

FROM THE BRAZILIAN PAY-AS-YOU-GO PENSION SYSTEM TO CAPITALIZATION: BAILING OUT THE GOVERNMENT*

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Abstract:

Given that the current official pension plan in Brazil is not feasible, several reform proposals have been recently submitted. In a previous work, we have developed a scheme which has its fundamentals based on a market approach. A recurrent criticism to this proposal is centered on the fact that we estimated the present value of the transition costs without considering the flow of funds necessary for the government to implement it. The purpose of this paper is to estimate this flow of funds, taking into account the fact that the government will maintain all the benefit payments associated with the present system. Subsidiarily, we will also suggest a scheme for the government financing of such a flow of funds.

1. Introduction

It has been generally recognized, chiefly after the enactment of the 1988 Constitution, that the current official pension system in Brazil has to be extensively reformed. The huge deficits that have already been experienced, and which are expected to grow,¹ have led to the establishment of a Special Congress Committee as well as to the presentation of several proposals for its reform.² Furthermore, these deficits have also contributed to the total public deficit, which has been one of the main factors which explain our current inflationary process (with prices increasing well over 40% a month). For the success of a stabilization program, the solution of the public

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deficit is crucial. To this end it is fundamental to reestablish the financial balance of the pension system, which will certainly require a revision of the Constitution itself.

One of the proposals for the reform of the pension system, known by the name of its sponsor, Instituto Liberal, and prepared by the present authors, suggests that the current pay-as-you-go pension system should be replaced by an earnings-related fully-funded system based on the principle of capitalization with individual accounts.³ Our inspiration comes from the Chilean experience and we thus follow a tendency that will apparently also take place in many middle-income developing countries (it has already been introduced in Australia). We advocate that our current pension system, which has been plagued by frauds and corruption and has certainly contributed to the increase of the informal sector of the economy, be substituted by a system where the individual is the principal provider of the fund that will finance his or her income when retired.⁴ Fundamentally, our proposal is based on the idea that a market has to exist which performs the function of transferring current to future income so that individuals can meet their consumption necessities when, due to old age rather than disability, they lack the capacity to work. That is why one of the focal points of our proposal is the elimination of the current possibility of early retirement, which occurs after fulfilling the requirement of a certain minimum amount of years of work (this ranges from 15 to 35 years). That is, other than in the case of disability insurance (which will be covered by a mandatory insurance policy), individuals will be allowed to retire only when reaching the age of 65 years.

Besides the complete separation of the pension system from the system of medical assistance (except for disability insurance), another focal point of our proposal is that the mandatory responsibility of contributing to the pension system is placed on the contributing employee.⁵ That is, employers will no longer be required to contribute. Exempting employers may not only permit an increase in take-home wages but will also tend to reduce the informal sector of the economy. In this way, besides the already mentioned reduction of the current fiscal deficit, our proposal will also be a positive contribution to any stabilization plan, given the increase in government revenues brought in by reducing the informal sector of the economy. However, for reasons discussed in section 4, employers should be required to continue with their contributions during the initial stage of the transition to the proposed system.

It should also be pointed out that our proposal will only be feasible if accompanied by reforms of both the labor and the capital markets. As the current bodies of labor and pension-system legislation are not compatible with our proposal, a liberalization of the labor market will become necessary. As for the capital market, current segmentation and excess of regulation call for a reform in order to assure the success of capitalization funds.

It should be stressed that the basic motivation behind our proposal is the general acknowledgment that the current pension system is virtually insolvent. In this first stage we will not address the important issue of the different ways of financing the transition from the current system to the proposed one. Nor will we consider the redistributive impacts of our proposal.⁶

A recurrent criticism of our proposal is centered on the fact that we estimate the present value (of the order of 8.4% of GDP) of the transition costs from the current system to the proposed one, without explicitly considering the resource flows necessary for the government to implement this substitution. The purpose of the present paper is to specifically address this issue, submitting detailed estimates of the funds that will have to be provided by the society as a whole.

2. The Basic Data

Assuming that the new system would be implemented in 1994, two basic components will have to be financed by public funds. The first component is the current (1993) stocks of pensioners, comprising the following groups:

a) *Regular-time retirement*: which includes those that have completed the so-called regular minimum number of years of work (35 for men and 30 for women). Given that the majority of workers in the formal sector of the economy are men, we will adopt the simplifying assumption of a minimum working period of 35 years, with a person reaching the average age of 53 when that limit is attained.⁷ The corresponding conditional life-expectancy is 20 more years of life, at the end of which we will add 7 more years to take into account any possible dependents.

