

# DEMOGRAPHIC TRANSITION AND THE REGULATORY SHORTCOMINGS OF BRAZIL'S SOCIAL SECURITY

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## Resumo

A assistência e previdência social brasileira são muito caras em relação ao perfil etário e de renda do país. Uma causa disso foi a indexação dos pisos de benefícios ao salário mínimo, feita na Constituição. Outras causas são a baixa idade de elegibilidade, os valores relativamente altos de benefícios, um período mínimo de contribuição relativamente curto, a possibilidade de os beneficiários acumularem mais de um tipo de benefício e o caráter assistencialista de alguns benefícios. Em 2050 os brasileiros com 65 anos ou mais serão 23% da população total e o número de pessoas em idade ativa estará em queda.

Palavras-chave: Transição Demográfica, Previdência Social, Assistência Social.

## Abstract

Brazil's social security and social assistance provisions are too expensive and becoming more so relative to the country's age profile and per capita GDP. One reason for this is the fact that in the 1988 Constitution social security pensions were indexed to the minimum wage. Other reasons are low eligibility age, high pensions relative to past contributions, a short minimum contribution period, the possibility of accumulating different benefits and the fact that some social security benefits are dispensed as social assistance benefits. In 2050 Brazilians 65 or older will represent 23% of total population, while the workforce will be shrinking. Unless comprehensive reform is made in the country's social provisions, they will become unsustainable.

Keywords: Demographic Transition, Social Security, Social Assistance.

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## Introduction

This paper argues that Brazil's social provisions must undergo deep regulatory changes if they are to meet the challenge posed by the country's shifting demography. It is argued that population aging is the single most important factor affecting social security in Brazil. Unless a comprehensive overhaul of regulation concerning eligibility conditions and the value of benefits is made soon, social security's cost may become unmanageable.

The following section presents an outline of the demographic transition Brazil is undergoing. After that is presented an outline of Brazil's social security provisions, as well an explanation of their regulatory shortcomings. Finally, the concluding remarks are presented.

## The graying of Brazil

It is known that, as life expectancy gets longer, it is necessary to achieve ever greater reductions in mortality rates in order to get marginal increases in life expectancy (Olshansky, Carnes e Cassel, 1993). Despite suggestions that there is an absolute ceiling to human longevity, old age is potentially a larger challenge than population increase (Paiva; Wajnman, 2005).

When a population grows older, disease and disability patterns change markedly. Institutions like social security will not be able to cope without undergoing substantial restructuring. In 1900 less than one percent of world population was 65 or older. In 1992 it was 6.2%. In 2050 it will be over 20% (Olshansky, Carnes e Cassel, 1993). A illustrative case is that of the United States: during the 1980s the number of centenarians grew 160%, By 2050 between 20 and 40 million Americans will be 85 or older and from 500 thousands to four million will be centenarians (PERLS, 1995).

Throughout its history up to the 1970s, Brazil had a very young population, the result of high mortality, high birth rates and low life expectancy. Population growth during the nineteenth century averaged 1.5% per year (IBGE 2000b). Immigration from Europe was an important element of population increase from the mid nineteenth century to the first quarter of the twentieth century<sup>3</sup>. But from the 1930s on, immigration comes to a trickle and population growth is almost exclusively from the reproduction of the country's resident population. Average population growth between 1900 and 1940 was 2.2% per year, edging up to 2.3% per year in the 1940s.

In the following three decades Brazil experienced even faster population increase, with population growth averaging 2.8% per year in the 1950-1980 period. Despite rapid population growth, the country's age distribution barely changed in the first seven decades of the century. Chart 1 shows Brazilian population from 1900 to 2050<sup>4</sup>. Chart 2 shows Brazil's demographic pyramids for years 1940, 1990 and 2050. The changes in the country's age structure are easy to see, particularly from 1990 to what is expected to be the case in 2050.

In the 1970s population growth started to decelerate, a trend much more noticeable from the 1980s on. As a result, the proportion of Brazilians younger than 15, which hovered above 42% of total population from 1940 to 1970, decreased to 38% in 1980 and to the vicinity of 30% in 2000. This age group started to

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<sup>3</sup> There was an earlier influx of people to the colony and then Empire of Brazil: that of Africans brought as slaves. After the enslavement of indigenous populations and their exposure to European diseases much reduced their numbers, slave trade became a crucial feature of the Brazilian economy from the 16<sup>th</sup> century until at least the first quarter of the 19<sup>th</sup> century. Over a third of total slave trade from Africa to the Western Hemisphere was destined to Brazil (IBGE 2000b). Today, half the population claims to have at least partial African descent (IBGE 2007b).

<sup>4</sup> . There are no data relative to years 1910 and 1930, and to years 1900 and 1920 there is no disaggregated data by age group. The data that refer to the period prior to 1980 are from the censuses. For the period 1980-2050 the data are from the projection by IBGE.

shrink in absolute terms in the 1990s (see Chart 1) and its weight in the total population is expected to steadily decrease throughout the projected period.

It took sixty years for the age group of 65 years or older to increase its participation in the total population by three percentage points, from 2.4% in the 1940 Census to 5.4% in the 2000 Census. But this proportion will treble in just forty years, from 6.8% in 2010 to 22.7% in 2050, an absolute growth of 36 million. By comparison, the 15-64 years age group is going to grow by 7.5 million in the same period. As for the population as a whole, it will grow from 193 million in 2010 to a peak of 220 million in the 2030s and then start to decline. In 2050 total population is projected to be around 215 million.

Brazilians comprising the age group of 15-64 years represented around 55% of population from 1940 to 1970. Then, in the 1980 Census the proportion rose to 58% and is expected to peak at around 70% by the 2020s. Chart 3 shows that the growth rate of this group is decelerating and will become negative in the 2020s. Chart 3 also shows the number of people in age group 15-64 relative to a person belonging to age group 65 or older. By the 2020s there will be five people of group 15-64 to each person of group 65 or older. The proportion today is twelve to one. By 2050 the proportion will be less than three to one. Since age group 15-64 comprises the bulk of the workforce, Brazil is right now in a “window of opportunity” to accelerate its economic growth and elevate its per capita income, before its demographics turns from an asset into a drag to economic growth.

