Pensions and Social Insurance
http://www.pensions-policy.org

DISCUSSION PAPER IPD-01-03

Public Systems for Public Employees in Brazil

Options for Reform

By Flavio Rabelo
São Paulo Business Administration School,
Getúlio Vargas Foundation

September 2001

Presented at the Oxford IPD Workshop,
Sept 4-5, 2001

PENSION SYSTEMS FOR PUBLIC EMPLOYEES IN BRAZIL: OPTIONS FOR REFORM

Flavio Marcilio Rabelo[1,2]

Introduction

Like most developing countries, Brazil is in pursuit of a pension reform able to guarantee old-age protection to its citizens without overburdening the fiscal budget. The past decade has seen some progress, most of which occurred as a result of the 1998 Constitutional Amendment nº 20.

When one thinks of pension reform it is natural to look to a system that covers the greatest portion of the population and thus is fundamental to the welfare of the low-income segment. In the Brazilian case, however, if one focuses on how the current deficits of different pension systems affect the country's fiscal condition, priority will be given to the systems covering public employees. In many developing countries public-sector workers constitute one of the most well organized groups in society and are politically well equipped to defend their rights. The pension system that covers these employees tends therefore to be more generous than the one covering private-sector workers. In fact, it may be argued that lower wages in the public sector are compensated by the generosity of the pension system (De Jong and Turner, 1998).

Even in other Latin American countries, such as Argentina and Mexico, that implemented wider pension reforms, these reforms did little to correct the problems of public-employee

---

[1] Associate Professor of Business Strategy, São Paulo Business Administration School, Getúlio Vargas Foundation. E-mail: frabelo@fgvsp.br.

[2] I would like to thank the staff of the Secretaria de Previdência Social of the Social Security Ministry, headed by Mr. Vinicius Pinheiro, for providing essential information for this paper and for discussing various issues related to the public-sector pension system. I am especially indebted to Delubio Gomes da Silva, Marcelo Caetano, and Helio Ribeiro Jr.

pension systems (Raimundi and Mariano, 1996; Rofman, 2000). The Federal Government in Argentina concluded in 1993 treaty with the Provinces that included the absorption of many State pension funds (*Cajas Provinciales*) that were running significant deficits with huge fiscal consequences to the Federal Government. In Mexico the reforms implemented also left the public-employee pension system unaltered (Sales-Sarrapy et al. 1999).

This paper discusses in its first section the origins of the pension system covering public employees in Brazil at all three governmental levels (Federal, State, and municipal) and its current actuarial and financial condition. This section also compares the coverage and financial needs of this system with the one directed at the private sector. The second section of this paper discusses the effects of the 1998 Constitutional Amendment nº 20 on the operation of public-employee pension plans. In the third section the paper discusses the reform of the Federal employee retirement system in the U.S. The paper argues that this reform experience may provide interesting insights for the reform of public-sector pensions in Brazil and other developing countries.

The fourth section deals with the reform experiences of four Brazilian States. Emphasis is given to the efforts made by these States to introduce some degree of pre-funding into their pension systems, to set more adequate contribution rates and to create an efficient management structure. Finally, World Bank recommendations and the author's proposal for reform of the Brazilian public-employee pension system are treated in the fifth section.

Besides discussing the conditions for the actuarial equilibrium of public-employee pension systems in Brazil, this paper raises the deeper question of whether there is an efficiency justification for making separate retirement provisions for public-sector workers and private-sector workers. If one thinks of the beneficial effects of a greater risk pool and lower administration costs, there might well be solid ground for integrating these two systems, at least as a basic retirement plan, which might be supplemented by special defined-contribution plans.

History of the Public-Employee Pension System

In order to grasp the current situation of the Brazilian pension system, it is first necessary to understand the components of this system. The public pillar, which is defined-benefit and pay-as-you-go, may be divided into two systems: (a) the general system (RGPS), which is intended to function as a universal system covering the whole population of individuals engaged in private-sector activities (employees and self-employed), and (b) the system covering public-sector employees. Although some uniform rules regulate system (b) – such as benefit formulas and requirements for retirement – in fact, all States and around 2,000 municipalities manage their own systems, setting the contribution rates. The Federal Government also has a separate system for its employees. The private sector funded pillar is still quite underdeveloped in Brazil. Occupational pension plans – defined-benefit and defined-contribution – cover less then 8% of the workforce formally employed in the private sector (Rabelo, 2000b). Personal pension plans have experienced rapid growth since 1995, but their rate of coverage is still limited, even though no precise data on this matter exists.

Employment relations in the private sector have been governed since the late thirties by the Consolidated Labor Legislation (CLT) enacted during the Vargas dictatorship. Before the 1988 Constitution, employment in the public sector was usually regulated by a set of statutory standards specific to each public entity, even though the public sector was also allowed to hire employees under CLT. As a general rule, these statutory standards tended to provide greater employment stability and more generous retirement benefits than CLT.

In the seventies, a decade of high economic growth and urban expansion in Brazil, the state apparatus had to hire more personnel in order to attend the increased demand for services. To facilitate this personnel expansion, government at all levels (Federal, State, and municipal) increased the number of civil servants hired under CLT, since hiring employees under the statutory regime was a much more complicated and longer process. In fact, before 1988, around 75% of Federal Government employees were already working under CLT. This type of employment relationship meant that state bodies had to contribute as an

employer to the general social security system (RGPS) and also to an employment time guarantee fund (FGTS)[3]. Most States and municipalities, however, did not pay their employer contributions to the National Institute of Social Security (INSS) – the agency responsible for the management of RGPS – as this agency lacked effective enforcement instruments.

An important landmark was the 1988 Constitution, which created a set of unified rules for employment in the public sector. Prior to this, statutory rules governing public employment varied widely among public entities. The law also established unified rules governing the social security benefits of public employees and reaffirmed employment stability in the public sector.

At the same time a powerful measure to deal with government bodies in debt to the INSS was introduced. A new law authorized the Federal Government to withhold transferences from State and Municipal Participation Funds to those who had not settled their debts with the INSS. Since transfers from these funds were important sources of revenues for many States and municipalities, mayors and Governors could no longer simply ignore paying their employer contributions – a 20% contribution rate of the total wage bill – to the INSS. As a result States and municipalities accumulate presently a very expressive debt to INSS and became eager to move to a different type of employment contract.

The new Constitution opened up the possibility of creating separate pension systems for public employees, without mentioning any requirement in terms of financial and actuarial equilibrium. This was a clear stimulus for public bodies to revert to the statutory regime (now with unified rules) as the preferential employment contract. All levels of public employees hired under CLT were transferred *en masse* to these separate pension regimes. The equation was indeed a very perverse one: separate pension regimes, characterized by an extremely generous benefit formula and low contribution rates, were created, passing on the financing burden to future generations.

---

[3] A State-managed compulsory savings vehicle, to which employers contribute with 8% of employee wages, and to which the employee may only have access upon retirement or in the purchase of housing.

The Constitution determined that the benefit formula of all public-employee pension plans must contain two provisions: (a) the guarantee of a retirement benefit (and an ensuing survivor pension) equal to the last wage received by the employee when in activity, and (b) the automatic transfer to retirement benefits and survivor pension of any salary increase granted to active workers (whether due to a productivity raise or job reclassification). The Constitution, however, did not establish a minimum retirement age: the only requirement was at least 30 years of service, but not necessarily 30 years of specific contributions to the Federal, State, or municipal pension system that would pay the retirement benefit. In theory, the employee may have contributed 29 years to the RGPS (11% up to the RGPS ceiling), yet receive a benefit from a public-sector pension system with only one year of contribution. Also, Federal legislation failed to insist on the actuarial and financial equilibrium of public-sector pension plans. States and municipalities were in fact legally allowed to create pension plans for their employees with practically as many benefits as desired and to set a contribution rate insufficient to maintain the system in equilibrium. Usually the State or municipal law that created the pension plans only established a contribution destined to finance survivor pensions and/or health care. Though employee contributions were effectively transferred to the entity managing survivors benefits, employers' contributions were frequently forgotten. Federal, State, or municipal treasuries then solely financed retirement benefits.

