Comparative analysis of the pension structure, indicators and controls in the European Union and the General Pension Regime in Brazil

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Dialogue: Social Development and Employment

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Topic 1: Economic and demographic structure

Main question: What are the most important macroeconomic indicators that allow us to compare Brazil to EU countries?

1.1 Given their macroeconomic indicators, which of the selected countries could be compared to Brazil? On what degree? Which of them could not be compared? Why?

As seen below, there is no perfect match among EU selected countries and Brazil. Depending on the data, some may resemble brazilian reality, but, on the other hand, may also look very different on other aspects.

The comparison is hard due to several aspects, such education (higher in EU), ageing process (Brazil is younger than all EU selected countries), inequality (Brazil has, by far, the worse Gini index) and economic issues. Despite the impossibility to elect one single country as a perfect match, there are general aspects that allow us to build some relevant conclusions about Brazilian social security system.

1.2 Are there specific indicators or alternative methods of calculation used by EU countries that should be applied to the Brazilian case? Theoretical replacement rate (actual values). Poverty by “European methodology”.

It seems not possible to adopt a single evaluation method for this purpose, but, as a matter of fact, there are several social, economic and demographic aspects that together may show the existing reality and ways to improve welfare.

For instance, the illiteracy rate in Brazil is more than 8% (8.7% in 2012 and 8.6% in 2011). If added functional illiteracy, this percentage certainly exceeds two digits, currently being estimated in Brazil at 18.3%. In the analysis of people over 25 years, the largest group (33.5%) is made up of people that only completed elementary school (PNAD, 2012). There is no match with EU studied countries and, definitely, this reality has strong influence in social policies, especially those related to employment.

According to the National Household Survey (PNAD), in 2012, brazilian employed population totaled 93.9 million workers. The activity rate, an indicator that measures the proportion of people of working age in the labor force, was 65.9%. Also according to PNAD 2012, the employed population was composed of:

- *62.1% of employees (58.3 million);*
- *20.8% of self-employed (19.5 million);*
- *6.8% of domestic workers (6.4 million); and*
- *3.8% of employers (3.6 million).*

Other workers (6.2 million) were distributed as follow in the labor market:

- *unpaid (voluntary) workers (2.7%);*
- *workers producing for their own consumption (3.8%); and*
- *construction workers in self-interest (0.1%).*

Regarding the payment, the average monthly income from all sources (people aged 15 or older with income) brought, in 2012, a gain of 5.6%, with the value of R$ 1,437.00 (PNAD, 2012).

The unemployed population, almost entirely, are women and young people under 24 years old. Also according to the IBGE (Brazilian Institute of Geography and Statistics), average working women receive only 72.9% of men income. As for the Gini index, according to IBGE, although there was an increase in all classes of monthly income, there was no significant change in the index, which rose from 0.501 to 0.500.

The differences across the studied European models are striking. The lowest occupancy rate of the brazilian model can partly be explained by the younger profile of brazilian population. The same demographic aspect is used to explain the worse income (young employees receive less than experienced ones). The bad qualifying of the Brazilian Gini index is also evident, since the UE selected countries have indexes very superior.

The precarious universalization of education, together with the strong inequality of our current model, brings important north to any structural reform of the Brazilian system, which, inevitably, will still have to rely on additional assistance actions, at least in such aspects as education and unemployment.

Per capita income in Brazil:

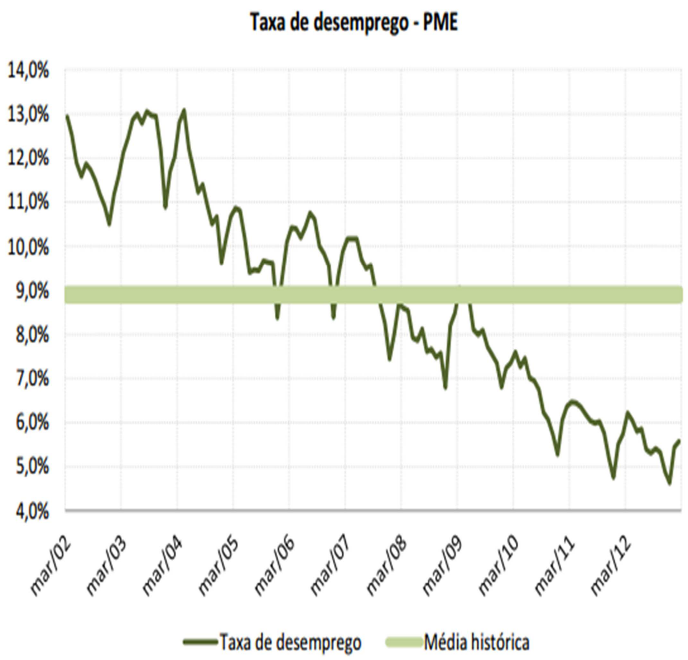
	Per capita (R$)
2006	12.769
2007	14.183
2008	15.992
2009	16.918
2010(1)	19.509
2011(1)	21.254
2012(1)	22.402

Source: IBGE, Research, Coordination of National Accounts. (1) Based on preliminary data from the Quarterly National Accounts

The per capita income, as noted, is substantially less than the income per capita of Portugal and Greece. On the other hand, is slightly lower than the figure for Hungary and Poland. Like the latter two, the Brazilian had a substantial increase in the time series, exposing evolution of the economy in recent years.

However, as explained previously, this yield was not as well distributed as in these countries, given the Gini index still substantially worse. Again, protective actions can and should be used as an instrument of correction.

Unemployment in Brazil, since 2002, has shown reduction with historical average of around 9% (IBGE, SMEs, graphic FECAP):



As for inflation (IPCA), also according to the IBGE, the evolution is as follows:

	Variação inflação (%)															
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Índice Geral	1,65	8,94	5,97	7,67	12,53	9,30	7,60	5,69	3,14	4,46	5,90	4,31	5,91	6,50	5,84	5,91

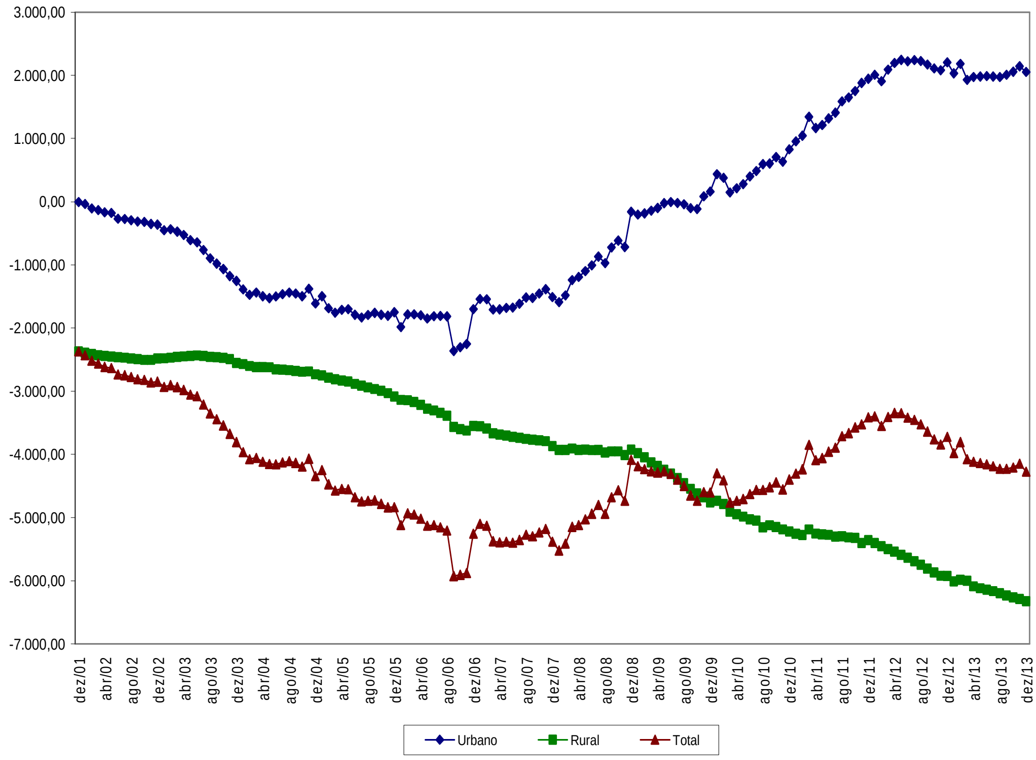
When compared with european models studied, we see a worse picture of the brazilian scenario about inflation, but, on the other hand, a situation more comfortable in the unemployment rate, exposing the traditional trade-off between inflation and unemployment.

In this respect, it is important to note that, assuming greater control of brazilian inflation in future time, any increase in unemployment will require higher performance of the protective system, which, in the Brazilian reality, will bring greater demand at the unemployment insurance and disease protection.

As in european models, there is not a consensus on the ideal measurement of a protective system, just like in Brazil. Anyway, some elements of analysis are possible, such as the exclusion of poverty.

Just as in the studied systems, social protection increases the average income of people in old age. In Brazil, according to IBGE, in 2012, the payment of benefits by the Social Security withdrew from poverty 25 million people - a reduction of 13.1% in the poverty rate.

Another element analysis used in Brazil is the need to finance the system, according to the MPS:



At this point, there is strong need of state funding for rural model, which, for political and social reasons, was granted without the previous funding sources necessary. Regarding the replacement rate, the analyzes presented by the Brazilian Ministry of Social Security expose the same as high as 100% in case of 65 years old with 40 years of contributions.[1] In this respect, our relationship approximates the rate of replenishment in Greece, staying above the other EU selected countries.

Nevertheless, as pointed out by the external expert, all countries have adopted stringent restrictions on replacement rate for new generations. Thus, if these new rules are compared to the brazilian model rules, the discrepancies are even greater.