One important way in which the shifting age structure may become a drag on Brazil’s economic growth is through increasing pensions liabilities. Life expectancy at age 65 in Brazil resembles developed countries’ (see Chart 4). In 1996 Brazil had over 22 thousand centenarians, 65% them women (Camarano, 1999). And the number of young workers has already reached a plateau and will start to shrink in a decade’s time, as shown in Chart 5. The chart also shows that, whereas the dependency ratio is going to fall in the coming years, its composition will change dramatically, indicating a shrinking pool of new workers and a growing burden of pensions costs on taxpayers.

There are three main ways to counterbalance this long term trend: immigration, faster productivity growth and incentives that encourage people to stay longer in the workforce and draw to it people that potentially could be in it. As will be argued in the following paragraphs, neither immigration nor productivity growth by themselves seem enough to counterbalance the rise in pensions liabilities.

In theory immigration could stabilize the age distribution and bring much needed skilled workers to the labor pool. But designing and implementing an effective immigration policy is difficult and demands long term planning and political consensus. It seems that policymakers and indeed Brazilian society have not even started to discuss this possibility. Current immigration is pitiful and there is not even a hint of the government implementing a policy of attraction of skilled immigrants<sup>5</sup>. It is now over eight decades since the last period in which the country benefited from a continued and significant influx of immigrants.

There is universal consensus that productivity growth is vital to a country’s prosperity, but recent trends are not very encouraging in Brazil’s case. Chart 6 shows real year-on-year GDP growth in Brazil from 1900 to 2008. The chart also shows 13 years-moving averages of per capita growth from 1900 to 2008, and of per capita growth of the 15-64 age group from 1940 to 2008. The use of moving averages was meant to smooth out the economic cycle and to emphasize broader trends. Average per capita growth from 1900 to 2008 was 2.5% per year. There are no population data disaggregated by age relative to the 1900 and 1920 Censuses, but if one assumes stability in the age distribution between 1900 and 1940, then

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<sup>5</sup> According to PNAD, in 2007 there were under 700 thousand foreign-born residents in Brazil, or about 0.36% of total population (IBGE 2007e). According to the Labor Ministry, 20,162 work permits were granted to foreigners in 2004. The respective numbers in 2005, 2006, 2007 and 2008 were: 24,158, 25,440, 29,488 and 43,993. But the vast majority of these permits were temporary ones. Permanent permits were just 1,284 (in 2004), 2,132 (in 2005) 2,055 (in 2006), 2,615 (in 2007) and 2,722 (in 2008) (Brasil 2009b).

average per capita growth for the 15-64 age group between 1900 and 2008 was 2.4% per year. If one accepts that per capita growth in the 15-64 age group is a proxy of workforce productivity growth, it is clear that the country has not yet recovered the dynamism prior to the 1980s.

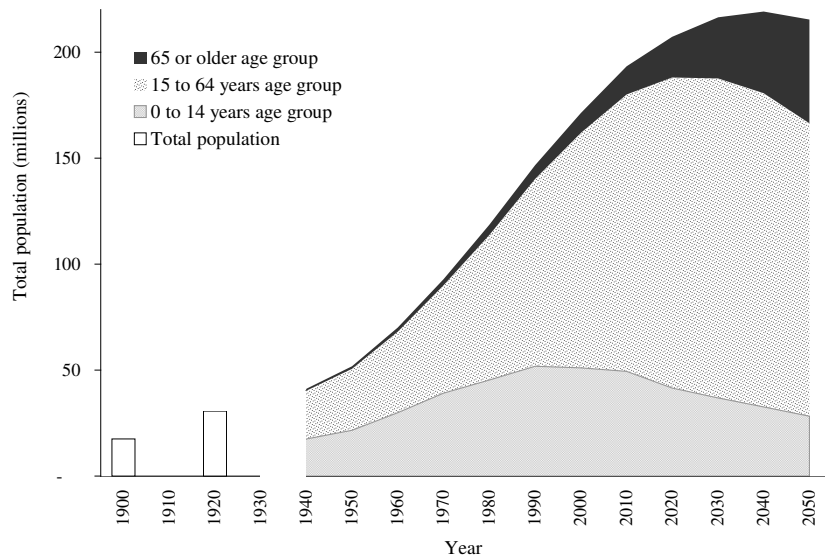
Of course one cannot assume that Brazil will not be able of obtaining faster productivity growth in the future. But a shrinking labor pool means that the country will have to rely more on productivity growth than on new entrants in the labor market than ever before. To achieve this will probably be impossible without much better public education and without offering the incentives and means for continuous education of mature workers. The authors see scant signs of such policies being developed today.

### **The 1988 Constitution and the *Plano Real***

Brazil adopted a new Constitution in 1988 that set numerous social obligations to the State. It was agreed that social security would have a minimum value of benefit, equal to the value of the minimum wage. Thus, in effect social security was indexed to the minimum wage and from then on minimum wage policy would influence social security policy.

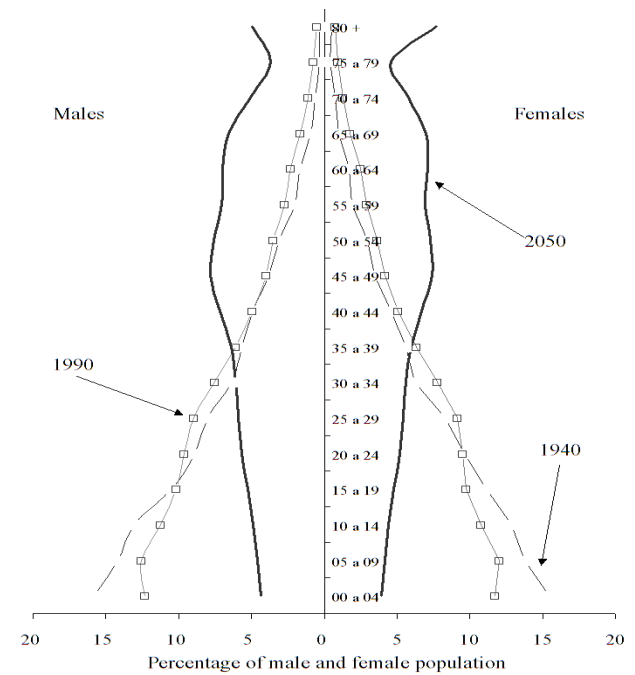
Another feature of the 1980s was hyperinflation. Accumulated inflation from January 1980 to December 1987 was 189,209.82% averaging 156.83% per year or 8.18% per month. In 1988, the year the new Constitution was adopted, inflation was 980.21% for the year. It is equivalent to 21.93% per month. From January 1988 to June 1994 (when the Real Plan was adopted) accumulated inflation was 5,944,242,723.43%, averaging 25.80% a month. In contrast, accumulated inflation in the period from July 1994 to February 2009 was 240.93%, averaging 0.70% a month. Chart 7 shows the real value of the minimum wage from January 1989 to March 2009. A noticeable feature is the wide swings the real value of the minimum wage was subjected to between January 1989 and June 1994.