It is no surprise then that public-employee pension systems are at present operating with very high deficits. Table 1 shows the financial situation of the general system (RGPS) and that of public-employee systems at all three government levels. The measured deficit represents current government spending to finance pension benefits. The deficit with imputed government contribution considers an employer contribution equivalent to two times that of the employees[4], and even in this case the system presents a significant deficit. Government transfers to finance the public-employee pension system were then over four times higher then transfers to cover the deficit of the RGPS. In 2000, the financing needs of the consolidated public-employee pension systems reached 4.1% of Brazil's GDP. These

---

[4] That is the normal government contribution rate in U.S. public pension plans and also in the Local Government Pension System (LGPS) in the U.K.

numbers are even more impressive when one compares the coverage of each of these systems (tables 2, 3 and 4).

In 2000, the RGPS paid pension benefits to a population of approximately 19.5 million people. As shown in table 2, retirement and survivor benefits alone are being paid to circa 16 million people[5]. The Federal and State public-employee pension systems totaled 3.4 million beneficiaries and in 2000 paid benefits of R$48.8 billion, which equals 74% of all benefits paid by the RGPS. Clearly this is a perverse social-security arrangement that, in fact, transfers income from the lower income strata to a segment of the middle class.

Tables 3 and 4 also show a very worrisome characteristic of the public-employee pension system: the low ratio of active workers to retirees and survivors with pensions. At the Federal level, retirees and survivors with pensions represent 49.3% of all personnel (1.02 ratio). The situation in the States, particularly the most populous ones, is not much better. In the State of Rio Grande do Sul (RS), for example, the number of retirees and survivors with pensions is already superior to that of active employees. Since no pre-funding exists and employee contributions are low, the State and municipal treasuries have to answer for both the greater part of ongoing retirement benefits and the payroll of active employees. This has a perverse effect on the human-resource policies of the public sector. It becomes increasingly difficult for States and municipalities to hire new employee to replace those retired and to grant salary increases to active employees[6].

In April 2001, an actuarial evaluation of the Federal public-employee pension system was completed, based on data covering 96% of the universe of Federal civil servants in Brazil (Probus, 2001). A separate evaluation was done for the military pension system (Governo Federal, 2001). The average monthly retiree benefit for Federal civil servants was R$1,953.40 and the average survivor pension was R$1,497.48 (compare these to average

---

[5] The rest are temporary benefits (sickness, incarceration, accident) and social assistance benefits. In 1999, retirement and survivor pensions represented 88% of the value of total benefits paid by the RGPS.

[6] It must be kept in mind that any increase given to active employees must also be granted to pension beneficiaries.

RGPS benefits in table 1). Graphs 1 and 2 show the actuarial projections for the deficit of these two systems. It must be said that the decline in the deficit of the civil servants pension system after the 2020s is due to two excessively optimistic hypothesis made by the Government (and highlighted by the actuary in his report): (a) a steep decrease in both the number of active employees and their respective beneficiaries[7], and (b) the low parameter of exponential real-wage growth (1.5% a.a.). According to the actuary, in 2000 Federal Government spending on the pension system of its civil employees represented 1.12% of GDP, and this percentage is expected to grow to 1.14% in 2001. The costs of the pension system for military personnel represented an extra 0.79% of GDP in 2001 and are projected to grow to 0.81% in 2001.

[7] The government will not replace employees that are in non-typical State careers.

Table 1 – Estimates of Financing Needs of the Various Pension Regimes in Brazil

	1997		1998		2000	
I - GENERAL REGIME – RGPS	**Current R$ Billions**	**Values as % GDP**	**Current R$ Billions**	**Values as % GDP**	**Current R$ Billions**	**Values as % GDP**
Contributions	44.3		46.6		55.7	
Benefits	47.1		53.8		65.8	
Measured Deficit	**2.8**	**0.32**	**7.2**	**0.79**	**10.1**	**0.90**
II - PUBLIC SECTOR PENSIONS						
Contributions	6.5		7.1		6.9	
Retiree and Survivors Pensions	38.2		40.4		52.0	
Measured Deficit	**31.6**	**3.63**	**33.3**	**3.64**	**45.2**	**4.10**
Deficit with imputed Government Contribution*	**18.7**	**2.15**	**19.1**	**2.09**	**31.4**	**2.90**
Federal Public Pension System						
Contributions	2.6		2.8		2.7	
Retiree and Survivors Pensions	19.7		20.8		25.0	
Measured Deficit	**17.1**	**1.96**	**18.0**	**1.97**	**22.2**	**2.00**
Deficit with imputed Government Contribution	**11.9**	**1.37**	**12.4**	**1.36**	**16.8**	**1.50**
State Public Pension Systems						
Contributions	3.6		3.9		3.7	
Retiree and Survivors Pensions	15.8		16.7		23.8	
Measured Deficit	**12.2**	**1.40**	**12.8**	**1.40**	**20.1**	**1.80**
Deficit with imputed Government Contribution	**5.0**	**0.57**	**5.0**	**0.55**	**12.8**	**1.20**
Municipal Public Pension Systems**						
Contributions	0.4		0.4		0.5	
Retiree and Survivors Pensions	2.7		2.9		3.3	
Measured Deficit	**2.3**	**0.26**	**2.5**	**0.27**	**2.8**	**0.30**
Deficit with imputed Government Contribution	**1.5**	**0.17**	**1.7**	**0.19**	**1.9**	**0.20**

Source: SPS/MPAS

* At the ratio of 2:1.

** Data for 2000 are estimates.

Table 2 - A Picture of the General Regime (RGPS) in 1999

	Number of Beneficiaries	Average Benefit Value (R$)
Retiree Pensions	11,094,956	286
Contribution Time	3,222,555	571
Age	5,658,406	162
Invalidity	2,213,995	188
Survivor Pensions	4,953,949	207
Total	16,048,905	

Source: Anuário Estatístico da Previdência Social (1999)

Table 3 – A Picture of the Federal Pension System for Civil Servants and Military Personnel in 2000

Branch	Current Active	Retirees	Survivors with Pensions	Total
Executive - Civil	536,321	394,877	209,090	1,140,288
Executive - Military	328,087	128,630	167,697	624,414
Legislative	19,458	7,424	3,485	30,367
Judiciary	80,932	15,417	5,288	101,637
Transfers	112,913	37,241	22,491	172,645
Total	1,942,119	1,107,096	784,838	3,834,053

