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State-level pension reform: The case of Rio Grande do Sul

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DISCUSSION PAPER

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Brasília, January 2015

STATE-LEVEL PENSION REFORM: THE CASE OF RIO GRANDE DO SUL

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1. Do Banco Mundial.

2. Da Diretoria de Pesquisa do Ipea.

3. Da Ence/IBGE.

Federal Government of Brazil

**Secretariat of Strategic Affairs of the
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RESUMO

Este trabalho analisa o sistema de aposentadorias e pensões dos funcionários públicos do Estado do Rio Grande do Sul. Como grande parte dos governos estaduais e municipais no Brasil, aquele estado enfrenta sérios problemas com despesas crescentes com inativos e pensionistas. O trabalho dá uma breve descrição da problemática atual e mostra projeções de comportamento econômico-financeiro no horizonte de 30 anos. Finalmente, algumas soluções alternativas são apresentadas e avaliadas.

ABSTRACT

This paper deals with Rio Grande do Sul State public servants retirement system. As most of Brazilian state and local governments, Rio Grande do Sul is facing a serious economic problem with very fast growing expenditures with retirement and survivors benefits for its public servants. The paper gives a brief description of the present situation, followed by a 30 year forecast of future economic behavior. Several possible alternatives are then outlined and evaluated.

1 - INTRODUCTION

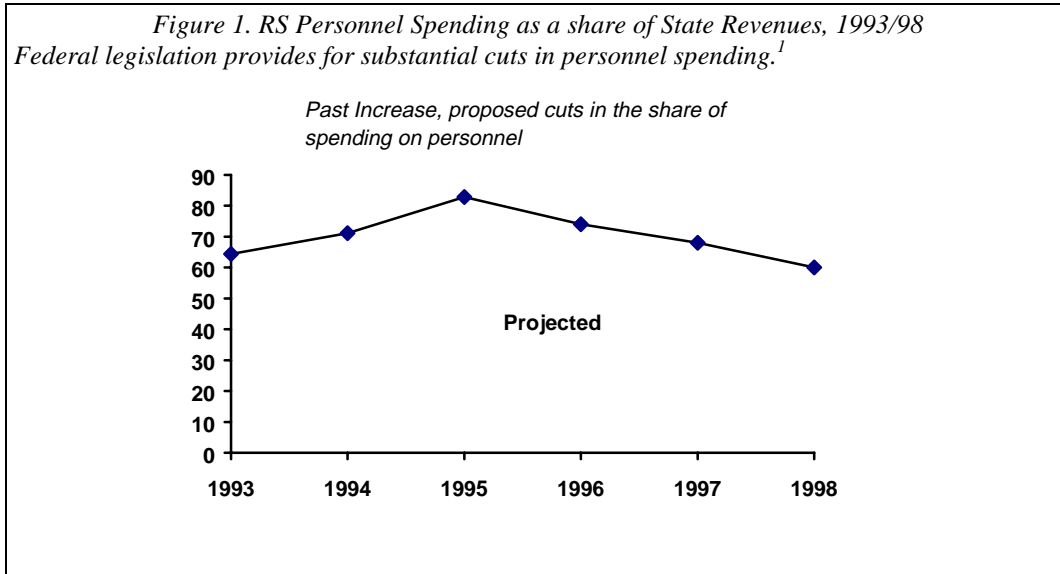
The State of Rio Grande do Sul (RS) is in the midst of a reform project that aims to reduce current spending and enhance investment capacity and creditworthiness. Reducing personnel costs is a main part of the proposed reform. Retirement and pension payments account for about 40% of current personnel costs, and a third of all revenues, so that pension system reform is an important part of the reform project. A major benefit of personnel cost containment could be improved basic health services that will be financed by increments to health spending by the state government, which proposes to strengthen its role in health promotion and disease prevention.

Nearly a tenth of the ten million residents of the State of Rio Grande do Sul (RS) are eligible for retirement, pension, and health services as part of their benefits as state and municipal employees or their dependents. Permanent tenure, full salary throughout retirement, survivors' pensions, and subsidized health services are part of the generous employment agreement of most state employees that is protected by Brazilian labor legislation.

With population aging and slow revenue growth, personnel costs have risen to over 80% of state government revenues. The RS Government plans to reduce personnel costs to under 60% of revenues by the end of 1998 to comply with national legislation (see Figure 1). Several steps have been taken or are proposed:

- a 2% wage tax began to be collected in March 1996 to pay part of the costs of retirement benefits paid by the state treasury;
- a wage policy law allows the state government to apply a reduction factor to inflationary adjustments insofar as pre-established targets, based on the Camata Law, for personnel cost reductions are not met;
- a State Pension Fund (SPF) funded in part by the sale of state-owned assets, could become the basis for a future funded-system;
- changes in the salary cap for state employees, which would include benefits now excluded in calculating the cap, would reduce payments to both active and retired workers;
- a 1996 incentive program for voluntary separations [**Programa de Demissões Voluntárias** (PDV)] was accepted by about 7% of state employees cutting recurrent personnel costs by several percentage points of state revenues.

The measures listed before could reduce personnel costs by up to 15%. Without cuts in personnel costs, the RS Government would be unable to achieve such priority objectives as increased investment in essential social services and improvement in its creditworthiness.



Despite these measures, state government spending on the inactive population, state employees who are retired from public service but continue to be paid their full salary, will certainly rise into the future. The inactive population will grow, according to a baseline scenario, by about 2.5% annually, from just over 80,000 today, to just over 150,000 by the year 2020. Creation of an independent State Pension Fund (SPF) offers one means to control retirement spending. Some options are discussed below.

The state deducts 9% from the monthly wages and retirement checks for IPERGS, the pension fund for state employees, to pay for survivors' benefits and health services for all workers and their dependents. The state treasury has an accumulating debt to IPERGS of R\$700 million, due to its obligation to fund a share of pension costs. Pension and health care costs at IPERGS will keep rising, but these costs can be covered by raising the rates of wage tax deductions already paid by active and inactive state employees.

