

## THE BRAZILIAN SOCIAL SECURITY PROGRAM: DIAGNOSIS AND PROPOSAL FOR REFORM\*

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### Abstract:

*The Brazilian pay-as-you-go social security program is analyzed in a historical perspective. Its contribution to income inequality, and the role played by the inflation as a balancing variable are discussed. It is shown that budgetary constraints due to the increasing informatization of the labor force can no longer be reconciled with profitable eligibility criteria. A tailor-made proposal for reform is presented as well as a plan for financing the transition from today's system to the proposed one.*

### 1. Introduction

The Brazilian social security system, like those of most western countries, is in dire need for an overhaul. During the last twenty years, the Brazilian political establishment has been refusing to face up to the gloomy (near) future of the whole program. Arrau, Valdes-Prieto and Schmidt-Hebbel (1993) discuss the political economy of pension reform. Brazil is a textbook example of their points. This explains why the promised benefits remain so generous, and why firms are recurrently asked to increase their share of contributions to the program.

Unlike many other pay-as-you-go programs, however, the Brazilian one is run in an almost hyper inflationary environment. The goal of this paper is to show the interrelation between the social security's predicaments, the informal economy, the income inequality and the inflationary process.

\* This paper was finished in January, 1994.

Section II presents an abridged overview of the history of the program from its beginning to today. Section III looks into the details of the pay-as-you-go program, its sources of funds, profiligate eligibility criteria, effects on the degree of informatization of the labor force and, most importantly, the crucial role played by the inflation in its financial equilibrium. Section IV contains a short description of the present stage of development of fully-funded pension programs. Section V presents the proposal for reform.

## 2. A Historical Overview

The outset of the Brazilian Social Security Program was the enactment of the Eloy Chaves law in 1923. It regulated the creation and operation of fully-funded pension funds named IAPs - Institutos de Aposentadorias e Pensões. The IAPs were set up as professional associations aimed at providing retirement and survivor benefits for the most organized urban labor categories.

The IAPs were originally managed by committees comprised, in equal parts, by representatives of employers and employees. In its beginning, the State played no direct role in their administration. During the late 1920s and early 1930s, this fledgling system was extended to encompass private companies from sundry economic activities. In 1937 there were 183 IAPs in operation.

Up to the middle 1930s, the State remained aloof from the administration of the IAPs. It then started to meddle with the management of the new institutions. Although the IAPs already covered a wide extent of the urban workers, there were still large disparities among the benefits provided by different plans. The populist proclivity of President Getúlio Vargas' government - 1930 to 1945 - led it to increasingly tamper with capital-labor relations. Not only were unions bridled by Vargas' government, but also their covered pension funds were tethered under the aegis of the State.

After the re-democratization in 1945, the IAPs' status of private institutions overseen by the government remained untouched. In the 1950s the IAPs, already under de facto state control, were frog-marched into partially financing the construction of Brasília. Up to that time, the IAPs had been showing surpluses, as fully-funded pension systems typically do during their first 40 years of operation. The spendthrift political establishment could not forbear the temptation to squander that easily available, and seemingly limitless, source of funds on expensive public-works. Moreover, it legislated profiligate benefit formulas which helped deplete the system's reserves.

In 1967, the IAPs were finally merged into a single program administered by the Federal Government. The alleged goal of this merger was to extend the retirement benefits that some privileged groups already had conquered to a wider gamut of workers. As a result, pensions and other benefits were granted to groups that had not contributed at all to the previous pension system. The outcome of this largesse was the formation of a centrally organized pay-as-you-go social security system which eventually substituted for the once decentralized fully-funded IAPs.

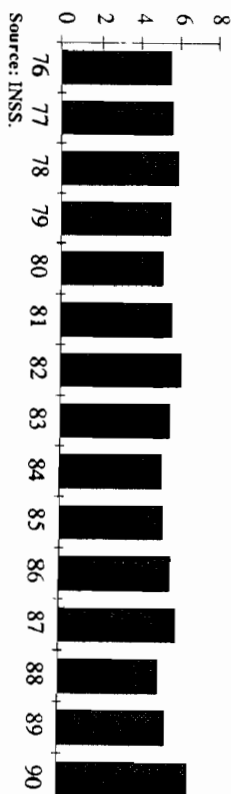
## 3. The Brazilian Social Security Program

### 3.1. The Program's Budget

The present social security program, named INSS - Instituto Nacional de Previdência Social - is the heir of the former IAPs. In 1992, its total revenue of \$23,76

CHART 1

EXPENDITURE AS % OF GDP



Source: INSS.

billion was as large as 5.5% of Brazil's GDP - see Chart 1. Benefit payments amounted to \$14.44 billion, Personnel \$0.96 billion and transfers to the health program \$3.02 billion. The INSS' total revenue amounts to roughly 1/2 of the Federal Government's budget. In that year, the INSS' main source of funds were: contributions levied on payroll, as well as on companies' turnover and profits (76 %); financial income (19 %); and Federal Government net transfers (5 %). The financial sources, as will later be discussed stem from inflationary gains.

Participation in the program is mandatory, at least as far as the formal sector of the economy is concerned. Employers pay 22% of payroll to the INSS and employees 8% to 10% (according to their wage level). Enterprises are also burdened with an extra contribution of 8%, on behalf of each worker, to a government-run trust fund named FGTS - Fundo de Garantia por Tempo de Serviço - from which workers are entitled to withdraw their share when they are sacked or at retirement. This means that the wedge between the employer's wage cost and the employee's (pre-tax) wage earnings range from 27.5% to 29%. Such high rates are partly to blame for the large informal labor market described in section III.2.

The INSS provides a wide range of benefits including (1) pensions; (2) survivor's benefits; (3) old-age assistance benefits; (4) temporary illness insurance; (5) accidents-of-work insurance; (6) permanent disability insurance; (7) funeral insurance; (8) penitentiary allowance; (9) maternity assistance, as well as some other minor programs. The statutory replacement ratio ranges from 70% to 100%, up to a ceiling of 10 minimum wages (MW), according to the number of years of contributions, but, as will later be explained, few retirees actually receive the 100% they are (in theory) entitled to.

