme, and deferred vesting, when accrued pension rights vest after stipulated minimum age and service requirements. There is also a distinction between full vesting, when accrued pension rights vest in their entirety, and graded vesting, when they vest on a sliding scale as more of the stipulated requirements are met. Immediate and full vesting is usually offered in compulsory private pension funds, while deferred and graded vesting is the norm among voluntary occupational plans, whether they are based on defined-benefit or defined-contribution plans.
16 Despite the lack of regulation, Japanese plans still provide for quick vesting.
workers and securing their pension rights. They also allow portability of pension benefits or contributions as workers switch jobs.

Portability refers to the ability to transfer accrued and vested pension rights to other pension plans. It is a more controversial issue than vesting, since one can establish rules to ensure that workers retain accrued rights in plans of their former employer without needing an actual transfer of assets\textsuperscript{17}. Moreover, if portability entails pre-retirement distributions, there is a risk that some of the accumulated wealth will be consumed. It is accepted, however, that employees should have the option to transfer their accrued benefits\textsuperscript{18}. Minimum portability rights, therefore, should be specified by law.

Portability is an issue that affects only closed funds, and within those, mainly DB plans. DC schemes are based on individual capitalization accounts and can therefore be easily transferred to other plans. In the case of DB plans, however, it is very difficult to ensure that the value of transferable pension rights is equitable. This is because transfer values are subject to several actuarial assumptions that are difficult to verify (e.g. about the projected growth of the relevant salary in the old and new plans). Transferring employees usually suffer from the actuarial assumptions applied by the respective plans.

There are two basic options for the transfer of accrued benefits, a lump-sum payment to the employee and transfer of assets to a new pension plan, which could be the new employer’s pension plan or a personal retirement plan (e.g. life annuity). Lump-sum payments should be discouraged since they can reduce retirement savings\textsuperscript{19}. Most countries do not allow lump-sum payments, except for unvested contributions. The actual transfer of assets can be done directly from the employer to the new plan. Some countries (the Netherlands, and Japan) have instituted portability clearinghouses, which control and administer the flow of retirement assets from one fund to another. These mechanisms for centralized portability also ensure that standard methods are used for calculating accrued benefits, protecting workers from unfavorable actuarial assumptions.

**Closed funds**

There are no formal vesting or portability rules, but these are contemplated in the new regulatory framework submitted to Congress in March 1999. The current regulation only concerns laid-off workers. Workers that are laid-off are entitled, as a minimum, to the total contributions made by them to the pension plan. The present value of past contributions is not calculated on the basis of a financial return. Instead, the official inflation index \textit{(indice de correção monetária)} is used\textsuperscript{20}.

\textsuperscript{17} Workers may retain their accrued and vested benefits at their old employer, and receive them when they retire. This form of deferred benefits requires adequate indexing of benefits to ensure that they are not eroded by inflation.

\textsuperscript{18} A worker who is dissatisfied with a company’s record may also find her deferred benefits are at risk.

\textsuperscript{19} In the US, this is a major cause of lost retirement income (Turner and Watanabe, 1995).

\textsuperscript{20} This is an index that has often been adjusted below the actual rate of inflation.
Workers that leave a company voluntarily tend to have fewer pension rights than those whose contract is terminated by the employer. In non-contributory plans, workers can lose all pension rights, even after having worked for many years in the same company. In general, they also lose entitlement to additional benefits like, death, survivors, invalidity and sickness benefits, which also tend to be non-contributory.

Open funds

Open pension plans have immediate vesting and offer full portability. The legislation establishes a maximum of two years delay between the request for liquidation and the actual closure of the account (and transfer of funds, if required). For PGBLs, there is both a minimum (60 days) and a maximum (2 years). The minimum was intended as a brake on excessive account switching and active marketing campaigns by PGBL administrators to steal affiliates from competitors, an innate feature of the existing private pension systems of other Latin American countries. This measure, however, is unlikely to be sufficient to constraint account switching, since this problem affects Latin American countries that limit transfers to one or two per year.

The degree of portability is in practice restricted in traditional plans by the penalty fees charged by open fund administrators if the plan is cancelled before the scheduled date. For one of the largest plans the fee is 4% of accumulated assets if the plan is cancelled after one year, 3% if cancelled after two years, and 2% if cancelled at any other date. Hence, transferring plans is a costly option. These fees are not regulated.

Pension Funding

A proper level of funding is an essential element for the long-term security of pension rights. It is also critical when benefits are guaranteed by the state, in order to prevent underfunding or excessive risk-taking. Funding requirements are relevant for closed funds offering DB plans and for annuity providers. They are not an issue for DC plans, where the long-term liabilities of pension plans are, by construction, equal to their accumulated assets.\(^\text{21}\)

The appropriate level of funding is a controversial concept. The determination of adequate reserves depends on crucial assumptions about future mortality and termination rates, inflation and wage growth, and about the rate of interest used to calculate the present value of future pension liabilities. It also depends on whether accrued or projected pension obligations are taken into account as well as on any provisions for price indexation of pension benefits or annuity

\(^{21}\) However, in DC plans workers assume the investment risk and thus the regulation of contribution rates and annuity products acquires particular significance. Regulations should encourage the use of variable contribution rates and more flexible annuity products, such as variable, deferred and installment annuities.
payments. Asset valuation is another important factor. Regulations need to specify appropriate valuation rules, mortality tables, and discount rates. The appropriateness of the assumptions used must also be verified by required actuarial reviews.

Funding requirements vary across OECD countries with employer-provided pension plans. Most countries with funding requirements require full funding of the ABO. The Netherlands, Canada, the UK, and Sweden also require full-funding of the PBO. In the US, on the other hand, significant underfunding of the PBO is possible, despite the existence of state insurance. In most countries, pension plans are also required to use the same mortality tables and standard discount rates are not atypical. In the Netherlands, for example, a maximum real discount rate assumption of 4% is in place. There is also an assumption for wage growth.

**Closed funds**

In Brazil, where pension funds with defined-benefit plans have a relatively large presence for a developing country, there are minimum funding levels, but the methodology for their calculation is not specified. The ABO must be fully-funded, while up to 70% of the projected obligation must be covered. The remaining 30% can be covered with assets held by the sponsoring employer. This is equivalent to allowing pension funds to invest in the sponsoring employer a large share of the required assets (rather than their actual assets). This clearly weakens the security of pension plans and may explain the deficiency in funding levels. It is a weakness in the regulatory framework that needs to be rectified as many funds may operate with significant actuarial deficits. In fact, the new regulatory framework submitted to Congress in March 1999 contemplates full funding of the PBO.

Currently, the minimum funding level is only applied to rights accrued since the plan was started. Public company pension plans, however, have additional funding needs. When the complementary system was set up public companies recognized the period of employment prior to the establishment of the plan as contributory for the purpose of calculating benefits. The sponsors created amortization reserves as a form of pre-funding for these additional benefits. For some public companies, the amortization reserve can be the major source of actuarial imbalance. There is currently no regulation on the method of amortization, and supervision is limited to registering the amortization figures in the accounting report of the plan sponsor. The limit on employer contributions in public sector plans to 100% of employee contributions imposed by the Constitutional Reforms of 1998 has made this reform all the more urgent.

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22 The accrued benefit obligation (ABO) is the discounted present value of vested plan benefits absent any projections of salary. The projected benefit obligation (PBO) is calculated as the present value of benefits on the assumption that rights will continue to accrue, and be indexed up to retirement. The indexed benefit obligation (IBO) assumes indexation after retirement.

23 In the UK, funding of PBO is only required for contracted-out from social security.

24 The legislation does not specify if the benefits calculated should be indexed or not.
The regulation imposes a maximum discount rate of 6 percent in real terms, but it does not specify the methodology to calculate funding levels, or the disciplinary actions that should be taken when the limits are broken. Hence, the supervisory agency is unable to control funding levels in practice. An indicator of funding is provided in the annual accounting report that all closed funds have to submit to the regulator. The supervisor, however, has no way of knowing how funding levels are calculated. Errors and misreporting are only identified when the plan is audited, which takes place on average every two to three years, or intervened.

**Open funds**

As result of the failure of the *montepios* in the 1970s, there was strong political pressure to ensure that the same problems would not affect the open pension funds. Funding rules for open funds are thus much tighter, and more severely enforced, than those for closed funds. The rules, however, are applied to the aggregate activities of insurance companies, without making a distinction between open pension plans and other insurance activities. Hence, it is possible that open plans are exposed to the investment risks of other insurance activities. The legislation should require full separation of pension fund assets from assets held as reserves for other insurance activities.

**Investment Regulation**

The purpose of prudential pension fund regulation is to ensure the soundness of financial institutions and their investments. The most significant of these rules are:

- **Minimum capital provision for licensing**: minimum capital requirements are important when financial institutions offer guarantee investment contracts. These reserves can then be used to make up any deficiency in the required returns.

- **Asset segregation and governance structure**: Legal and administrative separation of the fund from the sponsoring company is critical to ensure that there are "Chinese walls" in the governance structure and that the fund cannot be "raided".

- **Safe custody of assets**: custodian arrangements are important for preventing fraud and for safekeeping securities belonging to pension funds. Authorization of custodian institutions should be required from the banking or securities markets supervision agency.

- **Professional asset management**: In most OECD countries and in the new private pension systems of Latin America, asset managers are licensed by the securities markets supervision agency. External asset managers are required to have a minimum capital and also to maintain capital adequacy in relation to the total assets under management.

- **Asset valuation**: market valuation should be required for all listed securities for all types of pension funds. Consistent valuation models should be used for less liquid assets. Valuation in the Latin American private pension systems is carried out on a daily basis.

- **Asset diversification**: Countries with well-developed capital markets and a long tradition of private pension provision tend to rely on the "prudent person" rule\(^\text{25}\) for achieving adequate...
The Complementary Pension System

diversification of pension fund assets. This approach is adopted in, among others, Canada, the Czech Republic, Denmark, Ireland, the Netherlands, the United Kingdom, and the United States. All Latin American countries with private pension industries, on the other hand, rely on quantitative restrictions on investment portfolios. Minimum diversification rules (e.g. percentage of portfolio that can be invested in a single security or securities of the same issuer) are applied in all countries.

- **Corporate governance and ownership concentration rules:** Pension funds can quickly become significant stockholders and gain voting rights in company boards. Corporate governance by pension funds is a controversial issue in OECD countries, particularly in those countries like the US and the UK where pension funds hold large portions of the stock market capitalization. Most countries in Latin America have preferred to limit ownership concentration, by imposing ceilings on the percentage of a company's equity that a fund can hold. In Chile, this ceiling has been set at 7% of the total.

**Closed funds**

The Brazilian system largely accords to international standards in the first three aspects. Open funds have adequate minimum capital requirements, tailored to the specific characteristics of the fund. Closed funds must be set up as foundations and be legally separate from sponsoring employers. Improvements in fund governance may nevertheless be required to ensure that the prescribed legal segregation is effective in practice. Without strong oversight by a revamped regulatory agency it would not be easy to ascertain that pension fund assets are effectively segregated in practice, even if they are held by a legally separate foundation.

The law also provides for the use of independent custodian institutions. The existence of large automated clearing centers for three major types of securities (government bonds, corporate bonds, and corporate equities) makes the offer of custodian services easier and more economical. In practice, however, both the regulation and supervision of custodian arrangements need to be strengthened in order to minimize the risk of fraud and misappropriation of funds.

The main weaknesses in the Brazilian regulatory system arise in the last areas: professional asset management, asset valuation, asset diversification, and ownership concentration rules.

- **Asset management:** Closed pension funds have only recently begun to hire external asset managers. Currently, about half of all closed funds have external management, and another quarter has mixed management. External management is mainly concentrated in private company funds. New rules on insider trading and the use of "Chinese walls" in trading departments are expected to cause an increase in the hiring of external asset managers to operate alongside internal ones. Brazilian funds based on defined-contribution plans also offer self-direction of investments from a range of asset managers and funds. In this sense, Brazilian pension funds appear to follow evolving practice in Anglo-American countries.

- **Asset valuation:** Closed pension funds carry their own evaluation and send a report every three months to the regulator that contains information on asset values. The regulator,
however, has no way of confirming whether assets have been adequately evaluated. Only when auditing procedures start (about once every three years) are misreportings identified. Evaluation is a particularly complicated process for assets with low liquidity (such as municipal debt), loans (especially those to the sponsor) and real state. It is therefore important that the new investment model being developed by the SPC includes standard valuation methods for these assets, and that it is authorized to require funds to use it.

- **Diversification rules:** The investment regime that was put in place in Brazil in 1994 is more liberal than in any Latin American country with a private pension system. It includes limits by asset class and individual securities, and has eliminated investment floors that were in place until 1994. Pension funds may not invest more than 10% of their portfolio in the equity of one company or, in general, in the securities of any single issuer. The limits by asset class are shown in Table IV.7. The main problems in the regime are the lack of limits by liquidity and risk (which exist in other Latin American countries and are currently being developed), and the permission to invest in loans (both to the sponsoring company and to affiliates) and real estate (which are banned in other Latin American countries). To the extent that pension funds are able to invest a significant portion of their portfolio in this manner, there will be a high risk of illiquidity of pension funds and the evaluation of performance and funding levels will be complicated. Self-investment also exposes the beneficiaries to default risk of the sponsor. While the limit on investment in real estate and direct lending has been significantly curtailed from 67% in 1994 (47% in lending, and 20% in real state) to 39% in 1998 (20% in lending and 19% in real estate), actual investment has remained high (28% of assets in 1993, and 25% in August 1998). The limit on real estate is programmed to fall further, down to 15% by 2002.

**Table IV.7: Closed Pension Fund Portfolio Limits, 1994-1998**

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
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<td>Government securities</td>
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<td>100</td>
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<tr>
<td>Other fixed income securities</td>
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</tr>
<tr>
<td>State and municipal debt</td>
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<td>50</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Shares, plc's</td>
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<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Real estate</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>19(2)</td>
</tr>
<tr>
<td>Real Estate Funds</td>
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<td>0</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Venture Capital Funds</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>5</td>
<td>5</td>
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<tr>
<td>Lending to participants</td>
<td>17</td>
<td>17</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Lending to plan sponsor</td>
<td>30</td>
<td>30</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Foreign Securities (1)</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
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<tr>
<td>Hedging instruments</td>
<td>3</td>
<td>3</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: Secretaria da Previdência Complementar

(1) Investment only permitted via mutual funds.

(2) Ceiling programmed to fall to 18% in 1999, 17% in 2000, 16% in 2001, and 15% in 2002.

- **Ownership concentration rules:** Pension funds are the second most important institutional investors in Brazil, after mutual funds. Pension funds, however, have a much larger presence
in stocks, holding about 6% of market capitalization, while mutual funds hold about 3%. The role of closed funds in corporate governance in smaller stocks has been questioned, because pension funds can hold up to 20% of a company's equity. There is also a high degree of concentration of ownership in privatized utilities (e.g. Telebras), especially by public employer sponsored closed funds. As Table IV.8 shows, the closed fund of Banco do Brasil, Previ, has been a large player in recent privatizations. The 20% limit may have to be lowered, at least for public company sponsored plans, or other ways found to limit the intrusion of the state in the corporate governance of private sector firms.

Table IV.8: Closed Pension Funds Share of Issues in Privatizations

<table>
<thead>
<tr>
<th>Privatized company</th>
<th>Previ</th>
<th>All closed funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usiminas</td>
<td>15.0</td>
<td>26.1</td>
</tr>
<tr>
<td>Acesita</td>
<td>15.0</td>
<td>36.1</td>
</tr>
<tr>
<td>Embraer</td>
<td>9.8</td>
<td>29.5</td>
</tr>
<tr>
<td>Tecon 1 (CODESP)</td>
<td>20.0</td>
<td>35.0</td>
</tr>
<tr>
<td>Tele Centro Sul</td>
<td>19(1)</td>
<td>n/a</td>
</tr>
<tr>
<td>Telemig Cellular</td>
<td>18(1)</td>
<td>n/a</td>
</tr>
<tr>
<td>Tele Norte Celular</td>
<td>18(1)</td>
<td>n/a</td>
</tr>
<tr>
<td>Área 7 Americel</td>
<td>n/a</td>
<td>39.0</td>
</tr>
<tr>
<td>Área 6 Telet</td>
<td>n/a</td>
<td>41.0</td>
</tr>
</tbody>
</table>

Notes: (1) Figure includes portion bought by Sistel, a private pension fund
Source: BNDES

Open funds

Open funds are subject to a very similar investment regime as closed funds. Like the closed funds, they can invest up to 50 percent of their portfolio in equities, and lend up to 10 percent of their portfolio to participants. The actual portfolio, however, is highly concentrated in fixed income securities (90 percent a total). This can be explained by the real rate of return rule of 6 percent that the funds are subject to. Such rules, as it is discussed below, distort asset allocation towards conservative policies. The main problems of the investment regime are the high proportion that can be invested directly in real estate (30 percent), and the possibility to lend to affiliates up to 10 percent of the portfolio.

Benefit and Return Guarantees

Defined benefit plans

26 In Chile, pension funds hold over 10% of market capitalization.
27 It will be difficult to impose much lower limits because of the sheer size of some of the public company sponsored funds (e.g. Previ). Another rule that may be considered is limited voting rights.
In the event of bankruptcy of the sponsoring firm, a defined benefit plan may be terminated when pension assets are less than accrued pension benefits, that is, when the ABO is underfunded. If so, governments may elect to provide, either explicitly or implicitly, plan termination insurance designed to mitigate the corresponding loss in pension benefits suffered by plan members. Insurance may also be offered against fraud or theft.

Finland, Germany, Japan, Sweden, Switzerland and the United States have some form of state benefit insurance or guarantee in case of insolvency or bankruptcy. State insurance, however, can lead to moral hazard problems. Sponsors may take excessive risks, in the form of underfunding and high risk investment strategies, in the knowledge that the government will bail them out in case of insolvency. These problems are exemplified by the United States, which has a mixed system of pension insurance in which government and private guarantees compete. An employer can contract with a private insurance company to assume, through the purchase of annuities, all or part of its defined benefit pension obligations. Employers that do not insure their pension obligations privately must do so through the Pension Benefit Guarantee Corporation (PBGC). The PBGC is an agency of the federal government funded entirely through premium payments made by firms that sponsor defined benefit plans.

The long-term financial soundness of the PBGC is a major concern. Indeed, many analysts (Bodie, 1994, Smalhout, 1996) draw attention to the potential parallel with the 1980s Savings & Loans crisis. Moral hazard is reflected in the high levels of underfunding, despite the fact that there are explicit minimum funding requirements. In 1988, there were US$ 1.9 million in unfunded liabilities in plans with termination funding ratios of 10% or less, and additional unfunded liabilities of US$ 8.1 billion in plans with termination funding ratios of 50% or less. The situation improved, after 1987, when premiums were linked to funding levels, but these still do not reflect the true risk posed for the insurance fund.

There is an ongoing debate on the need for state insurance of pension benefits. Even if insurance premiums reflect funding levels and portfolio risk, it may be difficult to eliminate adverse incentives. Moreover, there are many policy initiatives – tighter funding requirements, frequent audits, improved disclosure, bankruptcy reform – that could serve as substitutes for termination insurance (Pesando, 1996). A case at hand is the Netherlands, which relies on fiduciary responsibility of the sponsoring company, full funding of the PBO, annual independent audits by certified public accountants and actuaries, strict limits on self-investment (5% of total portfolio), severe sanctions for underfunding, and the threat of public censure to ensure actuarial balance of DB pension plans. As a result of these regulations, private pensions in Holland are among the most secure in the world (Smalhout, 1996).

28 The 80s S&L crisis cost the US tax-payer 1% of GDP.
29 There is a cap on the premium surcharge, and there is no allowance for the risk of insolvency of the plan sponsor, nor for the degree of investment risk in the pension fund. As a result, firms with a low probability of bankruptcy subsidize firms that are less stable (Pesando, 1996). The premiums are set through legislation, not by the PBGC. These problems are even more marked in other countries that offer plan termination insurance.
**Defined contribution plans**

Explicit state guarantees are less common in defined contribution plans. Since in these plans the benefits are not defined, the guarantees typically affect the rate of return to assets. Relative rate of return rules and guarantees are imposed in Chile, Argentina, Peru, Uruguay, and Colombia. Pension funds are required to achieve rates of return above a prescribed minimum, which is typically set as a function of the industry average. Minimum relative profitability rules have been criticized for causing pension funds to follow uniform investment policies, as small funds cannot afford to deviate too much from the investment profiles adopted by the large companies. One way to alleviate this problem would be to apply the minimum profitability rule on a three-year or even five-year basis.

Although distortionary, relative return rules have second order effects relative to absolute return rules, which are applied to two mandatory systems, the Central Provident Fund in Singapore (2.5% nominal rate) and the decentralized "second" pillar in Switzerland (4% nominal rate). Absolute nominal return rules create distortions to asset allocation, and are not very satisfactory as a way to protect pension assets. It can be costly if inflation is low, and especially when prices are falling, and it is meaningless when inflation is out of control. There is also a risk that the minimum rate of return may become a "norm" and induce fund trustees to adopt conservative investment policies.

**Closed funds**

There is no state guarantee of pension benefits, and no guarantee of rates of return in defined contribution plans. The lack of security over workers' pensions is compounded by the restricted worker rights in the case of bankruptcy of the employer, and because there is insufficient and inadequate auditing of firms and the plan's actuarial situation. Recently, there have been calls for the creation of a solvency fund similar to the PBGC in the USA. Indeed, the new regulatory framework submitted to Congress in March 1999 contemplates the creation of a *fundo de solvência*, whose characteristics are still to be defined, but which has a general resemblance to the PBGC. Given the controversy surrounding this and other such funds, there is a need for a very careful consideration. As a minimum, the establishment of such a fund in Brazil would require:

- Tight funding rules, requiring full funding of the PBO (contemplated by regulation currently debated in Congress).
- Adequate accounting and actuarial standards, to ensure that funding levels are properly reported.
- Mechanisms to mitigate moral hazard: linkage of premiums to degree of underfunding, to aggregate portfolio risk, and to likelihood of bankruptcy of plan sponsor; premiums to be set by an independent insurance agency.

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30 The ERISA Act in the US made employers liable to the PBGC for any shortfall up to 30% of net worth.
31 Under the US accounting standard FASB 87, if pension assets fall below the ABO, the unfunded liability must be reported in the firm's balance sheet, and since they are senior debt, they act as a major problem for the firm in raising funds. However, a surplus cannot be included on the balance sheet.
Brazil: Critical Social Security Issues

- Frequent, independent audits, to ensure actuarial balance of pension plan, and compliance with minimum funding levels.

Brazil has much to learn from the experience of countries like the Netherlands, which rely on strict regulations and strong supervision to ensure the enforcement of funding rules and actuarial balances. Such a framework reduces the need for state guarantees and avoids the perverse incentives caused by them. With adequate disclosure about the plans actuarial situation, employers could make use of private sector insurance and reinsurance services to transfer away market risk.

Open funds

Like the closed plans, the open plans are not subject to a statutory benefit guarantee. There is, however, a 6% minimum real rate of return requirement on open fund portfolios, which is implicitly guaranteed by the state\(^{32}\). This return is difficult to achieve unless real rates of return on government bonds are very high and exceed this level by a significant margin. In practice, this high requirement has discouraged the development of open funds and has effectively promoted the offer of short-term guaranteed interest contracts. These usually offer the required minimum plus between 50% and 75% of any realized excess return. PGBLs are not subject to the minimum rate of return requirement and are able to invest more freely in the equity market.

While the minimum return rule provides meaningful protection to individual workers, it is not advisable as it can expose a guarantee fund to large payments in years when stock markets register negative real returns. The rule leads to distortions in asset choice, towards conservative portfolios consisting mainly of short term fixed income securities. The fiscal cost of a guaranteed real rate of return could also be prohibitive, especially since moral hazard is created (i.e. asset managers taking excessive investment risks in the knowledge that the state will make up any resulting shortfalls). To the extent that participation in the system is voluntary, as in Brazil, the fiduciary responsibility of the government should be limited to protecting plan rights and adequate supervision of pension funds.

Fiduciary Responsibility and Disclosure

Information disclosure is very important for protecting worker rights in all types of pension funds. Defined-benefit plans often have complex rules and are difficult to understand. Transparency requires the publication of a clear booklet (equivalent to a prospectus) detailing the different plan rules. It also requires issue of an annual statement to each worker showing his or her accumulated rights and projected pension.

\(^{32}\) In the situation that an open fund administrator is unable to guarantee a return it would have to declare itself insolvent.
Defined-contribution plans are simpler in structure, but they also require frequent individual statements to achieve a satisfactory level of transparency. Sending out statements three or four times a year may increase operating costs, but it provides a very effective means of disseminating data on the receipt of contributions, the performance of funds, and the adequacy of accumulated balances.

Transparency and information disclosure are of paramount importance for mandatory pension funds. Latin American countries, following the precedent set by Chile, have adopted very extensive and strict rules on information disclosure. Regulations require that the funds send each member a periodical report of the evolution of the individual account. In Argentina, the frequency is no less than one year. This report provides the affiliate with precise information on the amount of contributions paid into the pension account, the commission deducted and the pension funds' return. In contrast, in most OECD countries information disclosure and transparency leave much to be desired.

Annuity providers need to provide adequate information at the time of annuity purchase. Only in the case of variable annuities do they need to provide regular reports on investment performance and the value of annuity units. However, as contracts are irrevocable and long-term, annuity companies should provide regular reports on their financial standing to both their customers and their regulators.

