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## INTERNATIONAL COMPARATIVE FOR SOCIAL SECURITY

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The several reflexes of the Brazilian social security on the national economic context are already well known. The payment of retirements and pensions to the public and private sector reach 12% of the Country's GDP. In other words, for every R\$ 10.00 produced in Brazil more than R\$ 1,00 is allocated to the payment of social security benefits. If, on the one hand, this statistic represents the national advance in issues of social security coverage and potential reduction of poverty specially for the elderly, there are, from another perspective, opportunity costs in not applying these resources in areas with potential to sustain bigger growth rates such as, for example, public investment, or even, in the reduction of the tax burden that would support the development and opening of new enterprises. This opportunity cost is particularly significant for a country that in the last years has been presenting growth rates that are well below the international average.

In absolute terms, the Brazilian expenditures with social security, as a proportion of all that's produced by the nation, are undoubtedly high, as presented in graph 1. Comparing 113 countries, Brazil ranks 14<sup>th</sup>, together with European countries with older populations and known for their extensive social protection networks, such as Italy, Germany, France, Switzerland, Belgium and Sweden.

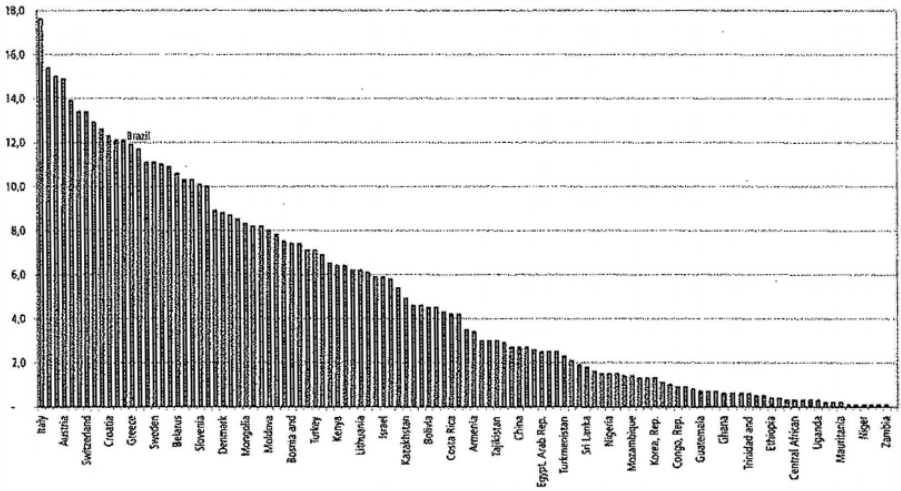
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GRAPH 1

Expenditures with social security as a percentage of the GDP



Source: World Development Indicators 2006.

In spite of providing a good overview, graph 1 presents absolute values and merits some analysis. For example, Brazil may spend a lot with social security in absolute terms due to the lack of a minimum age limit to retire, or for charging high contribution rates that allow increased expenditure with social security.

Contemplating in the study the other variables may have reduced the universe of comparable countries from 113 to 49, but it has allowed a more thorough analysis of the results as one considers, in addition to social security expenditures, the population demographic structure, the relationship between retirement benefits and per capita income, the participation of the contributors in the work force, the contribution quotas and, lastly, the minimum age required for retirement.

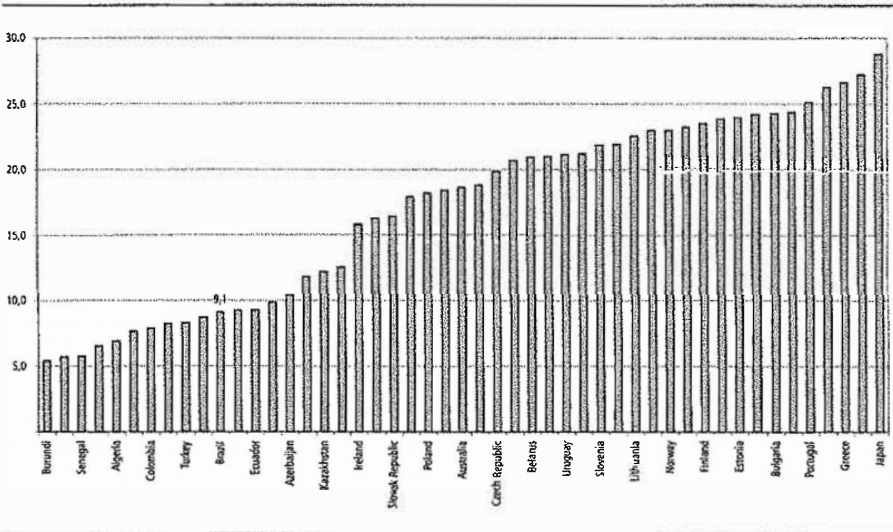
The source of data for the demographic dependency ratio, which is the ratio of retirement benefits and per capita income to contributors as a percentage of the work force, was the World Development Indicators published by the World Bank in 2006. On the other hand, the data referring to the contributions quotas and minimum ages for retirement were obtained from the Social Security Programs Throughout the World published by the Social Security Administration.<sup>1</sup>