Before the stabilization plan, even monthly big nominal raises of the minimum wage failed to elevate its real purchasing power over long periods. In contrast, in the new macroeconomic environment even modest yearly nominal readjustments of the minimum wage were enough to guarantee that its real value would more than double between 1994 and 2009. It is possible to see in Chart 7 the appreciation of the minimum wage between July 1994 and March 2009. Its real value appreciated 111.7% in the period, equivalent to an average of 5.3% per year.



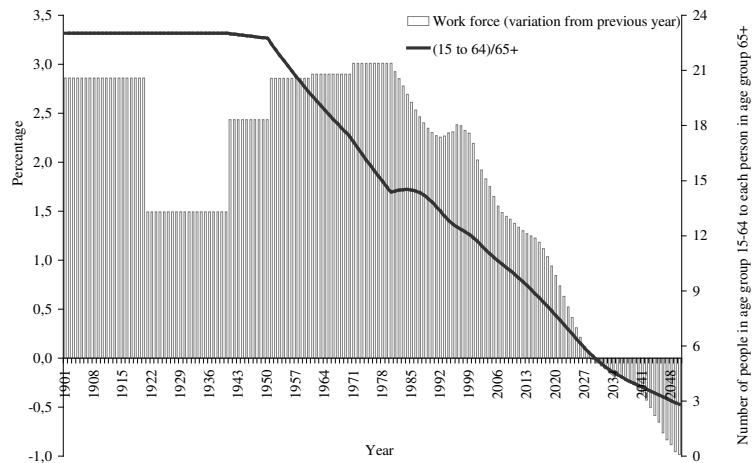
**Chart 1- Brazilian population – 1900-2050**

Source: IBGE 1940, 1950, 1960, 1970, 2000b and 2008b.



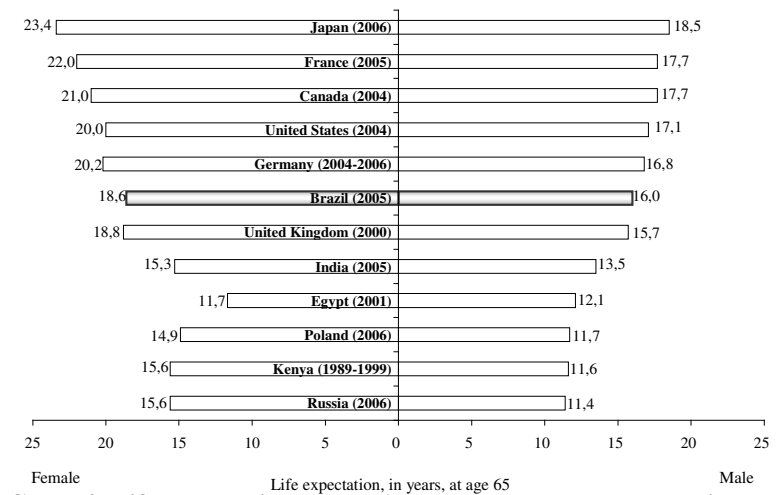
**Chart 2- Brazilian demographic pyramids – 1900-2050**

Source: IBGE 1940 and 2008b.



**Chart 3- Growth rate of Brazil's workforce – 1900-2050**

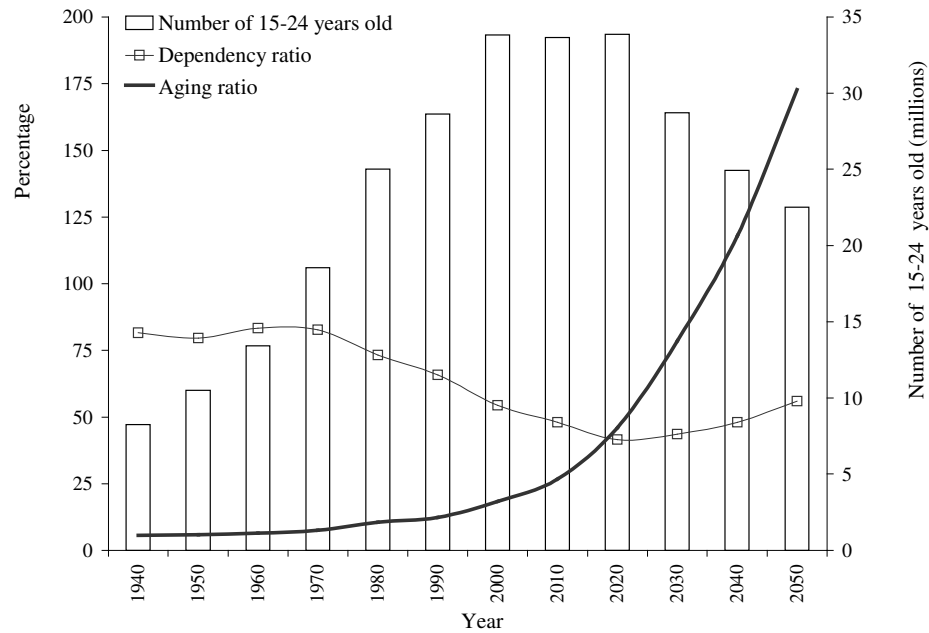
Source: IBGE 1940, 1950, 1960, 1970, 2000b and 2008b.



**Chart 4- Life expectancy at age 65 by gender, selected countries**

Source: United Nations 2008.