Making use of the same projection methodology that is fully described in our previous work, and taking into account the figures for 1990 which are presented in the afore-mentioned work of A. Medici *et al.* (1993), the total of such pensioners in 1993 is taken to be 1,294,687. In order to simplify the computations, we will assume that this stock will decrease linearly over 27 years and vanish totally in the year 2020.

b) *Special-time retirement*: which includes those that worked in jobs considered of special status under the present Constitution. Among others, and certainly the most numerous, are teachers. For males, the minimum number of years of work is 30, while for females it is only 25.

As a simplifying assumption we will consider 28 as the average minimum of years of work, with the average person being 45 years of age at retirement. Including an allowance for dependents, we will assume that the total of 342,395 pensioners in 1993 will decrease linearly and vanish in the year 2028.

c) *Old age*: which includes those that have reached the present minimum age limit of 65 years of age for retirement. We will assume that the 1993 total of 3,555,518 pensioners have an average age of 65 years and will decrease linearly before vanishing in the year 2008.

d) *Invalids or disabled*: the 1993 total of 2,323,385 will be assumed to have an average age of 35 years, with a conditional life-expectancy of 30 additional years, to which 15 more years will be added in order to account for dependents. This total is also assumed to decrease linearly until vanishing in the year 2038.

e) *Dependents*: the 1993 total of 4,489,344 will be assumed to decrease linearly over 20 years. That is, this stock will have vanished in the year 2013.

Besides the different current stocks of pensioners, we have also to take into account the rights of all those that in 1993 are registered contributors to the current pay-as-you-go pension system. These make up the second basic component to be financed by the government.

As our proposed system calls for a mandatory contribution for insurance covering death and disability, the only costs for society that we have to consider are those incurred because of the substitution of systems. These comprise the following three categories of flows:

a) *Regular-time rights*

Formally, we have to consider the rights of even those who entered the formal job market only in 1993, and who would have to work the minimum of 35 years under the old system. Under our scheme, these individuals will be entitled to receive 1/35 of the amount that is currently being paid to those who retire upon reaching the regular 35 years of work. Thus, assuming he or she would complete the 35 years of work at the average age of 53 years, our individual would have the "right" to receive a pension for 27 years (20 years of conditional life expectancy plus 7 years to account for dependants).

In order to account for such "rights", those individuals will be entitled to receive, at the age of 53 years, a bonus whose face value is equal to the present value, computed at the interest rate of 6% per year, of the above-mentioned flow of 27 years. However, the bonus will only be redeemable when the individual reaches the age of 65 years, including interest, at the same 6% per year interest rate. That is, the bonus will mature 12 years later.

Analogously, those individuals who started to work in 1992 would have the "right" to 2/35 of the regular amount, and so forth.

In general, considering the cohort that, under the old system, would retire in year n , for $1993 < n \leq 2027$, the "rights" would amount to $(35 - (n - 1993)) / 35$ of the "regular" pension for 20 years. The present value of this flow is transformed into a bonus, received in year n and redeemable, with interest, only 12 years later.

In order to compute the actual values that the government has effectively to disburse for each cohort, we need to know the size of each cohort. Starting with the above-mentioned estimate for the 1993 stock, we have projected the evolution of the stock making use of the same implicit rates of year-by-year increase derivable from the data that was presented in our previous work. The corresponding figures are shown in Table I.

From Table I, by taking the successive differences of the projected stocks of future regular time pensioners, we can easily compute the size of each cohort.

b) *Special-time rights*

Given the already mentioned average of 28 years of work, for the cohort that would, under the old system, be entitled to retire in year n , for $1993 < n \leq 2020$, the "rights" amount to $(28 - (n - 1993)) / 28$ of the pension that would be paid for those retired under the current special clause. As these "rights" would be paid over 35 years, the members of the considered cohort will receive a bonus whose face value is equal to the present value, at 6% per year, of the associated flow. On the other hand, as the proposed system stipulates retirement at the age of 65 years for everyone, the bonus will only be redeemable, with interest at the same rate of 6% per year, 20 years in the future.