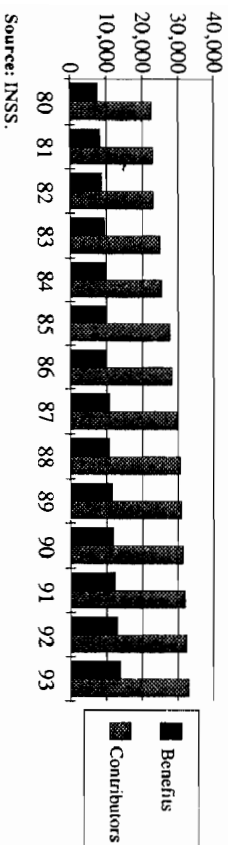
This blanket program, covering all possible risks run by human beings, grants 14.2 million monthly benefits. The far-flung range of benefits, most of which requiring means-tests, is responsible for burdensome administrative proceedings. Likewise, the various sources of funds exact careful supervision to hinder revenue evasions. In order to run this enormous bulk of administrative tasks, the INSS has a bloated structure of 63,500 employees, on top of 33,500 retired employees. This lumbering juggernaut presently guzzles 5% of the INSS' expenditures.

### 3.2. Social Inequality and the INSS' Coverage

Although the Brazilian economically active population in 1992 comprised 65 million workers, only 38.5 million regularly contributed to the INSS. This means that the INSS barely covers 60% of the active population, the other 40% cussedly remaining

in the informal economy. Despite these dismal relative figures, the absolute number of benefits and contributors to the INSS have been growing continually - see Chart 2. The contributors/benefits ratio is now only 2.5, a figure sufficiently low to undermine any pay-as-you-go system. The number of benefits paid rather than the number of beneficiaries is used for convenience since some beneficiaries receive more than one benefit.

CHART 2  
BENEFITS PAID & CONTRIBUTORS



Source: INSS.

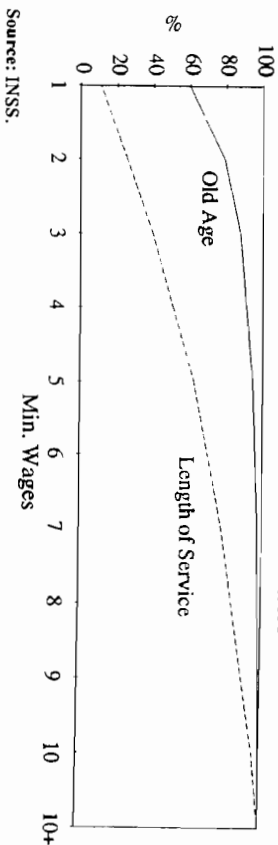
The INSS not only excludes a huge bulk of the working population, but also distributes unevenly the value of the paltry benefits doled out. A source of huge inequities is the eligibility criteria. The length-of-service pension benefit enshrined in the Brazilian constitution grants men the right to retire after 35 years of contributions (30 for women). For some labor categories, these numbers are cut down to 30 and 25, respectively. In the 1930s, when this length-of-service benefit was introduced, the contributors/beneficiaries ratio was above 30, and the annual rate of growth of the country's population was 3.5%. Now these figures have plummeted to 2.5 and 1.8%, respectively. Presently 60.3% of the length-of-service pension benefits are received by people younger than 54.

There is much misunderstanding about the length-of-service retirement among the Brazilian population. Lay opinions claim that it is necessary in a country where poor people start working at the age of 10, and where life expectancy at birth is only 51 years. These arguments are misleading. Children who start working at 10 do it in the informal economy, thus not counting their first years of work when adding up the 35 years required to apply for the length-of-service benefit. Although the Brazilians' life expectancy at birth may be low, at the age of 55 it is 18.5 years. This means that a man who started working at 20 and retires at 55 will be receiving pension benefits, on average, during a period as long as 1/2 of his working years. For a theoretical constant population, this figure roughly tells that 2 young workers have to support one retired worker.

In order to show the regressiveness of the system chart 3 depicts the accumulated distribution of different benefits by minimum wage (MW) brackets. It is clear that Old Age benefits are concentrated on the lower MW brackets, while Length of Service benefits are received by beneficiaries of the higher brackets.

Moreover, low-salary workers loose out twice since: (1) most of them cannot prove to have worked during 35 years when they reach the age of 55, either due to long spells in the informal economy, or just to unemployment; and (2) low-wage workers face a flat wage curve during their whole working life, i.e., they receive 1 to 2 MWs during all

CHART 3  
ACCUMULATED DISTRIBUTION OF BENEFITS



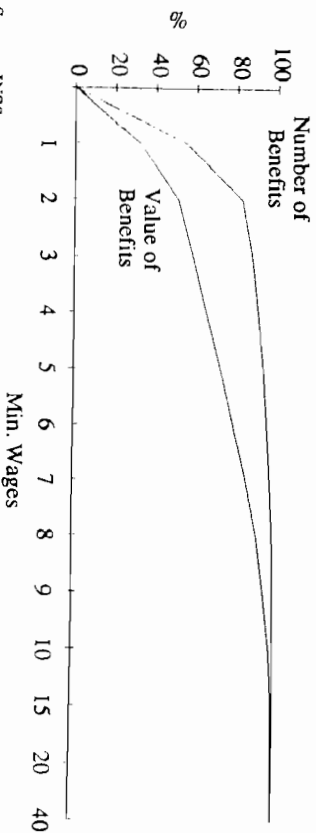
Source: INSS.

this period, while high-wage workers, not only work their whole career in the formal sector, but also face an upward wage curve. When they retire, their pension benefits are calculated on the basis of the last 36 months of contributions, a value much higher than their average contribution during their whole working life.