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[1] www.previdencia.gov.br / files / office / 4_081010-120044-902.ppt

Trying to answer the questions formulated, it is difficult to identify a country with the highest similarity to the brazilian national model, especially by differences in economic and demographic parameters and indexes. The differences related to income and education inequality expose the need for specific policies in this areas, otherwise structural reforms focused solely on social insurance will fail.

An example of good conduct, subject to adoption in Brazil, is the setting and monitoring of goals related to poverty reduction. All countries studied have such parameters, imposing concrete goals for action and at the same time, allowing social control of these policies.

1.4 On what degree can Brazil's age structure be compared to EU's ones? When would Brazil be on each age structure?

Unlike selected European countries, it is noted, in Brazil, a predominance of young and adult population. Despite similarities in the aging process and decline of the birth, is noted that Brazil still has relatively low quantity of the elderly when compared to EU countries listed.

The data presented ratify the demographic bonus currently experienced by Brazil, with severe retraction of birth and also the amount of elderly lower than the average of European countries.

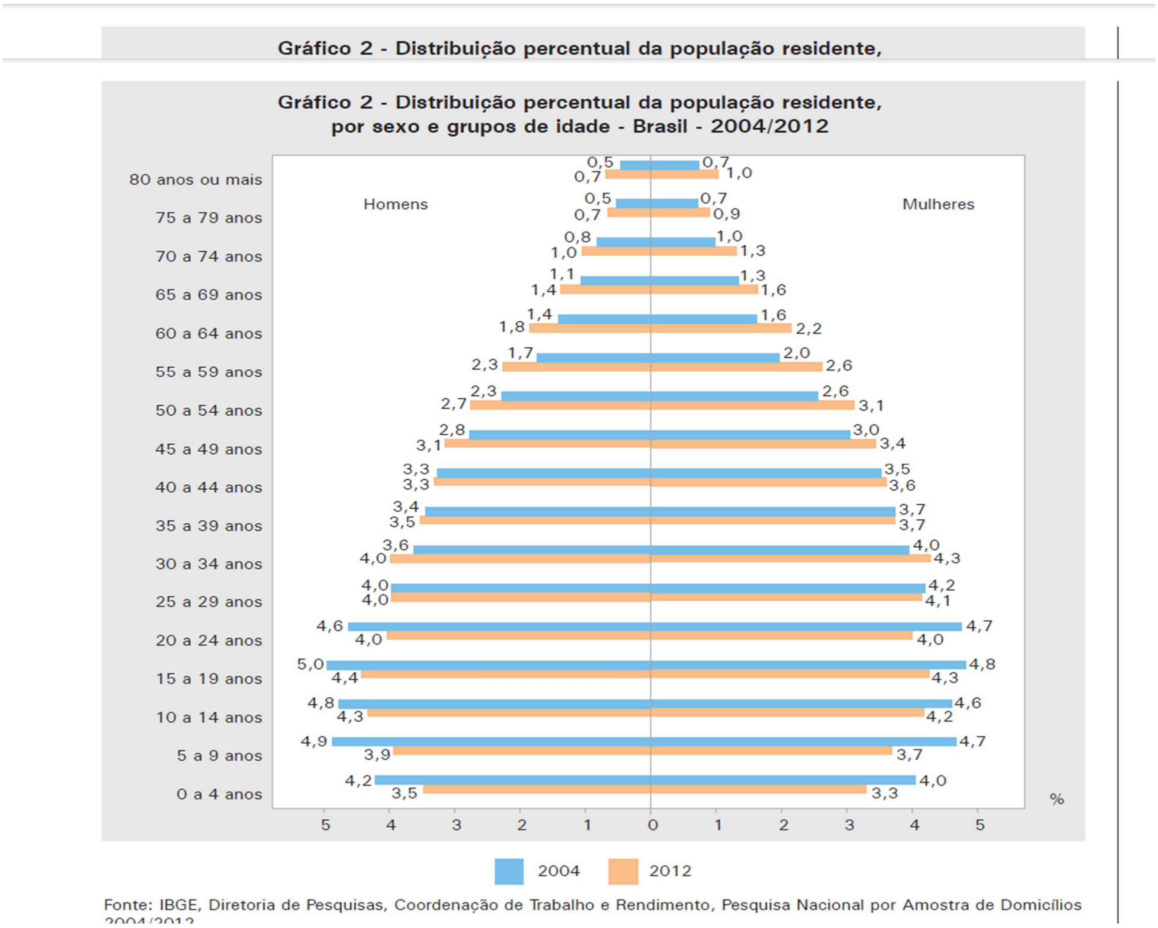
In 2012, the resident population in Brazil was estimated 196.9 million people, representing an increase of 0.8% over the previous year, or 1.6 million people. By age group, in 2012, 63.2% had up to 39 years old and people aged 60 or older accounted for 12.6% of the population (in 2011, corresponded to 12.1%). (PNAD 2012)

Table 1.1 - Resident population, according to residence and gender according to age groups - Brazil - 2012

Age Groupa	População residente (1 000 pessoas)								
	Total	man	woman	Urban			Rural		
				Total	Man	Woman	Total	Man	woman
Total	**196 877**	**95 812**	**101 065**	**167 015**	**80 287**	**86 729**	**29 862**	**15 526**	**14 336**
0 a 4 anos	13 295	6 827	6 468	11 074	5 700	5 374	2 221	1 127	1 094
Menos de 1 ano	2 531	1 291	1 240	2 168	1 100	1 068	363	191	173
1 a 4 anos	10 764	5 536	5 227	8 906	4 600	4 306	1 858	936	921
5 a 9 anos	14 977	7 725	7 251	12 180	6 271	5 909	2 797	1 454	1 342
10 a 14 anos	16 718	8 501	8 217	13 708	6 981	6 727	3 010	1 520	1 490
15 a 19 anos	17 088	8 699	8 389	14 278	7 173	7 104	2 810	1 525	1 284
15 a 17 anos	10 445	5 322	5 122	8 653	4 355	4 298	1 791	967	824
18 ou 19 anos	6 643	3 376	3 266	5 625	2 818	2 806	1 018	558	460
20 a 24 anos	15 829	7 945	7 884	13 649	6 804	6 845	2 180	1 141	1 039
25 a 29 anos	15 934	7 786	8 148	13 815	6 712	7 104	2 119	1 074	1 044
30 a 34 anos	16 219	7 819	8 401	14 073	6 717	7 356	2 147	1 102	1 045
35 a 39 anos	14 277	6 932	7 344	12 324	5 908	6 416	1 953	1 024	929
40 a 44 anos	13 628	6 524	7 104	11 804	5 573	6 231	1 823	951	872
45 a 49 anos	12 945	6 181	6 763	11 074	5 202	5 872	1 870	979	891
50 a 54 anos	11 516	5 406	6 110	9 937	4 586	5 351	1 579	819	760
55 a 59 anos	9 598	4 455	5 143	8 155	3 713	4 443	1 442	742	700
60 a 64 anos	7 876	3 637	4 239	6 630	2 969	3 661	1 246	668	578
65 a 69 anos	5 920	2 690	3 229	4 954	2 164	2 790	966	527	439
70 anos ou mais	11 060	4 685	6 374	9 361	3 814	5 546	1 699	871	828

Fonte: IBGE, Diretoria de Pesquisas, Coordenação de Trabalho e Rendimento, Pesquisa Nacional por Amostra de Domicílios 2012.

The population pyramid below shows the percentage of residents in relation to the total population by gender and age groups, in 2004 and 2012. During this time interval, there was a change in the shape of the pyramid, indicating an aging population (persons aged 60 or older), predominantly by women (7.0% compared to the total population, males, 5.6%). In 2004, the base of the pyramid was wider than in 2012: 42.8% of the population was represented by people under 24 years old; eight years later, for the same age



group, the percentage dropped to 39.6%.

In 2012, in the age groups of younger than 24, there was a predominance of males in the population (41.5%), while women accounted for 37.8%. At ages above 40 years or older, the percentage of women becomes greater than men (38.6% and 35.0%, respectively), which exposes the longer life expectancy of women. In the previous year, there were small percentage changes in population distribution in Brazil, with 0.7% growth for 60 years or older and, secondly, a reduction of 0.3% in the range 10-14 years old.

The Mortality Table projected to the year 2012 resulted in a life expectancy of 74,6 years for both sexes, an increase of 5 months and 12 days compared to that estimated for the year 2011 (74.1 years). For the male population, the increase was 4 months and 10 days from 70.6 years to 71.0 years in 2012, and for women the gain was even higher: in 2011 life expectancy at birth was 77.7 years, rising to 78.3 years in 2012; 6 months and 25 days longer.

The increasing trend in life expectancy between ages 0 and 1, for the two years analyzed, reflects the still relatively high level of mortality in the first year of life, in spite of the substantial declines observed in recent years. In 2012, life expectancy at birth was 74.6 years. If the child has passed the risk of death in the first year of life, their life expectancy would be 74.8 years, living on average 75.8 years.

Since the beginning of the 21st century the countries surveyed already had a rate of well below 2.1 children per woman replacement. In assessing the dependency rate (by the same criteria informed by the external expert), Brazil presents percentage of 12.59%, well below the values given in the countries surveyed. As stated, this fact reflects the predominance of the population of young adults in Brazil. Brazilians 15-39 years represent just over 40% of the population.

At this point, it is interesting to note from the data presented that Brazil, if maintained the downward trend, will present fertility levels close to the selected

EU countries surveyed in 2030. In the same year, the Brazilian life expectancy at birth will also have a similar level to the selected countries.[2]

However, the IBGE estimates that from 2022 to 2060 the Brazilian dependency ratio will rise steadily, peaking at 66.0 in 2060. According to the research:

> *The dependency ratio, which were 46.0 in 2013 (ie, every 100 working age individuals would have to support 46 individuals) attain the minimum value in 2022 (43.3) when they will rise again, coming in 2033 at the same level observed in 2013, reaching 66.0 in 2060. The process of reducing dependency ratios, known as the "demographic bonus" or "window of opportunity", provides opportunities arising from a lower portion of the population to be supported by economically active group. However, when dependency ratios return to rise, this "window" begins to close.*

As we can see, the demographic bonus tends to reach its end in 2022, when the dependency ratio, again, take the growth trend. There is an important opportunity for structural reforms in the next eight years.