As in the previous case, we have generated the corresponding stock data in Table I. From that, also by taking successive differences, we can derive the size of each cohort.

c) *Old-age rights*

Finally, we have to consider the "rights" of those who, having been contributors under the old system, would be entitled to retire when attaining the age limit after the proposed system has been instituted.

TABLE I
PRESENT SYSTEM: PROJECTED NUMBER OF BENEFICIARIES BY
KIND OF BENEFIT PAID

Year	Age Limit	Disability	Special Time	Regular Time	Dependents
1993	3555518	2232885	342395	1294687	4489344
1994	3772703	2412169	364617	1366394	4764934
1995	3992273	2503171	387602	1441510	5053413
1996	4209640	2594075	411541	1506142	5355386
1997	4431335	2688391	43678	1576301	5671481
1998	4652688	2785273	460082	1647509	6002360
1999	4875303	2884928	484782	1719663	6348714
2000	5108652	2987387	509809	1792736	6711269
2001	5353775	3092638	535205	1866656	7090779
2002	5596977	3200315	561803	1943820	7488040
2003	5838253	3310588	589715	2024657	7903882
2004	6074736	3423287	618991	2109437	8339171
2005	6311113	3539850	649735	2198598	8794820
2006	6547417	3656553	682023	2292440	9271780
2007	6800421	3777417	715380	2390092	9771049
2008	7068274	3901532	749835	2491861	10293668
2009	7346187	4029029	785348	2597691	10840731
2010	7641548	4160064	821888	2707800	11413380
2011	7948784	4295261	860127	2822579	12016280
2012	8268373	4435059	900147	2942222	12651028
2013	8600811	4579301	942028	3066937	13319306
2014	8946615	4728234	985857	3196938	14022885
2015	9306323	4882010	1031726	3332450	14763630
2016	9680493	5040787	1079730	3473706	15543504
2017	10069707	5204729	1129966	3620950	16364574
2018	10474569	5374002	1182540	3774434	17229017
2019	10895710	5548781	1237560	3934425	18139122
2020	11333783	5729244	1295140	4101197	19097303
2021	11789469	5915576	1355399	4275039	20106099
2022	12263476	6107969	1418462	4456249	21168184
2023	12756542	6306618	1484459	4645141	22286372
2024	13269431	6511728	1553526	4842039	23463827
2025	13802942	6723509	1625807	5047283	24703070
2026	14357903	6942178	1701451	5261228	26007985
2027	14935177	7167958	1780614	5484241	27381830

Source: Derived from F.E.B. Oliveira *et al.*, Metodologia de Projeção dos Gastos Previdenciários. Estudo sobre Economia do Setor Público, N. 4, Rio de Janeiro, IFEAD/PES, March 1990.

In this case, given the faulty administration of the present system, which lacks a detailed individual record of current contributors, it is virtually impossible to know how much a given cohort has contributed prior to the year when the retirement age is attained. Therefore, we have no "rational" procedure for computing the corresponding "rights".

One rather heroic measure will be to arbitrarily assume that the next 20 cohorts, starting in 1994, will be entitled to receive the minimum income for 15 years. The cut-off point can be justified on grounds that individuals who in 1994 are at most 45 years of age and who will be eligible for retirement 20 years later, will accumulate, in accordance with the capitalization scheme of the new system, more than the necessary amount to guarantee the minimum income for the rest of their existence (including dependents).

In Table I, again making use of the same projection methodology as in the other two cases, we also present the evolution of the stock of contributors that will be retired for having reached the age limit, in each of the 20 years after 1993. From that data, once more by taking successive differences, we can derive the size of each cohort.

3. The Flow of Costs

In this section we will present the projection of the yearly flow of costs that will have to be borne by society as a whole over the pertinent horizon of 47 years (starting in 1994). It should be stressed beforehand that we should consider only the costs that can be directly associated with the implementation of the new system (already specified in the preceding section). Thus, for instance, as already mentioned, since the new system will require payment of an insurance policy covering death and disability, we need not take into account the projected new cohorts of dependents and the disabled.