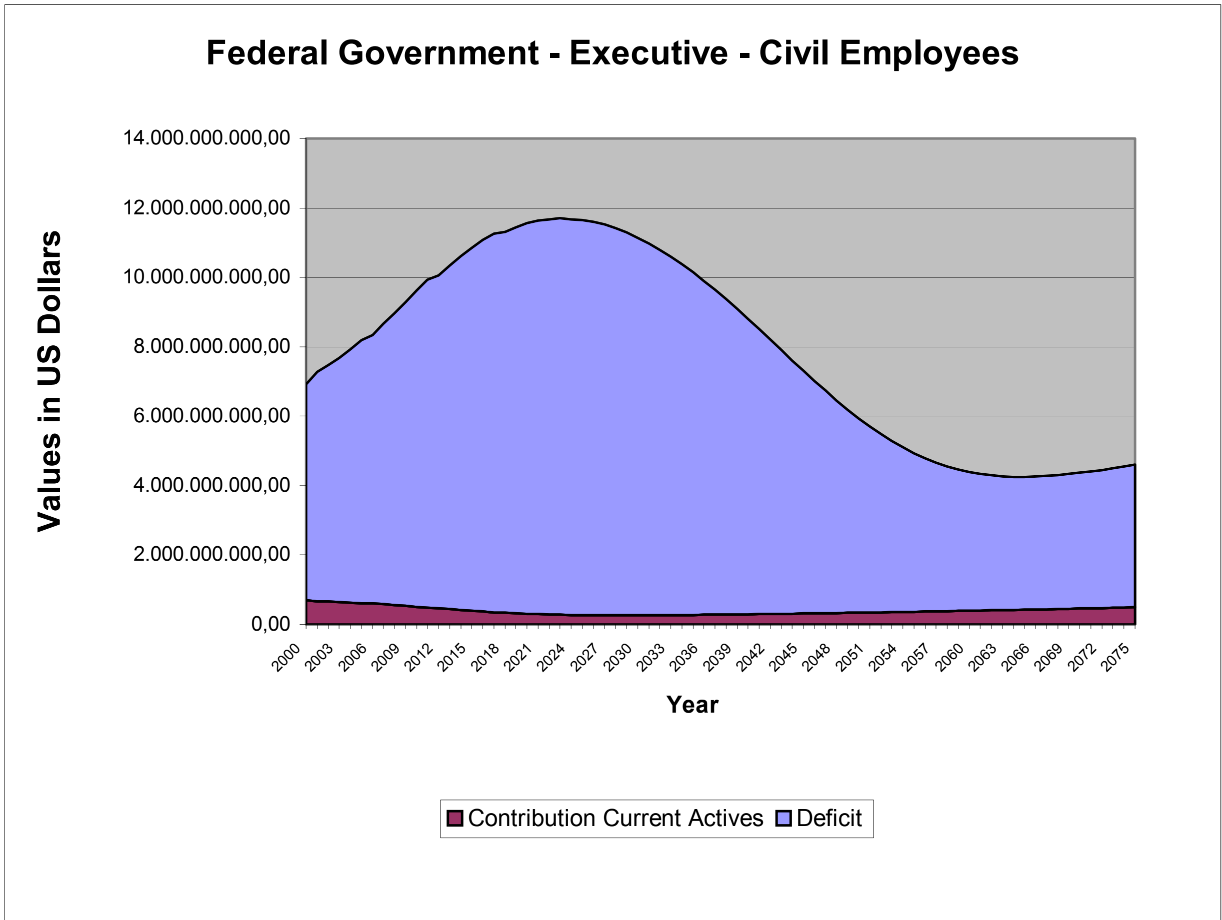
Source: Boletim Estatístico do Ministério do Planejamento, Orçamento e Gestão (junho, 2001).

Table 4 – Covered Population of State Pension Systems

STATE	Current Actives	Retirees	Survivors with Pensions	Current Actives/(Retirees + Survivors)	Expenses (Retirees + Survivors)/Total Personnel Expenses
AL	32,202	11,886	4,416	1.98	28.5
AM	47,407	12,656	3,685	2.90	23.8
BA	155,140	48,720	16,218	2.39	22.4
CE	88,667	22,151	10,360	2.73	22.2
DF	118,952	30,358	9,017	3.02	30.4
ES	59,684	16,478	5,721	2.69	31.6
GO	75,029	26,816	6,403	2.26	34.9
MA	79,457	16,326	6,687	3.45	30.6
MG	250,000	160,000	26,000	1.34	43.7
MS	39,906	9,351	2,395	3.40	19.1
MT	46,032	9,179	4,390	3.39	25.9
PA	92,453	21,036	8,297	3.15	27.7
PB	74,871	19,199	7,418	2.81	31.6
PE	113,927	38,574	23,155	1.85	36.5
PI	52,930	15,690	6,023	2.44	17.2
PR	104,894	61,719	13,381	1.40	36.2
RJ	215,772	110,008	84,972	1.11	42.1
RN	73,742	13,166	6,351	3.78	30.4
RS	165,770	112,765	57,532	0.97	50.0
SC	53,119	30,929	8,042	1.36	28.3
SE	35,266	8,741	2,508	3.14	20.5
SP	562,822	237,052	200,807	1.29	37.9
TO	22,916	2,776	395	7.23	8.6
TOTAL	**2,560,958**	**1,035,576**	**514,173**	**1.65**	**35.5**

Source: Secretarias Estaduais de Administração – 2000 (data published by DEPEM/SPS/MPAS)

Graph 1 – Actuarial Projection of the Federal Civil Employee Pension System



Source: Probus (2001)

Table 5 shows the current financial situation of State public-employee pension systems[8]. With the exception of two recently created States, all other systems are running a deficit. In a great number of States, particularly the ones with significant industrial production (SP, RJ, MG, RS), Government spending on benefit payments (the current deficit) already represents over 20% of the States' Current Net Revenue (RCL)[9]. Though thorough actuarial

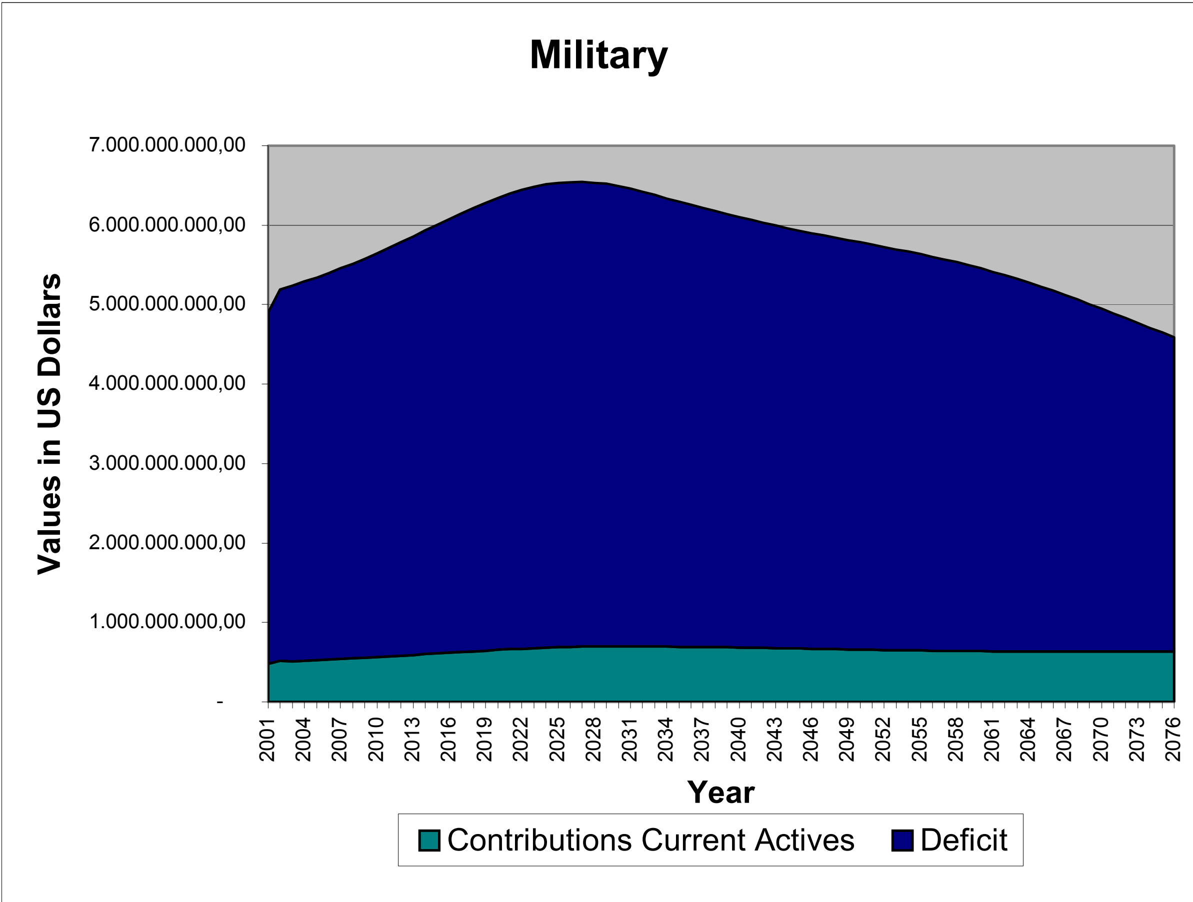
---

[8] The Social Security Ministry is still colleting data that will allow a diagnosis of municipal public-employee pension systems.