This evolution can be seen in the graph below, with the inflection point of population:[3]

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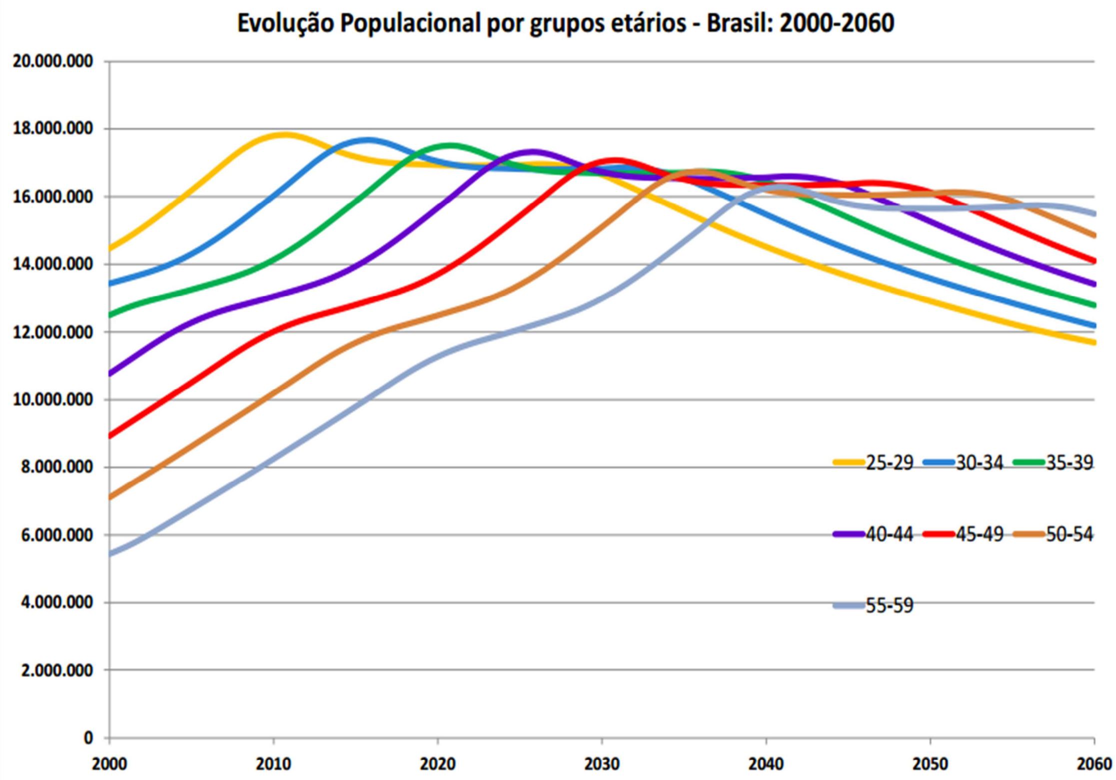
2 ftp://ftp.ibge.gov.br/Projecao_da_Populacao/Projecao_da_Populacao_2013/nota_metodologica_2013.pdf

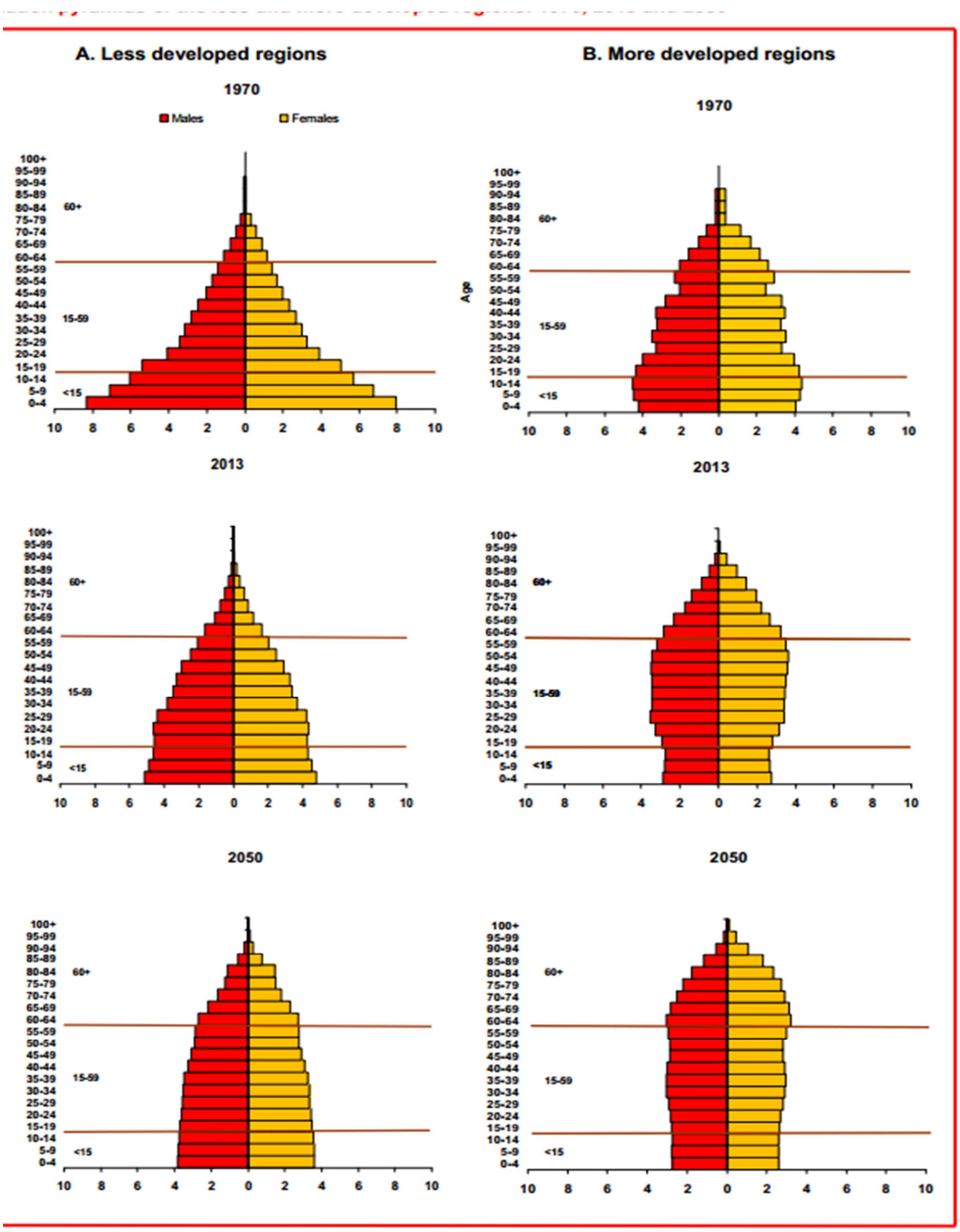
3 [http://www.ibge.gov.br/home/presidencia/noticias/imprensa/ppts/0000001442560811201356332 9137649.pdf](http://www.ibge.gov.br/home/presidencia/noticias/imprensa/ppts/00000014425608112013563329137649.pdf)

The IBGE also provides the ability to instantly view the pyramid, year by year, 1980-2050 (http://www.ibge.gov.br/home/estatistica/populacao/projecao_da_populacao/2008/piramide/piramide.shtm)



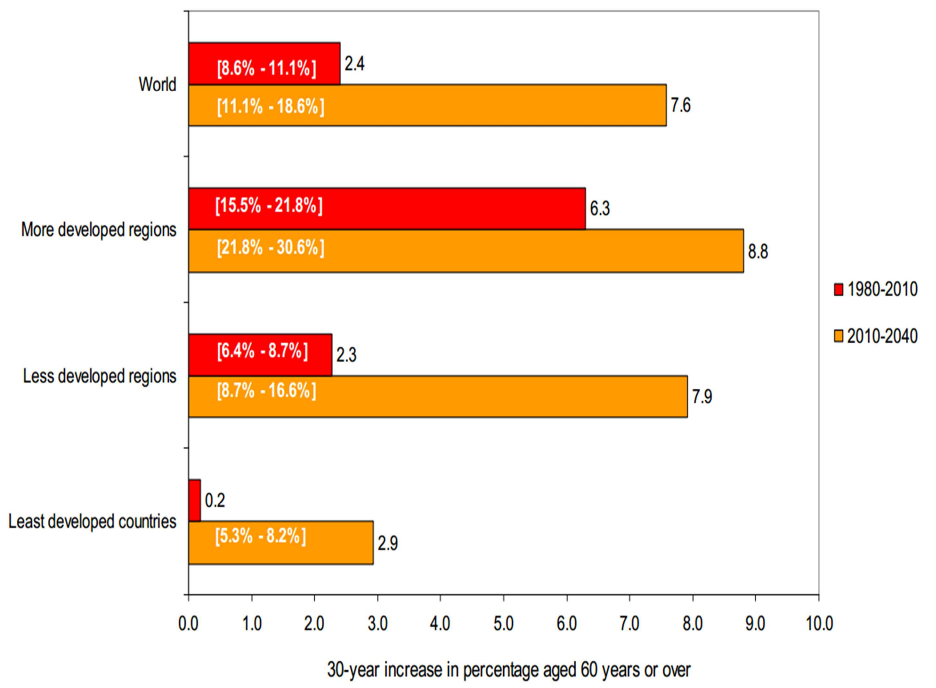
Population aging is a global trend, as stated by the UN. Notwithstanding the differences in amplitude and regional particularities, we note the progression of the elderly in both developed and those still under development in recent years.[4]

[4] http://www.un.org/en/development/desa/population/publications/pdf/ageing/WorldPopulationAgeing2013.pdf


A. Less developed regions
B. More developed regions
1970
Males
Females
2013
2050
Age
60+
15-59
<15

Aging, despite being a global phenomenon, is presented with greater force in developing countries, like Brazil. At that point, the UN figures are emblematic:[5]

Speed of population ageing (percentage point increase): world and development regions, 1980-2010 and 2010-2040



NOTE: The ranges of percentages inside the bars are the proportions aged 60 years or over in the population, at the beginning and the end of the respective time periods.