Besides the length-of-service pension benefit after 35 years of contributions, workers who reach the age of 65, and can prove to have contributed for at least 15 years, are granted retirement benefits as well. Those who have not contributed to the INSS for 15 years have to wait until 70 years old when they are granted a one MW assistance benefit. In general, low-wage workers of the formal sector retire at 65, and informal ones at 70. Most of these get just one MW. High-wage workers, on the other hand, retire on the basis of length-of-service. The chart 4 shows that 55.5% of the present benefits are equal to one MW, which is the lowest legal benefit paid by the INSS. These benefits, however, account for only 46% of total expenditures.

Other problem-prone type of benefits provided by the INSS are the disability benefit and the accidents-of-work insurance. The former alone accounted for 14.3% of the 13.9 million benefits paid out in June of 1993. Like most benefits granted on the basis of a means-test, a large number of these benefits are likely to be due to shear

CHART 4  
ACCUMULATED DISTRIBUTION OF BENEFITS



Source: INSS.

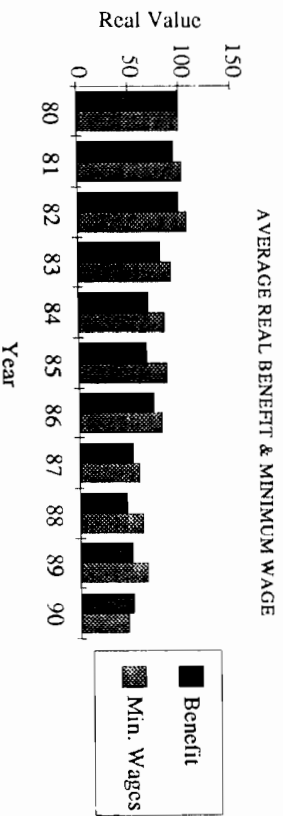
fraud. A recent official inquest set up to investigate suspicious disability benefits, found out that some 60 thousand benefits were illegal. Fraud is particularly rife in rural areas: in 1992, some 400 thousand, 10% of rural benefits, were canceled after another official inquest.

The complex maze of different sources of funds, as well as sundry eligibility and calculation criteria, creates a dim link between today's contribution and tomorrow's benefits that have scotched attempts to expand the contributing population. Raising the contribution rates, as the INSS systematically did in the 1980s, would compound even further the present disincentive to labor formalization. This kind of short-sighted solutions tend to create a vicious circle in which benefits are granted to the many whereas the burden of sustaining the program is born by a few.

### 3.3. Inflation as a Balancing Variable

Although the INSS' statutory replacement ratio may range from 70% to 100%, few retirees actually receive (in real terms) their full entitlements. In order to pare expenditures down to the available revenue, the INSS fiddles the calculations of the value of benefits when they are first requested. In doing this, it is helped by the inflation: not giving full monetary correction to the last 12 months of contribution has been one of the most frequently used legal tricks. This juggling with the inflation allowedly flouts a specific rider introduced in the Constitution (enacted in 1988) which states that real -not nominal- pre-retirement wages must be the input to the calculation of the value of benefits, and that the latter must receive periodical monetary corrections in order to preserve its initial real purchasing power.

Chart 5 shows the real value of the average benefit paid out by the INSS and the average real value of the MW during the 1980s. Both plummeted along that decade and this simultaneous fall is not at all just a coincidental mishap. Since the law states that the lowest possible nominal benefit paid by the INSS is one MW, the government, wont of any other way to constrain the INSS' outlays to its available revenue, resorted to rigging the monetary correction given to the MW, in order to preclude huge INSS' deficits. In 1993 the real average value of the MW hovered around \$ 60 per month. According to the present law (August 1993), the MW receives monthly monetary corrections at 10 percentage points below the monthly inflation rate. Every four months, the accumulated loss is then eliminated in order to reestablish its purchasing



Source: INSS.

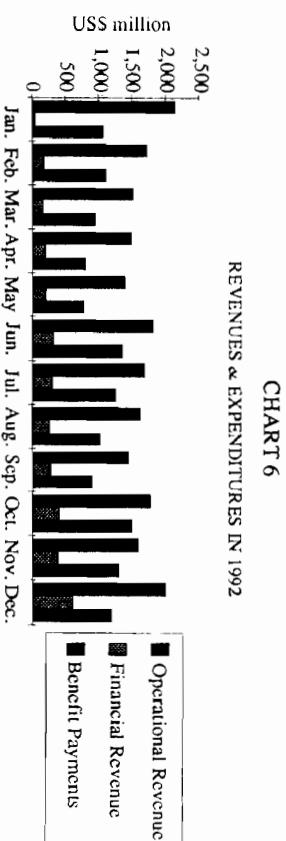
power at the theoretical value of S 100. This amount, however, is never received by a pensioner, for the benefits are paid out at the end of the month, after the Brazilian dizzy 40% monthly inflation rate has already whittled it down to S 74.

It is important to notice that the inflation plays a pivotal role in balancing the revenues and disbursements of the INSS. The contributions levied on enterprises' turnover and profits follow the inflation by definition. Wages in large private corporations receive monthly monetary corrections, therefore keeping roughly constant (in real terms) the share of INSS' revenues which are levied on the those companies' payroll. Its real expenditures, however, follow a saw-shaped pattern. Every four months, when nominal benefits receive a full monetary correction, expenditures are higher than revenues, thus bringing about a temporary deficit. Along the following four months, though, real expenditures are gradually trimmed by the inflation, leading to a temporary operational surplus.

This surplus is immediately invested in government bonds which yield substantial financial revenues. The accrued amount of the surpluses run in the third and fourth month build up temporary reserves which, at the first half of the next four months, are then depleted as benefits are given a new full monetary correction. This cycle repeats itself every four months. The higher the inflation rate, the easier it is for the INSS to adjust its real disbursements to its revenue constraint. It is not surprising, therefore, that the best administrators of the INSS happen to have been in charge of it during periods of rising inflation.