1.1 - Retirement Fund Options

Five reform options merit consideration. Table 1.1 summarizes some of the features of the five possibilities. It addresses five questions. Does each option satisfy Camata Law requirements? Is the option consistent with Brazilian labor legislation? Does it require new state legislation? Is it sustainable financially? What impact does the option have on the state treasury? Raising these questions may help clarify the difficult choices on the road to pension reform.

¹ The **Camata Law**, named for its author, a legislator from Espírito Santo, sets maximum shares for personnel expenses as a percentage of current net revenue for all Brazilian governments at 74% for 1996, 68% for 1997, and 60% for 1998.

Table 1.1
Brazil, Rio Grande do Sul — Options for Personnel and Retirement Reform

Options and Scenarios	Satisfies Camata?	Labor Legislation ?	Requires New Law ?	Sustainable ?	Treasury Impact
Baseline Scenario	No	Yes	No	No	Negative
Adjustment Scenario	Yes	?	No	No	Positive
State Pension Fund + Adjustment Scenario	Yes	Maybe	Yes	Yes	Positive +
Defined Contribution Plan + SPF + Adjustment Scenario	Yes	Maybe	Yes	Yes	Positive +
Privatized Pensions	Yes	Maybe	Yes	Yes	Positive ++

First is the **baseline scenario**. Data on state employees, especially their distribution by category of work, age, sex, and recent experience of retirement, provided the basis to project personnel costs, 1996-2030. These data underlie the **baseline scenario**. Its projection into the future demonstrates that personnel costs, particularly because of the near doubling of inactive workers between 1996 and 2020, is inconsistent with the Camata Law, financially unsustainable, and has negative implications for the state treasury. Details appear in the main report, Section 1.

The **adjustment scenario** explores the presumption that the state government will meet the Camata Law requirement to reduce personnel spending, yet will maintain the number of workers in each employment category. A key result is that workers' wages would have to fall by one third in real terms to finance the increased number of retirees (see Figure 1.7). Although this option would be consistent with the Camata Law, it would probably lead to severe deterioration in state services and hence would not be sustainable or politically acceptable.

A third approach is to combine adjustment with creation of a State Pension Fund (SPF). The **SPF + adjustment scenario** would require new legislation that must be consistent with labor laws. SPF would offer a number of retirement plans, including full salary in retirement but with the proviso that a significant share of retirement costs be financed from mandatory social contributions during the working years. This option, if properly designed, could have a positive impact on the state treasury by gradually removing payments to retirees from personnel costs. It could be made financially sustainable by assuring the right balance between workers and state agency contributions to the retirement fund. Whether to maintain a funded scheme, pay-as-you-go, with inclusion of state-owned enterprises, and many other details, remain to be decided within general legal parameters.

SPF would be introduced gradually as it would initially cover new workers. Current retirees would not be affected. Older workers, those over age 40, have a large stake in the current generous retirement system and would probably prefer its terms to any funded scheme. Younger workers could be attracted by providing them with acquired rights (based on the present value of expected future benefits) that are portable, allowing them the flexibility to leave public employment without losing retirement benefits. One interpretation of the law is that state employees must be offered the right to retirement payments equal to 100%, and often, 120%

of the last wage, but that the financing of the payments could include substantial wage-based taxes during the employee's working years. Many employees, if faced with the substantial salary deductions that such a high replacement rate would entail, might decide voluntarily to accept a less generous retirement plan.

Participation in SPF could be made mandatory for all new employees. Implementation of a funded scheme will require substantial actuarial analysis, a management and business plan for the pension fund, and a manual of operations that would set out fund policies and modes of administration. Calculations in Annex 2 show that a contribution rate of at least 33% of the gross wage for male employees and 60% for female employees would be necessary to finance SPF pensions. Specific funding needs can only be determined on the basis of an actuarial analysis.

Past experience in Brazil shows that political manipulation of fund policies could undermine its credibility. SPF design must therefore provide for full transparency, active participation by the beneficiaries, and insulation from other public authorities.

A fourth approach adds a **defined contribution plan** to the SPF + adjustment package. It further reduces treasury risk, and enhances worker flexibility, by creating personal retirement accounts owned by the beneficiary. Existing acquired rights could be transferred into such accounts, with the funds invested in equities that promise a reasonable risk-reward ratio. SPF could be flexibly designed to accommodate traditional defined benefit programs, as well as defined contribution personal accounts. It could be extended to cover workers in state-owned enterprises, as well as municipal employees.

A fifth option is to privatize retirement finance and pensions. This option would eliminate the risk of unfunded liabilities for the state treasury, and it would assure insulation of funds from any risk of political manipulation. Such arrangements work well in Chile, and they are being considered throughout Latin America.

This report considers these options and suggests some steps on the path to reform.

2 - STATE EMPLOYMENT, RETIREMENT, AND PENSION PROGRAMS

Brazilian state governments, including the state government of Rio Grande do Sul (RS) suffer a heavy burden of personnel expenses. The share of state revenue absorbed by payments to the active and inactive labor force climbed in recent years to 83%, an unprecedented high, in 1995 (see Figure 1). Pensions and survivors' benefits were the fastest growing segment of personnel costs, accounting, in 1995, for nearly 40% of total personnel expenses and 33% of total revenue. Brazilian labor legislation, as it affects the pay, fringe benefits, and job tenure of state government employees, causes steady inertial growth of personnel costs. Special **commissions** add costs to the current wage bill. They raise

retirement pay as well, for such professional categories as school teachers, police, and firefighters, among others.

There are as many as 40 different items that can be a part of a paycheck. For example, every public servant gets an automatic pay increase of 1%, applied to the base salary, for every year of service completed. With 15 years of service, the employee gets a 15% extra bonus over the base salary. At 25 years of service, this bonus is raised to 25%. Public servants designated for commissioned functions receive additional salary increments that apply to the inactive paycheck as well.