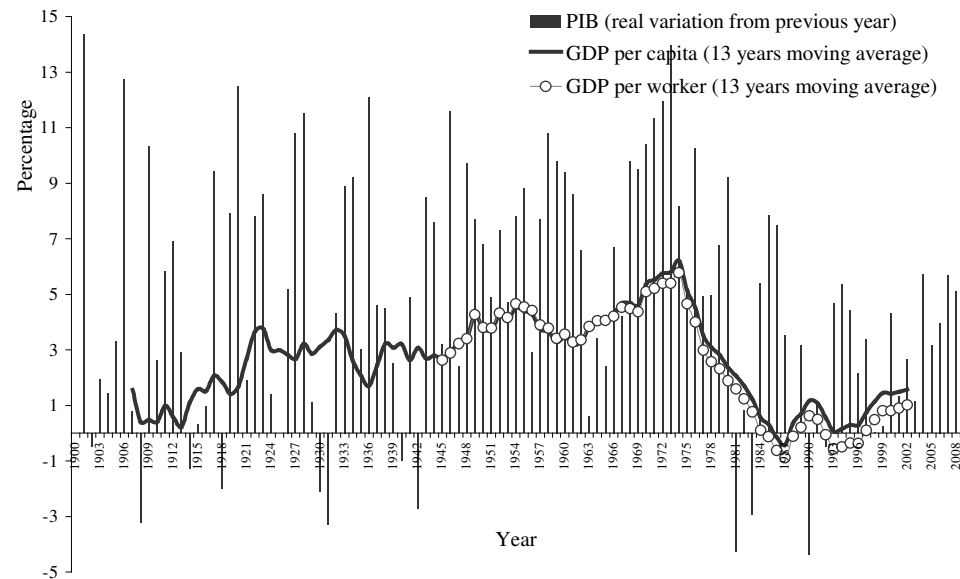
Note: The year in brackets refers to the period data was calculated.



**Chart 5- Dependency ratio and aging ratio (left side scale), and population in the age group 15-24 years (right side scale) – 1940-2050**

Source: IBGE 1940, 1950, 1960, 1970 and 2008b.

Note: Dependency ratio is defined as population under age 15 plus population 65 years and older, expressed as percentage of population in the 15-64 age group. Aging ratio is defined as population in age group 65 years or older as a percentage of population under age 15.



**Gráfico 6 – Brazil's GDP variation – 1900-2008**

Sources: IPEADATA 2009e .  
IBGE 1940, 1950, 1960, 1970 e 2008b.

## Outline of social security

Since the 1990s social assistance cash transfer, means-tested programs were created aimed at poverty alleviation. The country has made important strides for the last twenty years or so in improving its social indicators and in expanding social insurance and social assistance coverage<sup>6</sup>. But the flip side of much expanded social provisions is an ever-increasing tax burden<sup>7</sup>. In the wake of the stabilization plan economic growth steadied, with average GDP growth of 3.3% per year in the 1993-2008 period. It is still low if compared to the 1900-1980 period, but is an improvement on the situation of the 1980s and early 1990s (GDP growth averaged 1.4% per year between 1981 and 1992). Today's Brazil bears a population nearing 195 million, has a diversified industrial base and a US\$2.1 trillion GDP, based on purchasing-power-parity (IMF 2009).

On one side of Brazil's social security system, the *Regime Geral da Previdência Social* (RGPS) broadly insures private sector workers and comprises the vast majority of insured workers and their beneficiaries<sup>8</sup>. On the other side, the *Regimes Particulares de Previdência Social* (RPPS) insure public sector employees. This division is not so stark, as some public employees are insured by the RGPS<sup>9</sup>.

A feature of the RPPS is their fragmentation. There is a RPPS for federal public employees, each state has its own RPPS and even some municipalities have their RPPS. There are also special social security provisions for the military. On a per capita basis RPPS pensioners are costlier than RGPS pensioners. But on the aggregated level the decisive factor determining the cost of social security is the growth trajectory of the RGPS costs, due to a much bigger insured population.

Workers insured by RGPS are entitled to old-age pension (this benefit has two sets of rules regarding eligibility conditions, as will be seen later), "special" retirement pension (to workers in jobs deemed to be particularly unhealthy), disability pension and survivors pension. There are also other benefits to insured workers and their families: monthly payments for sickness and maternity, work injury, temporary disability (due to disease or accident), family allowances benefits (income-tested) and monthly payments to the insured's dependents in case he or she goes to prison.

There are other public services and programs that can be considered as integrating the framework of a welfare state. One such program is unemployment benefit. Workers formally registered are entitled to unemployment benefit. Another provision is public health care. Any Brazilian is entitled to use a public, country-wide, health system that provides, free of charges, dental care, medical consultation, hospitalization and some types of medicines.

There is a number of social assistance programs maintained by the federal government. Many states and municipalities run social assistance and public health programs of their own too. There is one federal

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<sup>6</sup> For instance, the percentage of children in the age group 7-14 years attending school grew from 79.4% in 1991 (IPEADATA 2009c) to 96.6% in 2007 (IPEADATA 2009b) and the Gini coefficient fell from 0.636 in 1989 to 0.556 in 2007 (IPEADATA 2009f). Life expectancy at birth rose from 67.0 years in 1991 to 72.7 in 2007 and infant mortality fell from 45.1‰ in 1991 to 25.8‰ in 2005 (IBGE 2000a and 2007a).

<sup>7</sup> Total tax burden increased from 24.4% of GDP in 1991 to 30.4% of GDP in 2000, to 34.1% of GDP in 2006 (IPEADATA 2009a). This trend cannot be solely attributed to social provisions funding. But social security and social assistance are a big and increasing part of it. For instance, total tax burden grew by 3.7% of GDP from 2000 to 2006. Social security and social assistance cost grew by 3.5% of GDP in the same period (see Chart 4).

<sup>8</sup> The economically active population in 2007 was around 100 million. The number of public employees was less than 5% of this total. Though the number of insured workers is between 50% and 60% of the workforce, virtually all non-public employees are insured or potentially insurable by RGPS (IBGE 2007d).

<sup>9</sup> For example, some state-owned companies like Banco do Brasil. Also, many municipalities across the country have their employees insured by the RGPS. It is also possible for a town or state to cease its RPPS and make their public employees insured by the RGPS. In fact, in 2007 there were 3,378 municipalities in which public employees were insured by RGPS and 1,937 municipalities with RPPS, of which 275 were in process of migrating to RGPS (Brasil 2009d).

social assistance program of monthly installments to needy elderly or disabled persons, the *Benefício de Prestação Continuada* (BPC), that is of interest to the arguments advanced in this paper because, as will be argued later, it influences some workers' decision of whether to contribute or not to RGPS. BPC exists alongside other social assistance programs that will not be commented here<sup>10</sup>.