In our previous study, the so-called "salário mínimo de referência" (minimum wage of reference - SMR), which is now extinct and was created precisely as a device to improve the negative situation of the current official pension system, was taken as numeraire. In December 1990 its value would correspond to C\$5 6,000.03 (roughly US\$ 36). As the new Constitution establishes that the minimum benefit is equal to the minimum wage, whose observed average value has been not much higher than US\$ 50, we have decided to take 1 SMR as equivalent to US\$ 50. With this parity, the corresponding dollar value of the average SMR value of each kind of benefit will be taken to be equal to: regular time retirement - US\$ 260; special time retirement - US\$ 290; old age retirement - US\$ 123.75; disability retirement - US\$ 105.50. For the case of the benefits to be paid to dependents, the average dollar value will be assumed to be equal to the weighted average of the benefits paid for regular-time, special-time and disability retirements, with the weights being the respective stocks of pensioners in the year 1993. This procedure led to the value of US\$ 171.78.

Taking into account that each pensioner is entitled to receive the corresponding benefit 13 times a year, Table II presents the yearly disbursements with the three previously mentioned kinds of beneficiaries who were (at least in 1993) contributors to the old system: regular-time, special-time and old-age pensioners. The last column of Table II also presents the total yearly disbursement with these three types of future pensioners.

Given the assumptions, the first disbursement occurs in 1994, and is due only to the first cohort of old-age retired individuals. On the other hand, the last disbursement

will take place in 2040, being due to the cohort that, under the rules of the old system, would be entitled to retire, having attained the special time limit, in the year 2020.

It is interesting to note that, in terms of the yearly total, the maximum value will occur in 2014, which is the year when the initial payment is made to the cohort that would retire, under the special time clause, in 1994.

On the other hand, Table III contains the corresponding estimates for the yearly disbursements for each of the five different stocks, in 1993, of the old-system beneficiaries: regular-time, special-time, age-limit and disabled retired persons, as well as dependents. In the last column the resulting total is also presented.

Observing that the first disbursement occurs in 1994 and the last in 2037, it is interesting to observe that the maximum value will have to be paid precisely in 1994.

4. Bailing out of the Government

Table IV summarizes all government disbursements associated with our proposal as quantified here. The disbursements associated with the transition from the present system to the proposed one are described under the head "Total Transition" and are in US\$ 1,000 and as a percentage of GDP. They refer to the flow of benefits to be paid to previous-system contributors (Table II). To obtain the importance of this flow relative to GDP, we assumed that in 1994 the Brazilian GDP would be US\$ 450,000 thousand and that it would grow at a constant rate of 3% a year. This is a very low rate given the history of the country's growth in the last 50 years.⁸

Total maintenance disbursements refer to the flow of benefits, in existence in 1993, to be paid to the present-system beneficiaries (Table II). They are also expressed in US\$ 1,000 and as a percentage of GDP. They represent the bulk of total disbursements up to 2005. They also correspond to more than 50% (4.2% of GDP) of total tax revenue collected by the Federal Government up to 1997. We draw attention to the fact that maintenance disbursements are a liability to the Federal Government under any alternative. For this reason, as in our previous paper, they have been disregarded in the computations of the transition disbursements.

Although total federal government disbursement associated with the national retirement system is about 5.3% of GDP in 1994, it has a negative trend and by the year 2024 corresponds to about 1% of GDP. Since total federal government tax revenue is about 8.4% of GDP, the crucial period for managing any new retirement system in Brazil is the initial one. According to our estimates, in 1994 alone the government would have a disbursement with the system of 5.28% of GDP. From 1995-1999, that is, during the next governmental administration, under our proposal the system would require a yearly average disbursement of about 4.22% of GDP, which amounts to 50% of present total tax revenue. There is no doubt that any government would refuse to promote a reform along these lines if the cost was to accrue during its term. On the other hand, given that the present system cannot be maintained unless the employer's and employee's contributions are substantially increased or the benefits reduced, several proposals have been made.⁹

In general these proposals fall into one of the following three categories: status quo, pay-as-you-go with capitalization, and "more market less State".

The *status quo* proposals basically maintain the system as it is, providing some supplementary tax revenue to avoid "conjunctural problems". Emphasis is also played on eliminating corruption as well as on re-assuming past debts through legal action.