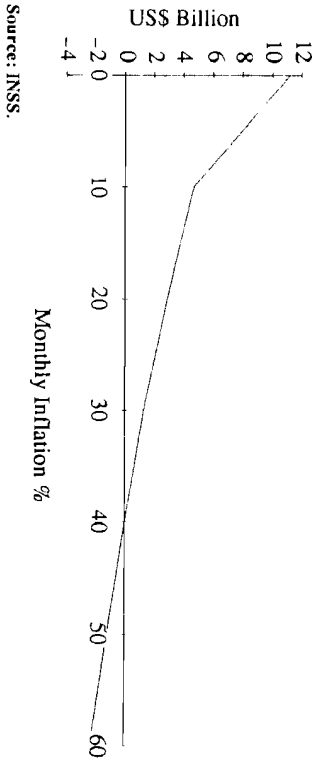
Chart 6 shows the saw-shaped pattern of the INSS' operational revenues and benefit expenditures. As was already mentioned, a large bulk of the INSS' revenue comes from contributions levied on the payroll of private companies that give monthly adjustments to the wages they pay, as well as on corporate sales and profits whose nominal values follow the general price level. As a result, during each period of four months, part of the INSS' revenue remains constant in real terms, while (all) the expenditure falls sharply. This explains why the downward slope of the expenditure with benefits is steeper than the slope of the operational revenue, within each period of four months. The slow increase of the financial revenue is due to the rise of the inflation rate.

Chart 7 shows the projected annual deficit of the INSS as a function of the monthly inflation rate. Under the present rules, if the inflation fell to zero the annual deficit would rocket to US\$ 11.2 billion. This means that if inflation is reduced to zero, the MW would have to be set at its average real value of US\$ 64 in order to keep the INSS' budget balanced.



Source: INSS.

CHART 7  
ANNUAL PAYG DEFICIT & INFLATION

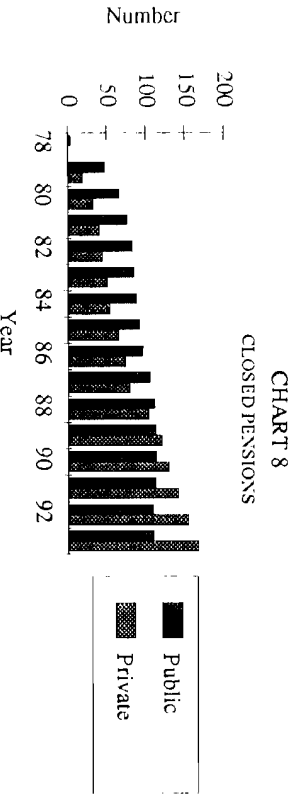


Source: INSS.

4. Fully-Funded Private Pensions

Ten years after merging the IAPs into a single pay-as-you-go system, it became apparent that the statutory ceiling was too low for middle class retirees. In order to provide them with higher retirement income, a complementary fully-funded pension system would be required. In 1977 a new version of the former IAPs was created with the enactment of the law nº 6435. This law regulated the creation and operation of private pension funds that could be constituted either as (1) non-profit institutions covering the employees of a particular firm (or group of firms) - the closed pensions, or; (2) profit (or non-profit)-oriented insurance companies covering any worker - the open pensions.

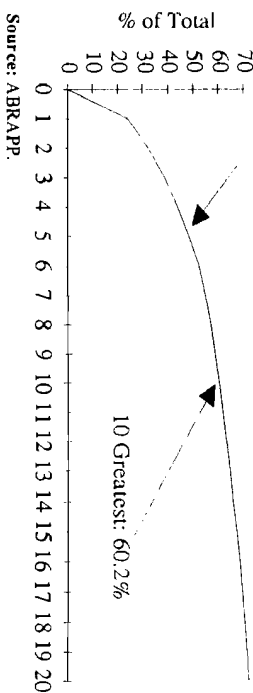
At first, most closed pension funds were sponsored by public companies which in the 1970s and early 1980s were flush with cash. The external debt crisis that came out in 1982, checked not only the expansion of these companies, but also their pension funds'. Chart 8 shows that during the first 10 years of application of the law nº 6435, pension funds sponsored by public companies outnumbered those sponsored by private ones. The reverse occurs after 1988. From 1990 onwards the number of public-company sponsored pension funds actually fell slightly due to the privatization of some sponsor companies.



Source: INSS.

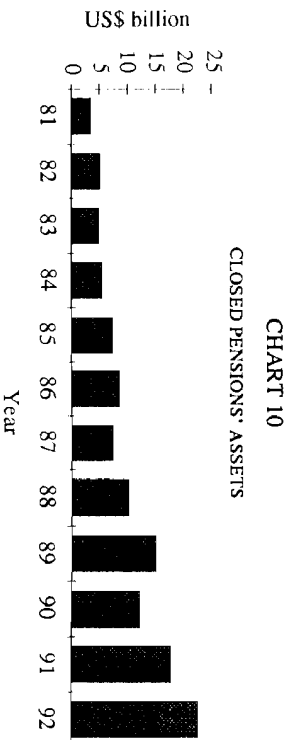
Despite their recent decline in number, the value of public-companies' pension funds' assets are still by far ahead of private-companies'. The greatest pension fund, sponsored by the Banco do Brasil, alone accounts for 24.2% of all pension funds' assets: the 10 greatest pension funds are all sponsored by public companies and account for 48% of closed pensions' total assets - see chart 9. As a whole, public companies' pension funds own 80.8% of all closed pension funds' assets.

CHART 9  
CONCENTRATION OF ASSETS



Source: ABRAPP.

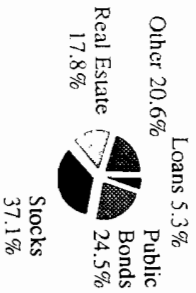
In 1982, the number of participants of closed pension funds was 1,130 thousand. It rose to 1,700 thousand in 1988, and now reach 2,059 thousand, i.e., scarcely 3.2% of the economically active population. Their assets in August of 1993 amounted to 29,042 million dollars which represented 6.4% of Brazilian GDP. Chart 10 below shows the evolution of total assets along the last decade.