1. These publications are freely available on the internet at the following web sites: <<http://www.ssa.gov/policy/docs/progdesc/ssptw/>> and <<http://devdata.worldbank.org/wdi2006/contents/home.htm>>.

To construct an order that takes into account several factors that influence the expenditure with social security, the method *Data Envelopment Analysis* (DEA) was used. The technique applied is purely empirical and not parametric. The highest position in the ranking indicates only that the country spends a lot given the several variables used in the analysis. In other words, the aim was not to determine the optimum value of the relationship between the expenditure in social security and the GDP of a country, but only indicate for the nations under analysis if their social security expenditures are high after being controlled by the other variables that summarize the demographic characteristics and social security plan design.

In the first place, the demographic dependency ratio that represents the quotient between the populations over the age of 65 years was selected, considered as elderly, and the population aged 15 to 64 years. The greater dependency ratio would imply more potential expenditure with social security due to the greater numbers of elderly people that represent the target population of the social security programs. As observed in graph 2, the demographic composition of Brazil does not justify its high social security expenditures. The dependency ratio of 9.1% indicates a young population by world standards.

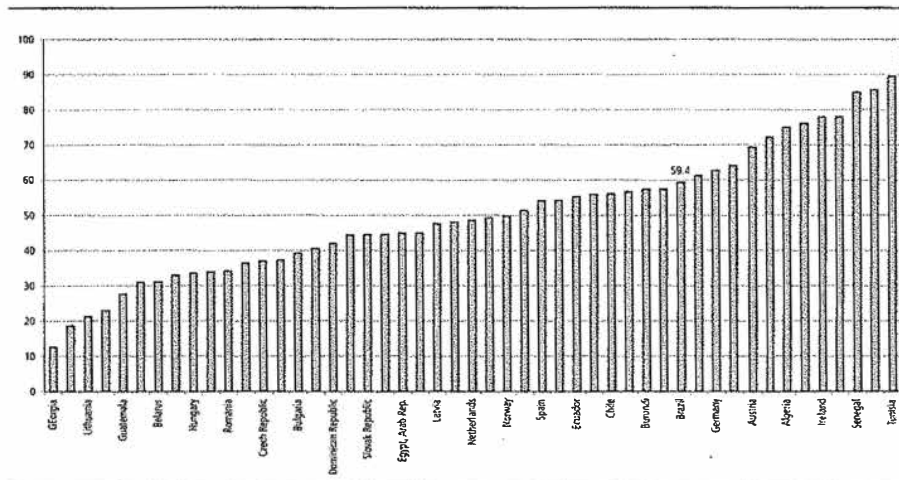
**GRAPH 2**  
**Demographic dependency ratio**



Source: World Development Indicators 2006.

The second variable, the relationship between retirement benefits and per capita income, is used as proxy calculation formula of the social security benefits. The higher proportion of retirement benefits in relationship to average income means that the social security regime returns to the retirees and pensioners a large share of the income they used to earn when active in the work market. In this sense, it is expected that the increase in the average amounts of the benefits will increase the expenditure in social security. Therefore, the participation of the social security expenditure in the product of a country is a growing function of the second variable. In Brazil, the relationship between retirement benefits and per capita wages is of 59.4%, a little more than 10 points over the international average of 48.5%. In other words, the formulas for calculating the Brazilian social security benefits allow a re-composition of income in inactivity that partially explains the high participation of social security expenditure in relation to the product.