[9] This concept refers to the sum of all revenue sources of a State or a municipality less some specified items: constitutional transfers (in the case of States) and pension system contributions collected from public employees.

projections of these pension systems are not available, in the few States where such analyses have been undertaken, they show a rapidly worsening situation that may lead, if correction measures are not introduced, to a greatly reduced capability of these States to keep up with necessary investments in education, health care, and security. It should be born in mind that the insufficiency of these investments will affect most adversely the low-income population. As mentioned before, these pension systems were created without concern for their actuarial and financial equilibrium, a flaw that explains the relatively low contribution rates charged to employees, given the generosity of promised benefits (table 6).

Graph 2 – Actuarial Projection of the Military Pension System



Source: Governo Federal do Brasil (2001).

Table 5 - Financial Situation of State Public Employees Pension Systems (1998)

	1998			2000		
State	**Net Result (Benefits - Employee Contributions)**	**Net Result as a % of State GDP**	**Net Result as a % of State RCL**	**Net Result (Benefits - Employee Contributions)**	**Net Result as a % of State GDP**	**Net Result as a % of State RCL**
AC	-3	0.21	0.54	-11	NA	1.58
AL (1)	-142	2.31	14.92	-143	NA	12.20
AM	-144	0.95	10.08	-117	NA	6.07
AP	**15**	**1.00**	**3.15**	**19**	**NA**	**3.41**
BA	-330	0.85	7.99	-520	NA	10.94
CE (1)	-152	0.81	6.73	-191	NA	6.48
DF	-705	2.81	17.23	-812	NA	15.20
ES	-163	0.94	8.87	-297	NA	11.74
GO	-412	2.37	22.35	-487	NA	19.70
MA (1)	-124	1.72	9.62	-282	NA	14.55
MG	-1.692	1.89	23.18	-2593	NA	28.25
MS (1)	-71	0.71	10.06	-102	NA	8.97
MT (1)	-141	1.42	11.05	-162	NA	9.26
PA	-218	1.40	10.86	-330	NA	13.78
PB	-183	2.52	14.87	-220	NA	13.76
PE	-418	1.69	16.66	-594	NA	18.41
PI	-68	1.54	8.01	-57	NA	5.16
PR	-841	1.48	21.18	-989	NA	19.18
RJ	-1.551	1.54	22.38	-2528	NA	27.89
RN (1)	-78	1.14	6.84	-192	NA	11.83
RO	**5**	**0.11**	**0.73**	-5	NA	0.56
RR	-1	0.13	0.25	**14**	**NA**	**2.77**
RS (1)	-1.482	2.10	27.64	-2245	NA	35.83
SC	-392	1.21	18.23	-374	NA	12.99
SE (1)	-45	0.89	5.10	-99	NA	7.68
SP	-4.494	1.39	17.93	-6816	NA	22.21
TO	-1	0.05	0.13	-1	NA	0.14

Source: Demonstrativos Estados / Dados Publicados pelos Estados / STN / SPS-MPAS

Table 6 – State Contribution Rates (As of 14/01/2000)

UNIT	ACTIVE	RETIREES	SURVIVORS
FEDERAL GOVERNMENT	**11%**	_	_
AC	**8%** up to R$177 **10%** above R$177	**4%** up to R$177 **5%** above R$177	**4%** up to R$177 **5%** above R$177
AL	**11%** for survivor pension	-	-
AM	**14%**	-	-
AP	**8%**	**8%**	**8%**
BA	**6,5%**	**6,5%**	**6,5%**
CE	**11%**	-	-
DF	**11%**	-	-
ES	**10%**	**10%**	-
GO	**6%**	-	-
MA	Up to R$200, **8%** for pension and. **1%** for health Up to R$ 800, **9%** for pension.and **1%** for health Up to R$2000, **9%** for pension and **2%** for health Above R$2000, **10%** for pension and **2%** for health	-	-
MG	**3,5%** for retirement pension **4,2%** for survivor pension	-	-
MS	**4%**	-	-
MT	**8%** up to R$260 **12%** above R$260	-	-
PA	**8%** for survivor pension	-	-
PB	**8%** for survivor pension and health	-	-
PE	**13,5%** for retirement and survivor pension		
PI	**8%** up to R$280 **10%** from R$280 up to R$1200 **12%** above R$1200	-	-
PR	**10%** up to R$1200 **14%** on the amount above R$1200	**10%** up to R$1200 **14%** on the amount above R$1200	**10%** up to R$1200 **14%** on the amount above R$1200
RJ	**11%**	-	
RN	**8%**	-	-
RO	**8%**	-	-
RR	-	-	-
RS	**1,82%** for retirement pension **5,4%** for survivor pension **7,22%** for health	**1,82%** for retirement pension **5,4%** for survivor pension **7,22%** for health	-
SC	**8%** up to 1 x MW (minimum wage) **9%** - from 1 to 4 x MW. **10%** - from 4 to 8 x MW **11%** - from 8 to 14 x MW **12%** above 14 x MW Only for survivors pensions	**8%** up to 1 x MW **9%** - from 1 to 4 x MW. **10%** - from 4 to 8 x MW **11%** - from 8 to 14 x MW **12%** above 14 x MW Only for survivors pensions	
SE	**10%** for retirement and survivor pension **3%** for Pension Fund	**10%** (social assistance)	**0%** up to 1 minimum wage **10%** above 1 MW (social assistance)
SP	**6%** for survivor pension	**6%** for survivor pension	-
TO	**9%**	**9%**	**9%**

Source: CGOAI/DEPSP/SPS

The 1998 Pension Reform – Constitutional Amendment Nº 20

After being discussed in Congress for more than five years, pension reform legislation was finally sanctioned at the end of 1998 in the form of Constitutional Amendment nº 20. This amendment affected both the RGPS system and the public-employee pension system. The paper will deal only with measures related to the public-employee system.

Probably the most important change was the introduction of stricter criteria for retirement in the public sector. To request voluntary retirement the public employee must prove at least 10 years of service in the public entity (Federal, State, or municipal) in whose system he will retire and 5 in years in the job from which he will retire. He must also fulfill these conditions: 60 years of age and 35 years of contribution for men; and 55 years of age and 30 years of contribution for women[10]. The years of contribution may also include years in which the person contributed to the general system (RGPS). The important changes here are the minimum requirements of at least 10 years in public service and 5 years in the job from which retirement will occur. Before these changes, a civil servant with just two to three years of public service could be promoted to the a higher-paid job a few months before retirement and earn a retirement benefit equivalent to the last salary paid at this new job. The new amendment also stipulated that public-employee pension systems could only cover those who occupied permanent posts in the public sector and whose access was gained through a public examination. Previously those who occupied temporary public-sector jobs or so-called "commissioned" jobs (from which they could be fired *ad nutum* by the public official responsible for the nomination) were also covered by a public-sector pension plan. According to Constitutional Amendment nº 20, these employees now must be enrolled in the INSS.