Closed funds

Transparency and information disclosure is as underdeveloped as in most OECD countries. Regulations need to be strengthened. Pension funds provide extensive data on their operations and investment to their supervisory agencies, but no information is provided on investment returns or administrative costs. Equally, workers receive very little information about the pension plan they are affiliated to.

This situation is expected to change, since the Constitutional Amendment of November 1998 requires full disclosure of information about closed pension funds to their affiliates. On the other hand, reporting requirements to the regulator are likely to be hindered by the underdevelopment of the regulatory framework, which does not specify adequate funding and investment standards, and by the regulatory agency's lack of competence to supervise investment returns or administrative costs.
Open funds

Information disclosure toward individual participants is less advanced than in Latin or Anglo-American countries. Open funds have only been required to send information to affiliates on the value of their benefit and the value of accumulated reserves with a maximum periodicity of six months. When requested by the affiliate, the fund also has to provide information on her contribution record. Little information is provided on investment returns or administrative costs. Hence, the regulator cannot evaluate the efficiency of the industry. Regulations on transparency and information disclosure of open pension funds need to be strengthened.

The information on contributions and benefits is necessary but not sufficient to ensure the comparability of plans. The complexity and variety of traditional plans creates confusion about the costs and benefits of the different instruments and dents investors' confidence in the open fund industry. In order to ensure comparability, the regulator should require a standard methodology for calculating net benefits, after taking into account administrative costs and the different portions of the excess return above the minimum 6% that the funds return to the investor. A simpler solution would be to restrict the level of the excess return to say 50 percent.

The open fund administrators have themselves done little to improve the transparency of their products. Marketing of open pension plans is very limited, and even relevant personnel are often ignorant about the details of the plan that they offered, and offer little guidance as to what the advantages of their specific plan are.

Informational requirements in the new PGBL plans are much more demanding. During the contribution period, open funds are required to inform the affiliates daily on the value of reserves and the monthly and annual return of the fund. On an annual basis, they will provide them with all the relevant information regarding the plan. Affiliates are also entitled to demand at any time any information regarding their plan and the fund. The informational requirements of PGBL plans, their defined contribution nature, the lack of minimum return guarantees, and the fact that assets will be invested exclusively in mutual funds should turn them into the most transparent instrument available in the complementary pension system.

Inadequate Supervisory Structure

Decentralized supervision

In most OECD countries with employer-provided pension plans, the supervision of closed pension plans is combined with that of the insurance industry. The rationale for this structure is that closed funds have traditionally been of the DB type, which are a form of deferred annuities. A centralized

33 These impressions were obtained after World Bank staff visited the Brasilia branches of the five largest providers of open pension funds to obtain data on administrative costs.
supervisory structure exists in countries where closed pension plans are predominantly DB, like Germany, the Netherlands, Japan, Canada and the UK, and even in some countries like Australia that have only DC schemes.

The Netherlands has one of the most widely praised regulatory and supervisory frameworks. Occupational plans have been under the supervision of the Insurance Supervisory Board (Verzekeringskamer) since 1952. The credit quality of the pension promise is therefore treated and supervised like any other insurance product. The centralization of functions in the Verzekeringskamer has ensured a high level of efficiency in the supervision of occupational pension plans (Smalhout, 1996).

One of the few OECD countries where pensions and insurance supervision are carried out by different agencies is the US. Annuities and insurance products are supervised by the Department of Commerce and the National Association of Insurance Commissioners, while occupational pension plans are regulated by the Department of Labor.

In Brazil, the closed and open pension funds are regulated and supervised by different institutions. The Department of Complementary Pension Funds (Secretaria de Previdência Complementar, SPC), a unit of the Ministry of Social Affairs (MPAS) is responsible for closed funds, while the Insurance Supervision Agency (SUSEP), a unit of the Ministry of Finance, is responsible for open funds. This structure creates a duplication of specialized functions, like auditing, actuarial analysis, credit rating and insurance supervision.

While the amalgamation of the two supervisory agencies is a necessary step, a more difficult issue is whether to do so in a new independent entity or use an existing institution such as the banking, insurance or securities markets agencies. These features are present in the proposal submitted by the Ministry of Social Security to the Presidency in March 1999, which involve the transformation of the SPC into the new regulatory agency (Agencia Nacional de Previdência Complementar). The new agency would be in charge of the supervision of both closed and open funds, but it has not yet been determined how the integration with SUSEP would be achieved, nor indeed the type of relationship the agency would have with other regulators.

Creating an entirely new agency, in charge of supervising both closed and open funds, is advisable because it will ensure that the operations of newly created pension funds receive the full attention they deserve. However, there are many aspects of the operation of pension funds that require close cooperation with other agencies. For instance, depositary banks that act as custodians for pension fund assets are normally authorized by the national central bank. Insurance companies and regulations applicable to term life and disability insurance as well as annuity

34 The technical monitoring of the two types of institutions, however, needs to be separated, to account for the different maturity, liquidity, and portability of their respective products.
contracts are the responsibility of the insurance agency. Finally, the securities agency will be responsible for drafting and implementing investment rules as well as regulations concerned with fiduciary duty and corporate governance.

An alternative approach is to create a conglomerate agency covering all types of financial institutions and comprising specialized departments dealing with each different type. This approach would ensure that no segment of the financial system is left unsupervised, including the holding companies that manage financial conglomerates at group level. Australia has recently revamped its regulatory structure for financial institutions and has created two agencies. The first, known as the Australian Prudential Regulation Authority (APRA) is responsible for supervising banks, insurance companies, and pension funds and ensuring their safety. The second, known as the Australian Securities and Investments Commission (ASIC) is responsible for supervising securities markets, investment managers, and mutual funds and ensuring best execution and acceptable market conduct. The two agencies cooperate closely and their respective chairmen sit on each other's board. A bilateral coordinating committee has been established and a memorandum of understanding has been signed to cover matters such as information sharing and cooperation in policy making and problem solving. In the United Kingdom, the new Financial Services Authority has supervisory responsibility for all types of financial institutions.

**Ineffective supervision**

A strong and effective supervision agency is required to ensure compliance with regulations and to protect taxpayers from large fiscal costs when pension funds fail. The supervision agency should be pro-active rather than reactive and should take the lead in promoting best practice among pension funds. It also needs to be well financed and to be able to recruit, train and retain high caliber staff. Ideally, it should therefore operate outside the salary scale for traditional civil servants in order to be able to hire and retain specialized staff.

The agency should engage in both off-site surveillance and frequent on-site inspections. The former should involve analysis of data contained in regular reports submitted by pension funds, while the latter should aim to verify the accuracy of the submitted data. The supervision agency should cooperate with actuaries and auditors, who should be required to report to it (as well as the board of directors or trustees of the pension funds) any violations of existing regulations. Its budget could be met by assessments on the regulated institutions, although to prevent abuse of its position, its budget should be subject to ministerial approval, after consultation with the association(s) of pension funds.

In some of the Latin American countries that have set-up private pension industries, the supervisory agency is autonomous and is financed mainly from a supervision fee levied on the pension funds. Supervision fees are used in Bolivia, Colombia, Argentina, Mexico and Peru. Autonomous agencies exist in Argentina, Mexico, and Peru.
To be able to discharge its duties, a supervision agency needs to have clearly stipulated intervention powers. The supervision agency should be responsible for:

- **Licensing and authorization:** authorizing new pension funds, after verifying their satisfaction of authorization criteria. Licensing should not be to a mere rubber stamping process but should involve a substantive vetting of all applications. The supervision agency should be empowered to review the business plans of new pension funds and to ensure that their managers and major shareholders meet the "fit and proper" test.

- **Reporting requirements:** regular reports must be received by the supervisor to verify the continuing compliance of pension funds with all existing regulations. The agency should develop valuation models and establish financial standards for the determination and reporting of financial results by pension funds. It should be empowered to liquidate pension funds that are unable to comply with the regulations. The supervision agency should be notified of any important changes in senior management as well as in the identity of custodians, asset managers, actuaries, and auditors.

- **Adherence to plan rules:** The agency should also oversee the range and quality of services offered to affiliates, in particular the maintenance of individual accounts, the crediting of contributions and investment income, and the regular dispatch of individual statements. It would also play an important part in monitoring the provision of benefits. This overall function could be assumed by an "ombudsman" office to which workers and pensioners could turn when they have problems with their treatment by a pension fund.

- **Information dissemination:** An important function of the supervision agency is to publish regular reports and disseminate information on all pension funds (on at least a quarterly basis). These should include data on the performance of individual pension funds and should highlight the protections and safeguards offered to workers and the results of inspections (especially any sanctions imposed for violations of rules).

The supervisory agency of Brazilian closed funds, SPC, is administratively and financially dependent on the Ministry of Social Affairs (MPAS). Its budget consists entirely of transfers from the Ministry, and it depends heavily on secondments of personnel from the Ministry for most specialized functions like auditing and investment control. While there have been significant improvements in the regulatory framework, the supervisory effort has not kept pace. The agency is seriously understaffed, which explains the infrequency of audits and actuarial reviews, and the lack of off-site surveillance, such as risk control tools. Other areas of weakness are the low level and ineffectiveness of sanctions (they range from R$2,000 to R$6,000). In order to ensure that regulations are enforced, the SPC needs to be pro-active, well-staffed, functionally autonomous, and largely self-financed. Indeed, the proposal by the Ministry of Social Security for transforming the SPC into a new **Agencia Nacional de Previdência Complementar** largely conforms with these principles. This new agency, while still linked nominally to the Ministry, would be functionally independent and would be largely self-financed, via a special tax charged on pension fund assets (the **Tarifa de Fiscalização da Previdência Complementar**, worth up to a maximum of 0.07 percent of total assets). The institutional structure of the new agency, therefore, would be similar to that of recently privatized industries like telecommunications, electricity, and oil.
The open funds are supervised by the insurance regulator, the Superintendencia de Seguros Privados (SUSEP), an agency linked to the Ministry of Finance. There is a general perception that supervision is adequate, but this only applies to the overseeing of the solvency of the funds. SUSEP has no access to information on affiliation, pension fund returns, administrative fees and portfolio allocation. Hence, it is practically impossible to determine the efficiency and robustness of the open fund sector. SUSEP is not involved either in ensuring adequate disclosure and reporting to affiliates in traditional open pension plans. Furthermore, pension activities is only one of the many activities in which SUSEP is active. An independent agency, exclusively dedicated to the pensions industry, may be necessary to ensure more effective monitoring and protection of investor rights.

In the new PGBL plans, supervisory activities will be divided between SUSEP and the Central Bank. While the PGBL administrator will be supervised by SUSEP, the mutual funds managing the assets will be supervised by the Central Bank. This dual supervisory structure is unusual in retirement plans in Latin American countries, but has been used elsewhere in developing countries as a way to limit regulatory capture (e.g., in recent reforms in Kazakhstan).

LONG TERM SAVINGS INSTRUMENTS

Apart from the Complementary Pension System, Brazil has at least two instruments that can be used for investing for retirement. One is the recently created FAPIs. The other are the mutual funds, which have been long used by the more sophisticated investors in their individual portfolios. Both of these are DC products, and are therefore free from many of the regulatory failings that affect DB schemes in Brazil. Moreover, unlike the CPS, investment in these instruments is not subject to any restrictions, like the minimum salary of R$ 1,200 required to participate in many closed funds.

FAPIs

The Fundos de Aposentadoria Programada Individual (FAPI) are fully-funded, DC retirement plans with individual accounts, similar to the I.R.A. accounts in the US. These plans were created at the end of 1997 by Law 9,477. By December 1998 there were 28 plans, with over 260,000 FAPI accounts, which had accumulated a total of R$120 million in assets.

While the FAPIs cater mainly to individual investors, group plans can be organized with companies. FAPIs are in fact an attractive investment option for small companies, because they have lower administrative costs than closed or traditional open funds, and because contributions are tax-deductible if more than 50% of the company's employees are affiliated.
Investment in FAPs is tax-deductible only for those individuals who are not affiliated to a pension plan, and only up to the first R$2,400 invested per year, and up to 12% of salary. Employer contributions are also tax-deductible as long as over half the company’s workforce is affiliated. The minimum investment is about R$30 per month. The minimum investment period is ten years, which qualifies for exemption from capital gains tax. Funds may be retired before the scheduled time at a penalty (calculated as a percentage of the total tax deducted, decreases with the date of liquidation).

Like mutual funds, FAPs are supervised by the Central Bank. Regulation follows practically identical guidelines to that of mutual funds. Any financial institution and insurance company can set up FAPs. Approval for insurance companies must be obtained from SUSEP, the insurance regulator. Like PGBLs, foreign companies can set-up FAPs. Investment limits are similar to those of the open funds; see Table IV.9. The main difference being the obligation to invest in securities (lending operations and investment in real estate is not permitted).

The industry is highly concentrated, with two funds, Bradesco e Itau, accounting for 80% of all assets in October 1998. FAPI portfolios are conservative, with over 99% of assets being currently invested in government securities. Less than 0.3% of assets were invested in stocks during 1998.

Table IV.9: FAPI Portfolio Limits, 1998

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Limit (% assets)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government securities</td>
<td>100</td>
</tr>
<tr>
<td>Fixed income securities</td>
<td>80</td>
</tr>
<tr>
<td>Sub-national debt</td>
<td>50</td>
</tr>
<tr>
<td>Fixed income funds</td>
<td>5</td>
</tr>
<tr>
<td>Equity</td>
<td>49</td>
</tr>
<tr>
<td>Equity funds</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: Central Bank

Unlike the PGBLs, the fees charged by FAPs are not subject to any limit. In October 1998, administrative costs were about on average 4.5% of assets, which compares unfavorably with the average 2.7% charged by fixed income mutual funds. The higher fees may be explained by the marketing and set-up costs of the new product.

With the establishment of the PGBL in 1998, individual investors are now facing a multiplicity of options in investing for retirement. The FAPI and the PGBL are in fact very similar products, the main difference being the fact that PGBL administrators actually transform the accumulated assets into annuities, while the FAPs only serve the purpose of asset accumulation.

35 The Central Bank does not yet provide evidence on the portfolio of FAPs, but it was reported that practically the whole portfolio consists of fixed income assets. Until a portfolio analysis is carried out, however, it will not be possible to determine whether the costs of FAPs are higher than those of mutual funds.

155
Mutual Funds

Brazil probably has the largest mutual fund sector in developing countries. There were nearly 2,500 funds with over R$160 billion in total assets at the end of 1998 (20% of GDP). 90% of assets were invested in debt instruments, with only 10% in equities. The sector is dominated by bank-managed funds and all the leading Brazilian banks—Banco do Brazil, Bradesco, Itau and Unibanco—are heavily involved. The top five fund managers control nearly 50% of assets under management. The mutual funds are currently bigger than the pension funds, but the latter are expected to overtake them in the years to come.

As well as being savings instrument in their own right, mutual funds play an important role as intermediaries for the investors of the complementary pension system. In October 1998, about 20% of all fixed income mutual fund quotas and 60% of all equity funds quotas were held by closed pension funds. Moreover, since about one third of the closed funds’ assets and one half of the open fund assets are invested in mutual funds, their performance are closely linked. For the new PGBL plans the linkage will be even stronger because all of their assets will have to be invested via mutual funds.

The administrative costs of mutual funds are relatively high by international standards. The average for fixed income funds in the past three years has been 2.7%; see Table IV.10. This is slightly higher than the fees charged by fixed income funds in Chile in 1997, 2.34% (Valdés-Prieto, 1998), but much higher than the fees of equivalent funds in the US. US money market mutual funds charged an average of 0.6%, while fixed income funds charged an average of 0.9% in 1992 (Mitchell, 1999).

<table>
<thead>
<tr>
<th>Term</th>
<th>1996</th>
<th>1997</th>
<th>1998</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short-term</td>
<td>4.25</td>
<td>4.53</td>
<td>4.15</td>
</tr>
<tr>
<td>30 days</td>
<td>1.71</td>
<td>2.76</td>
<td>2.20</td>
</tr>
<tr>
<td>60 days</td>
<td>2.33</td>
<td>1.79</td>
<td>1.57</td>
</tr>
<tr>
<td>90 days</td>
<td>2.14</td>
<td>2.05</td>
<td>2.63</td>
</tr>
<tr>
<td>Average</td>
<td>2.61</td>
<td>2.78</td>
<td>2.64</td>
</tr>
</tbody>
</table>

Source: Central Bank

SUMMARY OF FINDINGS

The creation of PGBLs and FAPIs are two important steps in the move towards a more diversified third pillar retirement system. Table IV.11 below contains a summary of the four main retirement
The Complementary Pension System

instruments available and their different characteristics. The new instruments present a more attractive picture than the traditional complementary pension system in terms of their transparency, portability, adequate regulatory and supervisory structure, and reporting requirements.

Whether the new retirement products in Brazil's third pillar prove to be popular remains to be seen. It is important, however, to note that these new DC products are themselves complements to the existing complementary pension system. Brazil has a well established employer-based pension system that would have significant advantages over the individual DC plans in terms of administrative costs and risk bearing structures if it was adequately regulated and supervised.

An employer-based system avoids the two problems that plague the pension systems of many Latin American countries which are based on individual, DC accounts managed by financial institutions: high marketing and advertising costs and concentration of market risk in the individual. It is difficult to establish whether the new plans are more cost-effective, because they have only recently been set up and there is insufficient data on investment returns and administrative costs. Nevertheless, the high administrative costs of FAPIs seem to portend the emergence of the same problem of high administrative costs that has been observed in other Latin American countries.

Table IV.11: Main Characteristics of Retirement Instruments

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Closed funds</th>
<th>Open funds</th>
<th>PGBL</th>
<th>FAPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC/DB</td>
<td>Either</td>
<td>DB (mainly)</td>
<td>DC</td>
<td>DC</td>
</tr>
<tr>
<td>Affiliation to RGPS</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Funding requirements</td>
<td>Partly funded</td>
<td>Fully-funded</td>
<td>Fully-funded</td>
<td>Fully-funded</td>
</tr>
<tr>
<td>Enforcement funding rules</td>
<td>Inadequate</td>
<td>Adequate</td>
<td>Not required</td>
<td>Not required</td>
</tr>
<tr>
<td>Portability</td>
<td>None</td>
<td>Full</td>
<td>Full</td>
<td>Full</td>
</tr>
<tr>
<td>Transparency</td>
<td>Low</td>
<td>Very low</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Tax treatment</td>
<td>Eet</td>
<td>Eet</td>
<td>eet</td>
<td>eet</td>
</tr>
<tr>
<td>Administrative costs (% assets)</td>
<td>n/a</td>
<td>8% (average)</td>
<td>n/a</td>
<td>4.5%</td>
</tr>
<tr>
<td>Supervision</td>
<td>Weak</td>
<td>Strong</td>
<td>Strong</td>
<td>Strong</td>
</tr>
<tr>
<td>Reporting requirements</td>
<td>Few</td>
<td>Few</td>
<td>High</td>
<td>high</td>
</tr>
</tbody>
</table>


Brazil should ensure that both the employer-based system and the traditional open plans are put on a sound footing by applying to them the same regulatory and supervisory requirements that have been applied to the new products, and by applying and vesting, portability, funding, investment, and disclosure rules according to international best practice, which is usually identified with the Dutch system. The following points summarize the main weaknesses of the complementary pension system and lists the main reforms required to consolidate the system and ensure its success. References are also made to the reforms currently under way.

Restricted coverage

Since the complementary pension system was designed mainly for workers earning above a specified limit (currently R$ 1,255 per month), smaller and medium sized companies with a
majority of workers earning salaries below this level have had little incentive to set up closed funds. The size of the general social security system and the high number of low income workers thus act as two powerful breaks on the expansion of coverage and the increase in assets of the complementary system. When the complementary system consolidates, it may be asked whether it can play a more important role in the provision of retirement benefits. This may be of benefit not only to retirees, given the current state of the social security system, but it may provide the engine for growth, the pool of long term savings that Brazil so clearly needs. Coverage will be increased with the opening up of the system to civil servants at the federal, state, and municipal level and to members of trade and industry associations, as established by the Constitutional Amendment of December 1998, and contemplated in the new complementary laws. Civil servants closed funds can play a particularly important role in raising savings in Brazil.

**Uncertain tax treatment**

There has been a long dispute over the tax treatment of complementary pension contributions and assets, which is still to be settled by the Supreme Federal Court. A stable, predictable and fair tax regime for private pension funds is essential to ensure their expansion. Resolving the long-standing dispute regarding the tax treatment of pension funds is of paramount importance. To encourage participation by both low- and high-income workers, a government co-contribution could be combined with an EET regime for tax-paying workers. But the use of tax incentives needs to be addressed in the context of the overall fiscal policy. The fiscal costs of any subsidies and incentives must be carefully calculated and compared to potential benefits.

**High administrative costs**

There are signs of inefficiency in the closed fund industry, particularly among public company plans. Open funds also charge high fees by international standards. This may be due to the lack of competition, which is itself partly a result of the lack of transparency of the products offered, and the return requirement of 6% real. Open pension plans should be standardized, either by limiting differences in the excess return that plans can offer or by requiring that all companies report plan costs and benefits in a uniform manner. Stricter regulations over transfers may also be needed for new PGBLs since, ironically, the high level of portability and transparency of these products can be a source of high administrative costs. Insurance companies and open fund administrators may take advantage of the power of advertising and marketing to steal participants from competitors.

**Inadequate regulatory system**

The consolidation of the complementary pension system will require significant improvements in the regulation and supervision of employer pension plans. In particular, it is necessary to:

- Establish *vesting and portability rules*. This proposal is part of the new complementary laws being discussed in Congress, but related regulations are still to be defined.
- Raise *funding requirements* (full funding of PBO). This proposal is also contemplated in the new complementary laws.
• Introduce *independent annual audits* by certified public accounts and actuaries.

• **Increase sanctions for under-funding significantly.** This proposal is contemplated in the new complementary laws.

• Require use of *professional asset managers*, whether internal or external.

• Require *market valuation* on (at least) a monthly basis. A standard valuation method is currently being developed by the regulator of closed funds.

• Further **reduce investment limits in loans and real state.**

• Introduce *limits by asset risk and liquidity.*

• **Reduce the limit on the portion of a company's equity that a given fund can hold** from the current level of 20%.

• **Eliminate the 6% minimum return rule** on open funds.

• **Promote disclosure** to plan participants and regulatory authorities, requiring pension funds to report the distribution and the value of their asset portfolio daily to the regulatory agency, and at least every month to the regulator and affiliates on contributions by employer and employee, the return to the portfolio, and the administrative costs of the plan.

**Ineffective supervisory structure**

The increased diversity of retirement instruments in Brazil has been accompanied by a multiplicity of supervisory functions. In some cases, there is a duplication of those functions. For example, the supervision of funding levels and actuarial balances is carried out by both the closed fund and open fund regulator. Once standard actuarial rules are introduced in Brazil the inefficiency created by the existence of two institutions carrying out the same function will become obvious. The amalgamation of the supervision of closed and open pension funds either in a new or an existing autonomous agency is of paramount importance. The centralized agency to be established should have the following characteristics:

• **Pro-active**, that is, it would act to prevent possible wrong-doing by enforcing a detailed set of prudential and protective regulations.

• **Financed mainly by levies on pension funds**, to restrict political pressure. Moreover, transfers from the government budget create a subsidy from the general population to a rich minority that is affiliated to the complementary pension system.

• **Functional autonomy.** While it is important that the agency is politically accountable, its regulatory and supervisory functions and internal administrative work should be isolated from external interference, whether from government or the private sector.

• **Independent human resources policy.** The regulatory agency should not have to rely on government ministries to recruit specialists, as is currently the case in the SPC. Professional staff should be expanded to allow it to effectively regulate and supervise. There may even be a need to create a special qualification in pension management, and an institute for pension research and training.
**Brazil: Critical Social Security Issues**

- *Authorized to conduct both off-site surveillance and on-site inspection,* with clear powers and duties of intervention in cases of noncompliance with basic prudential and protective rules. It should also be authorized to impose sanctions and order the liquidation of insolvent funds.

- *Well-defined responsibilities:* the supervisory agencies require well defined responsibilities. This problem affects especially the closed fund regulator. The SPC lacks adequate incentive mechanisms to ensure that the funds comply with the regulation. Sanctions in the closed fund system are too low. The only real tool in the hands of the supervisor is the threat of intervention, which comes too late to prevent problems.

In March 1999, the Ministry of Social Security submitted a proposal to the Presidency for transforming the existing closed fund regulator into a new independent agency (*Agencia Nacional de Previdência Complementar*), with very similar following characteristics to those above. The proposal would also be consistent with the tendency in recently privatized industries in Brazil, but still leaves some issues unanswered, such as how the amalgamation of the SPC and SUSEP would be achieved. The main characteristics of the new agency would be:

- Nominally linked to the Ministry of Social Security, but functionally independent.
- Dedicated exclusively to pension activities, in both open and closed fund sector.
- Staffed with industry professionals.
- Financed mainly via a special levy on pension funds assets.

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V. PENSION FUNDS FOR GOVERNMENT WORKERS:
FISCAL IMPLICATIONS AND DESIGN CHOICES

INTRODUCTION

All countries in Latin America that have reformed their pension systems have included some form of pre-funding at the core of the reform program. Contributions have generally been invested in individual accounts managed by the private sector. In Brazil, there is an agreement on the need to pre-fund pension liabilities for government employees, but not as yet on the virtues of individually capitalized accounts. Funding will take the form of reserve funds, or/and closed pension funds. The reserve funds would be used to finance defined benefit (DB) schemes under the Regime Juridico Unico, which would be administered and regulated by the sponsoring government. The closed funds, on the other hand, would be part of a system set up in 1977, the Complementary Pension System (Sistema de Previdência Complementar), which includes employer sponsored pension plans of both private and public firms (Entidades Fechadas de Previdência Privada) for workers earning more than a fixed amount, currently R$ 1,200 per month. This system is regulated and supervised at the national level by an agency linked to the Ministry of Social Security (Secretaria da Previdência Complementar). Individual capitalization accounts may be created only in closed funds, if they are organized as defined contribution (DC) schemes.