2.1 - Cost Containment Measures

The RS state government is committed to cost containment. Given the high share of wages in total costs, staff and wage-rate reductions have to be considered, despite popular and legal support for the *status quo*. The RS Government will comply with the Camata Law, a Federal Statute that limits personnel expenses as a percentage of treasury receipts to 74% for 1996, 68% for 1997, and 60% for 1998. Steps along the road of personnel expense reduction appeared in the introduction (see above). Taken together, these measures could save up to 15% of total personnel expenses.

Other tactical measures that could cut expenses include absenteeism control, a census of all public servants, and the redefinition of careers and quantity of staff needed by each governmental unit. New admissions were restricted to severely understaffed priority areas such as public safety and health. The admission of a limited number of new school teachers was also authorized by the government. Between March 1991 and November 1995, the numbers in the active labor force declined by 3%, whereas retirees and survivor benefits recipients grew sharply (28% and 17%, respectively). This contrast in experience, in which state government succeeded in curbing active employees, yet saw its personnel costs shoot up because of a growing number of retirees and pensioners, illustrates well the difficult problem of trying to contain costs when the fringe benefits of the inactive former workers are so costly.

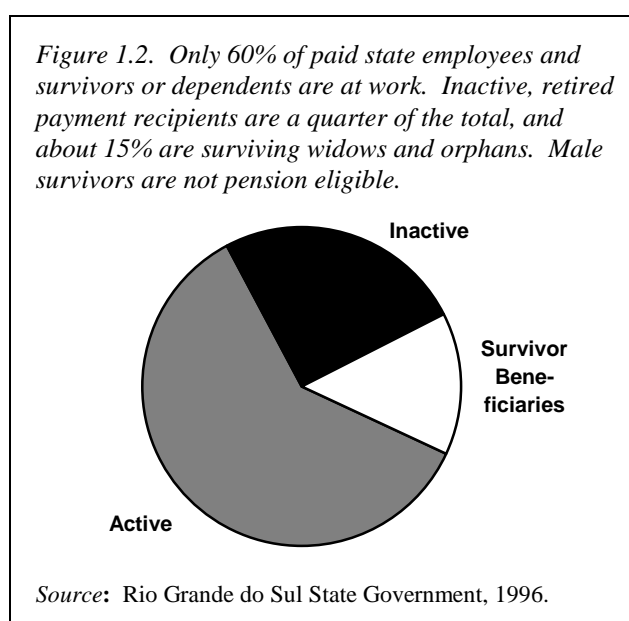
The cost containment measures discussed above will may be insufficient to bring balance between RS state revenues and expenditures. Legal barriers may prevent wage cuts, but there is the option to increase further the contributions that civil servants must make to fund their pension and medical care expenses. Brazilian labor legislation is explicit in stating that public servants shall receive retirement benefits equal to their last salary. However, the law is silent on the question of how much the beneficiary should contribute to the funding of this benefit. It may be consistent with legislation to bill the user the full actuarial cost of the retirement benefit package. The added 2% tax on the wages of active and inactive state employees is a good starting point and can be followed with higher tax rates as necessary. The objectives of such additional contributions can take three factors into account. First is the need to finance benefits for the civil servants themselves, second is the need to move toward fiscal balance by means of

reduction in the net-of-tax wage bill, and third is the need to bring public sector salaries into line with private-sector salaries.

2.2 - Profile of State Employees, Active and Inactive

The total number of active and inactive civil servants, including the direct administration, military brigade, foundations, autarchies and state enterprises, was 377,379 in November 1995. This number is 6% higher than employment in March 1991, about five years earlier, and may thus confirm slow growth in numbers of employees. The state's population grew by 3.6% during the same period.

Only three fifths of this number are actually working (see Figure 1.2). For retirement purposes, all civil servants belonging to state owned enterprises, **Sociedades de Economia Mista**, are subject to private sector legal provisions. These civil servants will not have their benefits paid by the state treasury, but by the National Social Insurance Institute, **Instituto Nacional de Seguridade Social (INSS)**. They have been excluded from the analysis that follows.



Public employment (civil and military) is regulated by Articles 29 to 48 of the state Constitution, which guarantees fourteen job rights, including those in the 1988 Federal Constitution. The state Complementary Law details the constitutional provisions for the civil servants. Its wage policy describes additions to the basic salary that can augment inactive pay and pensions.

2.3 - State Employee Salary Range

Table 1.2 shows the distribution of state employees, and recipients of survivors' benefits, by amounts received in October 1995. About 86% of all civil servants received less than R\$1,000. The aggregate amount these lower-wage persons received constituted just under half the total payroll.² In contrast, the top 1.75% of wage and benefit recipients received 18.6% of all such payments. These are older, higher-level, and often, inactive wage recipients. Among the inactive, the top 3.07% received more than R\$6,000, and they accounted for 25.8% of the incomes received by all inactive workers. One can readily calculate the impact of a R\$6,000 salary cap from data in Table 1.2. It would save about R\$10m, on 5% of the aggregate wage bill.

Table 1.2
Brazil, Rio Grande do Sul. Civil Service Numbers and Salary — Benefit Payments, Oct. 1995 (reais)

Salary Range, R\$/month	Number	Value
Up to 200.00	18,554	2,991,496
200.01 -500.00	144,287	44,990,584
500.01-1000.00	67,300	47,035,529
1000.01-1500.00	13,207	15,851,843
1500.01-2000.00	5,618	9,652,883
2000.01-3000.00	7,487	17,826,591
3000.01-4000.00	2,796	9,543,675
4000.01-5000.00	1,522	6,901,494
5000.01-6000.00	1,969	10,832,815
Above 6000.00	4,684	37,913,493
TOTAL	267,424	203,540,403

Source: Assessoria Executiva-GAE, Gabinete do Governador, Estado do Rio Grande do Sul, 11/03/95.

Notes: Legislative, judiciary and executive; includes active and inactive; excludes state owned enterprises.

² Including active and inactive population but, as said earlier, excluding all state owned enterprise workers.