**GRAPH 3**  
**Retirement benefits as a percentage of the per capita income**

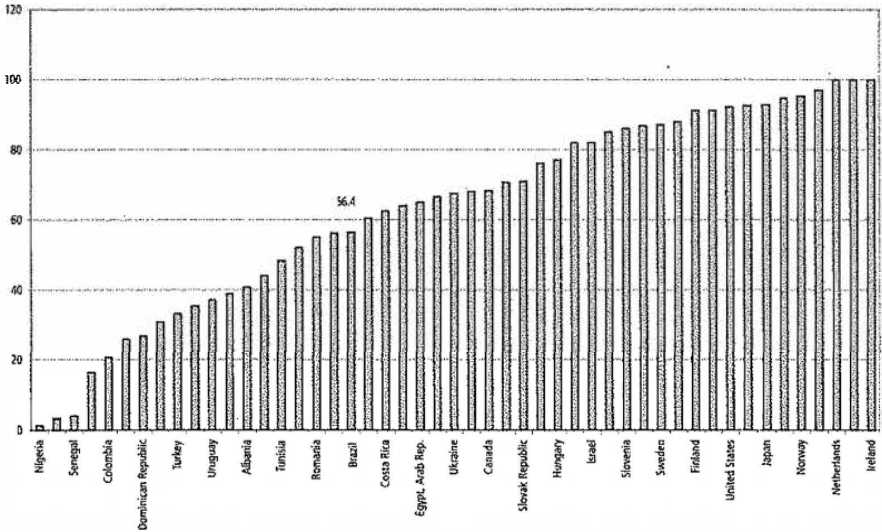


Source: World Development Indicators 2006.

The third explaining factor would be the number of contributors to the social security regime. In principle, social security systems with broad coverage of their workers in the active phase will naturally end up paying benefits for a larger number of people, which implies a higher amount of social security expenditures as a proportion of the GDP. A little more than half of the Brazilian work force, around 56%, has some type of coverage by the social security regime. Even though this number is lower than the average of 67.5% of the 49 countries studied, Brazil has the second highest percentage among

the Latin American nations included in the sample, which points towards three considerations: in the first place, the Brazilian coverage, even though small by world standards, is high for Latin America; second, in considering similar countries there is little scope for the feasibility of policies to increase social security coverage in Brazil and, lastly, the number of people covered in the contributing phase does not justify such a significant amount of social security expenditure found in Brazil.

**GRAPH 4**  
**Contributors as a percentage of the work force**

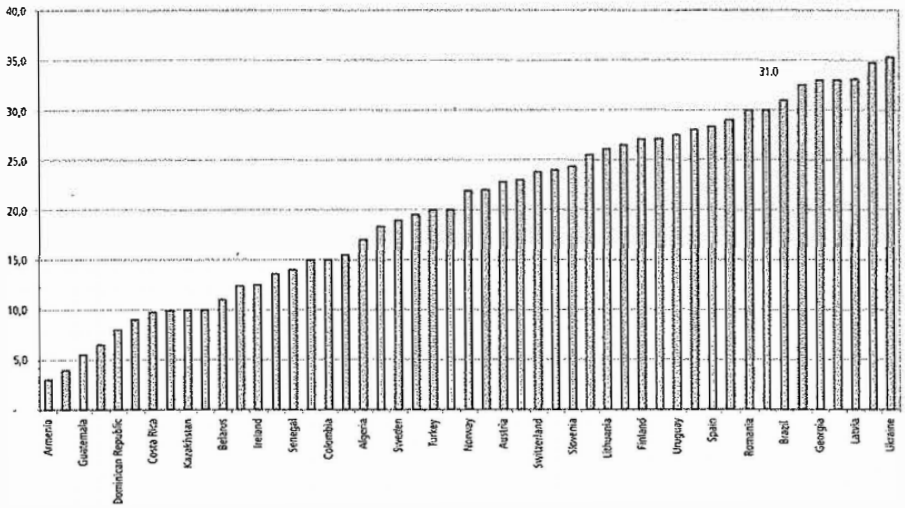


Source: World Development Indicators 2006.

The quotas for social security contributions would be a fourth determining factor of the expenditure with retirement benefits and pensions. Charging high rates allows receiving higher benefits. Therefore, one expects that countries with high taxation related to their social security regimes will spend more. Great shares of income directed to the financing of social security indicate, a priori, great promises of future income in the phase when the benefits are received. Brazil is a leader in this respect, with the seventh highest quota for social security contributions among the countries studied.