Source: ABRAPP.

Brazilian pension funds are not given full leeway to choose their desired portfolios. This is closely related to the inflationary environment they face. During the last 10 years, successive governments have failed to muster enough political support to check the public deficit. In a country with a fledgling financial market, it is not surprising that governments have unabashedly compelled pension funds to gobble up huge bulks of public bonds. Closed pension funds' portfolio composition in August of 1993 are presented in chart 11.

## CHART 11

CLOSED PENSIONS' ASSETS  
(August 1993)

Source: ABRAPP.

With 1,100 million dollars in assets, open pensions are dwarfed by closed ones. They are also more concentrated: the two largest open pensions account for 58% and 25% of open pensions' assets, respectively. Most of the plans undertake to deliver annual real rates of return of at least 6%, but since the indexation adopted follows an official index - which is calculated with a one-month lag - their actual rates of return tend to be negative in years of rising inflation. Only recently have some plans offered performance-related extra returns that, for instance, share with participants 1/2 of the real return obtained on top of the 6% assured. Although open pensions are still a smidgen compared to closed ones, they are already 1/5 as large as privately-sponsored closed pensions.

## 5. A Proposal for Reforming the Social Security System

During the elaboration of this proposal, we took into account not only the Brazilian and other countries' experiences in the field of social security, but also the Brazilian social and economic peculiarities. The proposed social security system aims at simultaneously fulfilling the following objectives:

- Universality of support for the old;
- Treatment of all contributors according to a single rule for granting benefits;
- Elimination of the existing distortions in the present social security system that aggravate the inequalities of income distribution observed in the country;
- Removal of today's enormous anti-labor allocation bias, which creates excessive labor costs, hence reducing real wages and enlarging the informal economy;
- Transparency of costs, *i.e.*, a source of funds for the program in which the benefits received by retirees be, in so far as possible, directly linked to the contributions of active workers. The goal is to eliminate the taxes theoretically paid by employers, but actually deducted from the wages paid to employees without their knowing it;
- Incentives for the formalization of the labor force;
- Simplification of today's administrative proceedings;
- Clear link between the retirement entitlements and the individual savings.

The social security system proposed below is subdivided into four tiers or regimes. The first two would be run by the Federal Administration, whereas the last two by the

private sector. As it will later be specified, this proposal dispenses with the need for a social assistance program.

It is important to keep in mind that the ideal social security framework in an economy with a large informal sector is not necessarily the one for an economy where the informal sector is small. Since the goal is to provide informal workers with some sort of social security benefit, one has to devise a way to force them to contribute - though indirectly - to finance it. Although we recognize that indirect taxes have an adverse allocative bias, in our view there are no other instruments available to compel informal workers to bear their share of the burden. This is why the Universal Benefit provided by the first tier is financed through indirect taxation rather than general taxation, as will later be described.

Another important point to be given attention to is what to do with the current PAYG system. In some countries - Chile, for instance - a bold reform eliminated the PAYG altogether and the financing of the stock of the old system's commitments was done through public debt. In our proposal the role played by the PAYG in the financing of retirement benefits as a whole is reduced, but not eliminated. The proposal could have been simplified through the elimination of the PAYG altogether, but this would have posed some serious problems. If the transition were financed through general taxation, the current active labor force not only would have to support its forebear's through taxation, but it would also have to save for their own retirement. On the other hand, an attempt to finance it through public debt would face many constraints due to the size of the Brazilian financial market. A debt financed transition would necessarily require mandatory purchases of government bonds. As will later be discussed, these kind of purchases are beset with problems.

The organization of the new retirement system requires the creation of a consumer price index for the retirees, the "social security bundle" (SSB). It would represent the cost of a basket made up of basic goods and services of a low-income retired worker without dependents. In the following, it is assumed that the SSB would have the purchasing power of 50% (of the average real value) of the MW. It is not necessary, however, that the SSB be this value. Actually, the value of the SSB would be a political issue, depending on how paternalist the society is.

*First Tier - Universal Non-Contributory Regime*

Coverage: This regime would include all Brazilians, regardless of whether they have participated in the formal labor market during their working life or not.

Benefits: The benefit paid would be an individual lifetime monthly allowance of exactly one SSB entitled to every Brazilian at the age of 65. This benefit would cease after the death of the beneficiary, *i.e.*, in this regime there would be no survivor's benefits to dependents.

Source of Funds: This regime would be financed solely through indirect taxes levied on consumer goods.

## Justification:

Means-tests tend to act as a disincentive to personal savings. Granting a minimum benefit to all old aged people, without the requirement of a means-test, eliminates this distortion inherent to assistance regimes. Very poor people would not have to become even poorer in order to apply for the universal benefit. For a theoretical framework to

support such a minimum benefit granted to all see Lindbeck & Weibull(1988) and Schymura(1993). Means-tests are also costly to implement and liable to frauds, specially in a country like Brazil, with a large poor population and a dismal track record of frauds.

Financing the Universal Regime through taxes levied on consumption goods is an indirect way of forcing the workers of the informal economy to contribute to their future benefits. In fact, if one increased direct taxation, such as income taxes, it would only penalize even more the formal workers. Nowadays, informal workers do not contribute at all to the INSS, but they can request their assistance benefit of one MW when reaching the age of 70 years. Another way these workers can receive retirement benefits is by starting to contribute on a one MW base when 50 year-old, in order to be entitled to the old-age retirement benefit after having contributed for 15 years when they reach 65. In both cases, the informal worker manages to have a pension benefit - though belatedly - without having contributed properly for the social security system.

The value of the benefit ( one SSB ) is willfully low, set at the subsistence level. Given the far-flung range of the program, this is necessary to render it financially feasible. It is also intended to prod the poor worker at the fringe of the formal economy into joining the formal one.