TABLE II
FLOW OF BENEFITS TO BE PAID TO PREVIOUS-SYSTEM CONTRIBUTORS
(Values in US\$ 1000)

Year	Regular Time	Special Time	Age Limit	Total
1994	141170		141170	141170
1995	283890		283890	283890
1996	425179		425179	425179
1997	569281		569281	569281
1998	713160		713160	713160
1999	857860		857860	857860
2000	1009537		1009537	1009537
2001	1168866		1168866	1168866
2002	1326948		1326948	1326948
2003	1483778		1483778	1483778
2004	1637491		1637491	1637491
2005	1791137		1791137	1791137
2006	1944734		1944734	1944734
2007	2109186		2109186	2109186
2008	2283291		2283291	2283291
2009	2322764		2322764	2322764
2010	2372029		2372029	2372029
2011	2430444		2430444	2430444
2012	2494075		2494075	2494075
2013	2566280		2566280	2566280
2014	2621580		2621580	2621580
2015	2699903		2699903	2699903
2016	2791619		2791619	2791619
2017	2844304		2844304	2844304
2018	2917817		2917817	2917817
2019	3009502		3009502	3009502
2020	3095022		3095022	3095022
2021	3184834		3184834	3184834
2022	3278457		3278457	3278457
2023	3376062		3376062	3376062
2024	3478169		3478169	3478169
2025	3584435		3584435	3584435
2026	3695099		3695099	3695099
2027	3810461		3810461	3810461
2028	3930996		3930996	3930996
2029	4057045		4057045	4057045
2030	4188833		4188833	4188833
2031	4325685		4325685	4325685
2032	4468829		4468829	4468829
2033	4618483		4618483	4618483
2034	4774968		4774968	4774968
2035	4938825		4938825	4938825
2036	5110465		5110465	5110465
2037	5290299		5290299	5290299
2038	5478860		5478860	5478860
2039	5676682		5676682	5676682
2040	5884314		5884314	5884314

TABLE III
FLOW OF BENEFITS TO BE PAID TO PREVIOUS-SYSTEM BENEFICIARIES
(Values in US\$ 1000)

Year	Regular Time	Age Limit	Special Time	Disability	Dependents	Total
1994	4213967	5493915	1253947	3116381	9524142	23602352
1995	4051892	5101492	1217065	3045554	9022872	22438875
1996	3889818	4709069	1180183	2974727	8521601	21275398
1997	3727744	4316645	1143301	2903900	8020331	20111922
1998	3565669	3924222	1106419	2833073	7519061	18948445
1999	3403595	3531799	1069537	2762246	7017791	17784968
2000	3241521	3139376	1032655	2691419	6516521	16621491
2001	3079446	2746952	995773	2620592	6015251	15458015
2002	2917372	2354529	958892	2546765	5513981	14294538
2003	2755297	1962106	922010	2478938	5012710	13131061
2004	2593223	1569682	885128	2408111	4511440	11967584
2005	2431149	1177259	848246	2337284	4010170	10804108
2006	2269074	784836	811364	2266457	3508900	9640631
2007	2107000	392412	774482	2195630	3007630	8477154
2008	1944926	0	737600	2124803	2506360	7313668
2009	1782851	1944926	700718	2053976	2005090	6542635
2010	1620777	1620777	663836	1983149	1503819	5771581
2011	1458702	1458702	626954	1841495	1002549	5000528
2012	1296628	1134554	590072	1691877	501279	4229475
2013	1134554	972479	553191	1569841	0	3458412
2014	972479	810405	479427	1425014	0	29188629
2015	810405	648331	442545	1345706	0	2649062
2016	648331	486256	405663	1274879	0	2379279
2017	486256	331899	368781	1146533	0	2109496
2018	331899	162107	258135	991571	0	1839712
2019	162107	33	295017	1274879	0	1569929
2020	33	33	258135	1133325	0	1354478
2021			221253	1062398	0	1246769
2022			184371	920744	0	1139060
2023			147490	779090	0	1031352
2024			991571	708263	0	815934
2025			36844	637436	0	637436
2026			0	566609	0	566609
2027			0	495782	0	495782
2028			0	424955	0	424955
2029			0	354128	0	354128
2030			0	283301	0	283301
2031			0	212474	0	212474
2032			0	141647	0	141647
2033			0	70820	0	70820
2034			0	0	0	0
2035			0	0	0	0
2036			0	0	0	0
2037			0	0	0	0
2038			0	0	0	0
2039			0	0	0	0
2040			0	0	0	0