GRAPH 5

Total Contribution Quotas for Employees and Employers

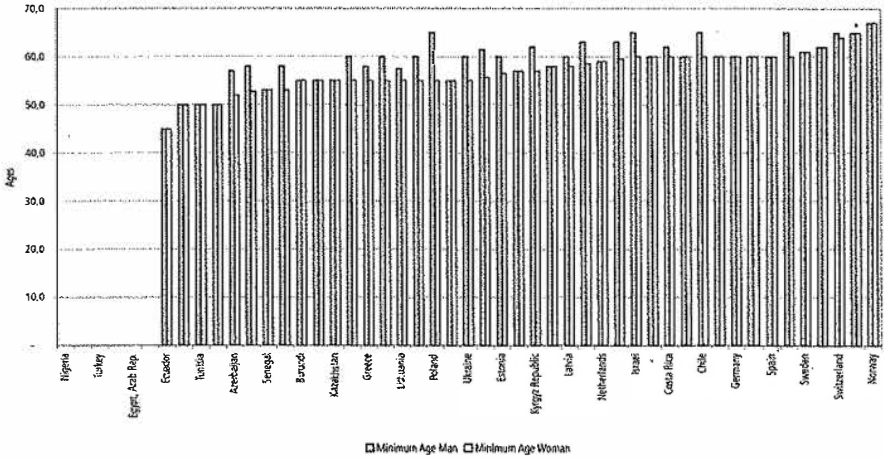


Source: Social Security Programs Throughout the World: various editions.

The fifth and last variable, minimum age for retirement, is the only one that presents a negative relationship with the social security expenditures as a proportion of GDP. The higher the age required to retire, the shorter the time available to receive retirement benefits and, therefore, less expenditures are needed to fund social security. Due to the still widespread differentiated treatment for men and women, the minimum ages for retirement used in this study have been disaggregated by gender. As seen in graph 6, Brazil is one of the six countries that still allows retirement without an age limit, just with contribution or service time. Naturally, this is one of the factors that explain the high social security expenditure in Brazil.

GRAPH 6

Minimum age required for programmed retirement, by gender

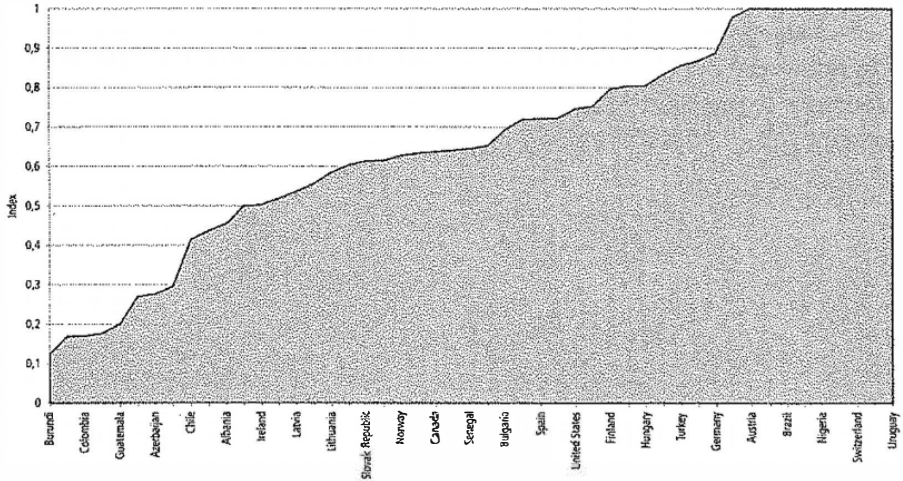


Source: Social Security Programs Throughout the World; various editions.

The results synthesized in graph 7 place Brazil in the leading group of the ranking of social security expenditure after considering the amounts of the five variables described above.

GRAPH 7

Social security expenditure indicator



Prepared by the authors.



The interpretation of the mathematical results indicates that a value equal to 1 places the Country at the top of the list of those that spend a lot with social security given the variables used as determinants of its expenditure. Sharing the position with Brazil are countries such as Austria and Uruguay, known for the high fiscal burden imposed by social security.

A second group is composed by nations also known for the high participation of social security in their GDP and that face challenges in adjusting their social security regimes. Several OECD members such as Germany, USA, Turkey and Sweden are in this group.

The third group includes several Latin American and Central and East European Countries that have been through processes of capitalization of their social security regimes. Chile, an example of structural reforms in the financing of its social security, occupies the 41<sup>st</sup> position in a ranking of 49 national States. Such result indicates that, in spite of the transition costs from a partition regime to a capitalization regime, the structural reforms have managed to reduce the fiscal drainage of social security.

Brazil's high position in the ranking generates contradictory positive as well as negative interpretations. Regarding the extension of the social protection network, Brazilian social security is quite evolved, with a higher position, in relative terms, than OECD Countries. A by-product of these gains is fiscal costs. In short, even in an international comparison that takes into account rich countries with an old population and broad social security coverage, Brazil allocates a lot of resources to its social protection, in proportional terms.

Therefore, this explains that the ranking may motivate a favorable position regarding the *status quo* of social security due to its social aspect or, on the contrary, a pessimist position due to its high fiscal cost even after several demographic and social security plan structure variables have been controlled.

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