2.4 - The Public Servant Pension System

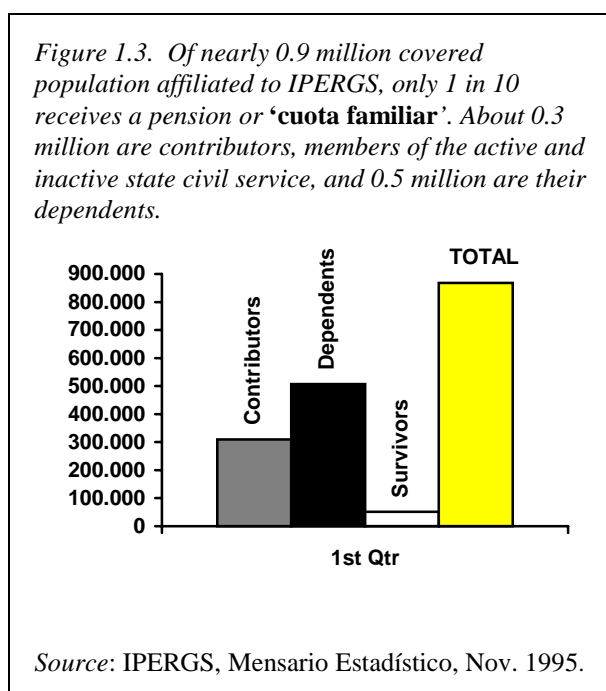
The state Constitution approximately replicates the Federal Constitution provision for civil and military public servants with the key conditions shown in accompanying Box 1. The state Constitution has, nevertheless, some extra and more generous provisions. For example, it mandates that survivors' benefits paid to the surviving wife or husband would not cease, even in the event of remarriage. It also contains an extra bonus for teachers that deal with under- or super-gifted children. The state Constitution allows voluntary retirement at 30 years of service for males, and 25 for females in military service.

Box 1. Conditions governing inactive status of state government employees.

- retirement because of permanent disability, with benefits equal to full salary if the disability cause was a work related accident, professional disease, or grave disease contagious or not curable, as defined by the law;
- proportional benefits, in all other cases;
- compulsory retirement at 70 years old, with benefit value proportional to the length of service;
- voluntary retirement at 35 years of service, if male, and at 30 years of service, if female, with benefit value equal to the full salary;
- at 30 years of actual teaching services, if male, and at 25, if female, with benefit value equal to the full salary;
- at 30 years of service, if male and at 25, if female, with benefit value proportional to the length of service;
- at 65 years old if male, and at 60, if female, with benefit value proportional to the length of service;
- value of survivor's benefits equal to the full salary or benefit value of the deceased; and, incorporation of all gains given to the active civil servants to the benefit values.

2.5 - The State Social Security Institute (IPERGS)

Article 41 of the state Constitution mandates the creation of a social insurance and medical assistance institute. Article 225, Law n° 10,098, provides for retirement and survivors' benefits, sickness leave, maternity leave, work related accident leave, funeral aid, bonus for survivors' benefits in case of death caused by a work-related injury or aggression. Law n° 7,672 of June 18, 1982, deals with the **Instituto de Previdência do Estado do Rio Grande do Sul (IPERGS)**, the state Social Security Institute. IPERGS does not provide any retirement benefits, as these are paid by the state treasury, as if the employee, now inactive, were still part of the state work force. The main benefits paid by IPERGS are medical services, survivors' benefits, which are paid to the surviving spouse, sons up to 18 years old, daughters up to 21 years old or disabled sons and daughters of any age; funeral and seclusion aid (see Figure 1.3).



2.6 - Subsidized Medical Care

IPERGS medical care for active and inactive civil servants and their dependents is significantly more generous than health services received by the majority of state residents (see Table 1.3). The **per capita** subsidy from the state treasury is seven times larger, on a **per capita** basis, than the general subsidy provided through the Unified Health System (SUS). Both medical consultations and the frequency of hospital stays are also considerably larger for state employees and their dependents than for the general population. The cost **per** hospitalization for the employee group is more than double that for the population served by the SUS. Taken together, these differences suggest that subsidies for health care may be too generous. One solution is to increase the contribution rate of employees and to find means to induce them to be as frugal as possible with the use of these services.

IPERGS contracts medical services to the private sector on a fee-for-service basis and does not maintain its own medical staff. Medical benefits include hospital and outpatient care, auxiliary services of diagnosis and therapy, and cost of drugs when hospitalized. Various copayments obtain. Data displayed in Figure 1.4 suggest a rate of 2.2 medical consultations **per person per annum**, which is low to normal among insured populations in Brazil. The hospitalization rate of about 14 **per** 100 population **per annum** is similarly within the reasonable range though, as indicated above, considerably higher than the population of Rio Grande do Sul as a whole. These disparities suggest the need for further analysis of factors affecting use of health services.

Table 1.3

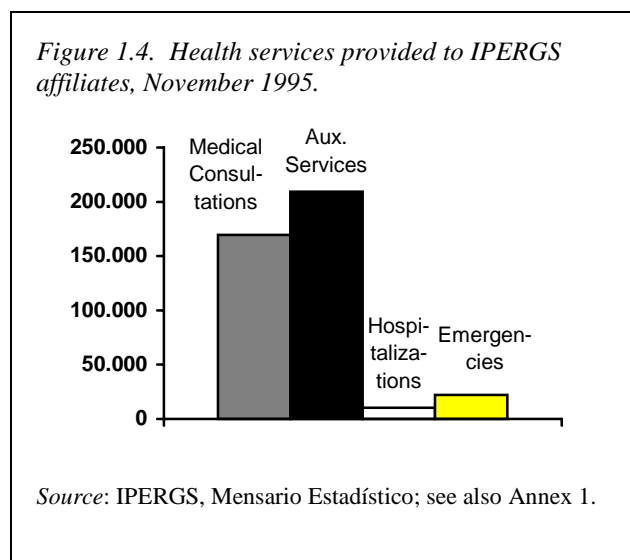
Brazil, Rio Grande do Sul. Selected Health Service Use Indicators, Unified Health Services and IP Services for state Employees and their Dependents —1995

Selected Indicators	Rio Grande do Sul, All	IP State Employees
Population Served, thousands	9,469	868
Expenditures, R\$millions	860	184
Expenditures per capita , R\$	91	212
State treasury Subsidy, R\$mill	129	79*
treasury Subsidy per capita , R\$	13.6	90.8
MD Consultation Payment, R\$	2.60	8.04**
MD Consultation/person/yr	1.8	2.2
Percentage of persons hospitalized	8.9	14.6
Payment per hospitalization, R\$	307	673

Source: State Health Secretariat and IP.