The reform, however, failed to abolish two important privileges. First, the retirement benefit of the civil servant that fulfills the above-mentioned conditions will be equal to the

[10] In the case where he or she does not fulfill the requirement of 35 and 30 years of contribution, respectively, the civil servant also has the option of retiring at the age of 65 (men) or 60 (women), with benefits proportional to their time of contribution.

last salary in the job at which he retired. Second, all salary increases granted to active personnel must necessarily be applied to retirement benefits and pensions paid.

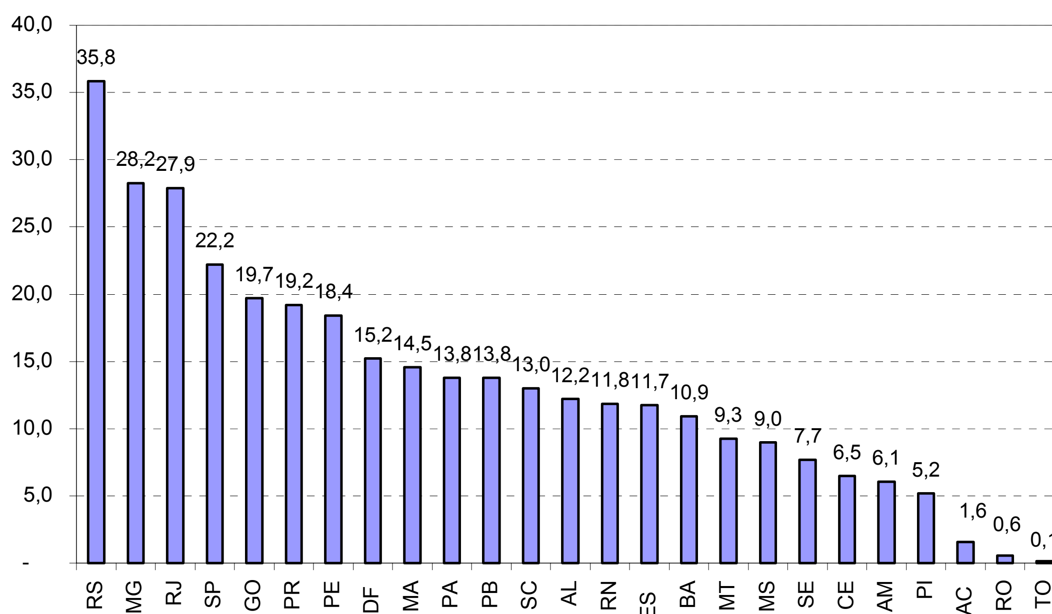
Survivor benefits also present a problem. The Constitution guarantees that the survivor will receive a benefit equivalent to 100% of the retiree benefit. In the event that the retiree was divorced and left two survivors with a right to a benefit (dividing among them the full retiree benefit), when one of the survivors dies, the other will start receiving the full benefit. Survivor benefits may never be less than 100% of the retirement benefit.

The reform also established that the retirement benefit might not exceed the civil servant's last salary in the job from which he retired. Previously, some employees received a type of special bonus upon retirement, which made their social-security benefits higher than the last salary.

The provisions related to public-employee pensions of Constitutional Amendment nº 20 are treated in detail in Law 9.717 (General Law of Public Sector Pensions), also of 1998. A basic principle of this law is that public-employee pension systems at all government levels must be organized to guarantee their financial and actuarial equilibrium. The Federal, State, and municipal governments must therefore provide the Social Security Ministry with data proving that their public-employee pension system is either in or able to reach such an equilibrium. This law imposed two important limits on government spending on public-sector pension plans: (a) the government's (Federal, State, or municipal) pension-plan contribution may not be more than twice that of the employee, and (b) net government expenditures on public-sector pension-plan benefits (total benefits minus employee contributions) may not exceed 12% of the government's Current Net Revenue (RCL). Looking at Graph 3, one can see that 13 Brazilian States are above this limit[11].

[11] Given the virtual impossibility of many States' reaching this target by the established deadline (December 31, 2001), it is expected that either this deadline will be postponed or a gradual reduction-schedule proposed.

Graph 3 – Relationship Between State RCL and Deficit in Public Employee Pension System (2000)



Source: Demonstrativo Estados / Data published by the States / STN / organized by SPS/MPAS

One item that must be highlighted in Law 9.717 is the demand for accounting and managerial information from public-sector pension plans. Every 2 months, each government must send to the Social Security Ministry the budget and accounting balances of the pension plan, indicating revenues and expenses for the 2-month period as well as for the last 12 months. Data must also be provided on the following items: (a) contributions of government bodies, (b) contributions of current active employees (civil and military), (c) contributions of retirees and survivors with pensions[12], (d) total expenditures on civil and military personnel, (e) total expenditures on retirees and survivors with pensions, and (f) the Net Current Revenue (RCL). This measure was reinforced by Law nº 101 of May 2000

[12] Although the Brazilian Supreme Court suspended contributions from these individuals, some states and municipalities whose legislation prior to 1998 established these contributions continue to charge them.

(the Fiscal Responsibility Law), which requires governments at all levels to prepare a Fiscal Target Annex in which an evaluation of the financial and actuarial projection of the public-employee pension system must be present. These new requirements are fundamental: in the previous situation, most States and municipalities (and even the Federal Government) had little information regarding the functioning of their public-pension systems, much less the actuarial projections of these systems. Such data are vital for any long-term reform proposal.

The question now is whether public administrators will comply with the aforementioned legislation[13]. The Federal Government will impose penalties on States and municipalities that fail to comply with the principles set forth in Law 9.717. From November 1, 2001 on, a certificate issued by the Social Security Ministry proving that the State or municipal pension system complies with certain principles will be demanded in the following operations, among others: (a) voluntary transfer from the Federal Government, and (b) loans and financing from federally owned financial institutions. Moreover, Complementary Law nº 101 (the Fiscal Responsibility Law) – a landmark in Brazilian public-administration legislation – specifies a ceiling on personnel expenses at every government level. Public administrators (Governors and mayors) who do not abide by the standards set may suffer civil and criminal prosecution. Since government expenses with retiree and survivor-benefit payments are computed in the personnel-expense limits (table 4 shows the ratio in the States), the management of public-employee pension systems has become an issue of great concern. It is still to be seen how effective this legislation will prove in pressing States and municipalities to reform their employee pension plans. It is also hoped that these laws will increase political pressure on Congressmen to approve the necessary public-sector pension reforms.

Another important change introduced by the 1998 reform was the possibility of Federal, State, and municipal governments establishing complementary pension plans for their public employees. If such a plan is created, the basic pension plan can set a benefit limit

---

[13] Brazil is a country with many good laws either weakly enforced or non-enforced.

equal to that of the general system (RGPS). This, however, will only be valid for public servants hired after the creation of this complementary plan or for those already in service to opt for the new system. At the time this paper was prepared, the Brazilian Congress was still considering the legislation that would effectively allow the establishment of these complementary plans.

These public-sector complementary pension plans will operate just like private-sector pension funds, which have existed in Brazil for nearly three decades (Rabelo, 2000b) and must be fully funded. The project, as sent from the Social Security Ministry to Congress, stipulates that these complementary plans can only be defined-contribution. This is a matter of controversy in Congress since opposition parties with strong public employee base are arguing that each government unit must have the option of creating a supplementary defined-benefit plan. In terms of efficiency, it is senseless for the same unit (State or municipal) to sponsor two defined-benefit plans (one pay-as-you-go or partially funded and the other fully funded). Although the short-term effects of this project are insignificant, it opens the way for a long-term reform of public-employee pension systems. In effect, it will end with the obligation of granting a 100% replacement rate for those who receive above the RGPS ceiling (currently R$1,430).