The country's social security and welfare provisions are comprehensive and a strong argument can be made in their favor. They play an important role in decreasing inequality and poverty levels and in promoting social stability. Arguably, a case can be made for their importance in helping to smooth out the economic cycle, since they constitute a steady income, not derived from work or capital gains and so help to steady demand.

But an even stronger argument can be made in criticizing the focus and cost of these provisions. In particular, the existing social security regulation exacerbates the impact of the demographic changes the country is experiencing, because of three regulatory shortcomings: low eligibility age, the use of social insurance to promote welfare policy and the high value of benefits relative to past contributions.

### **Regulatory problems: the eligibility age**

One flaw is that the minimum eligibility age to retirement is too low. A male urban worker may become eligible to old-age pension as young as 53, if he started contributing at age 18, and a female urban worker is entitled to the same benefit at age 48, again, if she started contributing at age 18. And if the worker is an elementary school or high school teacher, retirement age can be five years lower, because required contribution time is five years lower than for other workers.

Since old-age retirement benefit is intended to be an insurance against the loss of work capacity due to old age, it is easy to see how out-of-touch the current eligibility requirements are. As seen in Chart 4, elderly Brazilians' life expectancy comes near the observed in high-income countries. It means many pensioners have a good chance of receiving retirement benefit for a longer period than their number of years of contribution.

For this type of old-age retirement benefit, the average value of benefit is higher than for other pensions<sup>11</sup>. It is reasonable to assume that, since workers eligible to this benefit draw higher pensions because they were able to earn higher wages, they are more productive than average. Thus, the low age of retirement simultaneously deprives the work pool of some of its more productive members and adds relatively young pensioners to the swelling number of beneficiaries.

There is a measure implemented in 1999 that imposes a penalty on the younger claimants of old-age pension, lowering the value of the benefit according to a formula that takes in consideration their life expectancy, the *fator previdenciário*. It is calculated as follows:

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<sup>10</sup> Information relative to eligibility conditions and social provisions can be accessed in the websites of various Ministries. For RGPS, RPPS and BPC, see Ministério da Previdência Social (<http://www.previdencia.gov.br/>). For information concerning federal social assistance programs see Ministério do Desenvolvimento Social e Combate à Fome (<http://www.mds.gov.br/>). For information on social insurance see Ministério do Trabalho e Emprego (<http://www.mte.gov.br/>). For information on health services see Ministério da Saúde (<http://portal.saude.gov.br/saude/>).

<sup>11</sup> In February 2009 the average pension for this set of eligibility rules was R\$1,133.15. For old-age pensions granted according to the other set of eligibility conditions the average value was R\$483.93. (Brasil 2009e).



$$pension = w \times f = w \times \frac{0.31t}{e_x} \times \left( 1 + \frac{x + 0.31t}{100} \right) \quad [1]$$

Where:

*pension* : old-age retirement pension benefit.

*w* : average of the 80% highest wages for which the insured paid contribution, corrected for inflation.

*f* : *fator previdenciário*.

*t* : contribution period (in years).

*e<sub>x</sub>* : life expectation at age *x* (the age in which the insured will start receiving the benefit).

*x* : age in which the insured will start receiving the pension.

0.31: is the total rate of contribution, adding the rates paid by the insured (11% of gross salary) and by the employer (20% of payroll).

The technical details won't be commented here. It suffices to point out that the value of benefit will decrease with longer life expectancy and increase with longer contribution time and with higher age of retirement. So, it is a way of encouraging workers who reach eligibility age to stay longer active and contributing. Although helpful, it has limitations. For one thing, if the worker earns just above the minimum wage, he or she may end earning almost what would be the case without the *fator previdenciário*, because the minimum wage is a floor to the value of pensions. Also, the pensioner can stay working after retirement. Finally, a reform of social security sufficient to keep it viable in the long run probably would set a higher eligibility age than the average age people choose to retire even when considering the *fator previdenciário*.

Some beneficiaries stay in the workforce, since one doesn't have to renounce his or her retirement benefit in order to work. In 2007, 36.5% of male pensioners and 26.0% of female pensioners were economically active (IBGE 2007c). It ameliorates the shortage of skilled workers. But, as the contribution rates are high and the worker already receives a benefit, there is a strong incentive to collusion between employer and the retired employee to avoid paying contribution, by concealing from the government part or all of the wages paid. In the case of self-employed workers it is probably easier. Even when no such schemes are implemented, it seems poor use of taxpayer's money to grant to an able and willing worker a benefit conceived as an insurance against the loss of capacity to work due to old age.

Women can retire five years younger and with a contribution period five years shorter than men's. But there is no objective reason for women to retire five years younger than men. A hypothesis for this is there is a disposition of the policymakers to "compensate" and to "make up" for the hardships and discrimination women suffer, and for the "double shift" they endure as workers and housewives. The problem with this reasoning is that old-age retirement was conceived as an insurance against loss of capacity for work due to old age, and should not be used as an instrument to correct gender-based discrimination.

Many people suffer hardships due to their ethnic backgrounds, sexual orientation, physical appearance or a psychological trauma for being raised in a dysfunctional family. To suggest that retirement eligibility age should be lowered to them because of these hardships seems at least as logical as suggesting it should be lowered due to gender. Besides, not all women suffer the same hardships or with the same intensity. A given female worker may be single, and therefore she doesn't have to cope with any "double shift", or she may be a very talented professional not discriminated against because of gender. Or she may live in a household with servants. A woman in these favorable situations is entitled to retire at the same age of women who face all kinds of hardships, including the ones stated at the beginning of this paragraph.

Paradoxically, as a consequence of the existing regulation, increasing female participation in the labor market (a possible way of attenuating the effects of the demographic transition) deepens social security's liabilities. Because they have shorter contribution period, retire younger and have longer life expectancy

than men (see Chart 4), the bigger the proportion of women in the labor market, the lower will be the average age of retirement, the shorter the average period of contribution, and the longer will be the average period pensioners will draw benefits.

As for rural workers, they can retire five years younger than urban workers and, again, there is no objective reason for that. The relative insalubrious work conditions or shorter life expectancy that would justify a lower eligibility age are supposed as a consequence of the fact that a person is a rural worker. Of course it is hard to toil in the fields, but many urban jobs are also arduous activities that don't grant people engaging in them the privilege of early retirement. Eligibility rules for rural workers have characteristics resembling more social assistance than social security. For instance, under the present rules people who in essence just raise chickens and grow food for their own household may be considered eligible for retirement, provided that the household is located in a rural area.