The creation of reserve funds will raise eyebrows given the poor experience of the region with public management of social security reserves (Mesa-Lago, 1989). In the past, reserve funds have been subject to political manipulation, with investment directed into government projects at below market rates, often resulting in negative real rates of return. The Brazilian funds would try to break from this history and from their own experience in managing state banks by instituting a regulatory regime that bans lending to employees or the plan sponsor and investment in sub-national debt. Unlike the closed funds, however, the reserve funds will not be overseen by an external regulatory agency to ensure adherence to these rules. Also, employees will have no property rights over the fund. Governments will retain the power to decide how much to contribute (subject to a maximum ratio of 2:1 of sponsor to employee contribution) and retrieve from funds.

This chapter recommends, therefore, that not only the complementary component, but also the basic component of the RJU plans are set up following the same principles and rules as those embodied in the recently designed complementary law for closed pension plans of civil servants and which is currently being debated in Congress. For states that plan to create funds before the passing of this draft complementary law, it is vital that they establish rules that replicate those in the law and include some additional requirements (specified in this chapter) not covered by it. Given remaining weaknesses in the regulation and supervision of funding standards of defined benefit plans, and the virtues of individual capitalization accounts, it is also recommended that the closed plans for civil servants have a large DC component.
This chapter is structured as follows. Section V.2 provides some background on the 1998 Constitutional Amendment and the Regime Juridico Unico (RJU). Section V.3 describes the main options for pre-funding and discusses its financial viability amidst growing financing gaps. Section V.4 analyzes one form of pre-funding, the establishment of reserve funds. Section V.5 discusses an alternative route for pension reform opened up by the Constitutional Amendment, the establishment of closed funds. The report finds that this avenue is the most likely to free the funds from political risk, but that significant weaknesses in the current regulatory and supervisory system should be fixed before the new complementary plans are created. Section V.6 evaluates the likely impact of different RJU structures on risk, administrative costs, and Section V.7 concludes.

GOVERNMENT PENSIONS & THE 1998 CONSTITUTIONAL AMENDMENT

As discussed in Chapter III, civil servants in Brazil have separate pension systems from that of private sector workers. States and municipalities were first allowed to create their own pension plans, under the RJU in 1988. Currently, all states and about 1,400 municipalities (of a total of 7,000) have their own RJU plans. Various important steps were taken with the passage of the Constitutional Amendment of November 1998 which affect the structure of RJUs:

- Sub-national governments can set up social security reserve funds, which must follow the rules established in law 9717.
- The total pension deficit (benefits minus contributions) is limited to 12% of the states’ current income.
- The employer-to-employee contribution ratio is limited to 2:1.
- Sub-national governments can organize closed pension plans for their workers which would be regulated and supervised under the current complementary pension system.
- Governments that set up complementary pension plans will be able to limit benefits in the basic plan to the same level established in the RGPS (currently R$ 1,200 per month). Contributions to the complementary system would therefore be based on the portion of the salary above this level.

The immediate implication of these reforms is that for the first time governments will have a mechanism for managing social security contributions and for pre-funding pension liabilities. Together with the necessary parametric reforms needed to ensure long-term actuarial balance, the new system could gradually resemble the two-component structure currently in place for private sector workers, with a partially funded, publicly managed, defined benefit, pension system as the...
first component system and a second component that would be integrated within the complementary pension system.\(^2\)

Whether the final model is in fact this two-component structure as currently in place for private sector workers (Regime Geral de Previdencia Social - RGPS) is an open question. Indeed, there is a heated debate in Brazil as to what is the optimal structure of the RGPS.\(^3\) There is a consensus, however, that all viable structures will have to have two basic characteristics: actuarial viability and pre-funding of pension liabilities.

The second of these conditions is analyzed in this chapter. With the Constitutional changes of November 1998, states have been offered different pre-funding options. They may create a reserve fund, a closed pension fund, or both. So far, the tendency has been for states to create reserve funds, like the one established in Bahia in 1997, before the Constitutional Amendment was approved. Sergipe passed legislation in 1998 that will lead to the establishment of a reserve fund. Paraná, on the other hand, approved a law in December 1998 that will lead to the establishment of a fund with a governance and regulatory structure very similar to that proposed for closed funds of civil servants. Various other states, like Rio de Janeiro and Sao Paulo, are in the process of designing legislation that will establish pension funds.\(^4\)

**PRE-FUNDING RJU PENSION LIABILITIES**

The RJUs have been run on a PAYG basis, without any form of pre-funding of pension liabilities. In fact, until recently the state and municipal RJUs were financed exclusively from budgetary transfers, without any employee contributions. This complete absence of funding is rare by international standards. Even countries that have pension systems run on PAYG principles had reserve funds early in their histories. The objective of such funds has been to help in actuarially balancing the pension plans, even if sometimes the reserves have also been a source of relatively cheap finance for the government. In Brazil, the inflation tax of the late 1980s and early 1990s was a powerful tool for balancing these pension plans, while state banks satisfied most of the financing needs of state governments.

In an scenario of low inflation and the process of privatization of state banks, the financing of sub-national government expenditure has once again become a relevant issue. Pre-funding pension liabilities has become a necessity, since the government at both the federal and state level can no longer rely on cheap sources of finance. Funding is also worthwhile in its own right, since it can make an important contribution to raising national savings and can be a catalyst for financial sector deepening and institutional development.

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\(^2\) The decision to reform the pension plans for civil servants mirrors the experience of other Latin American countries, like Argentina and Panama. Argentina is gradually integrating the pension systems of provincial civil servants' into the national system based on private management of individual pension fund accounts.

\(^3\) See Section 6 of this report for some options of reform.

\(^4\) The states of Rio de Janeiro, Sao Paulo and Paraná are currently preparing legislation which will involve the creation of reserve funds.
Feasibility of Pre-funding

Both existing and future pension liabilities can be pre-funded. While pre-funding future liabilities involves only the capitalization of a worker’s contributions into a fund, funding existing liabilities involves the raising of additional revenue, hence requiring some degree of intergenerational income redistribution. This additional revenue is what is known as the transition cost in the typical Latin American pension reform, and can be the source of bitter political disputes. For pre-funding of existing pension liabilities to be viable two conditions need to be satisfied: the pension plan system has to be in operational balance, and new revenue can be raised.

If the system is not in operational balance, creating a reserve fund for existing liabilities is an obsolete option. It amounts to putting money in an account (viz., the pension reserve), only to transfer it to another (viz., current pension expenses) and take it out from there. The state RJUs are in fact already in operational deficit (see Chapter III). Hence, pre-funding is only a viable option if the systems are reformed parametrically. In the case of the state RJUs, the most viable option would be to reduce the benefit entitlements.

The second condition for pre-funding is that additional sources of revenue can be found. There are two basic options: raising taxes or contributions, or privatizing state assets. With contribution rates by employees ranging between 8% and 12% in most states (see Table III), there is little room for further rises. Employer contributions, on the other hand, are not very high in the larger states (6% in Sao Paulo, 2% in Rio, 4% in Minas Gerais, 4% in Rio Grande do Sul, 10% in Parana, 10-17% in Bahia). Still, as shown in Chapter III for Parana, for pre-funding via higher contributions to balance the system, total contribution rates of over 75% would be required. In the case of Bahia, the state’s contribution rates is set to increase rapidly from 5% in 1998 to 21% after 2011. Workers' contribution rates will also increase, from 5% in 1998 to 12% after 2004. While these measures will certainly lengthen the life of the fund, it remains to be evaluated whether they will be sufficient to ensure the actuarial balance of the plan.

A second option to pre-fund benefits is to privatize state assets. This was also the route followed by Bahia. The reserve fund was created with the privatization proceeds of the regional electricity company Coelba. The law introduced in Sergipe in January 1999 which constituted the reserve fund requires the government to pay the proceeds from the privatization of the telecommunications company, Telegerp, into the fund and obliges it to pay at least 10% of every privatization into the fund. Parana too is expected to use the proceeds from the privatization of several state enterprises including Copel, the electricity company and the hydroelectric system, Itaiupu.

See Chapter III and Gill and Packard (1999) for a discussion of the viability of different reform options. The lack of purpose of reserve funds when the pension plan is in operational deficit is illustrated by the case of Bahia, the only state that has so far established such a fund. The fund originally (in January 1988) had over R$ 400 million in assets; it was believed to be less than R$350 million in June 1999. It is difficult to imagine substantial growth when transfers are required to cover the operational deficit of the state's pension plan.
In general, however, the scenario is not very optimistic. No state has large enough assets to allow it to actuarially balance its pension system without carrying out drastic parametric reforms. Using PROST, we conducted a simulation for the state of Parana before the 1998 reform, based on data used in Gill and Packard (1999). A budgetary transfer was assumed in the year 2000, and the effect on the financing gap was measured.

The results from the simulation are shown in Figures V.1 and V.2. Figure V.1 shows the time it takes for the reserve fund to be depleted if different budgetary transfers to the reserve fund are made starting in year 2000. The transfers from privatization proceeds are assumed to be R$ 2.1 billion, R$ 4.2 billion, R$ 8.4 billion, and R$ 12.6 billion, representing 50 percent, 100 percent, 200 percent, and 300 percent of the state government’s revenue in the year 2000 respectively. All the simulations assume a real rate of return of 6% per year and a constant rate of privatization (half of the privatization proceeds are transferred to the fund in the year 2000, and the other half in 2001). These figures are consistent with the Parana government’s expected proceeds from privatizing the electricity company Copel and pledging payments from the sale of the hydroelectric system Itaipu (approximately R$ 4.5 billion). They are also consistent with the experience of Bahia, where the value of the transfer was approximately 10% of the state’s annual revenue.

Figure V.1: Parana - Years in Which Reserve Fund is Depleted, Under Different Transfer Size Scenarios


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6 The results are based on the following assumptions: -1% real GDP growth and 0% real wage growth in 1999. 3.5% real GDP growth and 1.5% real wage growth in 2000. Thereafter, GDP is assumed to grow at 5% per year, while wage growth is assumed at 1.5%.

7 All the simulations were carried out under a no-reform scenario (total contribution rates of 9.3% of salaries). Parana passed a law in 1998 that will lead to higher contribution rates and retirement ages (see Box 2). The fiscal effect of these reforms is discussed in Chapter III and Gill and Packard (1999).

8 The order of magnitude of the results is not affected by this assumption.
Figure V.1 shows that, even if the whole of the expected privatization proceeds were transferred to the reserve fund, the operational pension deficit in the state of Parana would only be covered for not much more than five years. Even a relatively large transfer worth 200% of the state’s revenues would only be a stop-gap measure. The reserve would be depleted within 11 years, leading to the reappearance of operational deficits. A transfer of 300 percent of state revenue would cover the deficit for 18 years, but would require privatization proceeds worth about 3.5 times their estimated value.

Figure V.2 shows the sensitivity of these results to the rate of return on the fund. Reducing the rate of return to 3 percent per year has the effect of shortening the time it takes for the deficit to reappear by one year. Increasing the rate of return to 10 percent, on the other hand, has the effect of lengthening the period of operational balance by three years. Hence, regardless of the efficiency in asset management, or the degree of insulation from political capture of the funds, the depletion of the reserves within a short time period is inevitable.

The experience at other states may differ significantly from that of Parana. Some states may expect higher privatization proceeds and may therefore be able to balance the pension plan for a longer period. In aggregate, however, the total value of public companies that could be privatized is not very large. As Table V.1 shows, total revenue from privatized assets amounted to R$ 31 billion between 1996 and 1998. Assuming that the states were able to raise the same amount of
money after 2000, and that the salary, contribution and benefit structures of the states were similar to those of Parana\textsuperscript{9}, this would still represent less than 50 percent of the states' aggregate revenue in 2000\textsuperscript{10}. As shown in Figure V.1, this would allow the states to eliminate the financing gap in the RJUs for only five years. By 2005, all the reserves created with privatization proceeds and their yield (6 percent real) would have been depleted.

Even if the states are able to raise up to R$ 70 billion after 2000 (twice the amount raised between 1996 and 1998 and over 100 percent of the aggregate state revenue in 2000), this would still only delay the reappearance of the deficit by eleven years. In general, therefore, it can be concluded that efforts to pre-fund existing pension liabilities in state RJU systems are futile, unless the RJU plans are reformed parametrically.

<table>
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<tr>
<th>Table V.1: Non-federal Privatization receipts, state enterprises: 1996-98 (R$ million)</th>
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<td>Privatization Receipts</td>
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<tr>
<td>Privatized Enterprises</td>
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<td>Sale of shares</td>
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<td>Total 1996-97</td>
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<td>Privatized Enterprises</td>
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<td>Sale of shares</td>
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<td>Total 1998</td>
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<td>Total 1996-98</td>
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Source: BNDES

The results for the Federal RJU would be very similar, though there would be a larger pool of public enterprises that could be used to create a reserve fund. Between 1991 and December 1998 the federal government had raised approximately R$ 70 billion, versus the R$ 31 billion raised by the states.

Despite the short life of privatization as a solution to the RJU imbalances, state governments have a political incentive to create reserve funds with privatization proceeds before reforming the pension system parametrically. Privatization is always more politically acceptable than cutting civil servant pension benefits.

\textsuperscript{9} In fact, most states currently have total contribution rates higher than the 9.3 percent before the reform in Parana, which would allow them to sustain a surplus in their pension plans for a longer period.

\textsuperscript{10} The aggregate state revenue in Brazil was R$ 75 billion in 1997.
Options for Funding New Pension Contributions

Assuming that significant parametric reforms can be introduced\textsuperscript{11}, the states currently have at least three options for funding new contributions. They may create a reserve fund, a complementary pension fund, or both. The structure implied by the November 1998 Constitutional Amendment would be one similar to that of the private sector (RGPS):

- The \textit{first component} would be a partly funded, defined benefit plan, with significantly reduced benefits (up to a maximum of R$ 1,200 per month). The fund would take the form of a reserve. This component would be administered by the sponsoring state or municipality.

- The \textit{second component} would consist of a fully-funded, complementary pension plan, of either a defined benefit or defined contribution nature. This component would also be administered by the sponsoring state or municipality.

From the outset, it is critical to realize that a two-fund, two-component structure only brings benefits if the administrator of each component is a distinct, independent institution, the population coverage of the two components is different, or when the two components are based on a different scheme (viz., one DB and the other DC). The rationale for two (or more) components of the same type (DB or DC) is that the risks, internal rates of return, and administrative costs of each component are different. For example, the RGPS system is a nation-wide DB system administered by an agency dependant on the federal government. The RJUs, on the other hand, offer DB plans only to civil servants of the relevant sub-national government and are administered by this entity. Finally, the open, DB pension plans of the complementary pension system are open to any worker, are administered by financial institutions, and are regulated and supervised at the national level. If one thinks of these different systems as assets in the old age investment portfolio, diversification across components can improve welfare.

Diversification of sponsor risk could be achieved by integrating the basic component of the RJU within the private sector system (RGPS). As well as limiting their exposure to a single sponsor (their employer), workers would also benefit from the broader coverage of the RGPS, which would permit more efficient intergenerational risk pooling. Even a partial integration with the RGPS, however, is likely to be a highly controversial political decision.

A good example of diversification of sponsor risk at the civil servants level is the Federal Employees Retirement System (FERS) in the U.S. This system consists of three components, the first of which is social security, the second a fully-funded employer provided DB plan, and the third a employer administered DC plan. Box V.1 describes the main characteristics of this model and highlights the main advantages relative to the old system (a partly funded, employer provided DB plan).

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\textbf{Box V.1: The Reform of the Federal Civil Servants Pension Plan in the U.S.} \\
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\footnotesize{\textsuperscript{11} Including tightening eligibility requirements, raising the retirement age, increasing contribution rates, and, specially, eliminating the 100 percent benefit guarantee from the Constitution. See Gill and Packard (1999) for an actuarial evaluation of parametric reforms.}
The US Federal Government reformed the pension plan for its civil servants in 1983. Until then, the only plan in existence was the Civil Service Retirement System (CSRS). Workers hired after 1984 have been affiliated to the so-called Federal Employees Retirement System (FERS). There are some special groups excluded from these plans, like military personnel, who have their own retirement system.

**Structure:** The CSRS was established in 1920, before Social Security. It is a partly funded, defined benefit system, with employee contributions of 7%, matched by an equal amount by the employer. Since 1987 workers have also been able to participate in a complementary pension plan, Thrift Savings Plan (TSP). The TSP is a defined contribution plan. The maximum employee contribution rate is 5%. There is no matching employer contribution. Workers can choose between three different funds: a government securities fund, a fixed income index fund, and a stock market index fund. Two new funds have been authorized and will be added when the TSP record keeping system is replaced in 2002. These will be a small capitalization United States stock fund and an international stock fund.

The FERS, on the other hand, is a three component system. The first component consists of social security, with the standard contribution rate by the employee of 6.2%. The second component is a defined benefit, fully-funded scheme, with a minimum employee contribution rate of 0.8%. The third component is the TSP. Employees can contribution a maximum of 10% of their salary to the TSP, and the federal government contributes up to 5% of pay.

**Advantages of new system:** The FERS system offers three main advantages over the CSRS:
- The first component of the FERS integrates workers within Social Security, which involves intergenerational risk pooling for this component across the whole population. The CSRS, on the other hand, only covers federal workers.
- The second component of the FERS is fully funded. The CSRS is a partly funded scheme.
- The three component structure of the FERS ensures better diversification of sponsor risk. The first component is administered by the Social Security institute, while the second component is administered by the employer. The CSRS is fully administered by the employer.

**Financing the transition:** The creation of the fully-funded component created a transition cost for the CSRS. This cost will be financed by CSRS affiliates and the government, as well as by workers participating in the FERS. Transfers from the FERS to the CSRS, however, are only expected to start in 2026, when the CSRS will be depleted and the system will enter operational deficit. It is expected that the liability of the CSRS will be gradually amortized over the next thirty years.

**Transfer between systems:** Workers affiliated to the CSRS are also allowed to transfer to the FERS. Two opportunities were provided to do so, one in 1987 and a second another in 1998. There is a strong incentive to do so, because the employer only matches employees contribution in the TSP for workers participating in the FERS. Meanwhile, the employee contribution rate for the DB component is the same (7%). The rate of transfer, however, has been very low. The Congressional Budget Office estimated that 40% of CSRS participants would have been better off had they transferred to the FERS in 1987. However, only 5% did so.

Source: Gill and Yermo (1999).

In the case of the RJUs it would be politically difficult to integrate the basic component of the pension plan with the RGPS. To the extent that the RJU plans remain as the providers of all the
benefits for civil servants, however, there is no reason for having more than one DB pension plan. There are no gains from the same institution having two separate defined benefit plans for the same employees, and significant costs, since administrative costs (including the costs of supervision) are duplicated. Nevertheless, if eligibility for participation in the complementary plan is restricted to workers earning R$ 1200, as is often the case in the complementary pension system, the result may be indeed such a two-fund, two-component DB plan. Alternative, more efficient structures would be either a single fund, single component, DB plan, or a two fund plan, where one of the components is based on a DC scheme, such as the TSP in the USA. The next two sections discuss these options.

PROSPECTS FOR RJU RESERVE FUNDS

The reserve funds that can be established by states and municipalities are similar to the Argentinean Provincial Pension Funds (PPFs) that were popular among subnational government until the pension reform of the mid-1990s, and the social security reserves of other countries in the region. Given the deteriorated fiscal state of states and municipalities, which is itself largely a consequence of their unbalanced pension systems, the establishments of these funds presents the governments with an attractive source of financing.

The pension systems, however, cannot be made financial sustainable unless the funds are professionally managed and they are free from political interference (misuse or appropriation of the funds by the authorities) and from excessive exposure to individual risks, such as the default of states or municipalities. To the extent that these objectives are achieved, the result should be reflected in a high performance of the public pension funds in terms of rates of return and administrative costs.

Design Options in Public Pension Fund Management

As the Latin American experience has shown, one way in which the exposure of public sector pension funds to political risk could be reduced, would be to establish individual property rights over the fund. This would involve the creation of individual accounts, where the worker's contributions are deposited. These accounts would then be managed by private asset managers, who would be expected to invest them with the objective of maximizing risk-adjusted returns.

Apart from some Latin American and Eastern European countries, however, very few countries have attempted to redesign their pension systems along these lines. Some countries have established individual accounts and some allow external management of pension assets, but no country combines the two, which would essentially involve individual choice over asset

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12 As was shown in the last section, the operational deficits would also have to be eliminated via parametric reforms.
13 The only exception is Singapore, which since 1986 has permitted individuals to invest a portion of their contributions independently via licensed fund managers.
management. Instead, countries with a long history of publicly managed pension funds have followed two basic designs:

- **Reserve fund**: pool of assets managed internally or externally, with no individual accounts, typically associated with defined benefit plans.
- ** Provident fund**: fund with individual accounts, based on either a notional defined contribution scheme or fully funded, and assets usually managed internally.

Reserve funds are common in developed countries and were once popular also in Latin America. Provident funds, on the other hand, are more typical in developing countries in Asia and Africa\(^\text{14}\).

The critical difference between the two types of funds is the possibility for establishing individual accounts in provident funds. Reserve funds are associated with defined benefit plans, which permit individual accounting (or record-keeping of contributions) but not individual capitalized accounts.

Individual accounts make it easier to guarantee individual property rights over the assets of the fund than either individual accounting or reserve funds. In a notional defined contribution scheme, for example, workers have a record of their contributions to their account and that of the employer, but have no direct rights over the assets of the fund. They are only entitled to a notional return to their contribution. Hence, it is possible a priori to have a defined benefit plan where workers have a stronger entitlement to the reserve fund's assets than workers affiliated to a notional defined contribution plan with individual accounting.

The existence of individual accounts, however, is no guarantee of high returns. Regardless of whether the pension fund has individual accounts or not, it will necessarily be exposed to political interference if there is involvement of the authorities in the investment process, or if there is interference at two other stages, in the transfer of revenue to the fund and in the payments from the fund.

Political interference in asset management takes various forms: use of funds as (i) an instrument of monetary policy, (ii) finance government deficits at below market interest rates (iii) investment of funds in domestic infrastructure and projects with a positive socioeconomic impact, (iv) misappropriation of funds, and (v) excessive risk aversion. Of these, the last two can be easily condemned. The first one, use in monetary policy can be criticized on the grounds that direct monetary control over such funds can be exerted by limiting their investment in overseas markets, without needing to distort the portfolio allocation otherwise. The use of the funds to finance government deficits at below market rates is a form of tax on workers' contributions that may be more efficiently collected in other ways. Finally, the use of pension funds to finance projects that

have positive externalities can be condemned on the grounds that direct investment is not necessary for ensuring an adequate level of funding for these projects. Pension funds demand assets such as long term government debt, which can be used by the government in conjunction with an adequate tax regime to finance such projects.

Political interference has two main adverse consequences: excessively conservative portfolios and misallocation of resources. Higher levels of risk aversion among public sector asset managers means that fund portfolios tend to have a lower exposure to equities and other instruments with higher risk-return trade-offs. Inefficient asset management leads to portfolios with lower returns and higher volatility than simple portfolios constructed with domestic market indices.

International Evidence on Public Pension Fund Performance

This section reviews the performance of reserve and provident funds is reviewed and identifies the main features that have determined their performance.

Reserve funds

Latin America has a long history of reserve funds, but only a few countries have accumulated funds for civil servants at the state level. One example is Argentina, where states accumulated pension reserves in special funds (called provincial pension funds or PPFs). Social security systems for private workers have also often relied in reserves to partly cover the cost of future pensions.

The experience with management of public funds in Latin America has been dismal. By the time of pension reform in Argentina in the mid-1990s, the PPFs had already become mere transfer mechanisms, having lost their reserves as a result of the continuous operational deficit. Of the remaining PPFs after the reform, only a few have surpluses. Social security funds too have had a dismal history of management in Latin America. Most funds were depleted during the 1980s, as reserves were lent to cash-strapped governments at low or negative interest rates, or were directed towards non-traditional investments of uncertain performance (Mesa-Lago, 1991). As a result of poor management and the trend towards private management of pension accounts, public pension funds are gradually disappearing from Latin America.

In industrialized nations, the performance of public pension funds has been generally poorer than private funds. As shown in Table V.2, public funds in the US and UK did worse than private plans, and the difference cannot be explained purely by greater risk aversion of public fund managers. Private funds in both countries were able to achieve a higher return on their portfolio with lower volatility, implying that public funds were managed less efficiently than private funds.

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15 UK local authority funds held an average of 52% equity over the sample, while private funds held 56%. For US funds the difference is more dramatic; 25% and 53% (Davis, 1993).
Mitchell and Hsin (1998) looked at the performance of US public pension funds relative to market indices. Between 1984 and 1990 the return of public pension funds was 11.1%, which compares adversely with the stock market return of 15.51% and a bond index return of 13.91%. They also showed that that the composition of the pension fund board, and the ability to invest in-house are two important determinants of the performance of public pension reserve funds. Yields in 1990 were about 2% lower if retiree representation on the public pension boards increased by 10%\textsuperscript{16}, while an increase of 10% in state investments was associated with a 1% drop in return. Social security funds in developed countries have also typically under-performed market benchmarks and private funds. World Bank (1994) reported that the return to the social security fund (OASI) in the USA obtained an average annual return of 4.8% on its portfolio over the period 1980-90 compared with 8% in occupational private funds.