Note: Since benefits would be universal and individualized, there would be no acknowledgment of the dependents and, consequently, no payment of survivorship benefits. For instance, a low-income retired couple would receive two SSBs from the Universal Regime: one paid to the husband and another to the wife. Should one of them die, the maintenance expenses would fall together with the reduction of benefits, which would be reduced to the universal benefit received by the survivor.

#### *Second Tier - Basic Contributory Regime*

Coverage: Participation in this second regime would be mandatory. However, only the workers of the formal economy would actually be enrolled.

Source of Funds: This regime would be financed in a pay-as-you-go system. The workers enrolled in this regime would contribute, but their employers would not. The base of contribution defined as the amount exceeding one SSB, with a ceiling of six SSBs. Therefore, a worker whose wage were eight MWs (sixteen SSBs) would have a base of contribution of five (6 - 1 = 5) SSBs.

The minimum required period of contribution to this regime would be 20 years. A general record of contributors to this regime should be created, in order to allow its managers to control the amount of individual contributions. Such contributions would be registered in individual accounts, indexed in SSBs.

The usual systematic of the pay-as-you-go systems would apply: the rate levied on the above defined base of contribution would be such as to assure sufficient resources for the payment of benefits to the retirees. Workers' contributions would be collected by the firm which would deduct it from their employees' wages. Unlike the current system, in which the firm is directly responsible for the payment of one part of the contributions to the INSS, in the proposed model, only the workers would contribute to this regime. Firms would only facilitate tax collection when dis-counting their employees' contributions. The advantages of this system are as follows:

- a) It would render the calculation and payment of the employees' contributions easier to them;
- b) It would show to the active workers the cost of maintaining the system, for the value of their contributions would be deducted from their gross wages. The goal is to make clear the conflict of interest between those who bear the burden and those who receive the benefits. Today, this cost is blurred by the various sources of funds. As a result, both active workers and inactive ones seem to favor increases in benefits, thus creating an unnecessary political cost for the government when benefits have to be curtailed to avoid deficits;
- c) It would facilitate the judicial process in law courts against firms that should collect their employees' contributions without transferring them to the Basic Contributory Regime's safe, for this would characterize an illegal appropriation from part of their workers' wages.

Since today's contributions paid by the employer would be eliminated, the sustenance of the social security would be wholly transferred to the workers. To make up for this shift, a nominal increase in wages would be decreed at exactly the same percentage rate of the contributions paid by firms to the present social security.

Benefits: The retirement age would be set at 65 for men and women. The value of benefits would be such as to grant to retired workers the average value of their contributions during the last fifteen years in work. The existence of individual records indexed on SSBs makes the calculation immediate.

The reduction of the minimum age of retirement to 60 years is admitted, but this would bring about a 50% reduction in benefits. Retirements between 60 and 65 years would suffer a linear reduction ranging from 50% to 0%.

It must be kept in mind that those enrolled in the Basic Contributory Regime would also have the right to receive one SSB from the Non-contributory Universal System.

Should the retiree die, their dependents would receive 60% of the value of the benefit previously paid to the retiree. The payment of this benefit would cease at the death of widow, in case she has no underage children. For widows with underage dependents of either sex, the payment of the survivor benefit would end at the age of 21.

#### Justification:

Since the present pay-as-you-go INSS is so beset with seemingly insurmountable problems, why not eliminate it altogether and adopt a fully-funded system which is already fledgling in the country? The reason is the difficulty to finance the current commitments of the PAYG system. If the transition were financed through general taxation, it would create an enormous cost to be born by the current active labor force: in such a scheme, not only would they have to support its forebear's through taxation, but they would also have to save for their own retirement.

Another possible way to finance the transition would be through the issuing of additional public debt. In such a scheme the money that formal workers today pay to the PAYG system would have to be transferred to pension funds which, in turn, would have to buy public debt, thus providing the government with money to pay the commitments of the extinct PAYG system. Therefore, from the theoretical point of view, if the newly created fully funded system used 100% of workers' contributions to buy government bonds, the transition could be entirely financed through public debt without reducing the benefits paid to retirees nor increasing the share of active workers'

gross income transferred to retirement programs. That, in theory, would have no real macroeconomic effect.

However, from the practical point of view, due to the adverse Brazilian macroeconomic environment there is no market for long term bonds. The average maturity of the government debt is currently less than one year. Hence, a voluntary purchase of long term debt would require so high ex-ante real interest rates that would render it almost unfeasible. It follows that debt financing would have to rely on mandatory purchases of government bonds. The Brazilian government's track record in the regulation of minimum levels of pension funds' assets shows that this discretionary power could play havoc with actuarial assumptions in the newly created fully-funded system. Presently 1/4 of the Brazilian pension funds' assets are already compulsorily invested in government bonds indexed on the CPI. Most of these bonds, however, have brought losses to its holders due to an accelerating inflation which whittled away their real purchasing power.

The case for maintaining a reduced PAYG system in operation is, therefore, prudence. In a country with weak institutions, short-sighted spendthrift politicians must be precluded from meddling with the newly created fully funded system. In short, we deem it preferable to force workers to contribute to a PAYG system up to a relatively low level instead of forcing a fully-funded system to buy government bonds. The fully-funded system must be given leeway to chose its portfolio in order to comply with its future commitments.

The pay-as-you-go system puts too much resources in the hands of the State which could be better allocated if managed by the private sector. Notwithstanding, should the only official alternative left to formal workers be the Universal Regime, extinguishing the pay-as-you-go system and inducing current active workers to seek complementary retirement benefits only in private (open or closed) pension funds, would produce huge public deficits. This is due to the impossibility to reduce the value of the benefits paid to the present stock of retirees. Since the new program would have a ceiling of six SSBs, the government would have to find resources to bear the excess cost of the benefits received by the current stock of retired workers through general taxation or, most likely, would increase the public debt.