*Excludes workers' own contribution of R\$88 million, payments by local governments, and other sources.

The IP payment **per medical consultation was R\$18, which includes complementary exams and tests.



2.7 - Survivors' Benefits at Issue

Survivors' benefits include the **Cuota Familiar**, or family share, equivalent to 45% of the full salary of the deceased, as if he were still working, and a 5% addition per dependent, to a maximum of 11 dependents. Brazil's Supreme Court recently rejected this formula. Its ruling would require IPERGS to pay survivors 100% in all cases, virtually doubling its pension payments. If this ruling prevails, the estimated liabilities would be around R\$1.2 billion, an amount equal to several multiples of current annual pension outlays by IPERGS.

2.8 - Wage-Based Contributions to Fund Benefits

All public servants contribute 9% of their full salary to IPERGS. 40% of these contributions are assigned to the medical assistance programs, and 60% fund pensions, i.e., survivors' benefits. The state is supposed to contribute 3.5% of its total wage bill to IPERGS in support of the medical assistance program. It is also responsible to pay personnel and administrative expenses of IPERGS. The state treasury is in deep arrears, an estimated R\$700 million, to IPERGS, having not made these contributions for many years. Thus, resources that should have been used to fund pensions instead cover medical and administrative costs. Reported administrative costs were relatively high, reaching up to 1.5% of payroll, or 17% of total IPERGS revenue.

2.9 - Lack of Actuarial Projections for IPERGS

IPERGS operates as a pay-as-you-go scheme, "**repartição simples**", although its original plan provided for partial funding. There are no actuarial projections of its future expenses and revenues. The state government is also considering some additional steps to achieve fiscal balance within IPERGS (see Box 2). The aggregate impact on the state budget is uncertain.

Box 2. Additional measures aimed at achieving fiscal balance for IPERGS.

- Raising the contribution by survivors' benefit recipients for the medical assistance program delivered by IPERGS from the present level of 2% to 7.82% ;
- Raising the contribution of active civil servants for survivors' benefits from the present level of 9% to 10.82%;³
- Effective payment of the 3.5% State Contribution to IPERGS;
- Restrictions to the accumulation of survivors' benefits;⁴
- Curtailing survivors' benefits for the 60,000 unmarried dependents of public servants that entered the public service prior to January 1974; and
- Selling IPERGS real state to yield R\$10 million, reduction of IPERGS administrative expenses, and implementation of more effective administrative controls.

³ It was actuarially estimated that the inclusion of the surviving husbands as survivors' benefits recipients would cost 1.8% of the salary.

⁴ Present legislation allows one widow to accumulate more than one pension, if her second (third, etc.) husband is (are) also a public servant.

2.10 - Reforming The Retirement and Survivors' Benefits System

The Camata Law for overall personnel expense provides a framework for reform. A major challenge is to change the employment relationship between the state government and its more junior and new employees.

State data on employees, retirees, and pensioners, when combined with national life tables, and recent experience in the timing of retirement, enabled analysts to project personnel costs over the period 1996 to 2030. They used a baseline scenario that assumes limited success for state government initiatives aimed at reducing wage and personnel costs. From March 1996 onward, the only new source of revenue under this scenario will be the 2% tax on public employee salaries and retirement benefits (Law 10,588 of November, 28-1995). In this scenario, new entrants in the active labor force are added in numbers sufficient to keep the total number of workers per career constant. For each deceased or retired public servant, a new one is hired, with the sex and age distribution at admission equal to the one observed during the previous decade.

Wage adjustments maintain the real value of salaries. The baseline scenario also assumes that the state government will not curb the growth of "advantages," commissions, and other additions to retirement and survivors' benefits. Retirement rules remain unchanged, as does the Federal legislative and regulatory environment.

In one alternative scenario, the aggregate wage bill is compressed to comply with the requirements of the Camata Law. The effect is to cause a substantial reduction in personnel costs, as described below.

The numbers of retirees and pension payments then derive from a Markov chain model. For a given calendar year the population of **retired, inactive** civil servants was computed as the population at the previous year, corrected by aging and mortality, plus the new retirees (see Figure 1.5). Even though the working population of civil servants is held constant at its 1995 level, the number of retirees, according to this projection, would grow from just over 80,000 in 1996 to just under 160,000 by 2020. The cumulative annual percentage rate of increase is about 2.5% **per annum**. The model does not calculate the population of individuals collecting survivors' benefits. The cost does not affect the state, since the payments are made by a separate institution.

Figure 1.6 presents personnel expenses as a percentage of net revenues under the assumption that salaries and benefits would keep their real value and that revenues would increase by 13% in the next year, as proposed by the Federal Treasury (STN). Under this optimistic assumption, personnel expenses, as a percentage of revenue, would fall significantly (as between 1995 and 1996 in Figure 1.6). The model used here shows, nonetheless, that maintaining state employment, as it is now, would have the result that expenses eventually outpace revenues. By 2023 net revenues would not be enough to pay for personnel. This result is the

inevitable outcome of the model’s assumptions that revenues, after the initial 13% increase, would grow by only 2% **per annum**, which is less than the 2.5% **per annum** growth in the number of retirees that must be supported.

Under the **Adjustment Scenario** personnel costs would be cut below those shown in Figure 1.6 by compressing wages or cutting staff numbers. Salary levels or employment would have to be cut, under this scenario, to as little as 65% of current levels to comply with the Camata Law. This alternative is shown in Figure 1.7, which displays the future-year wage bills, as a percentage of the 1995 wage bill, that would be consistent with personnel cost reductions required by the Camata Law.