Low eligibility age makes the system more expensive to fund. If eligibility age is set too low, many people still fit to work will retire. This simultaneously increases the aggregated cost of social security and shrinks the pool of contributions. If, as it is the case in Brazil, demographic changes increase the proportion of people reaching eligibility age relative to younger workers, social security costs may become unbearable. But the low eligibility age is intertwined with other regulatory problems, as the fact that social security is used as social assistance.

### **Regulatory problems: social security as social assistance**

The second flaw is that some social security benefits are in practice social assistance benefits. Many of the active RGPS benefits don't keep any proportionality to past contributions. One reason is that, due to a constitutional provision, the lowest value for any retirement or survivors benefit is the minimum wage. Since over two thirds of Brazilian workers earn less than the equivalent of two times the minimum wage per month, in practice they retire with near full or full earnings. Chart 8 shows the income of all people of ten or more years of age who have income, from 2001 to 2007. The chart shows a series for rural workers and another for urban workers.

Old-age pensions are at least 70% of the wage, and this only in the case the claimant did not completed the full period of contribution. If eligibility conditions are fully met, the benefit will be equivalent to the average of the 80% highest wages the claimant earned (after correcting for inflation), up to the maximum value of benefit.

As aforementioned, there is another set of eligibility rules for old-age pension. In this second set urban male workers must be 65 years old (60 for women), but have to accumulate only 180 monthly contributions. Since no benefit can pay less than the minimum wage, and in order to guarantee a pension equivalent to it is not necessary to pay contribution relative to earnings in excess of the minimum wage, there are strong incentives to cheat.

Suppose that a 30 years old, low-skilled urban male worker thinks it is improbable his future monthly earnings will increase much above the minimum wage. As his pension will be at least the minimum wage, it is rational (though dishonest) to avoid paying contribution relative to any earnings that exceed the minimum wage. In fact, if he thinks that he will not be able to accumulate 35 years of contribution before he is 65, he may even opt to avoid paying any contribution apart the minimum number of 180.

Rural workers are exempt from contribution. They are entitled to a monthly old age benefit equivalent to the minimum wage from age 60 (if male) or 55 (if female). It is required proof of past work in the rural sector for a total period of at least 180 months and to be working as a rural worker by the time the benefit is claimed. It is easy to cheat, for in many cases it is virtually impossible to verify whether the claimant

really worked as a rural worker for the required period or just used to live in a dwelling located in a rural area. Though formally a social security benefit, old-age pension to rural workers is really a social assistance program.

Survivors benefit is another instance of imbalance between contribution and benefit. Survivors benefit is equivalent to the full value of the retirement pension paid or payable to the deceased and can be accumulated with retirement benefit. For example, in the case of a couple in which both spouses are retired, in the event of the passing of one of them, the survivor is eligible to survivors benefit<sup>12</sup>. There are two inconsistencies here. One is that the per capita income of the dependents actually rises with the passing of the retired person. The other is that the benefit was intended to support the deceased's dependents and, if they already receive a retirement benefit, it seems unnecessary to accumulate survivors benefit.

### **Regulatory problems: the value of the benefits**

The third flaw is that the starting value of the benefit granted is a high proportion of past wages and its real value increases with time. This is due to indexation of benefits to the minimum wage and the fact that successive Brazilian governments have pursued a policy of conceding above-inflation raises to the minimum wage (see Chart 7). The consequence of this policy is that the aggregate cost of social security grows due to the increase in the number of beneficiaries, but also because the real average value of the ongoing benefits increases each time the minimum wage is raised.

With each raise social security costs grow in tandem. It means that, instead of a policy of maintaining purchasing power of benefits, successive governments have in fact pursued a policy of increasing the real value of ongoing benefits. It compounds the problem of financing the pensions of a swelling number of beneficiaries. Alas, embroiling minimum wage policy and pensions have other undesirable effects.

The wages are concentrated around the value of the minimum wage and this concentration has been increasing (see Chart 8). It means that the aforementioned incentives to conceal earnings in excess of the minimum wage are also becoming stronger. One would deduce that at least the pensioners would be happy to see their real purchasing power periodically elevated. But this is not so, due to an *impromptu* measure that has been used to attenuate the impact of the minimum wage policy on social security costs, as explained below.

Though there is a constitutional provision indexing the minimum value of benefit to the minimum wage, the readjustment of higher benefits is at officials' discretion. So, in an attempt to abate the full impact of a minimum wage raise on the costs of social security, higher benefits are readjusted by less than that raise. Pensions have their real value increased, but the higher ones by a lesser amount. As a result the weighted readjustment rate of total pensions obligations is smaller than the rate set to the minimum wage. Unfortunately, this artifice is both of diminishing effect and a cause of frustration to pensioners who retired receiving higher pensions.

It is of diminishing effect because, as the real value of the minimum wage increases faster than productivity growth, the salaries of workers earning more than the minimum wage tend to be readjusted for less than the raise given to it. As can be seen in Chart 8, the ensuing effect is a bigger proportion of the work force earning low multiples of the minimum wage. Therefore, a bigger proportion of claimants will start receiving pensions equal or just a bit above the minimum wage. Also, unequal raises to ongoing

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<sup>12</sup> The number of people receiving just old age pension or just survivors pension grew by 17.8% between 2001 and 2007 (from 17.4 million to 20.6 million). The number of people accumulating old age and survivors pension grew by 57.1% in the same period, from 1.0 million to 1.6 million (IBGE 2001 and 2007c).

pension benefits approximate the value of older benefits to the minimum wage. The average rate of readjustment for the aggregate pensions is thus increasing towards the rate of the minimum wage.

Being the minimum wage such an important institutional price, Brazilians are used to measure wages and pensions as multiples of it. Though their purchasing power has been increasing, pensioners with higher pensions realize that, as time goes by, their pension is decreasing as a multiple of it.

In practice, the pensioners with higher benefits are being discriminated against. This is the result of haphazard attempts to rein in the growing cost of pensions. Of course the real problem is the fact that social security policy shouldn't be in tow of minimum wage policy. As mentioned, this practice has decreasing effectiveness. Over time, it has led to the lowering of the maximum benefit, expressed as a multiple of the minimum wage (see Chart 7). The result is that a growing proportion of pensioners receive raises proportionally equal or close to the raise given to the minimum benefit.