The comparison, in short, allows us to observe that the Brazilian reality, at this moment, it is not as serious as the selected countries, since we have a lower dependency ratio, derived from visibly younger population. However, with the strong contraction of the Brazilian birth, it's surely correct to conclude that measures must be taken at the present time, so as to soften the consequences of structural reforms, which, at this point, have the compensation of the current

5 http://www.un.org/en/development/desa/population/publications/pdf/ageing/WorldPopulationAgeing2013.pdf

demographic bonus. According to the IBGE, the dependency ratio in 2040 will be 23.39%. In 2050 will be 29.72%.[6] Such periods will be within the parameters of the studied countries now.

Demographically, we can conclude that national variables, both related to life expectancy as the dependency ratio, tend to strongly approach the countries studied, with particular resemblance to Portugal, not only by the figures, but especially due to the rapid population aging.

Topic 2: Major social security benefits

Main question: How does Brazil's pension system compare to EU countries' systems?

2.1 What are the main similarities and differences between Brazil's Social Security System and EU's ones? What about their populations' traits?

With the European information, we note that there are, despite the many differences pointed, same similarities with the Brazilian system, especially regarding the management of social protection, which, as a rule, has a central unit, as a ministry or secretariat, and autonomous entities responsible for maintaining of protective actions in concrete.

Draws attention the existence of different structures according to the protective action (old age, diseases, labor accidents, etc). In particular, we note

[6] http://www.previdencia.gov.br/arquivos/office/3_081208-173354-810.pdf

the prevalence of different coverage benefits from accidents and unemployment.

Despite of the similarities, there is no full uniformity in the studied models. Some, like the greek, brings to mind the old Brazilian models by professional category, until the unification of 1966. Others, such as the polish, admit the simultaneous coverage between the public and the private pillar, with the latter being compulsory and managed by private entities.

In short, there is, in the selected countries, strong state involvement in managing the system, with state entities focused on control and benefit payments. The regulation of social security topic involves high state intervention, even when admitting private players.

As the brazilian system, european models have autonomy, being disciplined internally by especialized structures in this area. The passage between countries is allowed between the European Union, allowing the aggregation of time worked, similar to what occurs in MERCOSUR (in a smaller scale).

Compared to the Brazilian model, all selected European countries have similar pension systems, with typical Bismarckian structure, financed by payroll taxes and benefits quantified from the remuneration average.

Also, there is a minimum contribution period for obtaining benefits, between 15 to 20 years, similar to the brazilian system form, with regard to old age retirement. All studied systems demand minimum age for retirement, unlike brazil, which allows retirement for years of contribution with no minimal age (except for public servants, that must reach minimal age after the 2003 reform).

2.2 Which pension rules could be taken as a positive role model to be applied in Brazil’s scenario?

Regarding the retirement age, we see a trend-note of lifting the existing limit, and a balance between men and women minimal age. In the brazilian model, these aspects do not find space in the current pension debate.

In all selected countries, the quantification of the initial monthly income benefit is established based on average wages obtained in several years (basic calculation periods range from 10 to 40 years with the best possible choice of wages in certain interregnum), with possible adjustment of the amount by application of the life expectancy. The brazilian model also uses the variable related to longevity, but only, on a mandatory basis, in the contribution time retirement. All selected european models relate income retirement ratio with years of contribution.

In this respect, the comparison with european models reflects the urgency needed in structural reform measures by the Brazilian system, unlike the purely parametric actions that have been adopted since 1998.

As for the social security revenues, we see no serious distortions in face of the national model, given the presence, in the selected countries, of minimum values that may be lower than the brazilian minimum wage, and maximum values that easily exceed the brazilian national ceiling (Greece).

Early retirement, in general, have been severely restricted and rarely admitted before 60 years old, specially for the new generations. Special benefits for unhealthy and unemployed people in old age activities are still allowed. However, none of them admits retirement before age 55.

Those criteria could be used in the future brazilian pension reform, allowing a better balance of the system. As seen, the aging process, in all EU selected countries, has produced, as a result, higher requirements for retirement.

2.3 How do Brazil's and EU's welfare coverage liken?

As a general rule, the selected countries reward people who postpone retirement. The annual increment for the postponement varies from 0.33% to 3.3%. In this respect, Brazil could seek, to some extent, reintroduce these mechanisms (extinct in 1994) or something similar to that granted to current public employees who defer full retirement.

All presented systems adopt disability benefits, measuring not only the potential suitability for the job, but also a demonstration of the impossibility of obtaining certain fraction of their usual fee. The reviews combine physical and social aspects of disability. Proportional benefits are also admitted, in a similar benefit of the brazilian system (*auxílio-acidente*).

In general, the monthly income of disability benefits take into account, for its calculation, aspects related to the severity of the disability and the time of contribution of the insured. Unlike the brazilian model, who pays the full benefit in any circumstance, the EU selected countries have reduced rents for early disability events.

All countries surveyed have survival benefits, which falls within the national program of compulsory social insurance coverage. The list of dependents is also quite similar, with the possibility, in the majority, to include grandchildren and grandparents.

At a first glance, the EU survival benefits models might seem more benevolent than the brazilian, especially for greater openness in the list of dependents, but the reality is different. All EU selected countries, without exception, establish minimum standards for granting the benefit, either through a minimum grace period, either by the condition of the deceased necessarily retired by the time of death. In the case of Portugal, one of the most benevolent group, the benefit requires at least three years of prior contribution.

In the case of benefit to the surviving spouse - more common situation - all studied countries have stringent requirements for the award, usually combining several variables like time of marriage, age of the applicant and even, in many cases, limiting the duration of benefit as a way to allow a reasonable transition, but without perpetuating it, as in Brazil. In this respect, there is no doubt that the brazilian model is inappropriate.

For divorced couples, the requirements are similar to the brazilian one, which basically requires proof of economic dependency at the death. For stable unions (couples who live together without been married), the rule is the same, except in Greece and Poland, which do not adopt such coverage. In this respect, the brazilian model is more suitable than these, to allow more adequate coverage. A simple formalization of the union, through marriage, should not be a necessary requirement to social security benefits.

In the case of children, comparisons with the national model are interesting. Brazil is the most benevolent system in terms of maximum age (21 years), and more restrictive about the possible expansion of this age limit, only admitting handicapped child or, more recently, children with mental or intellectual illness. As for the countries studied, all admit extension of the age limit in case of students, up to 27 years in Portugal. Maybe a restriction on the benefits - something necessary - would enable brazilian system to a better matching of children coverage, as a way to embrace the studying period until certain age above 21 years.

Other dependents, such as parents, grandparents and grandchildren, when admitted, always need to demonstrate effective economic dependence on the deceased, just like in Brazil, except for grandparents, that are not admitted in the brazilian system.

The benefit amount for survival dependents in EU selected countries, in general, ranges between 60 and 70% of the deceased retirement, with the exception of Poland, which ranges from 85 to 95%. As already mentioned, in many situations the benefit is temporary, especially for young widows. However, depending on the beneficiary, such as orphans, the benefit, in all countries, can reach up to 100%. If a remarriage occurs, the rule is the loss of the benefit, with the exception of Poland. Brazil is among the minority because it allows, in RGPS, remarriage without any consequence for the survival benefit. With the exception of Hungary, the countries studied admit additional benefits, some continued, as the Christmas bonus.

Concerning the sickness benefits, from a conceptual viewpoint, the EU studied models do not differ significantly from the brazilian. All add to the welfare state model the necessary cover of illness and accidents, covering all insured and also requiring medical examination prior to the granting of the benefit.

With the exception of Hungary, all require minimum linking to the system as well as the brazilian, who, however, admits several exceptions, especially in accidents. Interestingly, in Hungary and Poland, unlike Greece and Portugal, the employer remains responsible for paying wages to the employee for a limited time, as well as in Brazil.

One aspect that draws attention is the monthly income of the provision of sickness benefits, which, as a rule in all studied countries, does not reach the high percentage laid down in Brazil (91% for any sickness hypothesis). An important lesson of this comparison is to measure the replacement rate according to some variables, such as number of dependents or even the severity of the disease.

Another interesting aspect is the necessity, in all models, of a maximum duration of the sickness benefit, with possible conversion into full disability. This temporal limitation of the disability benefit no longer exists in Brazil. With the exception of Poland, we note also the existence of a special benefit in case for child care under the responsibility of the insured person. This coverage does not exist in Brazil.