As part of the effort to stimulate the reform of public-sector pension plans, the new legislation (Constitutional Amendment nº 20 and Law 9.717) allows Federal, State, and municipal governments to create special funds to finance these pension plans. The idea here is to encourage within these systems some degree of pre-funding; this may be achieved by using available assets: funds from the privatization of State-owned companies, real estate, etc. This immediately raises an important question: Should the public sector be allowed to act as an investor (Rabelo, 2000a; Munnel and Sunden, 1999)? It must be noted that the creation of these funds is not obligatory and that their creation does not imply that public-sector pension systems must move towards operating in a funded basis. As will be seen in section four, three States have already created such “reserve funds” (as a World Bank report has called them), but only one of them has a plan to move to a funded system.

In order to diminish the risk of direct political capture of the reserve funds, Law 9.717 set some important provisions: (a) the obligation to maintain a record of contributions to the plan (employer and employee contributions), (b) a requirement to separate the fund from Treasury operations, (c) a ban on lending to the sponsoring government or to plan participants, (d) a ban on investment in State and municipal securities, and (e) an investment regime determined by the National Monetary Council (CMN)[14].

In 1999, the CMN issued Resolution nº 2.652, regulating the investments of these funds. This resolution forbids in-house asset management and determines that this task must be hired out to public or private financial institutions. There are specific rules according to the source of the funds: (a) the sale of assets that have been transferred to the fund (real estate, shares of State-owned companies, etc.), and (b) employee and employer contributions, investment returns, and any cash transfer. Assets from source class (a) must be invested according to the following rules:

(i) At least 80%, isolated or cumulatively, in National Treasury bills, Central Bank bills, bills or securities issued by financial institutions totally owned by the Federal Government, or bills and securities issued by subsidiaries of the aforementioned financial institutions. These bills must be non-negotiable and have a minimum duration of 15 years.

(ii) The rest may be invested according to the same rules applying to assets from source (b).

Rules governing the investment of source (b) assets are as follows:

(i) Up to 100% may be invested in National Treasury or Central Bank bills.

(ii) Up to 80% may be invested in the following fixed income vehicles: (a) savings accounts (no more than 5% in the same financial institution), and (b) investment funds.

(iii) Up to 30% may be invested in equity funds approved by the Securities & Exchange Commission (CVM).

---

[14] The highest-level organism in the Brazilian financial system, integrated, among other, by the Minister of Finance and the President of the Central Bank of Brazil.

There are also restrictions on the use of investment funds. A State or municipal public-employee pension fund may not own more than 20% of the total assets of any investment fund, and such pension funds together may not own more than 50% of any investment fund. This means that public-employee reserve funds must use retail investment funds for their investment in fixed-income or equity instruments, which bear a higher expense ratio than the exclusive funds organized by financial institutions for their larger clients. These restrictions related to the use of investment funds result in higher administration costs for the reserve funds without guaranteeing the risk protection desired by the legislator. In fact, there is no legal restriction on the investment of all source (b) assets in highly leveraged and aggressive retail funds. Also, the regulation of the selection process of asset managers is a point that has been left unclear. The law mentions only minimum criteria for this selection: financial solidity, volume of assets under management, and experience in the asset-management business.

Law 9.717 already forbade public-employee pension-system funds to concede any type of loan, including loans to participants and sponsoring governmental units. It also vetoed investments in securities issued by State and municipal governments. These measures are quite adequate.

An alternative to the regulation of source (b) asset investments would be to apply the same rules governing private pension funds; however with some exceptions: (a) direct real estate investments, and (b) non-listed securities. In the future, private-equity investments may be allowed through the use of a specialized fund[15]. The prohibition of in-house asset management should be kept. It is worth noting that the latest regulation of private pension fund investments requires that these funds maintain a risk evaluation and control tool, something that would also be very desirable in the public-sector pension funds.

[15] Direct private-equity investments should not be allowed.

The Reform of The Federal Employee Retirement System in the U.S.

Since December 1983, all new Federal public employees in the United States were automatically enrolled in the universal social-security program. The major objective of this measure was to improve the short-term financial conditions of the social-security system. Employees hired prior to this date were given the choice of remaining in the system or of moving to the new one; in fact only 2.8% of these employees opted for the transfer. De Jong and Turner (1998), who consider the old defined-benefit system more generous to those who intend to remain in Federal public service until retirement, argue that the reformed system given its greater portability is more interesting for those who intend to move to the private sector. Since migration was very low, the U.S. Federal Government currently maintains two pension system for its employees; in 1998, each system covered approximately 2.8 million active workers (FRTIB, 1998).

The idea behind the 1983 reform of the Federal Employees Retirement System (FERS) was to create a system that would provide Federal public-employee retirement benefits similar to those offered to employees of large private-sector firms. The reformed FERS is composed of three pillars: (a) coverage by the public social-security system, (b) a supplementary defined-benefit plan – the Basic Benefit Plan, and (c) a supplementary and voluntary defined-contribution plan – the Thrift Savings Plan (TSP). Federal employees must therefore contribute to the social-security system at the normal rate and also make an additional contribution of 0.8% of their salary to the Basic Benefit Plan.

The Basic Benefit Plan pays a benefit based on the average of the highest annual salaries in three consecutive years. The benefit is calculated as 1% of these average earnings multiplied by years of service, so that an employee with 30 years service in the Federal public sector will receive a retirement benefit equivalent to 30% of the earnings average. The minimum retirement age depends on the date the employee was born. For those born before 1948, the required age is 55 years if they have 30 years of service. For those born from 1970 onwards, the required age is 57 years. If the employee does not fulfill the 30 years of service requirement, he can retire at 60 years of age with 20 years of service or at

62 years with 5 years of service. If the employee opts to retire at 62 with more than 20 years of service, the multiplying factor is increased to 1.1. The benefit is indexed to inflation only after the employee reaches the age of 62. The indexation mechanism offers full protection against inflation up to an annul rate of 2%; for rates of 3% or higher, indexation is calculated as the Consumer Price Index (CPI) minus 1%. This defined-benefit plan operates under full or quasi-full funding conditions (depending on the actuarial hypothesis utilized). Assets are almost entirely invested in U.S. Treasury bonds.

The TSP is quite similar to the most popular defined-contribution plans in the U.S. – the 401(k) plans. Employee contributions are tax deductible and the Federal Government also makes a matching contribution according to the employee's contribution rate. The employee can effectively decide how much to contribute, how to invest his assets, and how to receive benefits. The Federal Government makes a minimum 1% contribution to all FERS-member employees. Employee contributions are voluntary and may reach up to 10% of their salary. Government matching contributions may be as much as 5% of employee salary according to the following scale: up to the first 3% of employee contribution, the Government matches on 1:1 basis; after that the matching contribution is half of that of the employee. The employee TSP account may thus receive contributions up to 15% of employee salary.

The employee may distribute the balance of his account in three investment options. The G fund invests in short-term Treasury bills issued specially for this fund. The F fund is an indexed fixed-income fund that aims to replicate the Lehman Brothers Aggregate Index (LBA). This is an index formed of high-rate fixed-income securities, representing Government and private securities and mortgage-backed securities. Finally, there is the C fund – an indexed equity fund based on Standard & Poors index.

The investments of the G Fund receive a statutory interest rate, which must legally be equivalent to the average return of Treasury bonds negotiated in the market and with a maturity of at least four years. Since all assets are invested into Government securities, the Federal Retirement Thrift Investment Board (FRTIB) – the independent Federal agency

responsible for managing the TSP, manages the fund in-house. The legislation that reformed the FERS determined that the C Fund be invested in an indexed equity fund. The FRTIB chose the S&P 500 as the most appropriate index to guide this fund. Likewise, the C Fund must invest in fixed-income securities. The option of FRTIB was to constitute it as an indexed bond fund following the LBA. External-asset managers chosen through a public competition must undertake management of Funds C and F. One of the most important features of TSP is its low management cost. Table 7 shows the expense ratio of each of the funds[16].