One unintended consequence of indexing pensions to the minimum wage is that, as the cost of social security soars, the minimum wage policy is being increasingly influenced by concerns about the widening gap between social security's obligations and revenues. That is, minimum wage policy is increasingly in tow of social security policy.

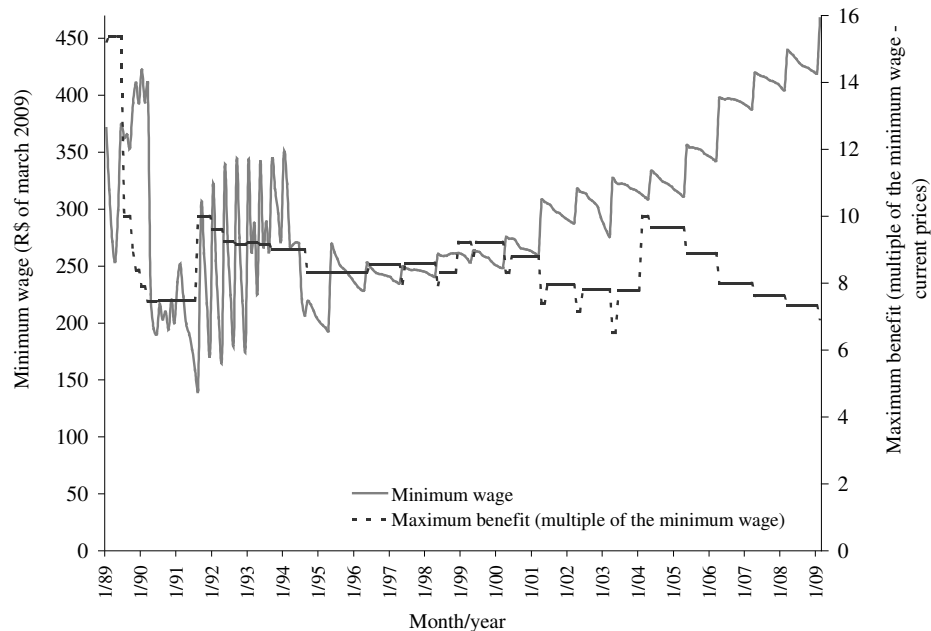
Even though Brazil's social security contribution rates are equivalent to around a third of gross salary (see Equation [1]), it has been necessary to apportion a growing share of total tax revenues to meet social security's obligations. This tendency has somewhat abated in recent years, as economic growth accelerated due to a commodity-led export boom, increasing employment and contributions to RGPS. But, despite the favorable recent conjuncture, it seems probable that population aging will widen the gap between social security's revenues and obligations for years to come.

### ***The Benefício de Prestação Continuada***

As noted before, BPC is a social assistance benefit that is of importance to social security. It is meant to alleviate urban old-age population's poverty (as seen before, the old-age rural population is assisted by a form of retirement benefit that is, in essence, a social assistance benefit akin to BPC, with lower eligibility age). It is equivalent to the minimum wage and indexed to it. There is no need to have ever contributed or to have had a formal job. To be eligible to BPC it is necessary to be at least 65 years old and to live in a household where per capita income is at or under 25% of the minimum wage.

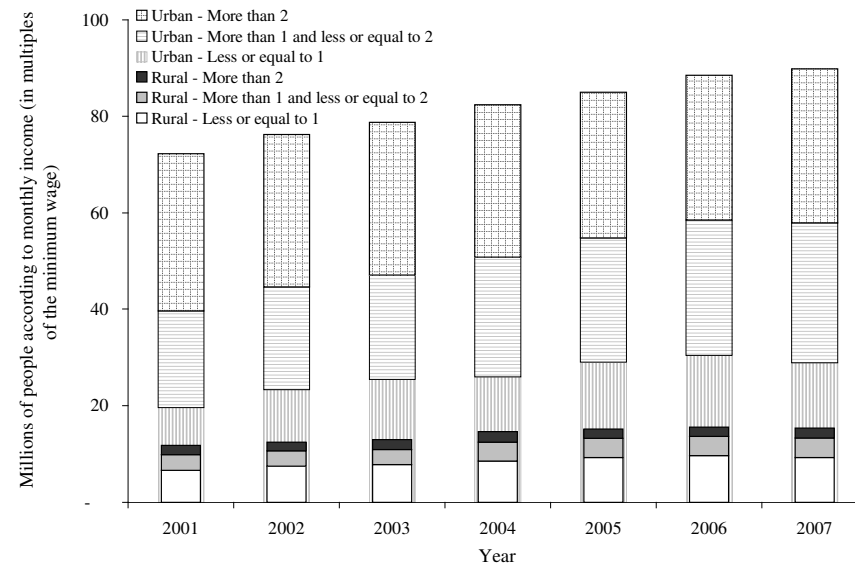
It means that poverty is defined as a fraction of the minimum wage. And, as the minimum wage has consistently being raised above inflation for fifteen years now, more people become eligible to BPC. A person with income a little above the poverty line in a given year may be deemed "poor" in the next, even if his or her purchasing power remained the same, just because the minimum wage was raised above the inflation rate relative to the period.

The obvious critic is that fighting poverty should not be in tow of minimum wage policy. As prices vary across the country, one-size-fits-all poverty alleviation measures lack effectiveness and waste resources. In metropolitan areas, where the cost of living is relatively high and many poor people live in slums far from downtown and lacking public services, it may well be that a benefit equivalent to the minimum wage is not enough to a poor household's needs. In contrast, in many small towns the cost of living is lower and it is not uncommon that many urbanites grow edible plants and breed chicken for meat and eggs in their backyards. There, householders with a per capita income below the official poverty line certainly live in humble conditions, but one cannot automatically assume they are destitute.