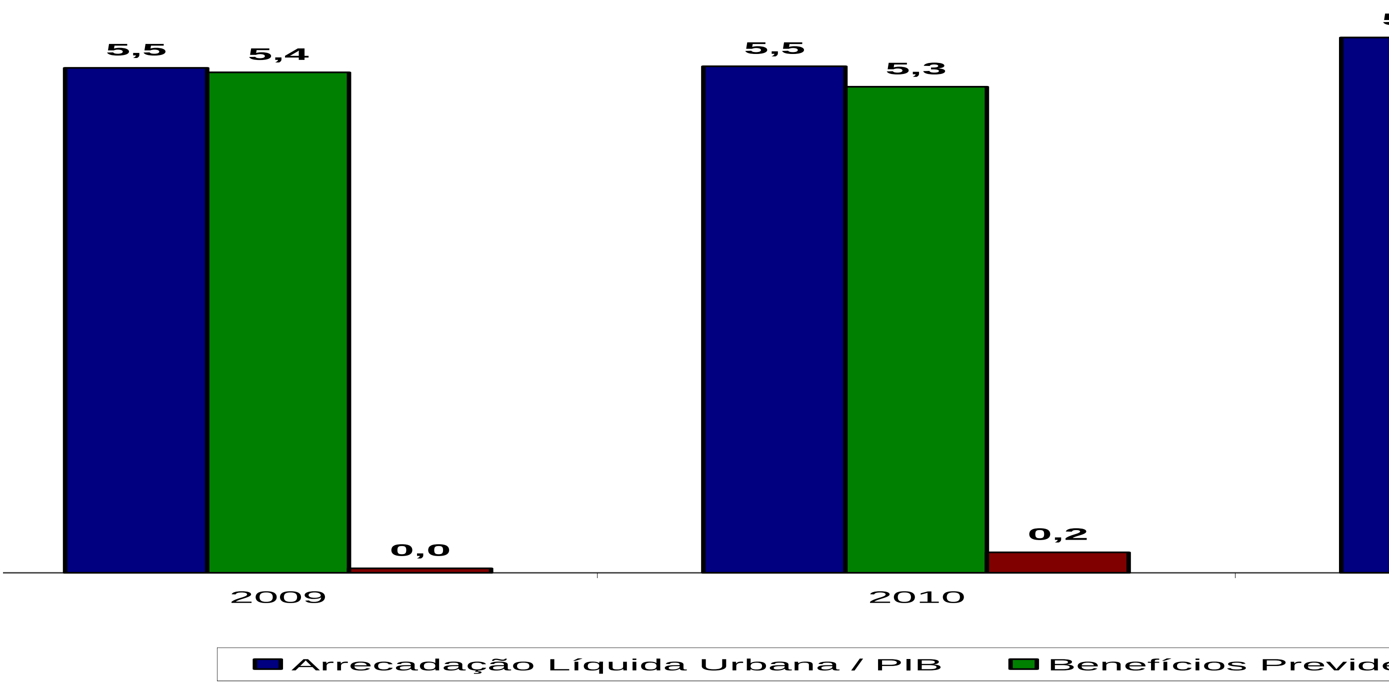
This coverage is interesting and may subsidize some changes in the Brazilian model, because even though the Brazilian Constitution establishes absolute priority to children, adolescents and young people (art. 227), legal protection completely ignores this potential clientele and its perverse effects, such as fall of the national birth rate.

Leaving sickness benefits behind and focusing at the coverage of occupational accidents and occupational diseases, some significant differences appear. While in Greece and Hungary the model is analogous to the Brazilian, with integrated coverage into the general regime, Poland and Portugal have adopted a different model with autonomous coverage, despite compulsory and possibly private coverage by insurance companies (Portugal).

The Brazilian Constitution, since 1998, allows the performance of the private sector in the coverage of occupational accidents. However, the issue today does not have the necessary legal rules to work, due to the strong internal divergence. Perhaps a deeper study of these models may, to some extent, guide the best scheme for the brazilian system.

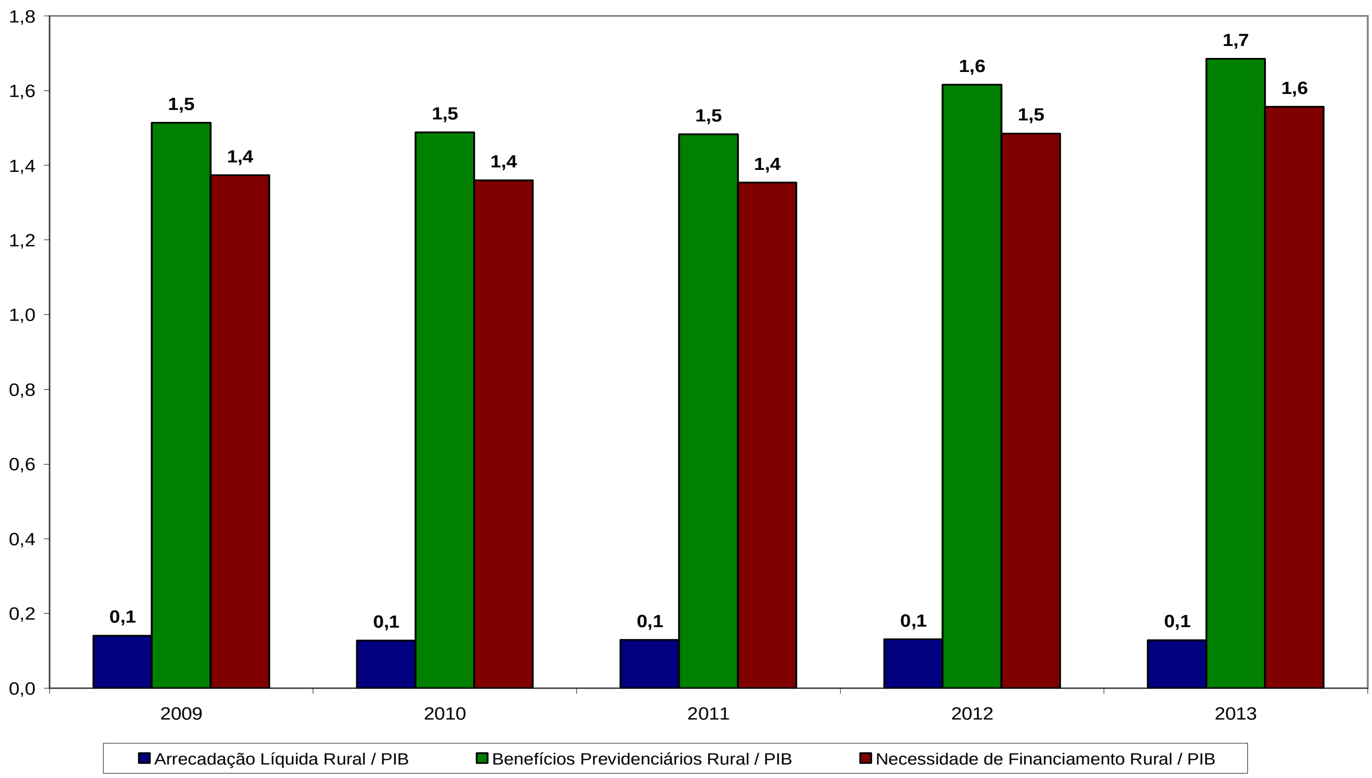
In a more general analysis of the welfare spending, some data are relevant. Compared with the EU selected models, we note that the Brazilian system still count with a population of lower average age, but with a welfare spending similar to the countries analyzed when compared the percentage of GDP invested. Especially in rural social security, the need for coverage is clear, as noted rating below:

Net Revenue, Expenses Benefits and Pension Income to GDP (in%) - URBAN (Source: MPS)



Net Revenue, Expenses and Benefits Borrowing to GDP (in%) - RURAL

(Source: MPS)



Only with welfare spending, Brazil invests 7.5% of its GDP. It is still lower than the EU selected countries, but tends to deteriorate sharply in the coming years due to the aging population. In more recent calculations, the total social security and welfare spending reach already at 8.5%.

Quantidade de benefícios ativos, por clientela,

segundo os grupos de espécies - Posição em dezembro - 2010/2012

(fonte: MPS)

GRUPOS DE ESPÉCIES	QUANTIDADE DE BENEFÍCIOS ATIVOS								
	Total			Clientela					
				Urbana			Rural		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
TOTAL.......................................	**27.999.034**	**28.909.419**	29.883.423	**19.620.603**	**20.333.324**	**21.082.324**	**8.378.431**	**8.576.095**	**8.801.099**
BENEFÍCIOS DO RGPS.............	**24.276.123**	**25.031.803**	**25.855.338**	**16.027.877**	**16.571.624**	**17.158.417**	**8.248.246**	**8.460.179**	**8.696.921**
Previdenciários......................	**23.465.630**	**24.214.301**	**25.035.331**	**15.248.908**	**15.786.414**	**16.370.813**	**8.216.722**	**8.427.887**	**8.664.518**
Aposentadorias......................................	15.500.985	16.029.424	16.618.651	9.552.656	9.923.854	10.338.862	5.948.329	6.105.570	6.279.789
Tempo de Contribuição......................	4.415.784	4.601.456	4.790.753	4.400.427	4.585.098	4.773.494	15.357	16.358	17.259
Idade..	8.171.820	8.465.050	8.808.969	2.670.766	2.809.757	2.983.749	5.501.054	5.655.293	5.825.220
Invalidez...	2.913.381	2.962.918	3.018.929	2.481.463	2.528.999	2.581.619	431.918	433.919	437.310
Pensão por Morte..................................	6.638.425	6.803.879	6.980.140	4.531.592	4.648.802	4.773.408	2.106.833	2.155.077	2.206.732
Auxílios..	1.258.549	1.311.307	1.364.149	1.111.774	1.156.549	1.197.125	146.775	154.758	167.024
Doença..	1.192.005	1.233.846	1.275.190	1.058.323	1.093.316	1.123.320	133.682	140.530	151.870
Reclusão..	37.289	43.124	48.550	33.297	38.862	44.276	3.992	4.262	4.274
Acidente..	29.255	34.337	40.409	20.154	24.371	29.529	9.101	9.966	10.880
Salário-Maternidade..............................	67.142	69.246	72.039	52.357	56.764	61.066	14.785	12.482	10.973

Outros..	529	445	352	529	445	352	–	–	–
Acidentários..........................	**810.493**	**817.502**	**820.007**	**778.969**	**785.210**	**787.604**	**31.524**	**32.292**	**32.403**
BENEFÍCIOS ASSISTENCIAIS....	**3.712.005**	**3.865.949**	**4.016.247**	**3.581.820**	**3.750.033**	**3.912.069**	**130.185**	**115.916**	**104.178**

FONTE: DATAPREV, SUB, Plano Tabular da SVAI.