Figure 1.5. Retired civil servants will increase in number from about 80,000 now to more than 150,000 by 2020.

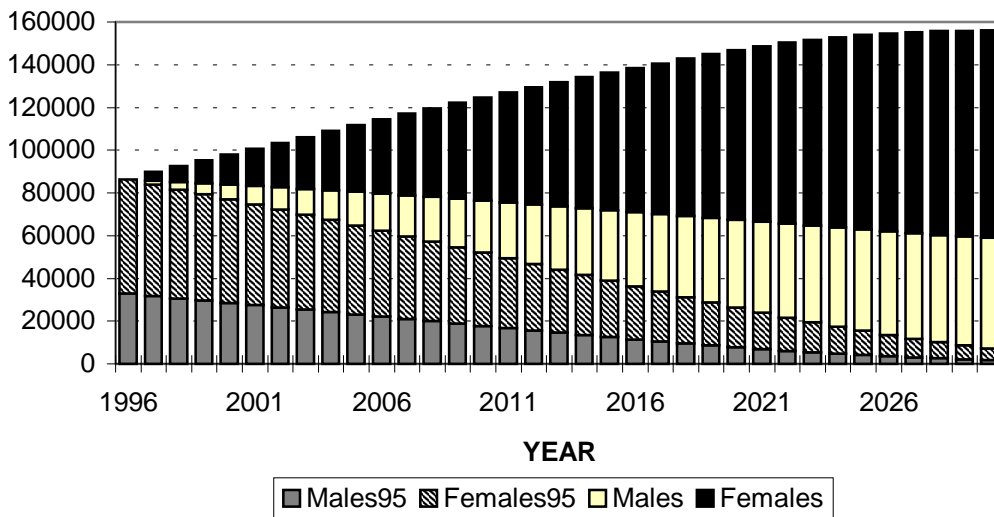


Figure 1.6. Personnel expenses, though initially declining as a share of revenues, would again reach 80% of net revenues by 2001, and exceed 100% by 2020

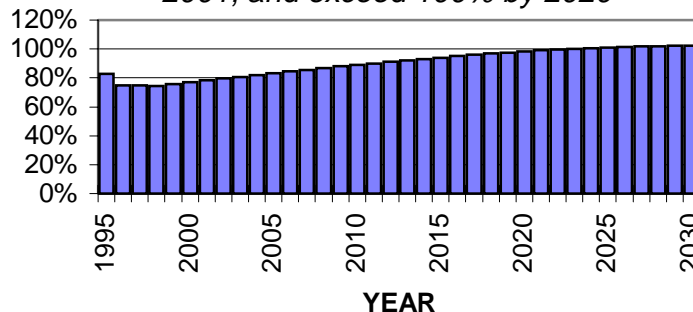
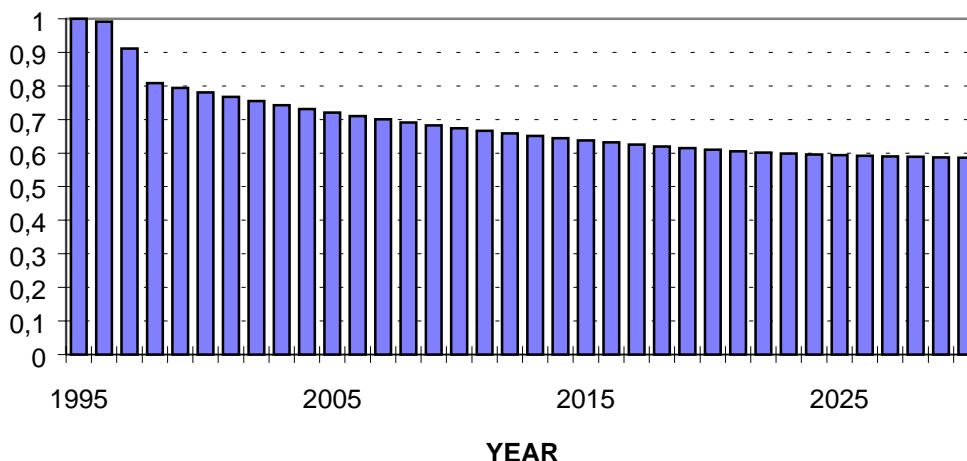


Figure 1.7. Salaries and benefits must decline if personnel numbers remain high and the state government complies with the Camata Law



2.11 - SPF Reform Scenario

One conclusion to be drawn from these preliminary simulations and projections is that draconian salary or staff reductions will be needed if there are no changes in the system of retirement benefits. Thus, the state government may wish to consider a third option, which may be called the state Pension Reform Scenario, or SPF. The SPF Reform Scenario has as its basic feature the implementation of a **RGS State Public Service Pension Fund**. Its main objective is to pay retirement and survivors' benefits to public servants and their dependents, through a new defined contribution, fully funded scheme. A critically-important feature is that the beneficiaries would pay premiums necessary to cover the cost of the benefits provided. This arrangement would make transparent the fact that non-wage retirement benefits that now seem to be 'free' to the worker are in fact part of the state employee's total compensation package. Measures under consideration include several that are related to personnel and pension costs.

The RS Government may establish a funded pension scheme (SPF) to be made available to state employees. Some possible characteristics of such a fund appear in Box 3. The SPF would be funded by individual and employer contributions with defined contributions, rather than defined benefits. Proceeds from the sale of state-owned enterprises could be invested, with the resulting dividends used to pay part of the acquired benefit rights. Individual beneficiaries would own their pension savings accounts, and the pension fund would report on the status and actuarial projections for individual accounts frequently. The SPF would be independent of government and would not invest in government debt instruments. Its Board of Directors would include representatives of the beneficiaries, of the government, and of interested institutions. Its investment policy would seek a

high rate of return consistent with the need to maintain a conservative risk-reward ratio.