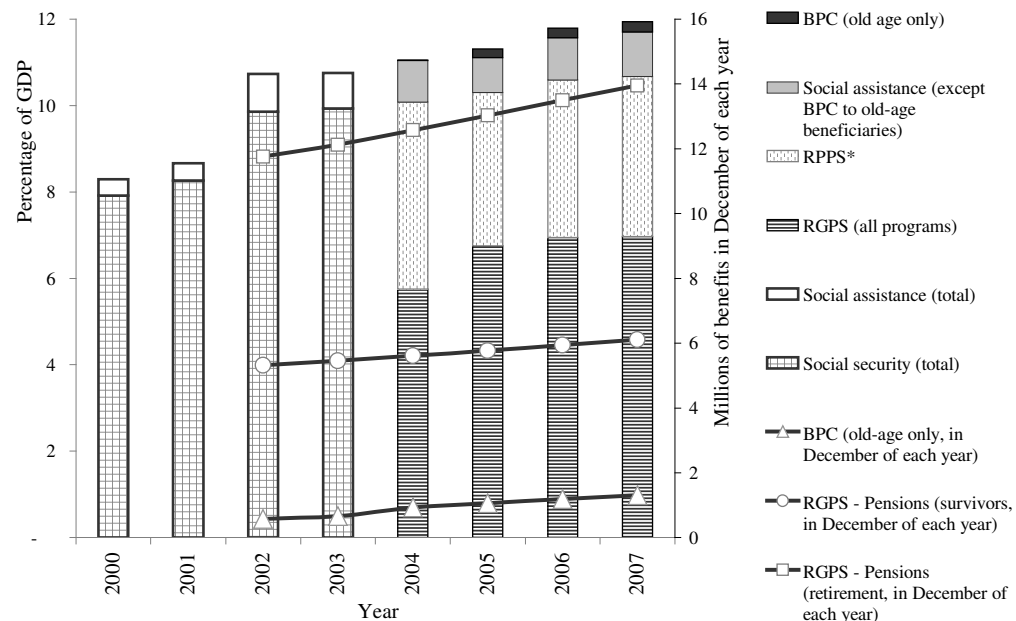
**Chart 7- Real value of the minimum wage and maximum social security benefit (as multiple of the minimum wage) – Jan/1989 to Feb/2009**

Source for minimum wage: IPEADATA 2009g.  
 Source for maximum benefit: Brasil 2005 and 2009c.  
 Note: Minimum wage refers to the left-side scale and maximum benefit to the right-side scale. Minimum wage inflated by IPCA.



**Chart 8- Population aged 10 years old or more, according to income (as multiples of the minimum wage) and type of dwelling (urban or rural) – 2001/2007**

Source: IBGE 2001, 2002, 2003, 2004, 2005, 2006 and 2007c.



**Chart 9- Cost of social insurance and social assistance as a percentage of GDP (left side scale) and millions of current benefits in December (right side scale) – 2000/2007**

Source for cost: Brasil 2009a.  
 Source for benefits: Brasil 2009e.  
 Source for value of GDP: IPEADATA 2009d.

The fact that BPC is indexed to the minimum age entangles it to social security. It was previously argued that there is an incentive to cheat in the case of an insured person who earns just above the minimum wage. If this person lives in a household where per capita income is near the poverty line, he or she might be tempted not to contribute at all, since BPC and the minimum social security pension are worth the same. It is relatively easy to omit other householders' income, since many poor people have no formal jobs and it is hard to access their average monthly income.

### **The cost of the social security and social assistance**

Social security numbers are shown in Chart 9. Disaggregated figures are not available between 2000 and 2003 in the national budget. From 2004 on, social security is shown disaggregated into RGPS (all benefits) and RPPS (benefits and other functions, like pensions to retired military personnel). Social assistance is shown disaggregated into BPC (only the benefits to old-age beneficiaries) and other programs (including BPC to impaired beneficiaries). The chart also shows the number of RGPS benefits to all forms of retirement pensions, survivors pensions and BPC (only the number of old-age beneficiaries).

Average yearly GDP growth was 3.5% between 2000 and 2007. In the same period the cost of social security increased by almost three percentage points, from 7.9% of GDP in 2000 to 10.7% in 2007. If social security and social assistance are taken together, the increase is over three and a half points, from 8.3% of GDP in 2000 to 11.9% in 2007. It is remarkable that in such a favorable conjuncture as the one of the last five years social assistance still increased as a percentage of GDP.

If Brazil's age structure could somehow be stabilized as it is now, and even supposing that the existent programs are well run there still would be many features of social security and social assistance that should be reformed. The present regulation makes social provisions too costly, at 12% of GDP in 2007. In order to finance them in their present form, RGPS imposes on firms a contribution rate equivalent to 20% of payroll. Additionally, employees must pay a contribution rate from 8% to 11% of gross salary. Presently, even these high rates are not sufficient to cover the costs of ongoing benefits.

### **Final remarks**

In two decades Brazil has built a comprehensive welfare state, which services Brazilians have rapidly grown accustomed to. But it is a very costly structure and, in the particular case of social security, the regulatory framework makes it ill prepared to face the aging of the Brazilian population.

When discussing social security and social assistance one must bear in mind that these programs already cost the equivalent of 12% of GDP. Eligibility conditions are such that, even though less than 7% of the population is 65 or older, and despite an expansion of 38% of GDP in the last eight years, the cost of these programs has still risen as a percentage of GDP. For the foreseeable future the number of pensioners will continue to rise relentlessly. Still more worrying, Brazil's demographic profile is set to resemble today's Italy's in barely forty years, when about a quarter of total population will be 65 years or older.

As the combination of shrinking workforce and swelling old-age population would impose a strain on any social security system, one would expect frantic activity from the policymakers toward reforming social security in ways that minimize the impact of these coming developments. It is disputable whether that is the case in Brazil. No doubt proposing regulatory changes that curb access to pensions and limit their rise is a very hard sell. Basically, the Brazilian people must be told to expect a combination of more years of contribution, higher minimum eligibility age, higher contribution rates and lower pensions. The only

selling point would be that, in the absence of comprehensive reform, it is difficult to imagine how the country will be able to sustain its numerous social provisions in face of an aging population.

The authors think that reforming Brazil's social provisions should be given high priority in the political agenda, for the longer a reform is postponed, the greater the need of one, and more drastic it will have to be. For example, it is necessary many years before the full effect of an increased eligibility age or longer contribution period is felt. This is so due to the long transition period necessary to new rules to be totally effective. A long transition period is vital to minimize political opposition. It means that along the transition period the cost of social security relative to GDP may continue to rise for a number of years before the stabilizing effects of a reform be felt on costs.

Increasing eligibility age seems an unavoidable measure, though it has the potential to raise significant opposition. But this one single measure by itself almost certainly will not be enough to contain the costs of social security. Other features must as well be addressed, like lower eligibility age for women relative to men and for rural workers relative to urban male workers, the indexation of pensions and BPC to the minimum wage, the possibility of accumulating old-age and survivors benefits, shorter contribution time to women and exemption of contribution to rural workers, and the high value of benefits relative to total past contributions.

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