**Provident funds**

The performance of provident funds is more difficult to evaluate. In general these funds exist in countries which do not have private pension industries, or have been established for too short a period to permit an adequate evaluation. A relevant benchmark can be found in indices of market yields and rates of return on bank deposits. In general, it can be expected that if governments were restricted from administering provident fund assets, these could earn at the bare minimum the rate on bank deposits, and ideally some average bond and stock market index.

Iglesias and Palacios (1999) show that in five countries with provident funds (India, Kenya, Singapore, Uganda, and Zambia) the rate of return has been below that on bank deposits. Table V.3 shows an index of returns for each of these countries as well as Malaysia, the only one where the provident fund did better than bank deposits.

**Table V.3: Index of Accumulated Balance at End of Period (Index=1 at start)**

<table>
<thead>
<tr>
<th>Period</th>
<th>Bank Deposits</th>
<th>Provident Fund</th>
<th>BD-PF</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>1.32</td>
<td>1.28</td>
<td>0.04</td>
</tr>
<tr>
<td>Kenya</td>
<td>0.83</td>
<td>0.58</td>
<td>0.25</td>
</tr>
<tr>
<td>Malaysia</td>
<td>2.83</td>
<td>2.96</td>
<td>-0.13</td>
</tr>
<tr>
<td>Singapore</td>
<td>1.44</td>
<td>1.36</td>
<td>0.08</td>
</tr>
<tr>
<td>Uganda</td>
<td>0.06</td>
<td>0.02</td>
<td>0.04</td>
</tr>
<tr>
<td>Zambia</td>
<td>0.07</td>
<td>0.02</td>
<td>0.05</td>
</tr>
</tbody>
</table>

Source: Iglesias and Palacios (1999)

\textsuperscript{16} This finding is not solely attributable to more conservative investment choices made by retiree board members, since the model allows for the portfolio distribution of the reserve funds.
Fry (1992) provides some more illustrative evidence for the case of Malaysia. He compares the return to the Malaysian provident fund with various market indices. Table V.4 reproduces some of his results. During the 1970s, the provident obtained a slightly lower return than the deposits and the government bond index, while, during the 80s, it performed better. Over the whole period the provident fund showed a slightly higher return than either benchmark. The contrast in performance relative to equities is much sharper. The return to equities was more than double that of the provident fund. In the 1980s, this situation was reversed, since equities saw a very poor performance. But over the whole period equities still showed a much better performance than the provident fund. A balanced portfolio made up of 50% government bonds and 50% equities would have clearly outperformed the provident fund.

<table>
<thead>
<tr>
<th>Year</th>
<th>Dividend</th>
<th>Deposit</th>
<th>Bond</th>
<th>Equities</th>
<th>Balanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971-81</td>
<td>6.9</td>
<td>7.4</td>
<td>7.3</td>
<td>18.5</td>
<td>12.9</td>
</tr>
<tr>
<td>1981-91</td>
<td>8.2</td>
<td>7.3</td>
<td>7.4</td>
<td>3.2</td>
<td>5.3</td>
</tr>
<tr>
<td>1971-91</td>
<td>7.6</td>
<td>7.3</td>
<td>7.3</td>
<td>10.6</td>
<td>9.0</td>
</tr>
</tbody>
</table>

Source: Fry (1992) and own calculations.

This shows that provident funds and individual accounts cannot by themselves eliminate the exposure of public pension funds to political risk in the form of misappropriation of reserves, implicit government taxes and inefficient management of assets. Additional checks on government mismanagement via adequate governance and investment regulations are necessary to minimize such risks.

Past Experience in Public Sector Asset Management: State Banks

The only experience of Brazil's state governments in managing financial institutions has been the state banks. Historically, state banks have been the main source of finance for sub-national governments in Brazil. There are three types of state banks: commercial banks, development banks, and savings and loans banks. State commercial banks have been the main players in the financing of states and municipalities. The development banks' main function is to channel federal directed credit programs. Savings and loans banks are limited to providing finance for residential housing and infrastructure investment.

State commercial banks were financed primarily by borrowing from federal institutions (the federal government or the central bank). Until the Real Plan, there was little control on the flow of these funds. State commercial banks lent the money to sub-national governments at below market interest rates. In some cases the transfers generated by these implicit subsidies were equal to the size of the entire state budget (e.g. Minas Gerais and Rio de Janeiro in the late 1980s). The management of state banks was subject to an intricate bureaucratic machinery, which did not even

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17 The state guarantees a nominal yield on the provident fund of 2.5% p.a.
respond to the regular constitutional, political and administrative channels which regulate government expenditures.

This situation changed after the institution of the Real Plan in 1994. As a result of recent privatization\textsuperscript{18}, the importance of state banks in the domestic banking system has been significantly reduced. While in 1988 the state banks represented about a quarter of all assets in the banking system, this level had fallen to 5% by the end of June 1998.

\begin{figure}
\centering
\includegraphics[width=\textwidth]{Figure_V.3.png}
\caption{Number of State Banks with Losses, 1979 to 1997}
\end{figure}

It is difficult to erase the bad history of management of state banks. The lack of accountability and adequate regulation created an inefficiently-run institution whose task was to misallocate resources. As Figure V.3 shows, the banks were an unprofitable institution, with up to 60% of all banks showing losses by 1997. The experience in state banking has set a bad precedent for the new RJU reserve funds.

\textbf{Regulating the RJU Reserve Funds}

The pension funds of the RJUs will be established as reserve funds since the systems will remain defined benefit. Direct political capture of the funds will be eliminated because of the following restrictions imposed by Law 9717:

\begin{itemize}
  \item The obligation to maintain a record of contributions to the plan.
  \item A requirement to separate the fund from treasury operations.
\end{itemize}

\textsuperscript{18} Most notably, the major state banks of Rio, Minas Gerais, and Sao Paulo.
Brazil: Critical Social Security Issues

- Ban on lending to the sponsoring government\(^{19}\) and to the plan’s affiliates.
- Ban on investment in state and municipal securities (government or corporations).
- Investment regime determined by the National Monetary Council.

The objective of these regulations is to “tie the hands” of sub-national authorities by limiting their ability of authorities to “raid” the reserve funds and banning investment in sub-national debt. These rules, however, do not ban non-traditional investments. Reserve funds could be invested in housing, non-quoted companies and infrastructure projects, which will expose the funds to political manipulation. This risk is exacerbated by the lack of a requirement on the funds to have individual accounts or be set-up as defined contributions systems. Given that the reserve funds will be self-regulated, the potential for loopholes is large.

In order to alleviate some of these risks, the investment regime set by the National Securities Council\(^ {20}\) will have to be particularly well defined. The following are some general rules suggested by from Iglesias and Palacios (1999) and some other additional requirements specific for the Brazilian case:

- A limit on the investment of reserve funds in companies or projects of a particular state or municipality.
- A limit or outright ban on investments in non-quoted securities, real estate and lending.
- A limit or outright ban on internal asset management.
- Portfolio limits, if introduced, should be flexible enough to permit the investment of a large part of the portfolio in private sector fixed income securities (corporate bonds, mortgage bonds, time deposits).
- Minimum diversification requirements should be established,
- In order to curb the state’s intrusion in the corporate governance of private enterprises, ownership of individual stocks should be subject to strict limits (e.g. less than 5% of a company’s capital). A controversial question that remains, however, is whether fund managers should be able to exert voting rights\(^ {21}\).
- Rules on the governance structure of the fund, separating the advisory council, with representation of workers and the authorities, from the executive council, who should be recognized professionals, with no employment link to the government.
- A limit to the attribution of the Executive council: selection of portfolio managers, auditors, evaluation of manager’s performance, and the selection of one or more custodians.

\(^ {19}\) In fact, it will not be possible to make loans to any government, federal or sub-national. The fund, however, can be invested in federal government securities.

\(^ {20}\) Conselho Monetário Nacional.

\(^ {21}\) This issue is addressed in the next section on the regulation of complementary pension plans.
- Compulsory, frequent performance evaluation of the reserve fund relative to private pension funds and market benchmarks.

Essentially, the rules that should be established are similar to those currently proposed for closed funds of civil servants in the complementary pension system (see next section). These rules, if consistently and adequately applied may have the ability to reduce the exposure of reserve funds to political risk. The fact that the National Monetary Council will set the investment rules will also mitigate conflicts of interest, since the Council is a federal agency.

### The Bahia, Sergipe, and Parana Reserve Funds

So far only one state, Bahia, has created a reserve fund, while two others, Parana and Sergipe, passed legislation in December 1998 and January 1999, respectively, to constitute such funds. The Bahia fund was established with the R$400 million from the privatization of Coelba, the state electricity distributor company. The state and employees each contribute 5% of the employee's salary to this fund during the first two years (1998-2000). The contribution rate is set to increase gradually over the years. The state of Bahia has managed to mitigate the exposure of the reserves to political risk, by following some of the guidelines that were discussed above. The governance structure is divided between an advisory council and an executive council. While membership of the advisory council is clearly defined, there is no requirement on the qualifications and employment links of the members of the executive council.

Investment regulations follow the recommended guidelines to some extent. There is a ban on investment of any form in any company, trust or project with state ownership or in which the government has an economic interest (foundations, autarchies, cooperatives). The fund is largely externally managed. About 70% of total assets (R$350 million in January 1999) are invested in about 18 fixed income mutual funds. The remaining 30% of the fund is administered internally in a special governmental department, and is deposited as cash, invested in property, while a small amount is held in shares of the state's water company, EMBASA. The fund administrator chooses mutual funds on the basis of risk-adjusted performance over the past twenty months and some prudential rules, like size of the fund and experience in fund management. Important weaknesses is the permission to lend some of the reserve fund to affiliates (no limit was set in the law), and the lack of controls on the corporate governance of private sector firms. While the reserve fund is as yet relatively small relative to state GDP (1 percent, approximately), it could quickly grow into one of the larger pools of capital in the state, with potentially disrupting impact on private sector corporate governance.

While the Bahia investment management model mitigates political risk, it has had some drawbacks. It has led to higher administrative costs than would be expected in a centralized fund. Rather than negotiating fees with fund managers, the reserve fund invests directly in mutual fund quotas like a retail investor. Administrative costs of the reserve fund are therefore as high as the

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22 Rio would use part of the receipts from the privatization of Banerj to set up the fund.
23 This weaknesses has been eliminated by the new regulatory framework (Law 9,717) for reserve funds, which bans lending to affiliates. The Bahia fund was established before this law was enacted.
average commission charged by the mutual funds in the fixed income retail sector, around 2% of assets. This is high for a DB fund in the US or other developed countries, where administrative costs rarely are more than 1% of assets (Mitchell, 1998). Significant savings could be achieved via direct negotiation of asset management fees with one or more fund managers.

Sergipe would use part of the privatization proceeds from the sale of Telergipe to set up a reserve fund. The law passed in January 1999 follows similar principles to that of Bahia. Some serious weaknesses exist, however. The state bank has been designated as the custodian of the fund. Given the past history of state banks described earlier, this decision may be a source of future troubles. Another problem is the lack of separation between the advisory and executive council. There is only one board, which will be composed of three government officials and an individual representing the civil servants, all of which have vested interests in the fund.

Parana's proposal, approved by the state legislature in December 1998, has taken a different line. The new fund that will be created will be subject to similar rules as those proposed by the Federal government for the closed funds of the complementary pension system. While the complementary law has not yet been approved, the draft proposal of the Federal Government is known, and this has been used by Parana officials in designing their new pension scheme. As well as having more adequate governance and regulatory structures, the Parana proposal also requires the plan to be fully-funded, and limits employer contributions to the level of employee contributions. This is the same limit as that imposed for closed funds of civil servants in the complementary pension system. Given the benefit parameters of the RJU, the fund does not return Parana's pensions to a sustainable long-term solution under plausible assumptions. The attractive feature of the proposed structure is that when the necessary parametric reforms are facilitated by Constitutional reforms and implemented, Parana should find it easier than Bahia to move to a closed-fund-based system. Box V.2 contains a more detailed description of the Parana proposal, its main advantages, and some ways the proposal can be improved.
Box V.2: The Parana Government Employees’ Pension Plan Proposal

Parana proposes to shift the structure of its pension scheme away from an entitlement system of post-retirement salary replacement to a fully funded, defined benefit pension plan with a similar governance structure as the closed funds of the complementary pension system. This shift began with the passage of state reform legislation on December 30th, 1998, that increases the contributions of active and retired workers, and survivors, and calls for the establishment of reserve funds to finance benefit guarantees.

The New Structure. It is expected that the law will be enacted in June 1999. The first step will be the formalization of the current system for currently retired workers, and active workers over 50/45 years (men/women) as a PAYG scheme, via the establishment of a financial account (Fundo Financeiro) to which employee contributions are channeled. As the number of current retirees and older-active workers falls over time, the Fundo Financeiro will be phased out. The transition cost will be covered with contributions from retired and older-active workers, statutory contributions from the State as “employer”, proceeds from the privatization of state-owned enterprises, and contributions from younger and new workers. The second step will be the establishment of a fully funded, DB scheme (Fundo de Previdência) for active workers under 50/45 years and future civil servants. This reserve fund will be financed with contributions from employees and the State, a small share of privatization proceeds, and returns on the fund’s investments.

Governance. Unlike Bahia’s fund that operates within the state government, Parana’s Fundo de Previdência would be administered by a quasi-private, cooperative entity, PARANAPREVIDENCIA, operating under Brazilian private sector law as an independent social service institution (Serviço Social Autônomo). Parana’s law has established a governance structure and fiduciary responsibility similar to that proposed for closed funds. The governance would consist of a Management Council, a Fiscal Council and Executive Directors. The Management Council (Conselho de Administração) would have 10 permanent members representing the interests of the governor (3 seats, including the head of the council), state legislature, judiciary, ministries, active and retired civil servants, Parana’s private pension fund association, and the state government’s Office of Pension Affairs (1 seat each). There would also be a fiscal council, in charge of internal supervision of executive directors as well as the management council. Finally, the executive directors would be in charge of the daily management of the fund.

Regulation. PARANAPREVIDENCIA would be subject to rules established by the government and written in the contract between the two entities. These rules will specify the responsibilities of the management council, the fiscal council, and the executive directors. There would also be valuation, actuarial, funding, investment and disclosure rules. It is expected that the contract will require PARANAPREVIDENCIA to comply with the appropriate regulations applied to complementary pension plans, even if the institution is not fully integrated within this system. Further, the fund administrator would be supervised by the State’s accounting board (Tribunal de Contas), and subject to annual external audits.

Improving the Parana model. The Parana proposal may be an advance over the Bahia model, though both require constitutional reforms to return the systems to long-term sustainability. Aside from these parametric changes, further improvements could be made. (i) a DC plan would offer significant advantages over a DB plan; the plan could be split in two components, e.g., with a DB part covering contributions up to R$ 1200 of wages, and a DC part for contributions above R$ 1200 of wages; (ii) the law only specifies that the accounting rules should be the same as those of those funds; while the specific rules may be left to the contractual agreement, the general law should also mimic that for closed funds in the areas of vesting, portability, information disclosure, funding rules, actuarial evaluation, investment rules and performance evaluation; (iii) the transition cost to be financed by new and younger workers could come from reduced government contributions to their accounts, rather than directly from their own contributions; this may help to inculcate greater ownership of workers’ contributions.

Source: Gill and Yermo (1999).
PROSPECTS FOR RJU COMPLEMENTARY PENSION FUNDS

Since its inception in the late 1970s, the complementary pension system has been suffering from a lack of adequate regulation and fragmented and weak supervision. Amongst the most pressing regulatory problems are the lack of clear, detailed rules for defined benefit plans (funding rules, benefit guarantees, actuarial analysis) and the lack of portability of pension benefits or contributions in the closed fund sector, the complexity in comparing open pension plans, and the high administrative costs of both systems. These problems are likely to present regulators with a daunting task when civil servant pension funds are created.

Chapter IV dealt with the necessary reforms to the regulatory and supervisory system. While most of these are also necessary to ensure that the new civil servant funds are established and managed on sound actuarial and business principles, there are additional requirements that are dealt with in this section, including affiliation, minimum size of plans, type of schemes (DB or DC), and investment regulations.

Design Issues of Complementary Pension Plans

Complementary pension plans for civil servants are not unusual in Latin American countries. Some countries have reformed these systems. Argentina is in the process of integrating it with the national system, which is based on a mixed model. Panama reformed the pension system of public sector workers before that of the private sector. The complementary system is being gradually privatized. Individual accounts are managed by a single entity that was chosen after a bidding process in January 1999. Workers choose one of four financial institutions to manage their mandatory retirement savings.

Affiliation, eligibility and minimum size

The November 1998 Constitutional Amendment gave Brazilian states and municipalities the option to create complementary pension funds for their employees, similar to those existing for public and private sector enterprises. These plans would provide additional benefits to civil servants affiliated to an RJU. The plans would be closed and would be administered by the sponsoring state/municipality (Entidades Fechadas de Previdência Privada). The success of these plans depends ultimately on how well the complementary pension system is regulated and supervised, as well as on the specific design on the specific plans for civil servants. This section discusses the regulatory challenges that the system faces in order to accommodate the new pension funds and the critical aspects of their design.

24 The first component is run on a PAYG basis and offers a basic benefit, while the second component is based on the standard private pension fund system of other Latin American countries.
While both the creation of complementary plans will be voluntary, it can be expected that most states will create them. The reason is that by establishing complementary plans, the states will be able to limit benefits in the old (now basic) plan to the same level as the RGPS, viz., R$1200 currently. If they do not set up complementary plans, the states will be obliged to guarantee pension benefits (100 percent of salary at retirement) under the old plan.

If the sponsoring government decides to set up a complementary plan, worker participation will be mandatory for eligible workers. Ideally, workers should have the option not only of whether to affiliate themselves to the closed pension plan, but also to opt out of it and contribute to the open fund system. This would create a level-playing field between private and public sector workers and would be conducive to a desirable future integration of the two systems. They should also be allowed to make additional contributions to DC schemes above a minimum level.

Current workers above a certain age will most likely retain the current benefit structure (guarantee of 100 percent of salary at retirement), and will therefore be excluded from the complementary system. For all other workers, the eligibility constraint would probably be the same as in the RGPS, i.e., a monthly salary over R$ 1200. The exclusion of lower income workers from the complementary system would be an inefficient and inequitable decision. It would impair the ability of these workers to diversify risk across plans, and would expose them to the full risk of state mismanagement of the basic pension plan, which, unlike the complementary plan, would not be subject to federal regulation and supervision (see World Bank, 1999b).

It also has been proposed that plans of sub-national governments should have a minimum number of participants of approximately 5000. This limit would only apply to municipalities. 900 of the current municipal RJUs would revert to the INSS. An alternative being contemplated would be to permit multi-sponsored plans, to which employees of different municipalities could belong. This option has been received with much skepticism because of the inherent difficulty of tracing contributions and assets in defined benefit system.

**Defined benefit versus defined contribution**

The main advantage of defined benefit schemes is that workers do not bear the full cost of market risk. Instead, the sponsoring institution guarantees a certain replacement rate by distributing risk across generations. In the case of the state RJUs this is not a relevant issue because, firstly, the first component would still be a DB scheme, and secondly, because Brazilian capital markets, being one of the most developed in Latin America, allow a high degree of diversification and mitigation of market risk. Meanwhile, defined contribution plans have four significant advantages:

- DC plans ensure a perfect link, before taxes, between benefits and contributions. This has advantages not only in terms of worker incentives but also to guarantee the actuarial balance of the fund. DC plans are by definition, actuarially balanced. Hence,

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25 Some groups, like lawyers, legal personnel, teachers, and the police forces will maintain the old system.

26 See World Bank (1999b) for a discussion of this eligibility constraint in the case of the RGPS.
there is no need to impose actuarial rules and impose regulations on the pension plans. DB plans, on the other hand, can obscure the link between contributions and pensions. They can even have regressive effects if designed incorrectly. For example, the practice of linking benefits to final year salaries benefits higher income workers, whose salary histories are usually steeper than those of poorer workers.

- In DC schemes workers have individual accounts and bear investment risk. Since employees have clearly defined property rights over accumulated assets, they have an interest in monitoring performance and ensuring adequate management of the fund. DB plans do not permit individual accounts, although it is possible to keep an accounting record of contributions by both the employee and employer, and to establish clear ownership and responsibility rules over funding (who owns surplus funds, who contributes additionally to underfunded plans, etc). However, achieving consensus over these rules is complicated, because the calculation of funding rules is based on expectations of market variables, over which employer and employees may disagree. This is particularly important in cases where it is difficult to discipline a powerful sponsor, like the government. Moreover, the individual's incentive to monitor performance is lower in DB plans because the employer usually bears most if not all of market and demographic risk.

- DC plans limit political intrusion in the corporate governance of private firms, because individuals can choose portfolios and fund managers to their liking. In DB plans, since the employer bears most (often all) of the market and demographic risk, the individual does not play a role in these choices.

- The regulation and supervision of DC plans can be simple and effective, as has been shown in other Latin American countries. DB plans on the other hand, require a much more complex regulatory framework. In Brazil, DB plans have suffered from bad regulation and supervision in the past. While it is likely that the regulatory framework will be revamped in the near future, it is possible that this will not be done soon enough to ensure adequate control of the funding and investment policies of the new state pension plans.

**Individual choice in defined contribution plans**

The degree of individual choice permitted in DC plans will be an important factor determining not only the extent to which the plan is isolated from political interference, but will also affect the administrative costs of the new system. Two forms of individual choice can be distinguished, choice over portfolio allocation, and choice over fund manager.

Choice over portfolio allocation is necessary to ensure that the worker can to some extent tailor the risk-return combination to her age, career and risk aversion profiles. At the same time, however, free choice in portfolio allocation can lead to investor confusion, can make it difficult to compare performance between funds and can increase administrative costs substantially as investors overreact to changes in market conditions by moving between funds frequently. Furthermore, if there is choice among fund managers, these may engage in active marketing and advertising.
campaigns to steal affiliates from other funds, further increasing the operational expense of the system.

It is therefore wise to restrict portfolio choice initially to about two or three funds each with different risk-return characteristics. An example of this set-up is the complementary pension system for federal government workers in the USA, the so-called Thrift Saving Plan (TSP). In this plan, workers have the option of choosing between three funds: a government securities fund, a fixed income index fund, and a stock index fund.27

Another important decision is whether individual choice over fund manager should be permitted. In the Latin American new private pension systems, this has been reported as the main culprit behind the wasteful marketing and advertising campaigns carried out by fund managers. Constraining choice among fund managers can significantly limit the ensuing administrative costs. At the same time, however, curtailing choice can lead to a principal-agency problem, because it is the sponsoring entity that decides which fund managers should be allowed to compete for the plans' funds.

In the TSP, for example, there is a single fund manager for the two index funds, which is chosen by the plan's Board through competitive bidding. For these two index funds the choice of fund manager is not a critical factor in determining returns, which limits the cost of the sponsor in manipulating the choice of fund manager. The bid is based exclusively on the lowest fees charged. Index funds also have lower administrative costs than fund with actively managed funds.

Regulation and Supervision of RJU Complementary Pension Plans

The March 1999 law sent to Congress would regulate the RJU complementary pension plans. The main rules are the following:

- The governance structure of the state complementary funds would be composed of a fiscal, advisory, and an executive council. Members of the executive council would required to be experienced professionals and would not be able to have any employment link with the sponsor.
- Maximum ratio of employer to employee contributions of 1:1, a rule based on the 1998 Constitutional Amendment, which established the principle of "parity" between employee and employer contributions. This has lead to some confusion because employer contributions include payments into the amortization reserve to recognize service previous to the establishment of the pension plan.28

27 See Box V.1.
28 Most public company pension plans in the past paid benefits based on years of service, rather than period of contribution. A liability was therefore created the moment the fund was established, equal to benefit rights based on past service. While, this contribution will gradually disappear, current amortization payments are not trivial. In some public plans, the ratio of contributions for current service of employers to employees is only 2:1. The ratio for the total contribution (for current and past service) may be as high as 5:1.
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- Maximum combined benefit (RJU plus complementary pensions) equal to 100% of final year salary.
- The funds may not be used for lending activities, nor may they be invested in public sector securities (except securities issued by the federal government).

**Corporate governance of private sector firms**

While these governance, contribution, and investment rules are appropriate, there remain many issues to be resolved. One of the most controversial ones is how to control political interference in the corporate governance of private sector companies. The easiest solution would be to permit only DC schemes. If individual choice over fund manager is allowed, then the corporate governance will not be open to the board's influence. On the other hand, if individual choice is restricted to a single fund manager, as in the TSP in the USA, then political interference may reappear in the bidding process. However, if investment is permitted only in indexed funds (as in the TSP), then the leeway for political interference is much reduced. The board would then have no say over asset allocation, and the choice of fund manager would be based exclusively on the fees charged by the fund manager. This would make the bidding process much more transparent.

Containing political risk in DB systems is a much more arduous task, because there are no individual accounts, and the investment of the portfolio is decided exclusively by the board. DB plans, therefore, require a set of stringent investment rules to ensure that the corporate governance role of public pension funds is curtailed or at least constrained to adequate standards. Some of these regulations include:

- Limits on concentration of ownership of individual securities (especially stocks).
- Limiting or banning internal asset management.
- Requiring professional asset managers.
- Restrictions on the voting rights of fund managers.