The attractiveness of this fund to state employees, retirees, and pensioners will differ considerably with age and current status in the existing arrangement. These several groups are discussed in succeeding paragraphs.

Box 3. Characteristics of a Funded Pension Scheme

- Mandatory for all unconfirmed state employees.
- Accounts fully portable for transfer to other qualified retirement plans.
- Worker contributes 10% of wage, and state matches on 3:1 basis to fund a replacement rate of about 60% of last ten years' wages.
- Fund managed by a Board with representatives from state government, employees, private sector.
- Investment policy excludes purchase of state or other Government of Brazil bonds.
- Quarterly reports to participants; full vesting in personal accounts; withdrawals only for retirement or disability.
- Tax incentives for additional savings contributions.
- Offer a parallel HMO-style health insurance arrangement that pools health finance risks.

2.12 - Inactive Population and Pensioners

For the present, the state treasury and IPERGS must continue paying full acquired benefits until, eventually, the population dies out. Figure 1.5 above shows that about half the number of today's retirees would still be alive in 2014, and a few thousand will survive to 2030 and beyond. The only cost-reducing option is to impose larger taxes on the benefits paid.

2.13 - Current Active Population

To expand quickly, the SPF must attract public servants to opt out of the present scheme and join a fully funded, defined contribution system. There is little chance that older workers, those 40 years of age and older, who have many years of service completed, can be attracted into such a fund. For younger workers under age 40, the prospects may be brighter, as they are still far from the time of retirement. The RS state government could finance their personal accounts with the sale of bonds, as did the Government of Chile for its privatized retirement system over a decade ago. Some blend between old and new systems would also be feasible for this class of workers.

2.14 - Contribution Rates for a State Pension Fund

The state government must offer full replacement of lost salary to state employees under the terms of the Federal and State Constitutions in Brazil. What contribution rates into the fund would be required to assure the fund's capacity to pay future pension obligations? Analyses in the Annex show that it is very costly, terms of current contributions as a share of wages, to support full income replacement in retirement.

2.15 - The Algebra of Defined Contribution Plans

The objective of the pension plan is to accumulate capital over the working life of workers. The capital accumulated can then be used to make pension payments over the period of inactivity or retirement. The relationship between the working and retiring periods, and the gross and net replacement rates can be worked out in algebraic form. The example of women teachers is worth reporting.

2.16 - The Example of Women Teachers

Consider the most typical employee of the state government of Rio Grande do Sul, a woman teacher. This employee could join the work force at age 20, teach for 25 years, to age 45, and be eligible for retirement at that time. She could then live in retirement for 30 years, to age 75, receiving her full salary, plus a 20% increment at the time of retirement, throughout the remainder of her lifetime. Under these circumstances, the contribution rate would have to be a remarkably high 60% of the gross wage throughout the 25 working years.

Brazilian analysts approached this question by using general life tables, showing survival probabilities, trends in incomes associated with age and education, and alternative reasonable rates of discounting to the present of the future flow of contributions and retirement payments. They also took into account experience with disability, administrative costs, and the insurance costs of work absences. Their analysis shows an even higher contribution rate as being required for women with steep age, education, and earnings profiles [Beltrão *et alii* (1996)]. For women in the Brazilian labor force at large, not the specific group of Rio Grande do Sul teachers, a contribution rate of 81% would be required if the woman begins work at age 20 and retires at age 45, if only a 2% rate of return on her investment can be realized. If a 4% rate of return is anticipated, then her required contribution would be a lower 48% of the net wage. In either case, the required contribution rate is very high.

This case may seem extreme in the sense of the high contribution requirement that it entails. However, women teachers are perhaps the largest single block of state employees in Rio Grande do Sul. Thus this example demonstrates the high costs that the state government already incurs, since these benefits go to these employees, even though the employee makes no specific social contribution to finance them. These benefits could properly be regarded as deferred wages.

2.17 - An Example of Male State Employees

Males live shorter lives in retirement and may have a longer work period, so that the contribution necessary to finance their inactive status may be less than that for women. Nonetheless, even under assumptions of the longer working lives of males, contribution rates could be high. A man who begins work at age 20 and continues work to age 60 might have to contribute over 25% of the net wage to receive 100% replacement.

Several variables interact in typical scenarios, including the age-income profile, returns to equity invested, and variable periods of work and retirement. Data in Table 1.4 show contribution rates, as a percentage of gross salary, under alternative conditions of discount rates (investment returns), starting ages of work, and year of retirement. For example, with high returns of 4%, the bottom panel in the table, a worker starting his employment at age 20, and continuing in active service for forty years, to age 60, at which time the worker becomes inactive, would make a contribution of 16% of the gross wage. Other cells in the table show alternative contribution rates under different assumptions.

The following conditions would tend to raise the necessary contribution rate:

- shorter work and longer retirement periods require higher contribution rates;
- the longer life expectancy of women over men would require higher contribution rates for women;
- a positive association of age and earnings, with earnings rising steeply with experience, would require higher contribution rates if it is the last wage, and not the lifetime average wage, that must be replaced on a 100% basis.

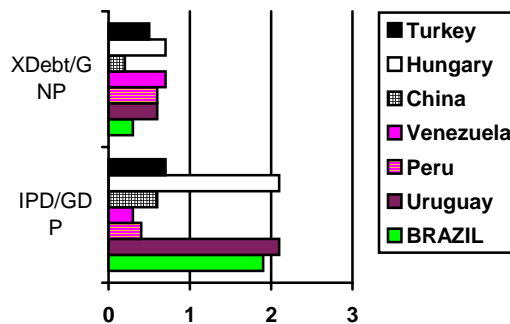
Table 1.4 Contribution rates for equilibrium between payments and benefits, both sexes.				
	<i>Begin work at age...</i>			
	15	20	25	30
Investment returns 2% per annum				
<i>to retire at...</i>	<i>worker must contribute..</i>			
45	61	76	99	136
55	33	39	47	59
60	25	29	34	41
Investment returns 4% per annum				
<i>to retire at...</i>	<i>worker must contribute. . .</i>			
45	35	45	62	90
55	18	23	29	37
60	14	16	20	25
Source: Beltrão et alii (1996).				