Table 7 – Expense Ratios of TSP Funds (1988 – 1997)

	Fund G	**Fund C**	**Fund F**
1988	0.34%	0.29%	0.30%
1989	0.21%	0.20%	0.23%
1990	0.11%	0.13%	0.13%
1991	0.13%	0.15%	0.16%
1992	0.13%	0.14%	0.15%
1993	0.12%	0.13%	0.14%
1994	0.10%	0.11%	0.12%
1995	0.09%	0.10%	0.11%
1996	0.08%	0.09%	0.10%
1997	0.07%	0.07%	0.08%

Source: Federal Retirement Thrift Investment Board (1998: 32).

Benefits granted by TSP may be paid in three forms: (a) the acquisition of an annuity. (b) a single lump sum payment, or (c) a programmed monthly withdrawal. If the participant chooses form (a), TSP will purchase from an insurance company an annuity on behalf of the participant. For this purpose TSP maintains a contract with an annuity provider.

[16] These rates are calculated dividing total annual expenses by the average account balance used in the allocation of the returns of each fund.

Table 8 shows that evolution of TSP's assets, which make it one of the largest funded pension plans in the U.S. Fund C is by far the largest of the three and the one that earned the highest returns in the 10-year period completed in 1999. It is also the fund, which receives the largest amount of contributions (table 9)

Table 8 – Assets of TSP

Year	**Value (US$ billions)**
1991	11
1995	35
1997	58
1998	77
1999	85
2000 (end August)	103

Source: Pensions & Investments (02/10/2000: 69).

Table 9 – Asset Value and 10 Year Annualized Rate of Return (completed in 1999) of the Three TSP Funds

	Total Assets (August/99)	Contributions Received in 1999	Annualized 10-year Return Rate
Fund G	-	US$335 millions	-
Fund C	US$66,3 billions	US$4.1 billions	18.2%
Fund F	-	US$1.6 billions	7.5%

Source: Pensions & Investments (02/10/2000: 69).

First Reform Experiences in Brazilian States[17]

Four States – Bahia, Paraná, Pernambuco and Rio de Janeiro – have already approved legislation reforming their public-employee the pension system. A common feature of these four reform experiences was an increase in employee contributions to the pension system. Another point in common was the clear separation of the pension system from health care and social assistance. These States have also created special funds – whose accounts are segregated from the State Treasury – to finance the pension system, as required by Law 9.717.

There are however some important differences in these processes. In the case of Paraná and Pernambuco[18] the idea was to divide public employees into two groups and create separate funds to finance the pensions of each group. The first group – retirees, survivors with pensions, and employees with less than five years time to retirement – would still have their pensions financed in a pay-as-you-go basis, but with some degree of pre-funding through the transfer of State Government assets to a “financial fund”. The second group – employees with five years or more to retirement – will have their pensions guaranteed by a funded system, which will receive employee and State Government contributions. Within this framework there would be an effective transition in 40 to 50 years from a pay-as-you-go system to a fully funded pension system.

The major caveat in the process is the cost of this transition. The State would have to keep paying the benefits of current retirees and survivors and add an extra expenditure in order to capitalize the newly created funded system (group two of employees). In the case of Paraná these costs are easier to bear given the royalties from the Itaipú hydroelectric plant and the proceeds from the privatization of the State’s electrical-utility firm (planned to happen in 2001). The government of Paraná negotiated with the Federal Government a 15-year anticipation of the royalties owned to the Itaipú plant and allocated the Government

---

[17] This section is based on a report prepared by the author for the Brazilian Social Security Ministry on the reform of public-employee pension plans in four States (Rabelo, 2001).

[18] Pernambuco has still not implemented the funds mentioned in State Law nº 28 of 14th January 2000.

bonds received in the public-employee pension system. Pernambuco, however, does not have any important assets to be transferred to the reformed pension system, which is certainly the reason why the reform has not yet been implemented (the law was approved in 14th January, 2000). It should be mentioned that the actuarial cost plan in Paraná was devised supposing that contributions could be collected from retirees and survivors with pensions. The Federal Supreme Court's suspension of these contributions has jeopardized these calculations.

The author and his team at Fundação Getulio Vargas in São Paulo are aiding a small State in the reform of its public-employee pension system. As this State also lacks relevant assets to smooth transition costs, we have thus devised a longer transition period: the new system, which will operate on a funded basis, will only cover employees hired after the reform law is approved. If employee contribution rates are raised to the recommended levels and some relatively minor State assets are used to fund the reformed system, the State will probably enjoy even in the short run a savings in pension expenses. In this case the full transition should occur within a 70- to 80-year period.

In Bahia and Rio de Janeiro a transition to a funded system was not designed; rather, the States introduced a degree of pre-funding through the creation of special funds to finance the State employee pension systems. The State of Bahia transferred full proceeds from the privatization of the State's electricity utility firm – around R$ 400 million in 1998 – to the public-employee pension system fund (FUNPREV). Later a deal anticipating the proceeds from the future privatization of the State's water-supply company was closed with a Federal Government-owned financial institution (some cash and the greater part in Federal Government bonds). The State also allocated these assets to FUNPREV. Rio de Janeiro utilized the royalties from oil extraction along its coast to pre-fund the public-employee pension system. Moreover, a royalty anticipation deal with the Federal Government gave the State around R$7 billion in Government bonds, which it has transferred to the public-employee pension fund (RIOPREVIDÊNCIA). However, the approach used by these two States is potentially risky, as these funds may simply be used to pay current pension

expenditures, alleviating the State budgets temporarily without producing a long-term solution to the imbalance of their public-employee pension systems.

Another difference in these case studies refers to the management structure of the public-employee pension system. Previously these four States, like the majority of Brazilian States, worked with the same bi-partite structure comprising an institute responsible for the management and payment of survivor pensions and a decentralized procedure for the management and payment of retirement benefits (each unit of the State administration managing its own retirees). These decentralized procedures imply that a public-employee must request retirement benefits directly to the human resources department of his place of employment. It's the staff of this department that will analyze his or her request. In case the employee is considered to fulfill the necessary conditions, he or she will be transferred to the retiree payroll of this public-service body. As a result of this widespread practice, practically no Brazilian State Government has unified information regarding the demographic characteristics of their retirees and the individual value of each benefit. These four States have been trying to organize a central database with all information related to retirees and survivors with pensions. This is not an easy task since some State organs – particularly those belonging to the judicial system – have been unwilling to pass on information about their retirees.

Paraná, however, has created an entity that will be responsible for the management, including asset management, of the entire State public-employee pension system; Pernambuco, for its part, plans to create a similar entity; and Rio de Janeiro and Bahia will delegate management to more than one State body. Paraná's new entity (PARANAPREVIDÊNCIA), in its structure and functions, is quite similar to a U.S. public pension fund. Rio de Janeiro's project plans to centralize in the entity formerly responsible for survivor pensions (IPERJ) the following functions: (a) the organization and actualization of a central retiree-and-survivor database, and (b) the analysis and concession of retirement and survivor benefits. The newly created body (RIOPREVIDÊNCIA) will be responsible for the management of the public-employee pension system's assets, for the collection of contributions, and for the payment of benefits granted by IPERJ. In Bahia, the

Government abolished the Institute for Survivor Pensions and intends to centralize all information regarding retirees and survivors in the State Administration Department (Secretaria Estadual de Administração). The assets of the State public-employee pension system are managed by FUNPREV, a section of the State Finance Department (Secretaria Estadual de Administração). The path followed by Paraná and Pernambuco in this area is considered wiser, since there is efficiency gains in having a single entity manage the entire public pension system. Here one might also raise the question regarding the optimal governance structure for these public-sector pension funds. In many developing countries these funds may hold a significant amount of much needed long-term savings and their governance mechanisms become a matter of political concern.