The option to remove the right to vote on shares representing investment of public reserves seems attractive, since that would eliminate the corporate governance problem at the root. However, if the institutional investors are deprived of the right to vote, these would in some cases be more exposed to the risk of "opportunist conduct" by the other shareholders. This is quite likely in Brazil, where the closed funds are the largest shareholders of some of the most important companies (particularly privatized companies) and tend to hold their stakes over long periods.

One solution to this conundrum would be to permit only limited voting rights. For example, voting rights may be active to elect the Board of directors, but are inactivated when voting to oust existing directors. Another avenue would be to limit colluding behavior among the state pension plans, by blocking alliances in the Board of Directors.
Risk diversification

Another important issue is the extent to which limitations on investment in sub-national debt will affect the extent of diversification possible, and the degree to which public reserve funds can limit their exposure to default risk by sub-national governments. Diversification is unlikely to be a problem given the degree of development of Brazilian capital markets. The closed funds, for example, invest less than 1% of their portfolio directly in state and municipal debt, even though the regulation allows them to invest up to 50% of the portfolio in these securities.

The extent to which the funds can isolate themselves from the default risk by the states municipalities is a more worrying issue. This will be determined by two factors, the specific investment regime established by the National Monetary Council and the regulator for these funds, and federal-state fiscal relations. The government can decide to limit investment in all investment other than non-government debt to a level below 100% of the portfolio. To the extent that it does so, it imposes a floor on the investment in federal debt, given by the difference between 100 and the sum of all other possible investments. For example, if there were only three assets, bank deposits, equity and government bonds, and the government limited deposits to 50% and equity to 20%, it would be de facto imposing a floor of 30% on investment in government bonds.

The second factor which will determine the extent of exposure to state default risk will be the relationship between the central and state governments. The default risk of states and municipalities may be transferred to federal paper if the central government acts as the lender of last resort and bails out sub-national governments. If the federal government is burdened with the cost of bailing out bankrupt state governments, the pension reserve's portfolio will suffer. While investment in federal paper may be limited, the central government may try to force these reserve funds to invest in it with threats of no-bail out. In essence, what the ban on sub-national debt would do is to transfer the moral hazard problem from the state to the central government.

In addition, the fact that civil servants pension funds (whether reserve funds or complementary funds) will not be able to invest in sub-national debt, may significantly restrict the access to finance for states and municipalities, further increasing default risk. With the states no longer able to rely on their state banks for financing, a question may be asked as to whether the states' fiscal situation may become unsustainable.

Table V.5 divides state debt into categories. State banks held less than 1% of the total debt at the end of 1997. This situation contrasts with that prior to 1994, when state deficits were largely monetarized, via the state banks. With the stabilization of the currency in 1994 and the continuing process of privatization of state banks this solution has become practically obsolete.

The fiscal situation is unlikely to get better in the near future. Largely as a result of the imbalances in the state's pension systems, the state deficits are likely to keep growing. While aggregate numbers are hard to come by, Chapter III estimates that the state RJU deficits would grow from R$10.5 billion in 1997 to R$13.5 billion in 2000 and R$37.5 billion in 2010. Moreover, many states
intend to begin the process of actuarially balancing their RJU plans by gradually increasing their own contributions as well as those of employees. Since these additional contributions will not be invested in state debt, there will be a net fiscal drain on the state budgets.

### Table V.5: State Government Debt and its Financing, 1995-1997

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Securities</td>
<td>43.1</td>
<td>45.1</td>
<td>25.0</td>
</tr>
<tr>
<td>Federal government</td>
<td>31.6</td>
<td>27.7</td>
<td>59.8</td>
</tr>
<tr>
<td>Federal banks</td>
<td>2.0</td>
<td>4.5</td>
<td>8.4</td>
</tr>
<tr>
<td>State banks</td>
<td>14.2</td>
<td>15.1</td>
<td>0.7</td>
</tr>
<tr>
<td>Private banks</td>
<td>1.1</td>
<td>0.8</td>
<td>0.4</td>
</tr>
<tr>
<td>Revenue anticipation obligations</td>
<td>0.8</td>
<td>0.6</td>
<td>0.4</td>
</tr>
<tr>
<td>Foreign</td>
<td>4.1</td>
<td>3.2</td>
<td>2.8</td>
</tr>
<tr>
<td>Other</td>
<td>3.7</td>
<td>2.9</td>
<td>2.5</td>
</tr>
<tr>
<td><strong>Total debt (R$ billion)</strong></td>
<td>79.8</td>
<td>100.1</td>
<td>132.1</td>
</tr>
</tbody>
</table>

Source: Banco Central do Brasil, Departamento de Dívida Pública

### REDESIGNING RJU PENSION PLANS

Pre-funding pension liabilities has positive externalities, like financial sector deepening, increased national savings and higher economic growth. Pre-funding, however, is a necessary but not sufficient condition to ensure the sustainability of RJU pension systems. For funding to be sustainable, drastic parametric reforms will have to be introduced. The future prospects for the RJUs hang decisively on the degree to which eligibility requirements can be tightened, retirement ages raised, contribution rates increased, and, in particular, the 100 percent benefit guarantee eliminated or significantly reduced. Selling off state assets by itself will only delay the appearance of operational deficits, but will do nothing to improve the long term, actuarial balance of civil servants pension plans. Assuming that such parametric reforms are approved, the question then arises as to what the optimal structure of the new funded system will be. This concluding section analyzes the structure that is emerging from the current debate and which has been implied by the 1998 Constitutional Amendment as well as other, more desirable, alternatives.

### Risks and Costs of the RJU Structure

Ideally, DB pension plans should ensure that sponsor risk is diversified, and should aim to achieve a high level of risk pooling across the largest possible number of participants. The current RJU structure and the structure that is implied by the Constitutional Amendment (a two-component, two-fund plan, administered by the sponsoring state or municipality) do not fulfill these conditions. Diversification of sponsor risk and more extensive risk-pooling can be achieved by, for example, transferring the proposed basic component of the RJUs to the RGPS, which covers private sector workers and is administered by the social security institute, a federal agency.

Regardless of whether some degree of integration can be achieved, the proposed structure for the RJUs — consisting of a two-fund, two-component DB plan — is inefficient because it will lead to a duplication of plan administration, fund management and supervision costs. A more efficient set-
up would be to unify the administrative structure of the two components. The question that then arises is whether to do so within a partly funded, reserve-fund based system, or in a fully-funded complementary pension fund. The previous two sections have shown that the complementary pension plan option would be superior:

- The complementary pension plan would be subject to nation-wide regulation and supervision by an independent agency. The agency carries out frequent on-site and continuous off-site supervisory activities and can impose economic sanctions on the plan sponsor for non-compliance. The partly funded RJU plan would only be subject to the general rules established in law 9717 as well as the states’ own rules. There would also be no external agency to ensure that these rules are adhered to.

- The complementary pension plan would be fully-funded. The RJU plan would only be partly funded plan. Moreover, it would be much more difficult to enforce adequate funding in an RJU fund, because of the lack of an external supervisory agency.

- The complementary pension plan could be designed as a DC scheme, with individual retirement accounts. The RJU plan cannot in principle be organized as a DC scheme.

A Proposal for the Structure of the RJUs

Given the overwhelming advantages of a complementary system based RJU plan, pension reform efforts at the state and municipal level should pursue the transformation of existing RJU plans into closed funds as part of the complementary pension system. While this may be politically difficult to achieve from the start, the process may be set into motion by gradually lowering eligibility requirements for contributing to the complementary plan and allowing all participants to contribute to it, regardless of their salary level. While the final objective would be for the complementary component to provide the largest portion of retirement income, the unification would not be complete. There would always be a role for a separate component providing basic benefits. This plan, however, would not require a fund, but could be financed from general revenue or from targeted contributions on a PAYG basis.

A critical issue would be to ensure that – even if the RJU pension plans are not fully integrated within the complementary pension system – they adopt rules that mimic those currently proposed for closed funds for civil servants in the complementary system. It may nevertheless be necessary to review the regulatory framework for these funds, since some issues like corporate governance of private sector firms have not been dealt with. Significant improvements in the general regulation and supervision of complementary pension funds are also required if this system is to fulfil the role of being the main provider of retirement income. Specifically, portability, funding, and investment and disclosure rules need to be established. Finally, the states should put in place adequate supervisory structures, or, even better and cheaper, they could contract out this activity to the complementary pension system supervisory agency.

While at least one state, Parana, has introduced legislation that resembles that of the complementary system, there is no guarantee that all the states will of their own account introduce
adequate governance structures, regulation and supervision of their pension plans. Hence, the federal government may consider reviewing the current regulatory framework for reserve funds, based on Law 9717. If possible, this law should be strengthened to include those rules covered in the new complementary law, including investment, funding, and actuarial rules to ensure that professional investment and actuarial practices are firmly established, investment outside formal markets is banned, and private firms are insulated from government intrusion in their governance structures.

Ideally, the pension plans should be based largely on DC schemes. These schemes should offer individual choice over at least two funds: one fixed income and one balanced portfolio which permits significant investment in equities. Investment in passively managed funds should be allowed. Choice of fund manager may be restricted in order to contain excessive account switching and lower administrative costs. Competitive bidding for a single fund manager, however, should only be used in the case of index-tracking funds. Alternatively, the closed funds could retain a sizeable DB component, and establish a DC component for workers earning monthly salaries above a certain level (e.g. R$1200, as in the RGPS) or for a portion of contributions of all workers participating in the RJUs (e.g., 30% of contributions).

The move towards funding, when combined with sharp parametric reforms (such as the elimination of the 100 percent minimum replacement rate guarantee) are basic pre-conditions for moving the RJU plans towards a sustainable track. If the complementary pension system is to play the central role that has been proposed either as role model for state regulation or as an integral part of the RJU pension systems, it is necessary that the new complementary laws are correctly designed, and a truly independent and financially autonomous supervisory agency is established.

SUMMARY OF FINDINGS

The Constitutional Amendment of November 1998 granted states, municipalities and employee associations the right to create reserve funds for their pension systems, as well as complementary pension funds (Article 14). The process would most likely involve the creation of a differentiated two-pillar structure as currently exists for the private sector. This chapter evaluated these reform proposals and the steps already taken by some states such as Bahia and Parana, and identifies the choices that subnational governments will face in their aim to move their pension systems onto a sustainable track.

Complementary Funds

The new law approved during the constitutional reform of 1998 strongly encourages states and large municipalities to set up complementary funds for civil servants belonging to the RJU earning more than R$1200 per month (an amount to be periodically reviewed and raised based on inflation rates – at the time of writing, this had been raised to R$1255). These new complementary funds are supposed to be similar to the Previdencia Complementar for private sector workers (which has existed since 1976), but in fact there are two important differences:
First, the private complementary system is run by enterprises, while the RGPS is run by the federal government: the risks associated with pension benefits are therefore diversified. In contrast, the state/municipality complementary funds will be run by state and municipal governments, who also administer the RJUs. Hence there will be no diversification of risks in the RJU, viz., the reform will not avail of advantages of the multi-pillar principle.

Second, because of the pension ceiling in the RGPS, the private complementary system does not have to be a defined benefit system (where all the risk would be the enterprises') but can be defined contribution (where the risk of pensions above R$1255 is borne by the worker). But because there is no ceiling for RJU pensions, and because civil servants must get 100% of exit salary as pensions, the public complementary system will be defined benefit, so all the risk will fall on state/municipal governments.

Reserve Funds

States and municipalities also can set up reserve funds to meet future or current pension liabilities. The objective of the reserve funds is to pre-fund liabilities, but not necessarily to introduce private management or individual accounts. This has been done in other Latin American countries (e.g., Argentina), and the record is well-documented and abysmal - the surpluses generated in the initial stages disappeared even before systems went into current deficit. Matters are expected to be different in Brazil:

- The pension regimes - by virtue of their high benefit levels and noncontributory nature - are already running deficits, though states hope to generate reserves through sales/pledges of government assets.
- The states expect to protect these funds from irresponsible future governments by stronger investment rules, e.g., no lending to employees or sponsor government and no investment in subnational debt, and strengthened regulatory mechanisms.
- But since employees will have no property rights over the (non-individualized) funds, governments will retain decision-making power over how much to contribute to and how much and when to retrieve from the funds.

Likely Policy Implications

Subnational efforts to increase the funded element of pension should be encouraged, though with important caveats (see below). All countries in Latin America that have reformed their pension system have included some form of pre-funding at the core of the program. Funding is necessary to ensure that system assets are sufficient to back liabilities, and is also desirable because of benefits associated with increased savings and financial sector development.

But there is no justification for reserve funds unless the basic rules and enforcement mechanisms of the RJU are comprehensively reformed before putting money into funds. Despite the benefits of pre-funding, the main issue confronting the nation is whether such funding of public pensions is sustainable given the current structure of pension plans (eligibility rules,
benefit levels, and contribution rates). Our estimates indicate that under current conditions, funding is not sustainable. Operational deficits quickly deplete the pension reserve funds: even with an injection of 100% of net current revenues, reserves in most states would last only about five years. Liquidating taxpayer-financed assets to keep paying high civil servant pensions also perpetuates inequities between public and private pensions.

Risks would be best diversified by having all (government and private) workers belong to a universal base system such as the RGPS, and optional employer pension funds. Assuming that the system is brought into operational balance by a combination of constitutional reforms to lower the generosity of benefits, contribution rate increases and tightened enforcement of eligibility rules, the issue to be confronted is what form the funding should take. A structure that is diversified — where the risks associated with pension payments are borne by more than one sponsor — is superior to one that is not. Under the current funding proposals of government workers, all the risks are borne by the employer (the federal government in the case of the Federal RJU, and the state/municipal administrations in the case of subnational RJUs).

Given the advantages in regulation and supervision of complementary funds, government pension plans should be set up as complementary, not reserve, funds. The regulation and supervision of complementary plans by the federal government has been tested and is being improved, while that of reserve funds is untested in Brazil and fraught with danger based on the experience of other countries. Complementary fund regulation would be by an agency independent of state and local administrations, rather than one set up by each administration as in the case of reserve funds such as those of Bahia and Parana. Complementary fund rules also insist on pension liabilities being individualized, fully funded and being defined contribution rather than defined benefit. These features have the advantages of stronger contribution-benefit links, greater portability, and stronger individual property rights and oversight. Having both funded and unfunded components based on a defined benefit principle also involves an unnecessary duplication of administrative costs with few if any benefits.

If governments choose to set up reserve funds, states and municipalities should establish regulations that mimic the rules for complementary funds. Principally, these laws should assure independence of pension funds from the state treasury, have similar investment restrictions such as prohibition of lending to state entities, and have a parametric design that is consistent with complementary fund rules. In general, the rules, e.g., using the same limit (currently R$1255), should not restrict the government from taking advantage of any future constitutional reforms that reduce the generosity of RJU pensions. It is noteworthy here that Parana’s reserve fund proposal is closer to the complementary fund ideal than Bahia’s reserve fund, both in terms of independence from the state treasury as well as design features that would allow Parana to parametrically reform its system in step with any future reforms of the RJU. Both this chapter and Chapter III show clearly that reforms of the RJU are necessary to return government pension systems to operational balance.

REFERENCES FOR CHAPTER V


World Bank. 1990. The Dilemma of Brazil’s State Banking System: An Analysis and Suggestions for Reform, Country Operations Division, Brazil Department, Latin America and the Caribbean Region, February 27, 1990, Washington, D.C.


VI. POLICY RECOMMENDATIONS

The nature of Brazilian decision-making and state of national consensus in the area of social security imply that:

- It will take time to complete the reform of the social security system—most likely about a decade or longer—so it is important for policymakers to have a vision of the social security system that Brazil would like to have and can afford.
- This vision and the reforms to get there must be arrived at by consensus, formed through careful analysis, clear and honest dissemination of the information gleaned from this analysis, and wide public debate.
- Reform efforts should be planned and sequenced strategically.

A hurried, unilateral, and opportunistic strategy—while perhaps appropriate in other countries or settings—is unlikely to prove successful.

In evaluating whether or not a proposed measure is consistent with the constraints and objectives of Brazilian social policy, one should use five criteria—in order of importance—for evaluating any reform strategy or measure:

1. Immediate fiscal payoff
2. Long-term fiscal sustainability
3. Equity considerations, especially RGPS versus RJU
4. Efficiency considerations, especially labor market distortions
5. Savings and capital market development

Based on the five criteria above, the priorities for reform efforts in Brazil now are RJU structural reform and improving enforcement of RGPS and complementary system rules.

- Implementing the new formula for only the RGPS will help with immediate and long-term fiscal balance (goals 1 and 2), especially the latter; it will probably also help with (4 and 5); however, this step may worsen (3) by increasing RGPS-RJU gaps.
- In contrast, making RJU pensions less generous will help with (1), (2), (3), (4) and (5).
- Improving enforcement of RGPS & complementary pension rules helps with (1), (2) and (5), and maybe also (3) and (4).

These considerations lead to the following conclusions:

- Reforms of the RJU should ideally have accompanied changes in RGPS rules, but—since this was found to be politically infeasible—the adverse equity effects of RGPS
reforms without similar reductions in the generosity of RJU pensions should be widely publicized to generate political support for the reform of the RJU.

- Reforms to reduce the generosity of RJU pensions are necessary and fundamental. The main measure required is the reduction of replacement ratios, for which a constitutional reform is necessary in the RJU. Raising contribution rates on current workers is inadequate, inefficient, and increasingly impossible. Having retirees contribute at the same rate as active workers, helps on fiscal, equity and efficiency grounds.

- Pension funds for state pensions, or introducing a funded component in pensions of government workers at the Federal level can be a facilitating factor for making RJU reform politically palatable, but – given that all pension systems are already in deficit even with high rates of contribution – are not a feasible reform strategy on their own. These pension funds should ideally be set up after reform of the RJU.

A fruitful strategy for the RGPS and Sistema Complementar would be to

1. improve the database and information network of the INSS, and
2. improve enforcement of rules of closed and open pension funds, but
3. postpone other RGPS reforms—such as changing the rules of Old Age Pensions or reclassifying them as Social Assistance—until after the passage of deeper RJU reform

A potentially productive approach for the RJU and Government Pension Funds is to:

1. improve administrative/actuarial information on RJUs and tighten enforcement of eligibility rules;
2. plan and execute a vigorous public campaign (including opinion polls) aimed at informing voters of the disparity between public and private pensions, and other abuses of the system;
3. negotiate with civil servants when these campaigns begin to yield results;
4. offer civil servants a “new deal”, consisting of lower but more reliable (individualized and funded) pensions rather than just informing them that their benefits are being cut.
5. remove the benefit formula for current RJU participants from the Constitution and introduce a reasonable minimum retirement age;
6. set up pension funds under the new RJU parameters, determined through actuarial audits of federal, state, and municipal RJUs.

Volume 1 of this report presents some of these arguments in more detail. Tables VI.1 to VI.4 below provide, in summary form, the major findings of this volume, separately for each of the four components of Brazil’s social security system: the National Social Security System for private sector workers (RGPS), the Regime for Government Workers (RJU), the Complementary System
of funded pensions for the private sector (SCP) and the proposed system of funds for government workers. Each of the tables contains:

1. the main problems facing the system,
2. the underlying structural reason for each problem,
3. the lessons from other countries and Brazil's own experience in dealing with these problems, and
4. the policy recommendations of the World Bank.

It is important to note that some of the changes proposed here have already been undertaken or their implementation is underway. They are listed here both for the sake of completeness, and to highlight the many areas in which the thinking in Brazil and at the World Bank coincides.
### Table VI.1. The National Social Security System: Brazil's Problems, International Best Practice, and World Bank Policy Recommendations

<table>
<thead>
<tr>
<th>Problem</th>
<th>Diagnosis</th>
<th>Best Practice</th>
<th>Policy Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lenient eligibility conditions, with no minimum age or retirement</td>
<td>With no minimum retirement age, the average age of retirement for length of service is 49 years for men, and 47 for women, resulting in equal periods of time contributing as receiving benefits.</td>
<td>Individuals in most countries spend at least twice as long contributing toward retirement income as receiving pensions – sometimes three times as long.</td>
<td>1. Establish a minimum retirement age at which retirement benefits commence.</td>
</tr>
<tr>
<td>Very high benefits</td>
<td>The Constitutional Amendment 1998 has eliminated the proportional pension, making the replacement rate 100% of gross wage, which is well above 100% of net wage and makes little sense from the point of view of income replacement.</td>
<td>Mandatory benefits in the order of 30-50% of average wage are more likely to be fiscally sustainable without huge labor market distortions - additional benefits supported by voluntary pension schemes.</td>
<td>2. Lower first-pillar benefits to replace a fraction of average lifetime earnings. 3. Diversify the burden and risk of income security in old age to multiple pillars.</td>
</tr>
<tr>
<td>High evasion</td>
<td>Contribution rates are high, averaging around 30% and the pension is based on the average of the last 3 years' salary, leading to underreporting of earnings and years of service.</td>
<td>Contribution rates lower than or not much above 15% tend to have far lower impact on evasion. Countries have also moved toward considering lifetime earnings for determining pension amounts.</td>
<td>4. Move toward lifetime earnings for calculating pension and consider mechanisms to lower contribution rates in the future.</td>
</tr>
<tr>
<td>Multiple receipt of benefits</td>
<td>The length of service system requires 35 years of service for men, while the old age system will require up to 15 years of service as a man and minimum age of 65; it is possible to complete requirements for both and receive two pensions.</td>
<td>Internationally individuals receive only one pension, old age, or disability, or as survivors.</td>
<td>5. Eliminate multiple benefits.</td>
</tr>
<tr>
<td>Contributory system functions as social assistance system</td>
<td>The old age system with its predominance of rural recipients, primarily rural women earning minimum wage, serves as a social assistance system, but at a cost to the contributory system. However, the social assistance function of the Old Age system is valuable, particularly in the Brazilian context.</td>
<td>Social assistance and social insurance are generally separated.</td>
<td>6. Old Age program should be separated from and financed outside social security or, ..., 7. ...needs to be retained under the first pillar, but with an explicit subsidy.</td>
</tr>
</tbody>
</table>

Source: World Bank staff assessments.
<table>
<thead>
<tr>
<th>Problem</th>
<th>Diagnosis</th>
<th>Best practice</th>
<th>Policy recommendation</th>
</tr>
</thead>
</table>
| Generous benefits                            | Brazil's RJU has highest statutory replacement rates in the world, combined with least demanding vesting rules. Generous public-sector pensions encourage rent-seeking, and discourage private-sector employment. | If stand-alone regime is maintained, benefits are aligned with private sector pensions. Civil servants are encouraged to rely more on individual savings. Trend toward funded pension plans, and integration into national first-pillar systems. | 1. Institute ceiling on first-pillar benefits from the RJU, aligned with RGPS  
2. Reliance on second and third-pillar plans for retirement income above the first-pillar ceiling. |
| Benefit indexation to current salaries       | Benefits indexed to increases in current public-sector salaries, making Brazil's RJU one of the most generous in the world. | Trend towards indexation of pensions to changes in the CPI, or a combination of salaries and prices | 3. Indexation of benefits to inflation. |
| End-loaded benefit formula                   | Basing benefits on last month's salary encourages abuse and worsens public-private inequity at taxpayer expense. | PAYG, first-pillar benefits based on average lifetime income, and be awarded discretely, based on years of service/contribution. | 4. Reference salary based on the average of the best 20 years.  
5. Earnings replacement determined by an accrual rate per year of service. |
| Loosely applied vesting requirements         | A large number of current retirees became vested under the RJU after long employment in private sector and "last minute" migration into government service. | Vesting requirements should be uniform in first-pillar systems and strictly enforced. Years of service should equal years of contributions. | 6. Vesting periods aligned with the RGPS.  
7. Full recognition of acquired rights between regimes.  
8. Transfer of contribution revenue between regimes, along with acquired rights. |
| Early retirement and no restrictions on benefits upon re-employment | It is optimal for a civil servant to claim early retirement. Federal workers have incentive to retire as early as they can to receive a stream of tax-exempt income, inflating the government's total pension liabilities. | Total restriction on payment of first-pillar benefits to workers below a minimum pensionable age. Actuarial penalties for early retirement. Restriction on the receipt of more than one pension. | 9. Establishment of retirement age at which benefits commence.  
10. Actuarial reductions in benefits for early retirement, per year prior to the retirement age.  
11. Restrict multiple benefits  
12. Reduction in benefits or cessation of payments from the first-pillar upon re-employment. |
| Special retirement schemes                   | Special vesting rules for teachers contribute to the volume of the RJU annual deficits, especially in states. Compensating low-paid teachers in public-sector schools with generous pensions is inefficient and contributes to inequity. | Uniform first-pillar vesting and benefit parameters. Salaries in the public sector aligned with those in the private sector. Compensation for "difficult" jobs, made as higher salaries and not higher pensions | 13. Elimination of all special regimes.  
14. Establishment of uniform vesting and benefit parameters within civil-service, and between public and private sectors.  
15. Increase in teachers' salaries, in public primary and secondary schools in line with private sector. |
| Inequity between first-pillar systems        | As structured, the RJU directly contributes to income inequity, and draws public resources to the benefit of a privileged minority, at the expense fiscal stability and of economic growth. | First-pillar provides only a minimum benefit. Tax-financed replacement rate does not exceed 3 times the contribution rate. First-pillar is universal safety net; second and third-pillar provide bulk of pensions. | 16. Strategic communications campaign to draw attention to first-pillar inequities.  
17. Integration of RGPS and RJU and cut in first-pillar benefits.  
18. Creation of well governed and regulated second pillar.  
19. Strong supervision and regulation of third-pillar SCPP. |

Source: World Bank staff assessments.
### Table VI.3. Pension Funds For Private Sector Workers