In contrast, higher positive returns on invested funds would reduce the contribution rate required. These results are confirmed in the scenarios analyzed for Brazil as a whole. The consistent message is that full replacement of salary requires lengthy working periods, and very positive investment returns to bring the contribution rates even below 20% of the net wage.

2.18 - The Implicit Pension Debt

In Brazil, the contribution costs are hidden from beneficiaries because they seem to pay nothing for the retirement payments they receive. From a more general perspective, however, they receive less in current wages than they might receive so that the state government can set aside resources to make eventual retirement payments. The state government itself may not, in the past, have recognized the implications of this arrangement. The accumulating debt to state employees has been treated as an **implicit pension debt**, an obligation in the future with no current implications for the state budget. For Brazil as a whole, the implicit pension debt is 1.9 times current annual GDP, whereas the stock of external debt is only one quarter of GDP [Kane and Palacios (1996, p.38)]. Few countries have as large a problem with the implicit pension debt as Brazil (see Figure 1.8). The comparisons of the few countries for which data are available show that Brazil, Uruguay, and Hungary, are among those with notably heavy implicit pension debt burdens. The generous pension arrangements for state employees in Rio Grande do Sul pose a relatively larger burden for that state than even the Brazilian Federal Government will have to face.

Figure 1.8 *Pension debt exceeds foreign debt, as a share of GDP, for many countries. Brazil's implicit pension debt appears to be especially large.*



Source: Kane and Palacios (1996, p. 38).

A major question is whether a more reasonable replacement rate of, say, 60%, i.e. cutting expected retirement income in half, is legally and politically feasible. If it were legal, SPF could offer a variety of replacement rates, including the 120% of the last full salary defined benefit plan.⁵ Each plan would carry a different cost or “price tag”, actuarially calculated to cover full costs, allowing each public servant to choose the plan that suits her or him best.

Current employees opting for the SPF could be given an Acquired Rights Bonus, the value of which would be equivalent to the present value of expected future benefits of their IPERGS participation (including survivors’ benefits), with a pro rata criterion, according to the effective length of public service. For example, a public servant with 10 years of service, who could retire at age 55 (actually, within 25 years), would receive 10/35 of the present value of the expected future IPERGS benefits.⁶

2.19 - Defined Contribution Reform Scenario

The defined contribution approach differs somewhat from the SPF scenario. It would offer a single defined contribution plan with a constant tax of 10% plus a 2.5% additional to cover disability insurance, for those who opt out of the present scheme. Without defined benefits, the state treasury would have no residual pension obligations.

2.20 - Institutional Arrangements

Both the SPF and defined contribution reform scenarios would require a new institutional arrangement to administer the retirement and the survivors’ benefits plans. SPF would be a private institution for all legal, economic and administrative purposes, ruled by the general provisions concerning the Brazilian System of Pension Funds (**Sistema Brasileiro de Previdência Privada Fechada — ou de Fundos de Pensão**).

SPF is simpler to implement than defined contributions. An exclusive defined contribution system would require the consolidation of all state sponsored pension funds including the state enterprises sponsored funds into a single entity. That step would involve complicated technical and legal problems. The existing state enterprise’s funds have very different actuarial situations and offer a variety of plans. Some of the enterprises owned by the state will be privatized in the near future, creating a mix of public and private sponsors.

The defined contribution system, with a broad membership, may, nonetheless, be superior for the following reasons:

⁵ By doing so, there would be no violation of the Constitutional provisions that mandate benefits equal to the last salary, eventually with the 20% promotion.

⁶ Calculated with the salary at the option date.

- it reduces operational costs, by the scale economies obtained through pooling assets and administrative resources;
- it gives more stability to the overall system through wider risk pooling;
- it gives more credibility to the scheme, as it involves the consolidation of already existing institutions as compared to the creation of a completely new one, with no previous tradition in the social insurance market.

2.21 - Financing Options

Many pension funds operate on an employer and employee matching contribution basis. The contribution rates discussed above could in future be financed one third by workers and two thirds by the Rio Grande do Sul state government. With rising real wages and a requirement to replace 100% of the last salary, all funds would have to be invested to yield rates of return higher than the growth rate of real wages.

The government would have to assure that it contributes its matching share and that the related investment is producing a substantial investment return. The total assets of the state Pension Fund would grow to a very large size, relative to the current annual wage bill, as noted above. Among developed countries, pension funds and insurance companies hold assets that correspond to well over 100% of GDP [Vittas (1993, p.30)]. Similar expansion would occur with the operation of a state Pension Fund in Brazil. A critical issue would be the administrative and financial management capacity of such a substantial agency.

The capital fund accumulated at the time of each civil servant's retirement, after 40 years of contributions, would correspond to about 20 times the annual wage. This feature of a funded pension system needs to be considered carefully. The management of what could become vast pension funds, administrated for the benefit of both active and inactive state employees, would be among the most important posts in the state. Many OECD countries, in both their private and public sectors, manage such funds without obvious problems. An issue to consider is whether the skills and fiduciary responsibilities can be developed in collaboration with the state government of Rio Grande do Sul.

2.22 - Insulation of the Funds

Regardless of the alternative chosen, there is an absolute need for insulation of the SPF from political influence. Brazil has a very poor experience with capitalization schemes linked to government. Political misuse of resources has been the rule rather than the exception. Even the state enterprise pension funds, supposedly independent from government control, have been misused.

Independence and transparency of the SPF are critical to its success. The following measures may contribute towards this fundamental objective:

- representation of public servants in numbers at least equal to the sponsors' representation in the Administration Board and Fiscal Council;
- election of public servants' representatives;
- prohibition of investment in RS Government public debt paper of any kind; no loans to any government, state bank or state enterprise;
- minimum A rating for all variable yield investments;
- actuarial plan revision at least every two years, or whenever there is a proposed change in the benefit plan; and
- external actuarial auditing.

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