TABLE IV
PROPOSED REFORM GOVERNMENTAL DISBURSEMENTS

Year	Total Maintenance		Total Transition		Total	
	US\$ 1000	% GDP	US\$ 1000	% GDP	US\$ 1000	% GDP
1994	23602352	5.24	141170	0.03	23743522	5.28
1995	22438875	4.84	283890	0.06	22722765	4.90
1996	21275398	4.46	425179	0.09	21700577	4.55
1997	20111922	4.09	569281	0.12	20681202	4.21
1998	18948445	3.74	713160	0.14	19661605	3.88
1999	17784968	3.41	857860	0.16	18642828	3.57
2000	16621491	3.09	1009537	0.19	17631028	3.28
2001	15458015	2.79	1168866	0.21	16626881	3.00
2002	14294538	2.51	1326948	0.23	15621486	2.74
2003	13131061	2.24	1483778	0.25	14614839	2.49
2004	11967584	1.98	1637491	0.27	13605076	2.25
2005	10804108	1.73	1791137	0.29	12595244	2.02
2006	9640631	1.50	8578931	1.34	18219562	2.84
2007	8477154	1.28	8854320	1.34	17331474	2.62
2008	7313688	1.07	7911169	1.16	15224857	2.24
2009	6542635	0.93	8240931	1.18	14783566	2.11
2010	5771581	0.80	8184976	1.13	13956558	1.93
2011	5000528	0.67	8124250	1.09	13124778	1.76
2012	4299475	0.55	8061610	1.05	12291085	1.60
2013	3458412	0.44	7997178	1.01	11455590	1.45
2014	3188629	0.39	11862570	1.46	15051199	1.85
2015	2918846	0.35	11734965	1.40	14653811	1.75
2016	2649062	0.31	1161850	1.35	14267912	1.65
2017	2379279	0.27	11376990	1.28	13756269	1.55
2018	2109496	0.23	11138350	1.22	13247846	1.45
2019	1839712	0.20	10828121	1.15	12667833	1.34
2020	1569299	0.16	10514623	1.08	12084552	1.25
2021	1462187	0.15	10176808	1.02	11638995	1.16
2022	1354478	0.13	9917142	0.96	11271620	1.09
2023	1246769	0.12	9639820	0.91	10886589	1.03
2024	1139060	0.10	9327323	0.85	10466384	0.96
2025	1031352	0.09	8978339	0.80	10009691	0.89
2026	923643	0.08	8590351	0.74	9513994	0.82
2027	815934	0.07	8108825	0.68	8924759	0.75
2028	708263	0.06	7584923	0.62	8293185	0.67
2029	637436	0.05	7235404	0.57	7872840	0.62
2030	566699	0.04	6843818	0.52	7410427	0.57
2031	495782	0.04	6453859	0.48	6951641	0.52
2032	424495	0.03	6020631	0.44	6445886	0.47
2033	354128	0.02	5534753	0.39	5888881	0.41
2034	283301	0.02	4994606	0.34	5277907	0.36
2035	212474	0.01	4396353	0.29	4608827	0.30
2036	141647	0.00	3735924	0.24	3877571	0.25
2037	70820	0.00	3099002	0.19	3079822	0.19
2038			2211009	0.13	2211009	0.13
2039			1337094	0.08	1337094	0.08
2040			382114	0.02	382114	0.02

The pay-as-you-go with capitalization proposal considers a dual system. The pay-as-you-go part, managed by the federal government, is compulsory and universal for all workers and employers up to a limit that varies from 5 to 10 minimum wages. The capitalization part is private and voluntary. These proposals ultimately boil down to the present situation, since the bulk of workers earn no more than 5 minimum wages, and a private capitalization system is at present quite active in Brazil, despite the excessive regulations that have to be faced.

Finally, the "more market less State" proposals rely fundamentally on a free-market capitalization system, with the government providing a set of regulations of a prudential and full-disclosure nature. Some proposals, like ours, pay special attention to the humanitarian role to be played by the government in a retirement system.

The main reason that the mixed-proposals scheme are more numerous than the others is that they place too much emphasis on the immediate future for obvious political reasons. It is our view that a proposal such as ours can be implemented with success even if one takes into account the political aspects.