**Brazil's Problems, International Best Practice, and World Bank Policy Recommendations**

<table>
<thead>
<tr>
<th>Problem</th>
<th>Diagnosis</th>
<th>Best practice</th>
<th>Policy recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restricted coverage</td>
<td>Maximum benefit in RGPS is R$ 1,200 per month, used by companies as a break point for contributing to complementary system.</td>
<td>Most OECD countries do not have eligibility constraints.</td>
<td>1. Supervisory agency to ensure that plans are offered to all employees, regardless of salary.</td>
</tr>
<tr>
<td>Uncertain tax treatment</td>
<td>Government has maintained a dispute with the pension funds over desirability of EET taxation.</td>
<td>Most OECD countries have EET taxation.</td>
<td>2. Commitment to EET taxation, where contributions and fund earnings are exempt, but benefits are taxed.</td>
</tr>
<tr>
<td>High administrative costs</td>
<td>Operational costs in closed funds (employer-provided, mainly DB) higher than in Chile (individual, only DC). High fees of open funds, often above minimum return of 6 percent.</td>
<td>Not identified, but well regulated and supervised employer pension plans should in principle have much lower administrative costs than individual pension plans.</td>
<td>3. Evaluation of causes of high administrative costs among closed funds. 4. Eliminate 6% minimum return rule in open funds, or 5. Ensure comparability between plans and transparency.</td>
</tr>
<tr>
<td>Inadequate regulatory structure</td>
<td>Lack of vesting and portability rules, inadequate funding and auditing standards, low sanctions, poor investment regulations, damaging distortionary minimum return rules, limited disclosure.</td>
<td>The Netherlands for vesting, portability, funding, auditing, and disclosure standards. The Netherlands, Chile and other Latin American countries for valuation and prudential (minimum diversification) rules.</td>
<td>6. Update regulatory framework.</td>
</tr>
<tr>
<td>Ineffective supervision</td>
<td>Duplicated supervisory roles in SPC and SUSEP. Understaffing of SPC and lack of financial and administrative autonomy. Weak supervision and few information requirements of pension funds.</td>
<td>The Netherlands and the new independent agencies in some Latin American countries (e.g. Argentina, Mexico).</td>
<td>7. Integration of closed and open fund supervisory agencies in a single entity 8. Ensure administrative, functional, and financial autonomy of new supervisory agency.</td>
</tr>
</tbody>
</table>

*Source: World Bank staff assessments.*
### Table VI.4. Pension Funds For Government Workers

Brazils Problems, International Best Practice, and World Bank Policy Recommendations

<table>
<thead>
<tr>
<th>Problem</th>
<th>Diagnosis</th>
<th>Best practice</th>
<th>Policy recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of diversification of sponsor risk and limited risk-pooling in RJU plans.</td>
<td>Civil servant's plans (RJU) are administered by the same entity, the sub-national government.</td>
<td>FERS in the US consists of three mandatory pillars: social security, a DB pillar administered by the state government, and a DC pillar with funds managed by mutual funds.</td>
<td>1. Integration of a major component of the RJU plans with the RGPS.</td>
</tr>
<tr>
<td>Imminent depletion of fund reserves.</td>
<td>Pre-funding pension liabilities is not viable unless drastic parametric reforms are carried out.</td>
<td>Fully-funded systems with viable contribution and benefit structures, such as the FERS and most state pension plans in the US.</td>
<td>2. Creation of pension fund should be conditional on adequate parametric reforms.</td>
</tr>
<tr>
<td>Inefficient administrative and supervisory structure of two component, two-fund, DB plan (as proposed in 1998 Constitutional Amendment).</td>
<td>If both the basic plan and complementary plan are DB plans, there will be a duplication of administrative and supervisory functions.</td>
<td>(i) The Netherlands has an integrated supervisory structure for all types of employer pension plans and individual insurance plans. (ii) Parana has proposed a single fund, DB plan subject to a single set of regulations.</td>
<td>3. Integration of basic and complementary plan in a single fund if defined benefit, regulated by complementary pension system supervisory agency, or 4. Complementary plans to be only defined contribution.</td>
</tr>
<tr>
<td>Lack of adequate regulation and external supervision of RJU (reserve fund based) plans.</td>
<td>The RJU plans, since they fall outside the jurisdiction of the federal government are subject to local regulations. There is no guarantee that the states will, for example, introduce full-funding of their RJU plans, or have an adequate governance structure for the reserve fund that mitigates political interference.</td>
<td>The state of Parana is moving in the right direction, with a new law that calls for full funding, and establishes a governance structure for the reserve fund which is similar to that of the closed funds in the complementary pension system.</td>
<td>5. If legally feasible, the whole RJU plan, and not just the complementary part, should be subject to regulation and supervision as part of the complementary pension system. 6. If full integration in the complementary system is not possible, either Law 9717 should be modified to include reference to complementary pension system law, or the states should introduce laws that replicate those of the complementary system.</td>
</tr>
<tr>
<td>Complexity and inadequate regulation of government - sponsored DB pension plans.</td>
<td>DB plans are more difficult to regulate and supervise than DC plans, and may lead to controversial issues, like corporate governance of private sector firms. DC plans also ensure a perfect link between benefits and contributions, and permit the individual accounts.</td>
<td>No country has as yet been able to deal adequately with issues like state's intrusion into the corporate governance private sector firms. Ownership control limits (percentage of a company's equity that a fund can hold) can somehow mitigate this problem.</td>
<td>7. Establish a significant component of the RJUs as a DC plan. 8. Regardless of the size of the DC component there is also an urgent need to improve the regulatory framework of complementary pension funds.</td>
</tr>
</tbody>
</table>

Source: World Bank staff assessments.
APPENDIX

QUESTÕES CRÍTICAS DA PREVIDÊNCIA SOCIAL

Sinopse do relatório
I. DIMENSÕES DO DESAFIO DA PREVIDÊNCIA SOCIAL

O sistema da previdência social no Brasil enfrenta problemas causados por déficits fiscais insustentáveis, iniquidade e desequilíbrios atuariais, custos de eficiência desnecessariamente altos e falta de diversificação em virtude da baixa cobertura dos esquemas custeados. Para ilustrar a necessidade de mudanças, esta seção examina a situação do sistema antes da entrada em vigor das reformas empreendidas nos últimos anos.

Componentes e problemas principais

O sistema brasileiro de previdência social e de pensões consiste de três partes, havendo propostas no sentido de estabelecer o que poderia ser considerada uma quarta parte:

- **O sistema nacional (Regime Geral da Previdência Social, RGPS),** administrado pelo Instituto Nacional da Seguridade Social (INSS), para o qual aproximadamente a metade da força de trabalho de 60 milhões de pessoas contribui, com 18 milhões de beneficiários.

- **O sistema de pensões dos funcionários públicos (Regime Jurídico Único, RJU),** administrado pelo Governo Federal, por todos os estados e muitos governos municipais para os seus funcionários: tem 3 milhões de contribuintes e 3 milhões de beneficiários.

- **Os planos de pensões custeados (da Secretaria de Previdência Complementar, SPC):** Com administração privada, visam a suplementar os benefícios do RGPS; com 3 milhões de contribuintes e 1,5 milhão de beneficiários, dominados pelos fundos de pensões das empresas públicas.

- **Planos de pensões custeados para garantir os benefícios do RJU ou suplementá-los estão sendo propostos e alguns governos estaduais estão bastante inclinados a estabelecer esses fundos para os seus funcionários. Alguns estados como a Bahia e o Paraná já começaram a tomar medidas nesse sentido.**

Este relatório examina as questões essenciais da reforma em cada um dos quatro componentes, verificando tanto as interligações quanto o equilíbrio entre eles (principalmente no Volume 1) e sugerindo remédios referentes a estes componentes (principalmente no Volume 2).

Na terminologia popularizada pelo Banco Mundial, o sistema de apoio à velhice no Brasil tem um **primeiro pilar** grande, compulsório, administrado pelo estado e pago na medida em que é usado, que consiste do RGPS e do RJU e de um **terceiro pilar** relativamente menor, voluntário, com financiamento e administração privadas que consiste do SPC. O Brasil não
tem um segundo pilar, isto é, um componente financiado compulsoriamente, do qual a maior parte dos países latino-americanos agora dispõem. Os países com um terceiro pilar grande, como os Estados Unidos, também não têm esquemas nacionais financiados compulsoriamente. Mas depois das reformas em muitos países latino-americanos na década de 1990, o Brasil é o único na sua região com um primeiro pilar grande, nenhum segundo pilar e um terceiro pilar relativamente insignificante.

A dependência da maioria dos brasileiros numa única fonte formal de apoio à velhice, isto é, a do governo federal, deixa os brasileiros vulneráveis a todos os riscos vinculados ao investimento numa carteira sem diversificação. A dependência excessiva do governo cria pressões no Brasil no sentido de manter altos níveis de pensões públicas que, por sua vez, levam a requisitos de financiamento público em constante crescimento. Isso exacerba as distorções do mercado de trabalho e desvia recursos exíguos dos serviços sociais, tais como a educação. Em 1999, pela primeira vez, as despesas governamentais com a previdência social de 21 milhões de aposentados ultrapassaram as despesas com a educação de 48 milhões de estudantes. Num país jovem como o Brasil – com cinco vezes mais gente com menos de 20 anos de idade do que há gente com mais de 60 anos – essas mudanças assinalam uma distribuição cada vez pior dos recursos públicos. A previdência social tem prejudicado o crescimento corrente contribuindo para a enorme dívida pública do país e agora ameaça a prosperidade por muitos anos no futuro na medida em que desvia recursos que deveriam ser investidos no futuro.

Desequilíbrios fiscais insustentáveis

O indicador mais óbvio da capacidade de pagar a previdência social são os saldos fiscais. Por essa medida, o Brasil não tem condições de pagar o sistema de previdência social que tem. O déficit contábil (receitas menos despesas) do RGPS e do RJU federal foram de aproximadamente R$9,5 bilhões e de R$22 bilhões em 1999. Simulações realizadas para este relatório demonstram que, sem as reformas, os déficits do RGPS e do RJU do Executivo Federal aumentarão para R$20 bilhões e R$23 bilhões, respectivamente, em 2005, e para aproximadamente R$40 bilhões cada um em 2010. É necessário aumentar as cifras referentes ao RJU em um terço em virtude das pensões relativamente generosas do judiciário, legislativo e dos militares, para as quais não foram feitas simulações (Ver detalhes no Volume II). Informações abrangentes sobre os desequilíbrios fiscais dos RJU estaduais e municipais também não estão disponíveis mas os dados compilados pelo Ministério da Previdência Social indicam uma magnitude semelhante para o conjunto dos RJU subnacionais. Usando simulações para o RJU federal e este método empírico para extrapolação, as cifras demonstram que embora o RGPS deva eventualmente tornar-se o ônus maior, o RJU continuará a ser o problema fiscal mais grave nos próximos
15 a 20 anos, a menos que reformas profundas sejam realizadas nos RJU federal e estaduais (ver Figura 1).

**Figura 1**

O RGPS do Brasil toma-se um dreno fiscal maior do que o RJU consolidado mas só depois de 2015

**Iniquidades gritantes**

Até mesmo num país com um dos maiores níveis de iniquidade de renda, pode valer a pena subsidiar um sistema fiscalmente oneroso de previdência social se servir bem aos pobres ou tiver efeitos redistribuidores que os pobres. As estatísticas indicam que menos de 1% das despesas da previdência social atingem os 10% mais pobres dos brasileiros, enquanto que cerca de 50% são apropriados pelos 10% mais ricos. Graças à sua generosidade, o sistema também transfere implicitamente a riqueza das gerações futuras para os atuais trabalhadores/aposentados. A Figura 2 também demonstra que o Governo Federal paga cerca de R$17 500 anualmente a título de *subsídio para cada aposentado* em pensões dos funcionários públicos, depois de imputar contribuição como empregador pelo governo ao dobro da taxa dos empregados (como no caso do RGPS). Em escala nacional, o subsídio para os RJU é de cerca de R$8 000 por beneficiário, em comparação com menos de R$1 000 para o RGPS. Essas cifras refletem diferenças em níveis de benefícios, normas de elegibilidade e coeficientes de dependência do sistema. Se continuar assim, a diferença entre os subsídios anuais do governo federal para o participante típico do RGPS e do RJU passará de R$16 000 para R$80 000 entre 2000 e 2020. Os níveis de salários, pensões e de segurança do trabalho no governo federal do Brasil são geralmente mais altos do que para trabalhadores semelhantes no setor privado. Embora o benefício médio no RGPS seja menor do que dois salários mínimos (ou R$250 por mês), o benefício médio dos aposentados do Judiciário Federal é mais de quarenta vezes o salário.
mínimo (ou cerca de R$6 500). A redução das diferenças entre o RJU e o RGPS será um grande passo no sentido de maior equidade e melhor redistribuição na previdência social do Brasil. Cortar os benefícios do RGPS (por exemplo, por meio da nova fórmula de benefícios) sem também reformar as pensões do RJU irá exacerbar a iniquidade de renda, mesmo que ajude a conter o ônus fiscal geral.

**Figura 2**

![Gráfico de barras mostrando a diferença entre os subsídios de RGPS e RJU no Brasil, com o déficit per capita aumentando cinco vezes em 2020, para um total anual de R$80,000.](image)

**Source:** Banco Mundial PROST.

### Custos de eficiência desnecessariamente altos

No caso do RGPS, esses benefícios generosos tiveram que ser financiados por taxas de impostos sobre a folha de pagamentos que—embora estejam entre as mais altas do mundo—não foram suficientes. Em sua maior parte, os benefícios do RJU têm sido financiados por meio das *receitas tributárias gerais*, visto que só agora o regime está assumindo as características de um sistema que paga na medida em que se gasta. O Brasil coleta impostos na proporção de cerca de 33% do seu PIB, uma das taxas mais altas do mundo, mas ainda tem que levantar empréstimos para atender às necessidades das suas despesas públicas. O FMI calcula que as despesas diretas para as pensões públicas e o custo do serviço da dívida incorrida para pagá-las chegam a quase 10% do PIB. Acredita-se que as vulnerabilidades administrativas do sistema de previdência social e da fiscalização inadequada das leis trabalhistas, juntamente com os níveis onerosos de tributação são a causa principal da alta e crescente informalidade do emprego no país. A **Figura 3** mostra uma queda constante da parcela do emprego formal nas seis maiores áreas metropolitanas do Brasil nas últimas duas décadas. Alguns observadores argumentam que as distorções trabalhistas decorrentes dos altos *impostos do INSS sobre a folha salarial* tornam a reforma do RGPS mais urgente do que a do RJU.
Este relatório considera que as distorções tributárias decorrentes das necessidades de financiamento do RJU—que atualmente são três vezes maiores que as do RGPS—podem ser tanto ou mais graves. Consequentemente, quando se consideram todas as questões fiscais, de equidade e de eficiência, a reforma do RJU continuar a ser a mais alta prioridade dos próximos anos.

Figura 3

A fração de trabalhadores que pagam taxa de seguro social no Brasil caiu 40% desde 1980

Source: Ministerio da Previdência Social.

Baixa cobertura dos esquemas de financiamento

Embora os planos de pensão das empresas administrem ativos de aproximadamente R$100 bilhões, a cobertura desses planos continua restrita a cerca de 5% da força de trabalho (ver Figura 4). A cobertura restrita deste terceiro pilar do seguro de velhice é algo surpreendente para um dos países com um dos mercados de capital mais sofisticados de todo o mundo em desenvolvimento. Dada essa potência institucional, as razões prováveis disso são o tratamento tributário desfavorável para as contas de aposentadoria, uma estrutura inadequada de regulamentação e supervisão que não inspira confiança dos investidores e a generosidade do primeiro pilar das pensões não financiadas. Quase todos os países da OCED têm um modelo EET, em que as contribuições para pensões e o retorno dos investimentos são isentos de impostos e apenas os benefícios das pensões são sujeitos à tributação. Em contraste, o Brasil tem o que se pode chamar um sistema “et”, com limites sobre tais isenções mas também consideráveis incertezas quanto à tributação. A redução da carga fiscal e dos benefícios prometidos nos sistemas de pensão do primeiro pilar são os outros instrumentos para crescimento mais rápido dos fundos de pensão no Brasil. Em 1980, os ativos dos fundos de pensão como fração do PIB tanto no Brasil como no
Chile representavam 1% do PIB; atualmente, esse coeficiente é de cerca de 10% no Brasil e mais de 40% no Chile, onde reformas amplas da previdência social enfrentaram essas vulnerabilidades.

Figura 4

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Quase todos os países da OCED têm um sistema em que as contribuições para pensões e o retorno dos investimentos são isentos de impostos e apenas os benefícios das pensões são sujetos a tributação.

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O estabelecimento de fundos de pensão patrocinados pelos empregadores para os funcionários públicos aumentará a cobertura dos esquemas financiados mas nas condições atuais esses fundos não serão sustentáveis (mais detalhes sobre este aspecto figuram abaixo).
II. AS METAS DA REFORMA

As metas das iniciativas de reforma no Brasil são reduzir os déficits fiscais, diminuir os desequilíbrios atuariais, aumentar a equidade e a redistribuição, reduzir as ineficiências colaterais e facilitar o crescimento dos esquemas de pensões financiadas.

Redução dos desequilíbrios fiscais

O equilíbrio fiscal é a meta principal e imediata da reforma no Brasil. NO RGPS, isso será conseguido acabando com a aposentadoria proporcional e introduzindo uma nova fórmula para o cálculo dos benefícios das pensões (chamado \textit{fator previdenciário} neste relatório), uma mudança concluída recentemente e cujos efeitos ainda não começaram a render frutos. As simulações sobre os efeitos da primeira medida – a eliminação da aposentadoria proporcional – mostraram avanços até 2010 acima dos que teriam ocorrido sem essa reforma, na medida em que as pessoas esperaram mais para receber benefícios sem redução e o salário de referência foi reduzido. Mas sem outras reformas, as mudanças poderiam, segundo algumas suposições até mesmo \textit{agravar} os desequilíbrios fiscais a médio e longo prazo, na medida em que aqueles que se teriam aposentado com benefícios reduzidos (com 70 a 99% dos salários de referência) começarem a se aposentar com benefícios plenos (100%).

O primeiro avanço da primeira rodada de reformas foi – na medida em que removeu a fórmula de benefícios da Constituição – tornar mais fáceis as reformas mais profundas. O governo usou esse espaço para introduzir a nova fórmula que poderá resultar em avanços fiscais mensuráveis (ver figura 5). Embora não garanta a volta do RGPS ao equilíbrio (exceto no caso de suposições).

\textbf{Figura 5}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{chart}
\caption{Reformas recentes do RGPS – se forem implementadas rigorosamente – irão acumular uma poupança fiscal significativa.}
\end{figure}

Source: Banco Mundial PROST.
otimistas, referentes à forma em que as pessoas adiam a aposentadoria em virtude de incentivos para trabalhar mais inseridas no fator previdenciário), essas medidas resultarão em avanços fiscais mensuráveis a curto, médio e longo prazo se forem implementadas com rigor. Mas sem uma idade mínima de aposentadoria, esses avanços não poderão ser considerados como certos.

No RJU, as principais reformas simuladas são a introdução de uma idade mínima de 53/48 anos para homens/mulheres quando os benefícios de aposentadoria começam, bem como a eliminação da aposentadoria proporcional. Um aumento da taxa de contribuição para funcionários públicos ativos e aposentados aprovada pelo legislativo no início de 1999 foi derrubado mais tarde pelo Supremo Tribunal. Atualmente, o Governo Federal está tentando emendar as normas a fim de introduzir contribuições pelos aposentados do governo federal (a maior parte dos governos estaduais já impõem tais contribuições mas estão sujeitos a processos se a decisão do Supremo Tribunal persistir). A emenda Hauly a este projeto procura extinguir completamente o RJU, determinando que todos os contratados novos sejam regidos pelo RGPS.

As simulações indicam que mesmo que as taxas maiores de contribuição tivessem sido aprovadas, o efeito dessas mudanças teria sido desacelerar mas não eliminar o crescimento dos déficits fiscais no RJU federal. Sem as reformas, por exemplo, o déficit ascenderia a 2,3% do PIB -- de 1,5% -- em 2015; se implementadas, as reformas protelarão esse crescimento para 2025. A inclusão dos RJU subnacionais provavelmente iria também dobrar essas cifras. A Figura 6 mostra os avanços relativamente modestos se o governo conseguir introduzir uma taxa de contribuição de 11% pelos aposentados em 2000. As simulações também demonstram que as idades de aposentadoria propostas pelo governo (53 e 48 anos para homens e mulheres, respectivamente, aumentando gradualmente para 60 e 55 anos) tem efeitos imediatos modestos sobre o equilíbrio do sistema às taxas legais atuais de substituição de 100%. Os efeitos da emenda Hauly não foram simulados mas os seus efeitos principais são previsíveis: dada a juventude relativa dos atuais funcionários públicos ativos e aposentados, os efeitos benéficos da emenda Hauly não serão sentidos por uma geração, muito embora os governos subnacionais devam começar a sofrer uma perda de receitas imediatamente (visto que os novos funcionários e seus empregadores teriam que contribuir para o INSS).

**Redução dos desequilíbrios atuariais**

Em geral, os comentaristas da reforma da previdência social no Brasil referem-se ao equilíbrio fiscal e atuarial como se fossem termos idênticos. Na verdade, é improviso que os saldos fiscal e atuarial cheguem jamais a coincidir. O equilíbrio fiscal num sistema em que se paga à medida em que se gasta ocorre quanto o total das receitas das contribuições...
coincide com o total dos benefícios das pensões que estiverem sendo pagos; o equilíbrio atuarial tem a ver com os benefícios previstos de um indivíduo em relação com as contribuições passadas desse mesmo indivíduo. Os elementos que afetam o equilíbrio fiscal incluem o número de contribuintes e de pensionistas e as taxas de contribuição e de benefícios. O que não entra no equilíbrio fiscal é o relacionamento entre os benefícios coletados por qualquer pensionista e o que ele ou ela pagou em contribuições no passado: as contribuições pagas no passado eram receitas naquela época e contribuíram para o equilíbrio fiscal daquele ano anterior, enquanto que os benefícios hoje coletados são despesas que saem das contas fiscais atuais.

Figura 6

Enquanto o governo federal paga um subsídio anual de 500 reais para cada aposentado do setor privado no Regime Geral, o subsídio é de 14 000 reais – quase três vezes a renda per capita do Brasil – para cada pessoa que se aposente pelo Regime Jurídico Único federal.

Figura 7 mostra os efeitos das reformas sobre os principais programas no RGPS e no RJU federal no que diz respeito aos trabalhadores do sexo masculino (os resultados referentes às mulheres são semelhantes). Note-se que essas cifras foram computadas usando uma contribuição implícita pelo governo ao dobro da taxa das contribuições dos participantes do RJU, para torná-las comparáveis com as taxas de retorno do RGPS. As taxas de retorno dos programas de tempo de serviço do RGPS e do RJU caem mas numa fração menor para o RGPS. Mas em geral, comparadas com os ganhos fiscais bastante modestos do RJU, essas cifras refletem as reformas relativamente mais profundas para os novos entrantes em comparação com os que fazem parte do RJU. As reformas do RGPS afetam tanto os que já fazem parte quanto os que entram para o sistema mas as taxas de retorno caem menos em comparação com as do RJU. Não obstante, as reformas do RGPS são relativamente certas (as reformas foram consideradas legais pelo judiciário), enquanto as reformas simuladas para o RJU ainda têm natureza especulativa.

Source: Banco Mundial PROST.

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Uma comparação das taxas de retorno pós-reforma no Brasil com as taxas de retorno do sistema da previdência social dos Estados Unidos (ver Figura 7, novamente) revela quanto mais é preciso fazer para proporcionar equilíbrio atuarial aos sistemas do primeiro pilar no Brasil, especialmente no caso do RJU. As taxas legais de reposição são graduadas entre 29% e 62% nos Estados Unidos, dependendo do nível de renda, consideravelmente mais baixas do que a taxa uniforme de 100% do Brasil. Os que recebem altas rendas nos Estados Unidos podem até mesmo ter que arcar com taxas até mesmo **negativas** de retorno: a sua taxa de reposição é um terço menor do que os seus equivalentes brasileiros. No Brasil, as altas taxas de reposição sem idade mínima de aposentadoria traduzem-se em grandes desequilíbrios atuariais, muito embora as taxas de contribuição subam com os salários e sejam geralmente muito mais altas do que nos Estados Unidos.

**Aumento da equidade e redistribuição**

A terceira meta da reforma da previdência social no Brasil é aumentar a equidade. Uma medida da iniquidade é a diferença na taxa de retorno dos diversos programas. No RGPS, por exemplo, as taxas anuais de retorno do programa de velhice são de 15 a 20% mais altas do que o generoso programa especial de tempo de serviço do RJU. Mas o benefício médio do programa de velhice é baixo e a maioria dos beneficiários pode realmente qualificar-se para assistência social se for submetida ao exame de recursos. É possível que as discrepâncias entre as taxas de retorno dos programas de velhice e de tempo de serviço sejam um melhor indicador da classificação imprópria do que da iniquidade do sistema: o perfil dos beneficiários do programa de aposentadoria por idade é um forte argumento para que o programa seja visto como parte da assistência social, que por razões de transparência podria ser custeado pelas receitas gerais e não pela previdência social baseada em contribuições. Mas pode haver razões políticas para reter esse arranjo administrativo se for considerado que isso aumenta as possibilidades de que essas despesas de assistência social continuem a ser financiadas (mais sobre esse tópico abaixo).