Policy Recommendations

Although important steps towards a comprehensive reform of public-sector pension systems have been taken, it is unclear how systems that are still so generous to their participants and absorb such a large portion of government revenues can be maintained. A recent study just completed at the Getulio Vargas Foundation and based on the data of one Brazilian State, concluded that in order to offer a fully funded plan to public employees hired after 2001, a total contribution rate of 47.1% of wages would have to be divided between active employees and the State Government. If the limit set by Law 9.717 were obeyed, it would leave employees with a contribution rate of 15.7% and the government with one of 31.4%. A retirement benefit and a survivor pension equal to the employee's last salary, along with the automatic transfer of salary increases to pension benefits, are two Constitutional guarantees that deserve careful consideration by Brazilian society. Another important consideration is how to introduce actuarial fairness into this pension system, given that current contribution rates in many States and municipalities, together with other retirement requirements, lead these systems to operate in permanent deficit. The huge political problem is how to raise contributions and/or reduce pension benefits for one of the most well organized groups in society, a group that in many cases is facing a prolonged salary freeze.

In line with these arguments, a recent World Bank report rightly points out that the introduction of pre-funding to public-employee pension systems would be an effective measure only if these systems are put into operational balance. The report therefore calls for a parametrical reform of these systems, the most viable option being a reduction of benefit entitlements (World Bank 2000: 141). If such measures are not taken, the assets already allocated to the reserve funds of the States of Bahia, Pernambuco, Paraná, and Rio de Janeiro run the risk of being spent without providing a long-term solution to the problems of the respective State public-sector pension systems. Thus, assets that could be put to much better use would be spent to secure the payments of an unbalanced pension system. In light of this, it is obvious that a far-reaching and profound reform of public-sector pension plans is essential.

The point in the World Bank report that deserves deeper discussion is the recommendation that sponsor risk be diversified through the integration of the basic component[19] (the defined-benefit plan) of public-employees pension systems within RGPS. This measure would provide participants with the benefits of the broader coverage of RGPS and thus lead to an improved pooling of intergenerational risk. However, though such a measure would be the best solution for reforming public-sector pension systems, it would demand a change in the Constitution and the approval of Law Project nº 9. The basic principle is to build a pension plan – similar to the U.S. Government's reformed Federal Employee Retirement System – for Brazilian Federal, State, and municipal employees, a plan that would emulate the retirement benefit packages of large private-sector employers. The RGPS would be the basic pillar for all. Moreover, voluntary, funded, defined-contribution plans (whose matching formula would depend both on the financial conditions of each State or municipality and on a negotiation process) would complement the system.

It is, however, financially and politically unfeasible for the States and municipalities to transfer all their statutory employees to the INSS. Here again the FERS reform lesson applies: after the approval of the necessary Constitutional Amendment and the State or

[19] This is to make a distinction between the existing DB systems and the complementary funded pension plan that will be created if the Brazilian Congress approves Law Project nº 9.

municipal pension-reform laws, only newly hired public employees would be automatically enrolled in the RGPS, with the employing government body paying the normal employer contribution (20% of payroll). Parametrical changes would be introduced to the old pension system: (a) retirees and pensioners would be required to pay contributions, and (b) current active-worker benefits would be reduced according to an actuarially fair rule. Retiree and survivor benefits would no longer be legally equal to the last salary, and automatic transfers of salary increases given to active retiree and survivor pensions would cease. Ideally, the system would grant an employee a retirement or survivor pension that would replace around 65% of the average of his last three to five years of active duty. Naturally, a transition formula would have to be worked out would in order to respect the rights of those near retirement.

In case integration with RGPS proves to be politically unfeasible, the alternative seems to be the financing of a transition period to a funded public-sector pension system. This would also require a parametric reform of public-sector pension systems according to the principles already discussed. The States and municipalities would offer a basic defined-benefit plan supplemented by a voluntary defined-contribution plan, both fully funded[20]. Here again a gradual transition process, designed according to the funding capacity of each State or municipality, could be applied. The most gradual design would enroll in the reformed funded pension plan only public employees hired after the reform. Other public employees would remain in a "closed" pension plan that could be phased out within 60 to 70 years. At first the transition costs would be low, but pressure will grow in around 20 years for a 10-year period, which might give time for public administrators to devise an adequate financing mechanism. In any event, if the proposed parametric reforms are introduced, these transition costs will probably remain below government expenses if the system is kept unaltered. A rigorous analysis of the costs of and alternatives for such a

[20] It is doubtful that the Federal Government will opt to fund the basic defined-benefit pillar of its reformed public-employee pension system.

transition process will only be viable when the actuarial databases and actuarial evaluations of public-sector pension systems become available[21].

References

De Jong, P. e Turner, J. A. (1998). "Privatizing Government Pensions: The United States and the Netherlands", (mimeo).

Federal Retirement Thrift Investment Board (1998). **Guide to TSP Investments**, Washington (DC).

Governo Federal (2001). Anexo de Metas Fiscais – Lei de Diretrizes Orçamentárias – Avaliação da situação financeira e atuarial do regime próprio dos servidores militares.

Ministério do Planejamento, Orçamento e Gestão (2001). Boletim Estatístico, junho, Brasília (DF).

Ministério da Previdência e Assistência Social (2000). Anuário Estatístico de 1999. Brasília (DF).

Probus Suporte Empresarial (2001). "Avaliação dos Compromissos Previdenciais da União, Relativos a Benefícios Previdenciais Concedidos e a Conceder a Funcionário Públicos Atuais e Futuros", Governo Federal do Brasil, Ministério da Previdência e Assistência Social.

[21] The Social Security Ministry is running a World Bank-funded program (PARSEP) designed to help States organizing their pension databases and conducting actuarial evaluations of their public-employee pension systems.

Secretaria de Previdência Social – SPS (2000). Boletim Estatístico.

Munnell, A. and Sunden, A. (1999). "Investment Practices of State and Local Pension Funds: Implications for Social Security Reform". Pension Research Council Working Paper. Wharton School; Universidade da Pensilvânia.

Pensions & Investments (2000). "Federal thrift plan tops $ 100 billion", Volume 28, nº 20: 69.

Rabelo, F. M. (2000a). **Novas Fronteiras de Investimento das Entidades Fechadas de Previdência Privada**, SPC – MPAS / PNUD / BID: Brasília (DF)

Rabelo, F. M. (2000b). "Perspectivas de Expansão da Previdência Privada Fechada no Brasil", **Revista de Administração de Empresas**, Vol.40, nº 2.

Rabelo, F. M. (2001). **Estudo sobre Modelo Organizacional, Legal e de Gestão de Investimentos dos Regimes Próprios de Previdência**, Coleção Previdência Social, Ministério da Previdência e Assistência Social, Secretaria de Previdência Social, Brasília (DF) (forthcoming).

Raimundi, Carlos e Tilli, Mariano (1996). **Cooparticipation: Hacia um Nueva Contrato Social**, Editorial Corregidor.

Rofman, Rafael (2000). "The pension system in Argentina six years after the reform", Buenos Aires, June (mimeo).

Sales-Sarrapy, Carlos, F. Solís and A. Villagómez (1999), "Pension System Reform: The Mexican Case", in Feldstein, Martin (ed), **Privatizing Social Security**, The University of Chicago Press.

World Bank (2000). **Brazil – Critical Issues in Social Security**, June 19, Washington (DC).