Regarding the total number of active benefits in Brazil, we notice a huge amount, in part due to a larger population. By the information tabulated in the Brazilian Social Security Statistical Yearbook, there are 29,883,423 pension benefits, two of which can more easily fit into the concept of early retirement. They are the disability retirement and survival benefit.

In the 2012 data, the two benefits reached the value of 11,770,893 benefits. Considering that the last PNAD estimated the active population in something close to 100 million people, it is reasonable to conclude that somewhere around 10% of the economically active population was cleared retired early of the labor market.

If the measurement is extended to reach the inactive population as a whole, the amount of benefits (29,883,423), when facing the economically active population reaches a percentage close to 30%, reproducing european standards, as noted in the countries studied and still overcoming Portugal.

In all benefits (29,883,423), 55% were derived from retirement (age, time of contribution or disability). Only contribution time retirement contributed 16%. This benefit, in brazilian system, does not require any age at all, only 35 years of contribution to men and 30 year of contribution to women.

Value of assets benefits for customers, according to the groups of species - Position in December - 2010/2012

(Source: MPS)

GRUPOS DE ESPÉCIES	VALOR DE BENEFÍCIOS ATIVOS (R$ Mil)								
	Total			Clientela					
				Urbana			Rural		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
TOTAL.......................................	**20.911.239**	**23.154.879**	**26.366.103**	**16.629.578**	**18.472.436**	**20.887.383**	**4.281.661**	**4.682.443**	**5.478.720**
BENEFÍCIOS DO RGPS...............	**18.996.308**	**21.024.880**	**23.843.267**	**14.781.041**	**16.405.611**	**18.429.346**	**4.215.267**	**4.619.269**	**5.413.922**
Previdenciários........................	**18.428.276**	**20.408.542**	**23.173.030**	**14.227.924**	**15.805.522**	**17.777.513**	**4.200.352**	**4.603.020**	**5.395.517**
Aposentadorias...	12.641.424	14.027.048	15.945.688	9.594.813	10.685.534	12.026.145	3.046.610	3.341.515	3.919.543
Tempo de Contribuição.........................	5.785.298	6.434.732	7.139.562	5.774.151	6.422.228	7.125.279	11.148	12.504	14.283
Idade...	4.658.403	5.174.969	6.080.406	1.846.222	2.085.611	2.450.039	2.812.181	3.089.359	3.630.367
Invalidez..	2.197.722	2.417.347	2.725.720	1.974.441	2.177.695	2.450.826	223.281	239.652	274.893
Pensão por Morte.....................................	4.698.508	5.192.492	5.906.736	3.625.027	4.019.567	4.538.162	1.073.481	1.172.925	1.368.574
Auxílios..	1.046.286	1.141.889	1.265.368	973.575	1.060.119	1.164.801	72.712	81.770	100.567
Doença..	1.011.840	1.099.302	1.212.473	943.477	1.022.539	1.117.858	68.363	76.763	94.615
Reclusão...	22.233	27.262	33.316	20.224	24.992	30.769	2.009	2.270	2.546
Acidente...	12.213	15.325	19.580	9.873	12.588	16.174	2.340	2.737	3.406
Salário-Maternidade.................................	41.795	46.878	55.038	34.246	40.068	48.206	7.549	6.810	6.832
Outros..	263	234	199	263	234	199	–	–	–
Acidentários............................	**568.032**	**616.338**	**670.237**	**553.117**	**600.089**	**651.832**	**14.915**	**16.249**	**18.405**
BENEFÍCIOS ASSISTENCIAIS......	**1.900.273**	**2.114.216**	**2.506.050**	**1.833.879**	**2.051.042**	**2.441.251**	**66.394**	**63.174**	**64.799**

FONTE: DATAPREV, SUB, Plano Tabular da SVAI.

NOTAS: 1. As diferenças porventura existentes entre soma de parcelas e totais são provenientes de arredondamento.

2. A partir de 2010 o conceito de valor de benefícios foi revisto, o que pode ocasionar diferenças em relação aos anos anteriores.

The benefits for temporary incapacity range from 4 to 4.5%, which corresponds to european standards (the exact quantification is not possible, because one benefit – *auxílio-acidente* – is not necessarily correlated to the inability to work and sickness.

The survival pension, in the brazilian model, is over 23% in the total of benefits; figure close to Hungary and Portugal, and far superior than Greece and Poland. Considering the brazilian lower average age, these figures are justified by overly flexible brazilian law regarding this benefit.

Regarding the different coverings by professional category, as well as the Brazilian model, we note in the four EU studied countries uniformity in the adoption of specific regulations for certain categories and different professions. Its existence is natural and understandable, given the nature of the bismarckian welfare models adopted.

However, it is interest to note that in almost all systems studied, in recent years, reforms have severely restricted the distinct benefits by career or occupation. Although this occurred to a lesser extent in Brazil in 1995, the unification of the models can be a lesson from this experience.

Although the Brazilian model chooses to preserve some small special situations, it is surely correct to understand that there is still a wide scope for uniformity of treatment within the protective system, not only as a way to preserve their financial and actuarial viability, but also achieve equal treatment.

All countries studied have some additional coverage system. In general, are funded by stakeholders and managed by private entities, with the exception of Portugal, which also provides a public complementary model. They work in a voluntary admission rule, as the brazilian private model, with the exception of Poland, which provides a mandatory private complementary model, but with contributions primarily collected to the state.

We may see a trend towards minimalist option for the basic public protection models preserving the existential minimum. Compulsory complementary models are not uncommon, so as to maintain a level above, capable of reaching an adequate stage of welfare.

All countries studied, to a greater or lesser extent, have alternative mechanisms for coverage, especially for the elderly. All require, in varying degrees, evidence of need (means-tested), similar to what occurs with the brazilian social assistance.

By the experience gained in this research, it was noticed that the adoption of complementary protection networks becomes a necessity, especially in bismarckian social protection models, which, in general, do not produce truly universal care.

The accumulation of benefits among social insurance and social assistance is possible, especially in Portugal, but it is not a common rule. In general, the idea of the social assistance systems is truly meet the portion of the population with advanced age and without condition to ensure a minimum level of dignified existence.

Topic 3: Financing structure

Main question: How does Brazil's pension financing structure compare to EU countries' ones?

3.1 How Brazil's pension financing system differ from foreign systems?

The financing models do not differ much from the brazilian system, with contributions from the direct and indirect beneficiaries (employees and employers), reproducing the Bismarckian logic costing system.

Some models increment revenue through additional resources tax, which also finds support in the brazilian Constitution, by the eventual transfer of the social security system deficit to the Government. All countries studied are responsible for any failure of system resources.

Portugal has a small difference about financing the accident benefits, because of the private model adopted. Besides that, all EU selected countries studied shift employee contribution responsibility for employers, with the assumption of occurrence, as is the case in Brazil. No employee is held responsible in cause of lack of contribution.

As the rates charged, the employers' contribution in brazilian system is above Greece and Poland, but below Portugal and Hungary. The contributions of employees are similar, since in Brazil it may vary among 8, 9 or 11% of their salary.

Some examples may be of interest to the national model. In Portugal, young people have reduced contribution as a way to help the first job. In Hungary, the one who returns to the market after retirement also has reduced contribution. Those rules could be used in our system as a way to stimulate employers to hire young people and, also, to solve the discussion about new retirement of those retired people still in the labor market.

In general, there is, in the countries studied, the creation of autonomous or partially autonomous structures responsible to manage the system, usually on a PAYG model. Some models try to adopt capitalized components or plans notional account (NDC).

3.2 Which rules on the control of revenues, expenditures or exemptions are not in effect in Brazil? How could they be applied to Brazil's scenario?

As exposed by the external expert, there seems to be strict control over the real or notional reserves of participants in the EU selected countries, with ministerial oversight of the activities in these funds, with some exceptions, especially in systems that adopt the NDC. However, we note that such systems are undergoing reforms that may, in the future, provide better controllability of the amounts involved.

By the data submitted, all countries, except Hungary, present a deficit in pension coverage, requiring strengthening of the fiscal budget (taxes). This information resembles the brazilian model which, as seen above, has high spending, despite having a younger population than the four selected countries.

In the brazilian model, in fact, there is not even consensus on the existence of the system deficit, because in the brazilian accounting model, social assistance and social insurance benefits are sometimes mixed, while tax exemptions from alternative forms of taxation are not considered in the governmental calculation.

Anyway, even though the brazilian social security system may not be situated below the break-even line, it is true that reforms are necessary, in order to adjust the protective system in a rapidly aging population. Perhaps the main reforms are not necessary in the financing plan, but in the benefit ground.