Com as reformas no RGPS avançando a um ritmo consideravelmente mais rápido do que para o RJU, a diferença entre os subsídios do RGPS e do RJU aumentou no período 1999-2000. Vale a pena notar, contudo, que a maior parte dos componentes pró-pobres das pensões do RGPS—o programa de aposentadoria por idade—foi protegido dos cortes. Restringir a reforma ao programa de aposentadoria por tempo de serviço no RGPS—que abrange principalmente habitantes das cidades e homens—e proteger os pensionistas do programa de aposentadoria por idade—predominantemente rurais e femininos—dos cortes ajudou a minimizar os efeitos adversos para os pobres. A aprovação da emenda Hauly irá assegurar maior equidade a longo prazo mas uma das formas
mais eficazes de reduzir a iniquidade e melhorar a redistribuição das despesas públicas nos próximos 5 a 15 anos é conseguir melhor equilíbrio fiscal e atuarial no RJU.

Figura 7

Embora reformas tenham reduzido os desequilíbrios atuários, especialmente no RGPS, o RJU continua insustentável

A redução das diferenças entre o RJU e o RGPS é a forma mais eficaz de conseguir maior equidade e melhor redistribuição das despesas públicas com a previdência social

Redução da ineficiência colateral

Há duas grandes ineficiências no mercado de trabalho no Brasil que podem ser atribuídas pelo menos em parte às vulnerabilidades do sistema da previdência social. Em primeiro lugar, tendo em vista a relativa generosidade das pensões governamentais, há pouco ou não há nenhum movimento do setor público para o setor privado. Em segundo lugar, as altas taxas sobre a folha salarial cobradas para custear os benefícios da previdência social aumentam em cerca de 33% o custo da mão-de-obra) e os impostos gerais altos necessários para cobrir os déficits das pensões dos funcionários públicos e do setor privado aumentam substancialmente o custo das atividades empresariais no setor regulamentado do Brasil.

Ao contrário da maior parte dos países que passam por ajustes fiscais, os funcionários públicos são geralmente superremunerados em relação aos trabalhadores com atributos similares (tais como idade, educação e experiência) no setor privado. Por exemplo, um estudo recente apurou que:

- um homem com diploma de escola secundária no judiciário federal em Brasília recebe 50% a mais, desfruta de 80% mais de segurança no cargo e pode contar com pensões 75% maiores do que seus equivalentes no setor privado.
- uma mulher com 12 ou mais anos de educação que trabalhe para o governo estadual do Rio de Janeiro recebe o mesmo salário,
tem 70% mais de segurança no trabalho e pode contar com pensões 40% maiores.

- um professor nas escolas públicas secundárias de São Paulo recebe um salário 15% menor mas tem 50% mais de segurança no trabalho e pode contar com pensões 50% maiores do que um professor semelhante no setor privado.

As grandes diferenças entre a remuneração pública e privada não dão qualquer motivo para que os funcionários públicos busquem carreiras possivelmente mais produtivas no setor privado (isso é aplicável especialmente aos funcionários com salários mais baixos) e também criam incentivos não desejados para entrar para o funcionalismo público justamente antes da aposentadoria, a fim de receber pensões maiores (isso é aplicável especialmente aos funcionários com salários maiores).

Impostos altos sobre a folha salarial e vínculos tênues entre as contribuições e os benefícios inerentes a um sistema em que se paga na medida em que se gasta – tornados ainda mais tênues por uma administração relapsa – resultam em altos custos da mão-de-obra no setor regulamentado do Brasil e aprofundam o fosso entre o emprego formal e informal. A Figura 8 demonstra que os impostos da previdência social são altos no Brasil e só são ultrapassados por uns poucos países europeus no mundo industrializado. Com as reformas que se enraizam em países tais como a Argentina e o México, as altas taxas dos impostos no Brasil resultaram em salários e emprego mais baixos numa economia global cada vez mais competitiva.

Figura 8

O Brasil tem os impostos mais altos sobre a folha salarial da América Latina enquanto Portugal tem o imposto mais alto da OCDE

Por razões de equidade, eficiência e de desenvolvimento dos mercados de capital, a reforma do RJU deve preceder ou acompanhar novas reduções nos benefícios do RGPS.
Como facilitar a expansão dos esquemas financiados

O espaço limitado para manobras macroeconômicas e fiscais resultante da natureza e da oportunidade da estabilização no Brasil impediu o estabelecimento de um sistema com vários pilares e um esquema compulsório de financiamento. Mas o consenso está evoluindo gradualmente no país no sentido de recorrer mais aos esquemas financiados para apoio à velhice. Isso coincide com a experiência de outros países. O governo tomou medidas para estimular esquemas financiados voluntários, inclusive um conjunto de normas bem elaboradas tanto para os fundos de pensão privados quanto governamentais e também planos para consolidar e fortalecer a supervisão. Mas é improvável que consiga encontrar o espaço fiscal para incentivos tributários aos planos de aposentadoria individuais e patrocinados pelas empresas até que as reformas do primeiro pilar sejam concluídas.

O governo federal facilitou o estabelecimento de fundos complementares de pensão para funcionários públicos. Embora arriscado, isso é promissor do ponto-de-vista da economia política: permite que o governo proponha aos seus funcionários um "novo acordo" que consistirá de pensões menores mas mais confiáveis em vez de surpreendê-los com a má notícia de que os seus benefícios serão reduzidos e assegura que as receitas da privatização sejam usadas para reduzir a dívida do governo. Não obstante, para tomar duradoura essa solução, o governo tem que empreender duas tarefas difíceis antes de criar os novos planos de pensões. A primeira é tirar a fórmula dos benefícios do RJU da Constituição, introduzir uma idade mínima de aposentadoria, taxas menores de reposição e aumentar o período de referência. Segundo as normas atuais do RJU, mesmo grandes injeções de dinheiro (isto é, das privatizações) dissipam-se rapidamente: simulações com o RJU do Paraná demonstram que mesmo se as receitas de um ano do governo estadual (cerca de R$5 bilhões) fossem depositadas num fundo de pensões e recebessem uma alta taxa de retorno, os fundos seriam dissipados em cinco anos (ver Figura 9). A segunda é remediar as vulnerabilidades do sistema de regulamentação e de supervisão.

Figura 9

Os fundos de pensão para funcionários públicos não devem ser criados ante das mudanças nas normas do RJU e os incentivos para os fundos de pensões privados são improváveis tendo em vista as restrições fiscais a que o governo está atualmente sujeito.
III. AS INEVITABILIDADES DA POLÍTICA

Para alcançar as metas descritas acima, o Brasil tem poucas alternativas além de reduzir os subsídios às pensões governamentais mediante a redução das taxas de reposição, alongamento do período de referência para o cálculo de pensões do RJU, estabelecimento de uma idade mínima de aposentadoria; dispor de maior financiamento para as obrigações de pensões e, eventualmente, redução dos impostos sobre as folhas salariais. Embora tenham exacerbado as diferenças do sistema público e privado, as reformas recentes do RGPS foram um passo importante no sentido da melhoria do equilíbrio fiscal e da eficiência. O ônus fiscal das pensões públicas e o fosso crescente entre as pensões do RGPS e do RJU devem ser divulgados por meio de uma campanha estratégica de comunicações, a fim de gerar apoio para a continuação das reformas entre aqueles que ganhariam mais com elas—os jovens, o setor privado e os pobres.

Os subsídios às pensões governamentais têm que ser reduzidos

Todas as apurações deste relatório apontam numa direção—não há recurso além de reduzir rapidamente o subsídio para as pensões dos funcionários públicos cuja magnitude deverá dobrar por volta de 2005, mesmo depois de ser imputada uma generosa contribuição de 20% da folha salarial pelo governo, como empregador:

- Razões fiscais — os déficits fiscais do RJU são superiores ao dobro dos déficits do RGPS e isso não irá mudar pelos próximos dez anos se não houver reformas. Com a última reforma da fórmula de benefícios do RGPS, os déficits do RJU continuarão maiores do que o déficit do RGPS.

- Razões de equidade — o “subsídio” do Governo Federal para o RGPS por beneficiário é menos de 5% do subsídio para os aposentados do RJU. Sem a reforma, esta percentagem subirá para 15% até 2025, mas o déficit absoluto do subsídio quintuplica para R$80 000 e, com as últimas reformas do RGPS, essa diferença aumentará substancialmente.

- Razões de eficiência — Embora os altos impostos sobre a folha de pagamento que financiam os benefícios do RGPS criem distorções no mercado de mão-de-obra, os altos impostos gerais requeridos para custear os déficits ainda maiores do RJU podem causar tantas distorções quanto os do INSS.

- Razões de poupança — Embora a justificação baseada no desenvolvimento da poupança e do mercado de capitais não tenha sido geralmente provada, as condições no Brasil indicam que melhor equilíbrio fiscal e atuarial nas pensões do primeiro pilar—especialmente do RJU—criarão o espaço fiscal

Não há recurso além de reduzir rapidamente o subsídio para as pensões dos funcionários públicos cuja magnitude deverá dobrar por volta de 2005.
necessário para promover o crescimento sustentável do terceiro pilar, financiado.

É preciso reduzir as taxas de reposição

Embora não proporcionem projeções quantitativas à prova de erro, as simulações deste relatório proporcionam medidas confiáveis da eficácia relativa das medidas de política. Os resultados demonstram que as taxas de reposição no RJU e no RGPS devem ser reduzidas para permitir avanços substanciais nas frentes fiscal, atuarial e de equidade:

- O aumento das contribuições – aumentar as taxas de contribuição não é suficiente mesmo para equilíbrio atuarial a taxas de reposição de quase 100%; para conseguir equilíbrio fiscal, são necessárias taxas de contribuição superiores a 50%, o que não é nem politicamente viável nem economicamente desejava. As estimativas demonstram que só teria havido melhoras marginais de equidade no RJU federal com as taxas de contribuição maiores/graduadas de 11-25% que foram derrubadas pelo Supremo Tribunal em 1999, que as considerou inconstitucionais.
- Redução da evasão – é difícil reduzir as altas taxas atuais de evasão às altas taxas atuais de contribuição mas as simulações demonstram que nem mesmo a eliminação da evasão restaura o equilíbrio atuarial; com as altas taxas atuais de reposição e condições de elegibilidade relativamente fáceis, o aumento da cobertura teria piorado o equilíbrio fiscal do médio a longo prazo. O fator previdenciário enfrenta essa deficiência de forma efetiva.
- Aumento do período de contribuição – demonstrou-se que a eliminação da aposentadoria proporcional ajudou a curto prazo mas—às altas taxas atuais de reposição que existiam na época—tais medidas podem na verdade ter piorado o equilíbrio fiscal no RGPS no médio a longo prazo. O fator previdenciário enfrenta essa deficiência de forma efetiva.
- Estabelecimento de uma idade mínima de aposentadoria – As nossas simulações indicam que as vantagens fiscais de aumentar a idade de aposentadoria para 60/55 anos para homens e mulheres são pequenas mas mensuráveis, a curto prazo. Mas embora essa medida ajude a melhorar consideravelmente o equilíbrio atuarial e atrasar a aposentaria, parece não haver apetite político para o estabelecimento dessa condição de elegibilidade no RGPS.

A experiência internacional aponta para algumas normas a fim de conseguir sustentabilidade e equidade: taxas de reposição de 30-40% para os que ganham salários altos (com pensões voluntárias como suplemento, se isso for desejoável) e de 60-70% para os que ganham salários baixos (com assistência social como suplemento, quando isso for necessário). É necessário remover a fórmula para as pensões do RJU da Constituição
Federal, como se fez com o RGPS em 1998. Para os que já se aposentaram, é razoável—se não houver uma idade mínima de aposentadoria—prever a mesma taxa de contribuição quanto as que são aplicáveis para os que ainda estão trabalhando, do contrário a taxa efetiva de reposição será superior a 100%, proporcionando um incentivo nocivo para deixar de trabalhar (e de contribuir) prematuramente. E a norma para a correção monetária dos benefícios pode ser mudada dos níveis salariais para índices de preço.

O período de referência tem que aumentar uniformemente

O aumento do período de referência—o último mês no que diz respeito ao RJU e os últimos três anos no que diz respeito ao RGPS—proporcionará benefícios fiscais, equidade e eficiência mas especialmente se isso for feito uniformemente, para os dois regimes.

- Vantagens fiscais — Tendo em vista que a maior parte dos trabalhadores ganham o maior salário ao fim das suas carreiras, uma fórmula de substituição baseada no salário final (os últimos 36 meses no caso do RGPS e do último mês no do RJU) implica maiores despesas de pensões que seriam aplicáveis se todo o período de trabalho fosse levado em conta para o cálculo dos níveis de pensão. A mudança recente na fórmula de benefícios do RGPS para aumentar o período de referência para quase toda a vida de trabalho aumentará a eficiência do mercado de mão-de-obra. Isso também levantará recursos para o INSS visto que os trabalhadores perderiam se não declarassem todas as suas rendas, como atualmente ocorre.

- Maior equidade — O perfil de renda por idade dos trabalhadores educados (isto é, dos mais ricos) é maior e seu perfil aumenta de forma mais abrupta: enquanto um homem educado de 60 anos ganha três vezes mais do que um homem de 25 anos com a mesma educação, esse coeficiente só é de 1,5 vezes nos casos de trabalhadores menos educados. Ampliar o período de referência para toda a vida de trabalho elimina o preconceito pró-rico tanto das fórmulas do RGPS e do RJU, mas—como as pensões do RGPS têm um teto de R$1 255 por mês e as do RJU não têm esse teto—especialmente para as pensões do funcionalismo público.

- Eficiência — a eficiência do mercado de mão-de-obra irá melhorar ainda mais se os aumentos no período de referência forem aplicáveis uniformemente tanto para o RGPS quanto para o RJU.

As mudanças recentes na fórmula de benefícios do RGPS conseguiram esse objetivo para a previdência social do setor privado. A fim de conseguir os maiores avanços fiscais, de equidade e de eficiência, é necessário retirar a fórmula de benefícios da RJU da Constituição, reduzir a taxa de substituição para os trabalhadores atuais, mudar a norma de correção monetária do salário nominal para a inflação e aumentar o período de
referência de tal forma que a norma sejam a mesma tanto para o RJU quanto para o RJPS.

É preciso instituir uma idade mínima para a aposentadoria

Há que aplicar uma idade mínima na qual os benefícios começem para os aposentados doRGPS. Embora as vantagens fiscais dessa medida devam ser pequenas a curto prazo na medida em que a idade de aposentadoria for incorporada, essa medida é essencial por razões de eficiência do mercado de mão-de-obra, isto é, a fim de assinalar que as pensões visam a apoiar a velhice e não servir como fonte de renda adicional enquanto as pessoas estiverem ou deverem estar trabalhando. As simulações demonstram, contudo, que a idade de aposentadoria deve ser de pelo menos 60 anos para ser efetiva. As diferenças na vida de trabalho e de participação na força de trabalho entre homens e mulheres podem justificar o período mais curto de contribuição para as mulheres mas as estatísticas sobre expectativa de vida indicam que a idade de aposentadoria deve ser a mesma para homens e mulheres.

A importância das pensões financiadas deve crescer

Tanto por razões fiscais quanto de diversificação de risco, a cobertura e tamanho do sistema de pensões financiadas deve crescer no Brasil. A dependência excessiva das pensões do primeiro pilar criaram pressões políticas que culminaram em resultados adversos, fiscais, de equidade e de eficiência. O crescimento sustentável dos esquemas financiados tem três grandes pré-requisitos: legislação equilibrada e clara, um órgão de supervisão habilitado e pensões do primeiro pilar fiscal e atuarialmente equilibradas, especialmente para funcionários públicos.

Finalmente, os impostos que financiam o primeiro pilar têm que ser reduzidos.

Embora as taxas de impostos não possam ser reduzidas até que diminuam os benefícios das pensões, é importante que os planejadores não suponham que as taxas de 30-35% da folha salarial pagas conjuntamente pelos empregadores e pelos empregados são razoáveis. Esse parece ser o caso, atualmente: o coeficiente máximo permitido do déficit da pensão de 12% em relação às receitas líquidas de todos os níveis do governo baseia-se precisamente nessa aritmética. A experiência internacional indica que os aumentos abruptos na evasão começam a ocorrer às taxas de aproximadamente 15% da folha salarial. A própria experiência brasileira indica que taxas médias superiores a 15% simplesmente não são politicamente viáveis para os funcionários públicos. A meta a longo prazo deve ser a de contribuições de 7 a 10% pelos funcionários, com os empregadores fazendo contribuições de contrapartida no máximo nesse nível.
IV. OUTRAS ALTERNATIVAS DE POLÍTICA

Enquanto a última seção discutiu reformas que o Brasil provavelmente terá que fazer, esta seção sugere algumas mudanças que ajudariam mas que podem não ser estritamente necessárias. Elas visam a tornar minimalistas na previdência social os componentes do sistema de pagamento à medida em que se gasta, à integração do RJU com o RGPS, a recorrer ou a financiamento compulsório ou voluntário e a separar a previdência de contribuintes e de não-contribuintes.

As pensões do primeiro pilar poderiam ser mantidas ao mínimo

Seria muito atraente dispor de um pilar de pensões que se pague na medida em que se gaste, minimalista, bem administrado e que vise a proporcionar aos velhos e incapacitados um mínimo abaixo do qual os padrões de vida não possam cair, especialmente se forem minimizadas as distorções vinculadas a esquemas de benefícios definidos tais como o RGPS ou o RJU. Seriam necessárias três grandes mudanças para que o primeiro pilar do Brasil fosse considerado bem administrado e minimalista: administração mais firme do INSS, benefícios menores e uma estrutura gradual de reposição que pague uma fração maior do salário de referência aos que têm rendas menores. Um esquema desse tipo proporcionaria uma salvaguarda social contra a pobreza dos velhos, visto que seria inerentemente redistributivo, protegeria o governo do risco moral de ser frugal e resguardaria os indivíduos da sua própria miopia, requerendo contribuições compulsórias para proporcionar segurança na velhice. O tamanho do primeiro pilar é, fundamentalmente, uma decisão da sociedade – o Brasil pode optar por um mais generoso e pagar um preço mais alto em termos fiscais e de eficiência. Mas não há justificação para um sistema desse tipo se for mal administrado e altamente iníquo.

As pensões do RJU e do RGPS podem ser integradas

É possível que a melhor forma de enfrentar os problemas de equidade e de eficiência da previdência social no Brasil seja uma junção de um RJU reformado com o RGPS, revertendo dessa forma para a situação anterior a 1988. A emenda Hauly propõe-se a conseguir exatamente isso, a longo prazo. A maioria dos países mantém sistemas separados para o funcionalismo público e dessa forma o Brasil não seria uma exceção se continuasse com o atual sistema de primeiro pilar com duas partes. Mas quase 40% dos países examinados recentemente—como a Argentina e os Estados Unidos—começaram a juntar esses componentes. O esquema de aposentadoria dos funcionários públicos dos Estados Unidos entrou em vigor em 1986 e atualmente muitos funcionários públicos federais recorrem ao sistema nacional de previdência social para a pensão básica, para o qual o governo federal contribui em seu nome, como qualquer empregador
privado. As suas pensões são realçadas por planos de pensão privados, que o governo federal supervisiona da mesma forma que qualquer empresa privada com um esquema de pensão patrocinado pelo empregador. Funcionários de muitos estados dos Estados Unidos e da Argentina também pertencem ao sistema nacional de previdência social, como ocorre com as pequenas municipalidades no Brasil. Com uma boa estrutura e uma forte supervisão dos planos de pensão patrocinados pelos empregadores, essa estrutura proporcionaria a maior flexibilidade ocupacional.

O crescimento do terceiro pilar pode tornar desnecessário o segundo pilar

Com a sua alta taxa de informalidade e idade média de aposentadoria baixa, o Brasil poderia gozar das vantagens de um esquema de pensões financiadas no seu mercado de mão-de-obra. Elas incluiriam a criação de um vínculo mais forte entre as contribuições e os benefícios das pensões, que reduziram os incentivos para evasão, as reduções no componente puro de imposto que reduzem o custo da mão-de-obra, o aumento da mobilidade tendo em vista que os direitos de pensão são portáteis, e a redução dos incentivos para a aposentadoria prematura. Mas não deve esperar muito da criação de um sistema financiado. No Chile, onde um sistema financiado já está em funcionamento há quase duas décadas, o emprego do setor informal continua a representar 50%. A própria experiência do Brasil com o FGTS—que também é um esquema financiado por impostos sobre a folha salarial—aconselha cautela. A informalidade no Brasil também pode ser causada pela maneira em que a legislação trabalhista é fiscalizada e pelo fato de que as pessoas com contratos não assinados recebem proteção perante a lei semelhante àquela proporcional aos que dispõem de contratos de trabalho formais. Diante disso, há poucas razões baseadas no mercado de mão-de-obra para que o governo torne compulsório um componente financiado. Para o Brasil, tanto quanto tem sido para os Estados Unidos, pode ser suficiente manter o primeiro pilar pequeno e dispor de um pilar voluntário bem administrado.

A assistência aos velhos pobres pode ser melhor direcionada

Aproximadamente 6 milhões de pessoas, ou 33% dos recipients de pensões e dos benefícios de sobrevivência nos termos do Regime Geral, são homens e mulheres rurais com poucas provas de serviço mas que podem provar que têm pelo menos 60/55 anos de idade. O nível médio desses benefícios é de R$137—apenas um real a mais do que o salário mínimo mensal especificado pela lei até meados do ano 2000—e ascende a cerca de R$8 bilhões por ano, isto é, aproximadamente o tamanho do déficit do RGPS em 1998. Segundo todos os cálculos, uma grande proporção desse montante vai para os velhos pobres e, segundo uma
estimativa, essas transferências constituem de 10 a 15% do PIB dos estados mais pobres do Nordeste tais como o Maranhão e o Piauí.

Há diversos argumentos fortes para apoiar a substituição das pensões recebidas pelos domicílios rurais por assistência social direcionada. O impacto sobre a pobreza e os benefícios sobre o bem-estar citados no Volume II seriam alcançados e, talvez, aumentados se o programa de pensões por velhice fosse um programa de assistência social com uma fonte de receitas mais seguro e de bases mais amplas. Como sistema de seguro social, o sistema de aposentadoria por idade não passa num exame baseado em critérios atuariais e fiscais. E embora consiga redistribuir renda nas áreas rurais não está claro—principalmente porque a incidência do seguro social baseado em contribuições e a assistência social sem contribuições não pode ser analisada separadamente. Além disso, reter o benefício de aposentadoria por idade como assistência social baseada em contribuições pode proporcionar fortes incentivos para os trabalhadores abusarem estrategicamente do RGPS. Reformas recentes no programa de aposentadoria por tempo de serviço do RGPS reforçaram os vínculos dos benefícios com as contribuições e reduzir as taxas de substituição. Os atuais contribuintes do sistema de tempo de serviço têm, portanto, um incentivo para optar por benefícios baseados no sistema de aposentadoria por idade, solapando a sustentação fiscal das reformas. Os requisitos de elegibilidade lenientes para um sistema de pensão por idade estendido aos trabalhadores rurais aumentam o potencial de abuso estratégico. Separar o sistema de seguro social da função de assistência social poderia ser vantajoso mesmo que ambos continuassem a ser administrado pelo mesmo órgão, impedindo subsídios cruzados de um para o outro e permitindo que o governo orientasse o alívio à pobreza para um grupo com menos desincentivos para o outro.

Por outro lado, separar as pensões públicas recebidas pelos domicílios rurais do regime central da previdência social pode deixar o programa sem uma clientela política para defendê-lo e tornar os benefícios públicos para os velhos rurais vulnerável a grandes cortes orçamentários por governos futuros que estiverem pressionados para reduzir as despesas. Além disso, eliminar o componente de contribuição do benefício de pensão por idade—por mais simbólico ou nominal que possa ser—poderá encurralar os trabalhadores mais pobres num programa social marginalizado, sem mecanismos e, portanto, sem incentivos para finalmente passar para um sistema geral de pensões.

Num país onde tem sido difícil concentrar as despesas governamentais nos pobres, as pensões rurais são excepcionais e deveriam ser protegidas dos cortes durante a reforma do RGPS. Embora esse segmento que não contribui esteja sendo obviamente financiado por meio das receitas gerais do Tesouro em vez de contribuições vinculadas coletadas pelo INSS—poderia não ser conveniente para o Brasil transferir este programa para a Secretaria da Assistência Social. Embora essa decisão deva talvez ser
tomada por aqueles que melhor entendem tanto as implicações administrativas dessas opções e a complexa economia política dos programas de assistência no Brasil, a recomendação deste relatório e mantê-lo junto com um sistema que conta com amplo interesse dos eleitores. Portanto, ficaria subordinado ao INSS mas o Ministério da Previdência Social deveria patrocinar uma avaliação exaustiva do programa de aposentadoria por idade, para orienta-lo ainda melhor para os grupos necessitados tais como os pobres das zonas rurais, que atualmente têm poucas alternativas de assistência.
V. SUMÁRIO E CONCLUSÕES

A previdência social é o problema fiscal mais importante enfrentado atualmente pelos governos federal e subnacionais no Brasil. Em 1998, o déficit geral das pensões ascendeu a aproximadamente R$40 bilhões, o mais de 5% do PIB. Se forem incluídos os pagamentos dos juros sobre a dívida pública acumulados em virtude das pensões públicas, essa proporção dobra para 10% do PIB.