If financed through general taxation, such a break in the inter-generational agreement, which is the pay-as-you-go system, would put an enormous burden not only on the current active workers but also on the inactive ones. This is due to the fact that everyone would have to support (through general taxation) the share above six SSBs of the cost of the benefits paid to the current stock of retirees.

On the one hand, today's inactive workers that have already contributed in the past to the current regime would be penalized for not having their benefits fully financed by the present active ones. On the other hand, the current active workers would finance (through general taxation) the high benefits granted to the present inactive ones and, in the future, would not receive the same level of benefits from the then extinct regime. Finally, informal workers would also be financing (through general taxation) a regime from which they would never receive anything.

If financed through public debt, the government would be recreating the pay-as-you-go system in a disguised way, for the present complement to benefits would be the counterpart to interests payments on the public debt that would be born by the future taxpayer.

Another motivation for the creation of the Basic Contributory Regime is the establishment of an additional incentive to the formalization of the labor market. In this

system, a workers who received one MW and contributed to the Basic Contributory Regime would have their income fully preserved after retirement. Should they not contribute, their future benefits would be restricted to one SSB received from the Universal Regime, *i.e.*, 1/2 of their pre-retirement income. This discontinuity would presumably allure them to the Basic Contributory Regime.

It should be stressed that workers receiving less than six SSBs, and contributing regularly to the Basic Contributory Regime, would have 100% of their pre-retirement income preserved. This high replacement rate would hopefully be sufficient to attract workers of the informal economy to the Basic Contributory Regime and also help muster political support for changing the present system.

#### *Third Tier - Mandatory Complementary Regime*

**Coverage:** This regime would include workers whose wages ranged from six to twenty SSBs.

**Source of Funds:** This regime would be financed in a fully-funded system and run by (open and closed) pension funds. The contribution would be compulsory, and would have as its base the share of the wage ranging from six SSBs to twenty SSBs. The value paid today by the employer to the social security would be transferred to the wages, for the worker would, henceforth, bear all contributions to the basic and complementary regimes.

The contributions could be collected either directly by the employee or by the employer on his behalf. The minimum contribution rate would be 6%, levied on the base defined above.

Needless to say, in order to reduce the global risk run by pension funds, they would be freed from today's lethers that establish minimum floors to be invested in some assets.

**Benefits:** The amount of benefits to be paid to its members by the pension funds would depend on the returns gained by the portfolio of assets. This means that this mandatory tier would be composed of defined contribution plans.

The benefit payment would begin at the minimum age of 60. Anticipation of this age would be accepted, provided that the rate of contribution were increased to compensate for the lower number of monthly contributions.

#### *Justification*

Why should participation in fully-funded pension plans be mandatory? Are individuals not wise enough to make their own choices? What warrants such an encroachment on the liberty of the individuals?

As stated in the description of the Basic Contributory Regime, an abrupt transition from today's pay-as-you-go system to a fully-funded one would burden too much the present generation of active workers. Hence, the choice to trim the current pay-as-you-go system, but not to extinguish it.

In order that this change might occur in a competitive environment, it would be necessary that the private pension funds grew in number. This would require a large demand for the services of these institutions, as well as no barriers to the entry of new competitors in this sector. Given pension funds' still Redding condition - their assets are equal to only 6% of the country's GDP, whereas in other countries this percentage is much higher - USA (50%), United Kingdom (55%) - it is judicious to introduce a mechanism to spur this sector.



Though we recognize that this argument can be deemed too interventionist or paternalist, some considerations are in order. First, the minimum rate of contribution (6%) is not high. Second, the mandatory contribution would be lower than today's marginal contribution paid by firms. Since the current contributions paid by employers would be transferred to salaries, and all remaining compulsory contributions would be paid by employees, it follows that the marginal compulsory contribution on gross salaries would plummet from 20% to 6% for salaries ranging from six to twenty SSBs, and to zero for higher wages.

The advantages and drawbacks of mandatory benefit programs have been studied in Vergara (1992). In a perfect world of complete markets, it would be hard to defend mandatory programs. But when economies of scale, entry barriers, adverse selection etc. are present, then some government intervention may be optimal.

#### *Fourth Tier - Voluntary Complementary Regime*

This regime corresponds to the voluntary complement to the Mandatory Complementary Regime. The decision of whether participating or not, and of which rate of contribution to adopt, would be up to the worker. Therefore, any contribution to pension funds above the mandatory 6% or beyond the ceiling of twenty SSBs would be considered as payment to the Voluntary Complementary Regime.

Together with this regime, an individual saving system inspired on America's Individual Retirement Account (IRA) would be created. This individualized account could be managed either by its owner or by a professional portfolio manager, and would receive periodical deposits to be invested. Withdrawals without income taxation would be deferred up to the date of the retirement. Anticipated withdrawals would be subjected to strong taxation. The basic motivation for this individual fund is the deferment of income taxes up to the age of retirement.

**Safeguard of Rights:** In order to guarantee the rights of workers who change employment and, consequently, may be compelled to leave a (closed) pension fund, these institutions would be forced to keep individual accounts for each of its participants. This proviso is important for some sponsor companies may choose to have defined benefit plans. In accordance with the present law, pension funds' assets would remain legally disentangled from their sponsor's.

**Fiscal treatment.** The contributions of active workers to pension funds would be deducted from their taxable income. Should voluntary contributions be directly collected by the sponsor company, they would be treated as salary expenses. The revenue from the assets of pension funds would be exempt from taxation. Retirees would add up benefits received from pension funds to those received from other sources in order to define their taxable income.

According to what was described, the two fully-funded regimes would operate as mechanisms of income deference. During their active life, in which labor revenues are high, workers would manage to reduce their taxable income. The latter will be augmented during the inactivity period, when their income is, in general, lower. Hence, the taxable income would vary less during their (active and inactive) lives. Since income tax rates are progressive, the proposed system would reduce the lifelong average taxable income. This would presumably attract voluntary contributions to pension funds.