Topic 4: Financial and actuarial soundness

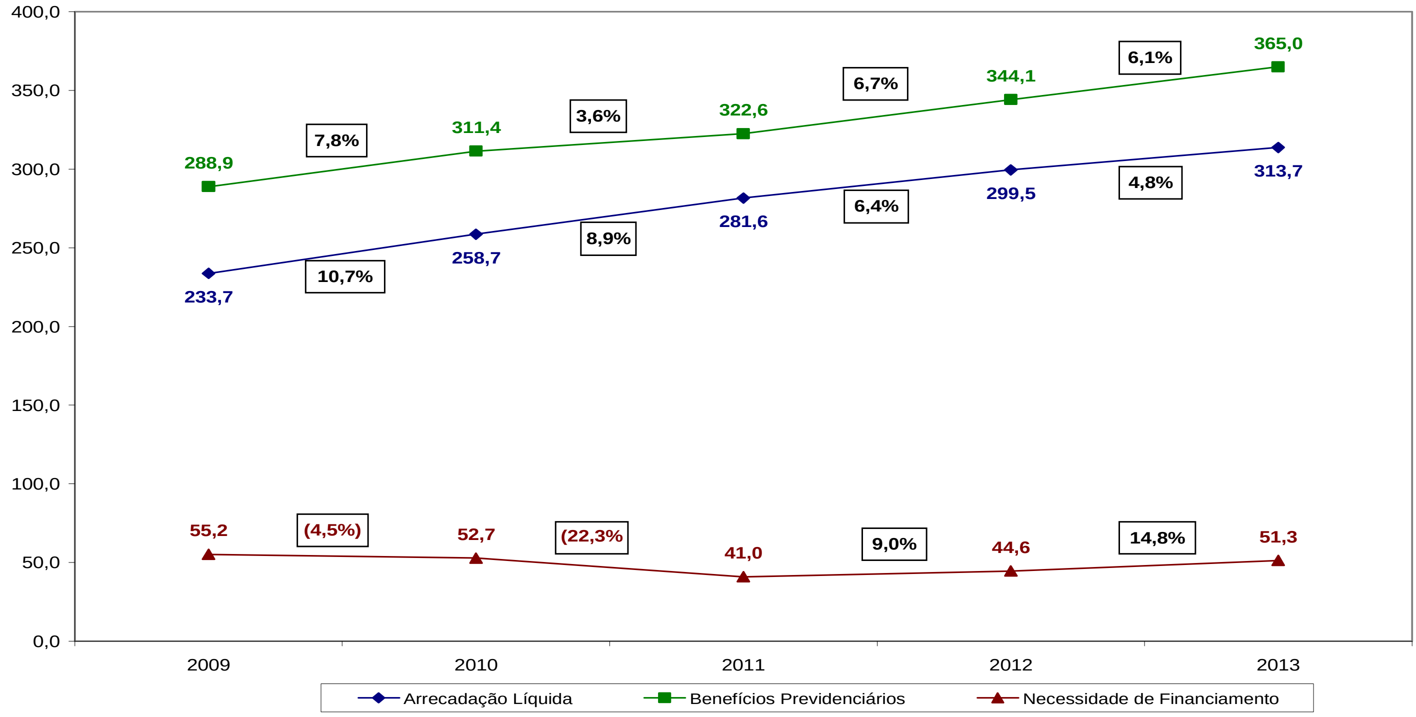
Main question: How do Brazil and the selected countries monitor and evaluate the financial and actuarial health of their systems?

4.1 Which EU indicators or methods used by the selected countries are not used in Brazil? Could they be used?

In the countries studied, there is a lack of uniformity in the criteria for correction of benefits, which, in addition to rules that vary according to the benefit (pension, aid etc), also adopt combined elements of inflation and GDP growth. In some benefits, there is not even an established criteria. It’s difficult to establish an adequate comparison to Brazil methods.

Besides that, at least one major data is available in an universal matter when discussing social security issues: the GDP percentage invested in this area. Many rules are used by this parameter and, eventually, allow EU countries to take drastic actions in order to establish the necessary equilibrium. Such rules, eventually, can be used in the event of economic hardship, as occurred in Portugal in 2013, which froze all benefits, except those of minimal value.

On the benefit side, as a general rule, beyond the disciplines already established in previous items, benefits have, in their calculation mechanisms, elements related to the time of contribution, accumulated value (real or notional) and even actuarial variables. Such conditions can support future reform in the brazilian model in order to consider the variables presented in all benefits and not only in age retirement.



As noted in Table (Source: MPS), the need of Treasury help in the Brazilian welfare system has been more than 50 billion dollars, exposing, at a first glance, a high imbalance of the system. As seen above, the percentage of spending in terms of GDP are lower in Brazil.

As already noted, there are serious internal disagreements about the methodology of calculation of brazilian pension deficit. Nevertheless, it is certainly true that reality demands, as soon as possible, structural reforms that allow the system viability over time.

Only in Poland there is a system of notional capitalization (NDC) that requires detailed information on reserves potentially built by the employee. For other countries, some NDC components have been implemented, but there still are strong systems of defined benefit. All of them, in the quantification of monthly income, adopt some time-related contribution and life expectancy parameters.

Information related to revenue and expenditure systems in the countries studied have their own account and, in accordance with the external auditor, allow immediate and clear identification of any deficits or surpluses. In general, these systems have sought, in recent years, adjustments to allow for greater financial and actuarial viability.

In the countries studied, as it seems, possible exemption of contributions is limited to particular cases, especially aimed at people engaged in caring for the offspring or unemployed, without a specific adjustment in social security accounts. In general, we clearly see a growing concern about controlling social protection finances.

Although autonomy is still the rule in EU, the EU Social Protection Committee controls and even alerts the States, leading to major reforms aimed at long-term, balancing the systems with combinations that stimulate complementary private pension systems and adjustments in the labor market for elderly workers.

At this point, the example for the brazilian system is relevant. There is, in the brazilian system, a stimulus in reverse, allowing workers to obtain an early retirement, via time of contribution benefit, and, at the same time, the absence of any stimuli or adaptation of the labor market to absorb older workers.

Since 2001, the European Union prepares reports on aging, anticipating impacts on systems and budgetary consequences. Future forecasts reach up to 50 years ahead. Monitoring, in short, seeks three objectives, which are the adequacy of the system; measure effective coverage, sustainability of the model in terms of GDP spent a year and analysis of the labor market; as well as modernization of models with varying analyzes by gender. This kind of analysis could take place in Brazil.

4.2 Using foreign methodology, what would be Brazil's indicators?

Is hard to conclude on this basis, due to the lack of uniformity on this analysis, but using the classical GDP outcome, is easy to conclude, as we have seen, that Brazil spends too much of its revenue for a still young population.

4.3 What factors make it difficult or impossible to monitor Brazil's Social Security System by EU's standards?

Focusing on GDP analysis, as pointed in the previous items, Brazil system has similar social security spending, despite our still young population. It's certainly an important indicator that something must be done.

Nevertheless, we have some particular issues that expose important differences from EU countries, as a very severe social security rules on brazilian Constitution, dictating many aspects of our system (rules about the quantifying of the benefit, inflation correction, retirement age and even the Christmas payment for retired people).

Besides this legal matter, Brazilian political system is very complex, with too many parties, what means a lot of veto players in the political arena. Social security changes are not easy and, eventually, seem to be unfeasible. The technical staff is competent, but is hard to turn their suggestions in reality.

In general, we can say that the MPS (Brazilian Social Security Ministry), already has equivalent analyzes and competent staff to do so. The difficulty in the brazilian model seems to be the political obstacles in preparing the necessary measures. Also, the Judiciary interference is quite wider in Brazil, imposing heavy costs to the system. It's is, in a sense, consequence from our Constitution, with too many rules about social security.

Judiciary interference is not linear in the EU countries, depending on legal, political and cultural aspects of time. It seems there are not realities similar to the brazilian, which has dedicated part of the Federal Court to this topic.

The European Court of Human Rights accepts social security discussions, often endorsing the theme based on the right to property. The admission of pension rights as a property of the insured was initially rejected by the Court in 1960, but later admitted, in 1971, starting from the premise that by pouring contributions to the protective system, there is a right to the portion of the pension fund, which may be affected.[7] Wider acceptance of this principle in social security matters only came in 1994.[8] It is also not uncommon to find

[7] X. v. The Netherlands, Appl. 4130/69.

[8] Gaygusuz v. Austria. Appl. 17371/90

social security labors as a tool for ensuring real freedom and therefore endowed with the same rights of defense to civil rights.[9]

Interestingly, the German Constitutional Court also adopts pension rights as derived from the right to property of the insured. Although the German Court is appointed as a pioneer, its early precedents on the subject are in 1980, later than the first decisions of the European Court.[10]

Many demands in the Court have great resemblance to pension discussions in Brazil. For instance, the quarrel – very common in Brazil – about attempting to link the monthly income to the benefit in many ways, frequently associated to the salary level of active workers, which both here and in the European Court have been clearly rejected, since there is no right to receipt a certain amount by the system.[11]

The European Court has admitted, expressly, the possibility of reducing the benefit already granted, since proved that it is necessary to establish an

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[9] Salesi v. Itália, em 26/02/1993, Schuler-Zgraggen v. Suíça, em 24/06/93 e Georgiadis v. Grécia, em 29/05/97. Sobre o tema, ver Ana Gomes Heredero. *Social Security as a Human Right – The Protection Afforded by the European Convention on human Rights, Council of Europe*, 2007

[10] "*Social security entitlements have long been regarded as a matter of social law that has little to do with the constitutional guarantee of private property. It was the German Federal Constitutional Court that first extended the protection of this constitutional right to pension entitlements in 1980. The Hungarian Constitutional Court followed this example as second in Europe in 1995. It is most probable, that especially the German example motivated the European Court of Human Rights to regard social security benefits as property, which in turn, resulted in similar developments in Austria and Lithuania. The present treatise seeks to explore the real meaning of such an extension of the constitutional protection of property, as well as its doctrinal background. In order to do so, the example of Germany and Hungary is used, not the least because to date both courts have developed an extensive jurisprudence in the relevant Field*". Available at <http://www.bundesverfassungsgericht.de/en/decisions/es20090630_2bve000208en.html>, Press release nº. 72/2009 of 30 June 2009. See also BvE 2/08, 2 BvE 5/08, 2 BvR 1010/08, 2 BvR 1022/08, 2 BvR 1259/08 und 2 BvR 182/09.