Os critérios para avaliar as medidas das reformas

Há muitas razões pressionando no sentido da reforma da previdência social, inclusive a equidade, eficiência do mercado de mão-de-obra e o desenvolvimento da poupança e dos mercados de capital mas as preocupações fiscais são corretamente consideradas como primordiais. Consequentemente, ao avaliar se uma medida proposta é ou não coerente com as limitações e objetivos da política social brasileira, este relatório sugere cinco critérios – em ordem de importância – para a avaliação de qualquer estratégia ou medida de reforma:

1. Vantagens fiscais imediatas;
2. Sustentabilidade fiscal a longo prazo;
3. Considerações de equidade, especialmente as referentes ao RGPS versus RJU;
4. Considerações de eficiência, especialmente as distorções do mercado de mão-de-obra; e
5. Impacto sobre a poupança e o desenvolvimento do mercado de capitais.

Os avanços conseguidos


- **RGPS**: Pequeno alívio fiscal a curto prazo, por meio do aumento dos requisitos de elegibilidade mas substanciais vantagens fiscais a médio e longo prazo graças à nova fórmula de benefícios que reduz as taxas de substituição e alonga o período de referência para o cálculo das pensões; a introdução da fórmula de benefícios também
constitui um sinal claro de que o governo deseja firmemente usar o espaço criado pelas emendas constitucionais anteriores.

- **RJU**: Alívio fiscal relativamente modesto graças aos maiores requisitos de elegibilidade, principalmente um período mínimo de serviço público e tempo de serviço com base no qual ocorre a aposentadoria e uma idade de aposentadoria que aumenta gradualmente; a principal mudança no sistema é uma cláusula segundo a qual a contribuição dos empregados aumentará automaticamente se o déficit nas pensões ultrapassar 12% das receitas líquidas correntes em qualquer nível do governo.

- **SCP**: Pode haver avanço substancial se forem implementadas as normas que marcam uma passagem para os planos de contribuição definida e se entidades não empresariais (tais como grupos profissionais) puderem estabelecer fundos de pensão fechados.

### As mudanças no futuro

Os principais desafios são reduzir a generosidade tanto das pensões do RJU, ao mesmo tempo em que se mantém uma rede de segurança, reduzir as diferenças entre as pensões do RGPS e do RJU e estimular o crescimento sustentável dos planos financiados mediante desbasteamento das pensões do RGPS e do RJU (não financiadas) e o fortalecimento da regulamentação. A reforma de um sistema previdenciário complicado como o brasileiro sob as pressões fiscais, administrativas e políticas que enfrenta devem ser vistas como um processo gradual, com o sequenciamento determinado tanto por considerações estratégicas quanto táticas. A Tabela 1 apresenta os passos que seriam coerentes e incoerentes com as metas a longo prazo de uma previdência social sustentável, eficiente e justa no Brasil. A Tabela 1 também resume essas metas. Os passos coerentes com essas metas seriam:

- **Redução dos déficits fiscais do RJU**: As principais reformas necessárias são a redução das taxas legais de reposição dos 100% atuais, por razões fiscais e de equidade, e o aumento do período de referência do último salário para todo o período de trabalho; ambos requerem emenda da Constituição, cuja urgência pode ser melhor entendida pela revelação dos desequilíbrios por meio de auditorias atuariais dos RJU federal e estaduais e abertura de discussões (ver detalhes na Tabela II). Fazer com que os aposentados contribuam à mesma taxa que os trabalhadores ativos ajuda nas áreas fiscal, da equidade e da eficiência mas não deve ser considerada a medida essencial para restabelecer o equilíbrio.

- **Controlar o crescimento dos déficits do RGPS e melhorar a redistribuição**: A principal prioridade deveria ser o fortalecimento administrativo do Ministério da Previdência Social, especialmente do INSS. A primeira reforma estrutural necessária é uma idade de aposentadoria de pelo menos 60 anos, o que requer emenda
As vantagens fiscais e de eficiência da mudança na fórmula de benefício do programa de aposentadoria por tempo de serviço depende essencialmente da capacidade administrativa do governo, para evitar vazamentos para outros programas, especialmente de aposentadoria por incapacitação e por idade. Outras medidas ligadas à implementação tem a ver com a manutenção do programa de pensões do programa de aposentadoria por idade na zona rural mas aperfeiçoar a sua administração para reduzir fraude (ver detalhes na Tabela 3).

- **Aumentar a cobertura do fundo de pensões**: As principais reformas necessárias são melhor supervisão dos planos patrocinados pelos empregadores e um tratamento fiscal mais amistoso das contas individuais de aposentadoria (ver detalhes na Tabela 4); criação dos planos patrocinados pelos empregadores com normas similares às que prevalecem no setor privado, embora isso só deva ocorrer depois da mudança das normas atuais do RJU -- por meio de negociações com o funcionalismo público, precedidas por comunicações estratégicas para informar o eleitorado dos benefícios da reforma da previdência social (ver detalhes na Tabela 5).

As reformas do RJU deveriam ter prioridade em relação a novas mudanças na estrutura. Indubitavelmente, a reforma do RJU será politicamente difícil. Para facilitar essas reformas, os efeitos adversos iníquos das reformas adicionais do RGPS teriam se não ocorrerem reduções na generosidade das pensões do RJU deveriam ser divulgadas amplamente para gerar apoio político para a reforma do RJU. A criação de fundos estaduais de pensão ou de um componente financiado nas pensões dos funcionários públicos federais podem constituir elementos facilitadores da reforma da previdência social (RJU) e torná-la politicamente aceitável, mas—tendo em vista que todos os sistemas de pensão já apresentam déficit, mesmo com as altas taxas de contribuição—não constituem per se uma estratégia viável para a reforma. Há poucas razões convincentes para vender bens do governo financiados pelos contribuintes a fim de pagar pensões altas e insustentáveis a um grupo relativamente pequeno de funcionários públicos privilegiados, depois de ter reduzido as pensões de outros trabalhadores semelhantes que trabalham para o setor privado.
<table>
<thead>
<tr>
<th>Objetivo</th>
<th>Medidas coerentes com objetivo</th>
<th>Medidas incoerentes com objetivo</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Equilíbrio fiscal</strong></td>
<td>(1) Reforma estrutural do RJU segundo as linhas da reforma do RGPS.</td>
<td>(1) Não aumentar o período de referência do RJU.</td>
</tr>
<tr>
<td></td>
<td>(2) Período mais longo de referência para o RJU, segundo as linhas da reforma do RGPS</td>
<td>(2) Criar fundos de reserva para os funcionários públicos – permitindo que os estados tirem as pensões do orçamento – sem primeiro reformar o RJU</td>
</tr>
<tr>
<td></td>
<td>(3) Idade mínima para aposentadoria nos dois regimes</td>
<td></td>
</tr>
<tr>
<td><strong>Equidade</strong></td>
<td>(1) Aumentar o período de referência uniformemente para o RJU e para o RGPS</td>
<td>(1) Pagar os atrasados do INSS aos RJU dos estados e municípios para manter o pagamento de benefícios insustentavelmente altos do RJU.</td>
</tr>
<tr>
<td></td>
<td>(2) Introduzir gradualmente taxas de reposição com coeficientes menores para os que ganham salários mais altos.</td>
<td>(2) Usar as receitas da privatização para pagar benefícios insustentavelmente altos do RJU.</td>
</tr>
<tr>
<td></td>
<td>(3) Taxas de contribuição mais altas para os aposentados e para os funcionários ativos do RJU</td>
<td>(3) Manter regimes especiais para professores primários e secundários no componente que se paga à medida em que se gasta.</td>
</tr>
<tr>
<td></td>
<td>(4) Acabar com os regimes especiais, exceto para umas poucas funções arriscadas</td>
<td>(4) Ter idade mais baixa de aposentadoria para as mulheres</td>
</tr>
<tr>
<td></td>
<td>(5) Ter um período menor de contribuição para as mulheres mas a mesma idade de aposentadoria</td>
<td>(5) Restringir o componente financiado apenas aos que ganham salários altos.</td>
</tr>
<tr>
<td></td>
<td>(6) Combinar os RJU federal, estaduais e municipais com o RGPS</td>
<td></td>
</tr>
<tr>
<td><strong>Redistribuição e rede de segurança</strong></td>
<td>(1) Introduzir taxas de reposição graduadas com coeficientes mais baixos para os que ganham salários altos.</td>
<td>(1) Acabar com as pensões dos velhos da zona rural ou tornar as pensões rurais sujeitas a cortes do orçamento, mediante separação da sua administração das pensões baseadas em contribuições.</td>
</tr>
<tr>
<td></td>
<td>(2) Continuar pensões para os velhos rurais.</td>
<td></td>
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<tr>
<td></td>
<td>(3) Tornar o primeiro pilar “mínimo”</td>
<td></td>
</tr>
<tr>
<td><strong>Equilíbrio atuarial</strong></td>
<td>(1) Ampliar o período de referência dos componentes que se pagam à medida que se gastam para toda a vida de trabalho</td>
<td>(1) Restringir o componente financiado apenas aos que ganham salários mais altos</td>
</tr>
<tr>
<td></td>
<td>(2) Tomar definidas as contribuições de todos os componentes financiados (CD)</td>
<td></td>
</tr>
<tr>
<td><strong>Eficiência do mercado de mão-de-obra</strong></td>
<td>(1) Combinar os RJU federal, estaduais e municipais com o RGPS</td>
<td>(1) Aumentar as taxas de imposto do INSS sobre a folha salarial</td>
</tr>
<tr>
<td></td>
<td>(2) Reduzir o coeficiente de imposto do empregador para o empregado sobre a folha salarial, atualmente de 2 para 1 no RJU e no RGPS.</td>
<td>(2) Aumentar a contribuição do empregador (atualmente 20%) sobre a folha de pagamento.</td>
</tr>
<tr>
<td></td>
<td>(3) Estabelecer a idade mínima de aposentadoria de polo menos 55-60 anos no RGPS.</td>
<td>(3) Indexar de acordo com os níveis dos salários.</td>
</tr>
<tr>
<td></td>
<td>(4) Fazer correção monetária</td>
<td>(4) Reformar ainda mais o RGPS sem também reformar o RJU</td>
</tr>
<tr>
<td><strong>Desenvolvimento a longo prazo da poupança e dos mercados de capital</strong></td>
<td>(1) Regularização mais energética dos fundos privados.</td>
<td>(1) Ter órgãos de regulamentação separados para os fundos abertos e fechados.</td>
</tr>
<tr>
<td></td>
<td>(2) Normas EET para os fundos abertos</td>
<td>(2) Criar fundos de reserva para os funcionários públicos sem primeiro reformar o RJU</td>
</tr>
<tr>
<td></td>
<td>(3) Redução dos benefícios do primeiro pilar</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(4) Conversão do FGTS para um plano compulsório de aposentadoria</td>
<td>(3) Aumentar os benefícios do primeiro pilar.</td>
</tr>
</tbody>
</table>

Source: Banco Mundial.
<table>
<thead>
<tr>
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<th>Melhores práticas</th>
<th>Recomendação de política</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elegibilidade leniente, sem idade mínima para aposentadoria</td>
<td>Sem idade mínima de aposentadoria, o resultado é período igual de contribuição e de recebimento de benefícios</td>
<td>Na maior parte dos países, as pessoas passam de duas a três vezes mais contribuindo do que recebendo pensões. A idade mínima de aposentadoria entre 55 e 60 anos é um fator essencial para induzir esse comportamento.</td>
<td>1. Estabelecer uma idade mínima de aposentadoria na qual se começa a gozar dos benefícios da aposentadoria. Enquanto o “fator previdenciário” reduzir os benefícios para os que se aposentam cedo, não elimina a necessidade de uma idade mínima de aposentadoria.</td>
</tr>
<tr>
<td>Grandes benefícios</td>
<td>A emenda constitucional de 1998 aumentou a taxa de reposição para 100% do salário bruto, bem acima dos 100% do salário líquido.</td>
<td>Os benefícios compulsórios de 30-50% do salário médio tem maior probabilidade de ser fiscalmente sustentável sem enormes distorções do mercado de mão-de-obra.</td>
<td>2. Menores benefícios no primeiro pilar para substituir uma fração da média da renda durante a vida, conseguidos em grande medida por uma nova fórmula de benefícios.</td>
</tr>
<tr>
<td>Alta taxa de evasão</td>
<td>As taxas de contribuição são de cerca de 30% e as pensões são baseadas nos últimos 36 meses de salário, o que leva a subdeclaração dos rendimentos</td>
<td>As taxas de contribuição não muito acima de 15% reduzem evasão. Os países estão evoluindo para sistemas que usam as contribuições durante toda a vida para determinar as pensões.</td>
<td>3. Diversificar o ônus e o risco da segurança de renda na velhice por pilares múltiplos.</td>
</tr>
<tr>
<td>Receita múltipla de benefícios</td>
<td>É possível preencher os requisitos tanto de período de serviço quanto de idade e receber duas pensões.</td>
<td>Em escala internacional, as pessoas recebem apenas uma pensão: de velhice, de incapacitação ou como sobreviventes.</td>
<td>4. A nova fórmula de benefícios assinala uma evolução no sentido do cálculo da pensão com base na renda por toda a vida de trabalho: não obstante, a diversificação por pilares múltiplos permitiria taxas mais baixas de contribuição compulsória.</td>
</tr>
<tr>
<td>Sistema de contribuição funciona como sistema de assistência social</td>
<td>Aposentadoria por idade – especialmente as pensões rurais – funcionam como um valioso sistema de assistência social mas com um custo para o sistema de pensões baseado nas contribuições</td>
<td>A assistência social e o seguro social são geralmente separados de forma que a redistribuição não desejada seja minimizada.</td>
<td>5. Eliminar a multiplicidade de benefícios: a nova fórmula de benefício requer controle maior para evitar que as pessoas pulem para a aposentadoria por idade ou por incapacidade, que são mais lenientes.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6. Aposentadoria por idade provavelmente não deveria ser separada da previdência social ou e deveria ser retirado no primeiro pilar, para assegurar sustentação política, mas ...</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>7. Sua orientação para os velhos pobres deve ser melhorada por meio de avaliação e reforma rigorosa dos mecanismos de pagamento.</td>
</tr>
</tbody>
</table>

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</thead>
<tbody>
<tr>
<td>Benefícios generosos</td>
<td>O RJU tem as <em>mais altas taxas de reposição</em> do mundo, combinadas com as <em>normas de elegibilidade</em> menos estritas.</td>
<td>Tendência no sentido de planos <em>financiados</em> e de <em>integração</em> aos sistemas nacionais do primeiro pilar. Se o regime de separação for mantido, os benefícios são alinhados com as pensões do setor privado.</td>
<td>1. Reduzir as taxas de reposição. 2. Instituir um teto para os benefícios do primeiro pilar do RJU, alinhando-os com os do RGPS. 3. Recorrer a planos financiados para receita de aposentadoria acima do teto do primeiro pilar.</td>
</tr>
<tr>
<td>Correção para o salário atual do cargo do qual se aposenta</td>
<td>Torna as pensões da RJU generosas e custosa a reforma a fim de aumentar a produtividade.</td>
<td>Tendência no sentido da correção monetária das pensões de acordo com as mudanças em algum índice de <em>preço</em> ou um índice que combine salários e preços.</td>
<td>4. Corrigir os benefícios de acordo com a inflação.</td>
</tr>
<tr>
<td>Fórmula de benefícios carregada no fim</td>
<td>Basear os benefícios no último mês de salário aumenta o abuso e a iniquidade entre os sistemas público e privado.</td>
<td>Benefícios baseados nos rendimentos médios <em>durante a vida de trabalho</em>.</td>
<td>5. O salário de referência baseia-se em 80% dos salários mais altos, como no RGPS. 6. Reposição determinada pela acumulação por ano de serviço.</td>
</tr>
<tr>
<td>Requisitos para assumir direitos aplicados sem rigor</td>
<td>Muitos aposentados atuais adquirem direitos no RJU depois de uma passagem &quot;no último minuto&quot; para o funcionalismo público.</td>
<td>A aquisição de direitos deve ser <em>uniforme</em> nos sistemas do primeiro pilar e estritamente fiscalizada</td>
<td>7. Períodos para aquisição de direitos alinhados com os do RGPS. 8. Transferência plena dos direitos adquiridos e da receita das contribuições entre os regimes.</td>
</tr>
<tr>
<td>Aposentadoria prematura sem restrições nos benefícios ao voltar a trabalhar</td>
<td>Funcionários públicos têm incentivo para se aposentar prematuramente a fim de receber muitas rendas isentas de contribuição e de impostos.</td>
<td>Nenhum benefício do primeiro pilar antes da <em>idade mínima</em>. Multas atuariais para aposentadoria prematura. Restrição às pensões múltiplas e redução dos benefícios ao voltar a se empregar.</td>
<td>9. Estabelecimento de idade mínima na qual os benefícios começam. 10. Reduções atuariais justas nos benefícios para aposentadoria prematura. 11. Restrições dos benefícios múltiplos e redução dos benefícios do primeiro pilar ao voltar a se empregar.</td>
</tr>
<tr>
<td>Problema</td>
<td>Diagnóstico</td>
<td>Melhores práticas</td>
<td>Recomendação de política</td>
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<td>-------------------------------------------</td>
</tr>
<tr>
<td>pensões generosas.</td>
<td>Compensação pelos trabalhos “difíceis” deve ser feita por salários maiores e não por pensões maiores.</td>
<td>professores das escolas públicas em paridade com o setor privado.</td>
<td></td>
</tr>
</tbody>
</table>
| Iniquidade entre os sistemas do primeiro e do segundo pilar | O RJU contribui diretamente para a iniquidade de rendas e causa – por meio da instabilidade fiscal e da redução do crescimento econômico – aumento da pobreza | Em geral, o primeiro pilar só proporciona um benefício mínimo. A taxa de reposição custeada pelos impostos não ultrapassa o triplo da taxa de contribuição. O primeiro pilar é a rede de segurança, o segundo e o terceiro pilares proporcionam a maior parte das pensões. | 15. Campanha estratégica de comunicações para chamar atenção para as iniquidade do primeiro pilar.  
16. Integração do RGPS com o RJU ou corte nos benefícios do primeiro pilar.  
17. Enérgica supervisão e regulamentação do SPC P do terceiro pilar e criação do segundo pilar. |

*Source: World Bank staff assessments.*
<table>
<thead>
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<th>Melhor prática</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Cobertura restrita</td>
<td>Máximo benefício do RGPS é de R$1 255 por mês, usado pelas empresas como</td>
<td>A maior parte dos países da OCDE não têm limitações à elegibilidade vinculadas ao nível salarial.</td>
<td>1. Órgão de regulamentação para assegurar que os planos sejam oferecidos a todos os funcionários, independentemente do nível salarial.</td>
</tr>
<tr>
<td></td>
<td>gatilho para a contribuição para sistemas complementares.</td>
<td></td>
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</tr>
<tr>
<td>Tratamento tributário incerto</td>
<td>Governo tem mantido uma disputa com os fundos de pensão sobre a necessidade de tributação EET.</td>
<td>A maior parte dos países da OCDE têm tributação EET.</td>
<td>2. Compromisso em adotar tributação EET, em que as contribuições e rendas do fundo sejam isentas mas os benefícios sejam tributados.</td>
</tr>
<tr>
<td>Altos custo administrativo</td>
<td>Custos operacionais nos fundos fechados (proporcionados pelos empregadores principalmente BD) mais altos do que no Chile (individual, só CD). Taxas altas para fundos abertos, geralmente superiores ao retorno mínimo de 6%.</td>
<td>Em princípio, planos de pensão patrocinados pelos empregadores não identificados mas bem regulamentados e supervisionados devem ter custos de administração muito mais baixos do que os planos de pensão individuais.</td>
<td>3. Avaliar as causas dos altos custos administrativos entre os fundos fechados.</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>4. Eliminar norma sobre retorno mínimo de 6% para os fundos fechados, ou</td>
</tr>
<tr>
<td>Estrutura de regulamentação inadequada</td>
<td>Ausência de normas sobre aquisição de direitos e de portabilidade, baixas reservas e baixos padrões de auditoria, sanções inadequadas, normas inadequadas de investimento, normas de retorno mínima distorcidas, divulgação insuficiente.</td>
<td>Os Países Baixos no que diz respeito aos padrões de aquisição de direitos, portabilidade, reservas, auditoria e divulgação. Os Países Baixos e o Chile quanto às normas de avaliação e de diversificação.</td>
<td>5. Assegurar comparação entre os planos e transparência.</td>
</tr>
<tr>
<td>Supervisão ineficaz</td>
<td>Funções duplas de supervisão no SPC e no SUSEP. Falta de pessoal e de autonomia do SPC. Supervisão e requisitos de divulgação inadequados sobre os fundos de pensão.</td>
<td>Os Países Baixos e os órgãos independentes recém-criados em países latino-americanos como a Argentina e o México.</td>
<td>6. Atualizar o quadro de regulamentação como previsto na legislação complementar proposta.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>7. Integrar órgãos de supervisão dos fundos abertos e fechados.</td>
</tr>
</tbody>
</table>

Notas: "EET" significa um regime tributário no qual as contribuições e rendimentos dos fundos são isentas mas os benefícios são sujeitos a impostos. BD é a sigla para pensões de benefícios definidos. CD é a sigla para pensões de benefícios definidos, nas quais o nível de benefício é determinado pelas contribuições feitas pelo indivíduo e em nome dele e pelo retorno dos investimentos nesses fundos. SPC é a Secretaria de Pensões Complementares do Ministério da Previdência Social, que regula os planos de pensões fechados ou patrocinados por empresas. A SUSEP é o órgão do Ministério da Fazenda que supervisiona outros fundos de pensão financiados e as empresas de seguros. OCED é a organização de Cooperação Econômica e Desenvolvimento.

Source: World Bank staff assessments.
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<tbody>
<tr>
<td>Falta de diversificação de riscos dos patrocinadores e combinação inadequada de riscos nos planos do RJU</td>
<td>Planos do funcionalismo público (RJU e fundos de pensão) são administrados pela mesma entidade, o governo subnacional</td>
<td>O FERS dos EUA consiste de três partes obrigatórias: previdência social nacional, um pilar de BD administrado pelo governo e um pilar de CD com reservas administradas por fundos mútuos.</td>
<td>1. Integração de pelo menos um componente importante dos planos do RJU ao RGPS.</td>
</tr>
<tr>
<td>Esgotamento iminente das reservas do fundo.</td>
<td>Préfinanciamento do passivo das pensões não é viável a menos que reformas paramétricas drásticas sejam empreendidas no RJU.</td>
<td>Sistemas com reservas plenas com estruturas viáveis de contribuições e benefícios como o FERS e a maior parte dos planos estaduais de pensões nos EUA.</td>
<td>2. Criação de um fundo de pensão deve ser condicionada às reformas paramétricas adequadas.</td>
</tr>
<tr>
<td>Estrutura ineficiente de administração e supervisão do plano de BD de dois componentes e dois fundos.</td>
<td>Se tanto o plano básico quanto o complementar forem planos de BD, haverá uma duplicação das funções administrativas e de supervisão.</td>
<td>A Holanda tem uma estrutura integrada de supervisão para todos os planos de pensões dos empregadores e os planos individuais de seguro. O Paraná propôs um plano de BD com fundo único sujeito a um conjunto único de regulamentação.</td>
<td>3. Se BD, integrar planos básicos e complementares num único fundo regulamentado por um órgão de supervisão do sistema de pensões complementares, ou 4. Planos financiados terão apenas contribuições definidas.</td>
</tr>
<tr>
<td>Falta de regulamentação adequada e de supervisão externa dos planos do RJU (fundo de reserva)</td>
<td>Os planos da RJU saem da jurisdição do governo federal: não há garantias de que os estados contarão com financiamento pleno dos planos do RJU nem de governança adequada dos fundos de reserva para aliviar a interferência política.</td>
<td>O Paraná está seguindo na direção correta, com uma lei que requer reservas plenas e estabelece uma estrutura de governança para o fundo de reserva semelhante à dos fundos fechados no sistema complementar federal.</td>
<td>5. Plano RJU pleno – não apenas a parte complementar – deve ser supervisionado pelo órgão de regulamentação dos planos complementares. 6. Se isso não for possível, a Lei 9717 deve referir-se à lei sobre pensões complementares ou os estados devem aprovar as mesmas leis.</td>
</tr>
<tr>
<td>Complexidade e inadequação dos regulamentos dos planos de pensão com BD patrocinados pelo governo</td>
<td>Os planos de BD são mais difíceis de regulamentar do que os planos de CD e causam problemas sujeitos controvérsias como a governança empresarial das empresas privadas. Os planos de CD asseguram vínculos entre benefícios e contribuições e são portátiles.</td>
<td>Nenhum país enfrentou adequadamente a questão da interferência do Estado na governança das empresas privadas, os limites sobre o controle da propriedade (na parcela do patrimônio da empresa que qualquer fundo pode controlar) aliviaram de certa forma esse problema.</td>
<td>7. Estabelecer um componente substancial dos RJU como plano de CD. 8. Independentemente do tamanho do componente, o quadro de regulamentação e a capacidade do órgão encarregado das pensões complementares devem melhorar.</td>
</tr>
</tbody>
</table>

Nota: o FERS é o US Federal Government Employees Retirement Scheme (Esquema de Aposentadoria dos Funcionários do Governo Federal dos Estados Unidos), que começou a funcionar em 1986. BD é a sigla para pensões de benefícios definidos, nas quais o nível de benefícios é determinado pelo tempo de serviço e níveis salariais. CD é a sigla para pensões de contribuições definidas, nas quais os níveis dos benefícios são determinados pelas contribuições feitas pelos indivíduos e em nome dos indivíduos e pelo retorno dos investimentos desses fundos.

Source: World Bank staff assessments.

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