#### **Transition of Regimes**

In the preceding pages, one described the steady state operation of the proposed social security regime. We now turn to the transition from today's regime to the new one.

At the present rules, the INSS grants male workers length-of-service retirement benefits after 35 years (30 years for women). Moreover, today's ceiling for contributions and benefits is 10 MWs.

As it was said in the introduction to the Universal and Basic regimes, the changes would be: a) extinction of the length-of-service retirement benefit; and b) reduction of the contribution/benefit ceiling down to six SSBs.

The first problem to be tackled is the fact that a large bulk of today's stock of retirees receive benefits that are higher than the new proposed ones. Reduction of these benefits would be (1) unfair, since these people contributed during their working years on a base higher than the new ceiling of six SSB; (2) unlawful, for their benefits are deemed as already acquired rights and, to cap it all; (3) too politically costly.

Another group of workers that would also be affected in a similar way is the one made up of those whose bases of contribution are now higher than six SSBs. According to the current rules, these people's expected future benefits are higher than the new proposed ceiling. Therefore the same three reasons for compensating the present stock of retirees for the fall in the ceiling of benefits paid by the pay-as-you-go program apply.

There are also other problem-prone points, due to the change in the expectation of future rights caused by the end of the length-of-service benefit, that will be detailed in the discussion (below) of the transition to the new system.

Finally, assuming that the acquired rights of the present stock of retirees and current INSS's contributors must be (at least partially) maintained, the sources of funds to cover such expenses should be specified. In fact, as described in the Basic Mandatory Regime, the contributions of the present active workers would fall together with the new ceiling of six SSBs.

In the following paragraphs, the transition of regimes is explained in two parts: one from the expenses point of view (benefits paid), and the other from the financing point of view.

**Benefits.** It is proposed that the benefits paid today to the retired people remain the same. Although a great deal of inactive workers have managed to get their length-of-service benefits, it is not possible to deprive them of their benefits now.

In what concerns the expectation of rights of the currently enrolled workers, one should try to adapt them to the grim reality of limitation of resources which would be compounded even further were such expectations transformed into real benefits. This adaptation should be made as piecemeal as possible. As already mentioned, two are the thorny problems to be tackled: a) the end of the length-of-service benefit, and; b) the reduction of the ceiling of benefits. In order to adapt the present pay-as-you-go regime to the proposed Basic Mandatory Regime, the two problems could be treated in the following way:

1. Extinction of the length-of-service retirement on the very day of the enactment of the law which creates the new regime. In consequence, lots of retirement benefits would immediately be delayed. Disgruntled workers would complain, but that is unavoidable. However, it should be kept in mind that workers who were not allowed to receive their length-of-service benefits would have the option to retire at sixty years

old, though not receiving the full value of their previously expected benefit (see description of the benefits paid by the Basic Mandatory Regime).

2. Workers who have contributed to the present pay-as-you-go regime, and whose base of contribution is higher than six SSBs, would be granted a complementary monthly income whose value would be proportional to the difference between their former base of contribution and the new ceiling of six SSBs.

The value of this complement would vary according to his amount of social security credits (SSC). The latter could be, among other possible forms, calculated according to the following criteria:

- a) estimated present value (on the day of the enactment of the new law ) of 2/3 of former contributions (from the employee and employer) to the present pay-as-you-go program. The justification for the coefficient 2/3 being the fact that 1/3 of the present contribution is earmarked to the health program;
- b) estimated present value of the promised benefit outflows (length-of-service or old-age), with post retirement life expectancy and succession of rights to dependents estimated statistically, times the number of years in which the contribution has already been collected divided by 35 - today's number of required years to the accomplishment of the full right;
- c) difference between the estimated present value of the programmed benefit outflows and the present value of the contribution inflows missing to complete 35 years.

Only those whose base of contribution were higher than six SSBs would be entitled to this complement of income. The number of their SSCs would be calculated at the time of the introduction of the new regime, and they would be indexed in units of SSBs. At the time of retirement, such a value would be converted into monthly allowances to be added to the benefits paid by the Universal Regime (one SSB) and the Basic Contributory Regime (five SSBs).

**Financing:** The Basic Contributory Regime would have as initial beneficiaries all the present stock of retirees. The initial contributors would be the current stock of formal workers. This number would gradually grow as the workers of the informal economy started to get enrolled in the newly reformulated program.

In order to calculate the contribution rate, the amount of disbursements to be financed through pay-as-you-go would correspond to share of benefits below six SSBs. The share that exceeds six SSBs and the revenues from the SSCs would have to be financed through general taxation. Thus, the cost born by the whole society would be reduced by the share below six SSBs of the benefits paid to the present stock of retirees. This share would be financed by the formalized workers through pay-as-you-go.

The society would support (through general taxation) the share above six SSBs paid to the current stock of retirees plus the disbursements due to the SSCs. This way of financing the transition, as explained in the justification for maintaining the pay-as-you-go system considerably reduces the cost of the transition.

## 6. Conclusion

The Brazilian pay-as-you-go social security evinces all the bleak characteristics of similar systems of the developed world. The contributors/benefits ratio fell from 4 to

barely 2.5 during the last twenty years. This reflects a demographic progress - higher life expectancy and lower fertility rates - as well as an economical regression - the informal economy represents 40% of the economically active population.

Contrary to widespread belief, during the 1980s the system remained roughly balanced - outlays and inflows canceled out on average. The stabilizing mechanism, however, were not sound policies, but fiddlings made possible by a high rate of inflation. The relative stability of the revenue/GDP ratio suggests that the present figure is the weight of the burden that the society is willing to bear.

Since, under the current eligibility rules, the number of benefits tend to rise, it follows that their purchasing power will necessarily fall even further. Should the Brazilian inflation be curbed, it is not far-fetched to assert that, without substantial changes, the present pay-as-you-go system would go bust. With this in mind, we propose a blueprint for the reform of the Brazilian social security that takes into account the country's peculiarities.

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