Note that the transition cost associated with our proposal is relatively small. Since the bulk of government disbursement refers to the maintenance of actual benefits paid, there is no reason for not reforming the system. Also, the more Brazilian society delays this reform, the more costly it becomes, since the stock of beneficiaries will increase.

In our original study we proposed general taxes to cover the total expenditures associated with the present system as well as the transition. According to 1990 figures, federal government tax revenue is about 8.4% of GDP while the average yearly disbursement for the period 1995-1999 is 4.2% of GDP.¹⁰ From our point of view there would be no impediment for the government to implement the reform, and its implementation would produce an important by-product, namely, a reduction in the size of the government.

If, on the one hand, such a reduction would be beneficial to the country in governmental activities, on the political side it represents a source of resistance. It is hard to believe that the Executive would take the lead in suggesting a reform such as ours. For example, the new government that will be elected this year would face a 50% reduction in disposable tax revenue if our proposal were to be adopted. The following government would use about 1/3 of total tax revenue to keep up with the reform program; the next would use about 28%, and so on.

Thus, the government that implements the reform pays a high cost and collects small political benefits (as the benefits that the reform produces are associated with preventing the present system from collapsing). For voters, maintaining present official retirement-plan payments is not identified as a benefit produced by the administration, whereas reducing other government programs to finance the reform is certainly viewed as a cost.

For the above reasons, we propose that for the first 5 years after implantation of the program, all sources of revenue to the present system be maintained, except the employee's contribution. In 1990, total revenue of the system corresponded to about 6.3% of GDP, of which 5.03% of GDP accrued from the contributions based on wages and salaries. Since workers contribute, at most, 10% of their wages, if we eliminate this requirement, total revenue to the system would be about 4.7% of GDP, which is enough to cover the 4.2% of GDP yearly average disbursements under our proposal. For the next 5 years, all sources of funds to the system could be reduced by about 60%, which

is the reduction in the yearly average disbursement for the period 2000-04 as compared to the previous 5-year period (1995-99). This procedure could be maintained for all other ensuing 5-year periods.

As there will be an increase in government expenditures during the first two years (0.58% of GDP in 1994 and 0.2% of GDP in 1995), any stabilization program (with its requirement for reducing or eliminating the government deficit) will require a reallocation of funds in order to prevent any increase in deficit.

5. Conclusion

As pointed out, our proposal places a great political burden on the officials that start its implementation. Unless, as is now the case, the reform is implemented in the very last year of the government administration.

Technically, given the current tax system, there is no major difficulty for the government to finance the reform of the pension system. Nevertheless, due to the fact that over the first 5 years the reform would consume around 50% of the governmental tax revenue, we suggest that the present contributions to the system, with the sole exception of those made by the employees, should be maintained throughout that crucial period.

Although the medicine for the current situation may be hard to swallow, it should be kept in mind that the alternative, by not making the reform, is the complete failure of the present pension system.

Notes

- 1 Some studies estimate that the expenditures with the current pension system could be as high as 9% of the GNP by the year 2030, c.f. Medici, Oliveira and Beltrão (1993).
- 2 For an overview of some of the most comprehensive proposals, see Carvalho Filho (1993).
- 3 Originally published by Instituto Liberal in May 1991, the study was reprinted in Carvalho and de Faro (1993).
- 4 For recent and very lucid appraisals of the Chilean experience, which can certainly contribute to the betterment of our proposal, see Arrau, Valdes-Prieto and Schmidt-Hebbel (1993).
- 5 Individuals will be required to contribute 10.5% of their wages for the retirement plan (which is sufficient to provide a retirement income that represents 70% of their respective wages). Additionally, there will be a contribution of 2.5% to cover for disability and death insurance.
- 6 For example, these issues have been considered in the Chilean case by Arrau and Schmidt-Hebbel (1992).
- 7 Given that we do have information about the age distribution of the current stock of pensioners, a more refined estimate would be possible. However, as we do not have any such information for current contributors, and also because we lack the distribution of the current values of both benefits and contributions, we have decided to work only with averages.
- 8 The present value of this flow of transition costs, in 1994 and at 6% per year interest rate, is of the order of 9.15% of GDP.
- 9 See for example de Faro (1993) and Mattos Filho (1993).
- 10 At present, the overall tax revenue (including taxes and social contributions) collected by the federal government in 1990 was of the order of 25.4% of GDP.

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