[11] . K. v. Alemanha. Appl. 11203/84, September, 06, 1995. FEDERSPEV v. Itália. Appl. 22867/93 and Aunola v. Finlândia. Appl. 30517/96.

efficient and balanced pension system. According to the Court, there must be a proportionality between the means applied and the aim to be achieved. The proper balance between social justice and the state's economy would not be achieved with an excessive tax burden.[12]

Such assumptions may subsidize, to some extent, the conduct of the brazilian Courts, in order to clarify the need for financial and actuarial adequacy, preserving the pension system for future generations.

Also, the particularities of each country do not allow a perfect match with EU parameters, demanding some adaptation from brazilian technical staff. Our large system and the many autonomous regimes (e.g. public servants) are also a particular item that clouds potential comparisons.

Topic 5: Partial contribution

Main question: How do the selected countries manage partial contribution to pension systems?

5.1 Do the selected countries use a methodology that could be used in Brazil?

By the study of the European model, we see a higher complexity than the current system of MERCOSUR, which, very narrowly, covers retirement and death benefits. In MERCOSUR, unlike the european model, certain benefits are not covered, as a disability benefit, as well as specific benefits in the worker

[12] . C. Goudswaard – Van Der Lans v. Holanda. Appl. 75255/01

original system which, by express provision in EU, are replicated in others countries, even if this nonexistent for others.

An interesting behavior is to adopt, as well as in the European Union, the distinction of benefits for short or long term, adopting, for these, the systematic aggregation of the time of contribution, as it already does, limitedly, in the MERCOSUR.

The existence of several specific regulations in the European model denotes the complexity and seriousness of the subject, providing care to diverse situations of migrant workers and generating confidence that accumulated rights will be preserved wherever the employee is.

5.2 Is the financial compensation between countries applicable to the compensation of Brazilian systems?

There is no rule of financial compensation between states in EU, but, nevertheless, the benefits of greater relevance and duration are quantified by aggregation, as well as in MERCOSUR, and each state pays its share.

Inside each EU country, usually there is not such problem, since they are not federations, and there are not local systems. In this matter, the experience from Canada could be useful for Brazil, since the Canadian federation, in the 90’s, did choose to keep, mainly, one system for all, instead of local ones.

In the particular aspect of the protective interactions within the brazilian system, there is the situation of different coverage among the states, especially people who pass through the public / private service or even change their public job among federal, state or province arena.

In this context, the rule of the brazilian model is the aggregation time of the last contribution regime, upon registration of the contributions made toward the precedent regimes and consequent financial settlement among them. The procedure is laid down in the Federal Statute nº. 9.796/99.

The financial settlement procedure is not simple and, due to financial and organizational problems of states and municipalities, tends not to be fully fulfilled, damaging the system that may receive such persons.

One possible solution to overcome the complexity of the subject, like the European Union and MERCOSUR, would be the adoption of the aggregation technique, so that each scheme would pay proportional benefits due to the employee labor time. However, the same difficulties referred to above, aggravated by the extension of the national territory, do not seem to encourage such conduct.

At this point, a suitable solution seems to be the unification of the protective regime, ending, in the pension context, the differences between private workers and public servers.

5.3 Is the risk of Brazilian informality similar to any of EU selected countries?

In Brazil, the contrast between the results of the employee groups with and without formal jobs allows the evolution of the informality. The average level of informality of the employed population in 2013 stood at 33% (IPEA, 2014).

Just like in Brazil, the studied countries demand, for pension coverage, minimum time of membership and contribution, which ultimately moves the informal market workers to means-tested minimum survivor benefits on social assistance.

The EU has given special attention to this theme as a way to provide some coverage for periods outside the labor market, especially due to unemployment or child care. In Poland and Greece, for example, child care can provide, in addition to cash benefits, coverage time for retirement purposes.

Anyway, in all the countries studied, there is a link to the unemployment insurance system of social protection, in order to meet minimum levels of coverage. In this respect, the brazilian model could evolve and insert involuntary unemployment as part of the social security system, as, indeed, wishes the brazilian Constitution of 1988.

In this matter, the self-employed population is also hard to protect. As for the brazilian model, besides the lack of any real measuring of the necessary contributions to keep the system working properly, there is also a difficulty in achieving adequate protective coverage to self-employed workers. The EU selected countries seem to have the same problem, requiring those workers responsible for their contribution, which can reach as high as 29.5% (Portugal).

Eventually, as in Portugal, autonomous with low income are not even insured by the mandatory system, although all have, to some extent, favored and differentiated coverage, especially rural workers, as well as the Brazilian style.

For the study, we may conclude that the models studied did not find an adequate solution for the welfare inclusion of self-employed individuals, unlike the brazilian system, which has sought in recent years the inclusion of such workers by simplifying and reducing contribution, which can reach only 5% of the brazilian minimum wage.

Topic 6: Pension reforms

Main question: What were the most important pension reforms made by the selected countries and how could they inspire Brazilian Parliament?

6.1 Is there a parallel between the pension reforms made by these countries and those made in Brazil?

In general, all countries studied have passed in recent years by major structural reforms of their pension systems. Although, at first, there has been a preference for the privatized systems, the difficulties of transition, management and control of them have weakened that alternative.

Nowadays, there is a preference for the basic state model, in conjunction with private pillars, acting as adjuncts. Especially after 2008, the reforms were prioritized, leading to a strong burden for the current generation, not always in a reasonable transition, as in Poland, which already shows good results in welfare bills, but at the expense of strong retraction in the benefit replacement, with losses up to 50%.

Even in the public pillar, the EU models have adopted calculation criteria that take into consideration the contribution and life expectancy. The capitalization, albeit notional, finds ample space in the EU reforms.

For Brazil, the maintenance of a state model primarily in a PAYG system, but simultaneously established in notional benefits in accordance with the economic and demographic variables can combine, to a large extent, the need for system adjustments and individual accountability of pension reserves, albeit fictional.

Additionally, those reforms avoid the risk of capitalized models, since the same risks that affect the allocation schemes in PAYG also violate capitalized models (macroeconomic aspects, eg inflation, demographic changes and even political risks), with possible inappropriate state intervention in pension management. Possibly, the capitalized model presents greater risks, especially with regard to the management of investments.[13]

The PAYG, mutatis mutandis, is a resizing of the traditional family protection mechanism, in which the young and fit support the elderly. It was a form of protection that allowed us to become the dominant species on this planet and achieve the actual development. Ignore it in favor of individualistic and risky models is inadequate, bringing the risk to a system created precisely to nullify it.

Anyway, the solution needed no exclusive option; the adoption of mixed models is possible - PAYG and capitalization. The system of mixed financing is not new, being adopted, for example, in Canada[14]. The finance strategy may vary according to the pillar involved. In an initial and universal coverage, targeting minimum decent living conditions, the PAYG scheme seems to be the option. In a complementary pillar, a fully funded component is reasonable, since the risk taking is justifiable to seek a more adequate coverage.

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[13] BARR, Nicholas. *Reforming Pensions,* p. 23

[14] . LITTLE, Bruce, *Fixing the Future. How Canada's Usually Fractious Governments Worked Together to Rescue the Canada Pension Plan*. Toronto: Rotman, 2008

However, the creation of regimes partially capitalized demand autonomy from the central government, because, otherwise, it is quite likely that the contributory pillar, rather than being directed to appropriate investments, will eventually finance the government deficit. That is the reality of the American model, in which the surplus of social security contributions is systematically directed at trust funds, which are nothing more than transfers to the Treasury, in order to support the high deficit in the balance of payments. Since there is no real capital investment, when the U.S. social security model depends on the return on this capital, it is clear that the central government will have to expand, to some extent, the tax revenue (or reduce costs), which implies that the taxpayers itself will bear the difference.[15]

The brazilian system needs to take some of these actions, especially also by the low birth rate. The latest estimates predict the apex of the population in 2039, with progressive reduction this year onwards. Interestingly, today, the fertility rate in Brazil is already less than 2.1, which falls below the average replacement rate needed to keep the population stable. However, as the population is still young, the population decline will take place only from 2039.[16]

Basically, we see that EU countries adopted structural reforms, unlike Brazilian reforms. The main lesson to the local system is that some strong changes must be made in order to save the system for future generations.

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[15] LEVY, Robert A. & MELLOR, William. *The Dirty Dozen – How Twelve Supreme Court Cases Radically Expanded Government and Eroded Freedom*. Washington: Cato Institute, 2009

[16] <http://www.ibge.gov.br/home/estatistica/populacao/projecao_da_populacao/2008/projecao.pdf>

6.2 Are the problems addressed in these reforms shared by Brazil? Could Brazil's legal system support similar reforms? How could they be adapted?

Yes, most of them take place in Brazil. There are some differences related to the extension and gravity, but they are all here. As said before, Brazilian legal and political system is quite complex, but reforms are not impossible. It is necessary to remove from Brazilian Constitution several statutes about the theme and, moreover, convince society about the need to reform the system.

In this matter, the new presidential term could be a relevant window to start the reforms, which, in Brazil, are usually easier to take place at the beginning of a new government.

In connection with the financing aspect of the system, an alternative should be considered. Although European models still adopt, in the cases studied, rules similar to traditional financing bismarckian systems, several options have been used as a way to strengthen the growing need for financing.

Part of the problem lies in adopting the financing model established in origins of the protective system, witch was aimed at employees only. I believe that a solution would be the extinction of social contributions, with single funding based on taxes.

This model would adopt two public and compulsory pillars. A pillar of universal coverage guarantor of minimum survivor benefits to any person within the parameters established by law (combining the vulnerability of the covered population with available resources), and funded by taxes collected by the bases currently under the brazilian Constitution.

A second pillar would be funded by an additional income tax, collected individually, replacing the current personal social security contributions. Here there would be a triple advantage: equal treatment of all people in the relation to the social security state body controller, current tax model simplification and, ultimately, a stimulus to every individual to inform his true accounts to the Treasury, due to the real pension reflexes. This second pillar would complement the provision of the initial pillar, exceeding the minimum payment, ensuring a better level of wellness.