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Analysis on the Recent Changes in Brazil Public Employee's Retirement System

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SUMMARY

LIST OF ILUSTRATIONS

Disclaimer:

The opinions expressed in this paper reflect research efforts to understand the issues and do not express the opinions of the Special Social Security Scheme of Porto Alegre.

1. INTRODUCTION

The first social security system emerged in Germany in the late nineteenth century. In 1889, Chancellor Otto Von Bismarck established a compulsory insurance for workers in the trade, industry and agriculture. Employees and employers funded the system. The goal was to protect workers over 70 years old (elderly), labor accidents and serious illnesses. It quickly spread across Europe, being copied by Denmark, England, France and Holland[1].

In the United States, the pension movement also began in the late nineteenth century by the workers' inability or unwillingness to accumulate sufficient funds for necessary expenses due to age. However, it was only after the Crisis of 1929 (Great Depression), where many workers were unemployed at an advanced age that sparked public awareness of the need to ensure retirement for those who reached a certain age, whatever definition. In this economic, demographic, social and political context, the social security in the United States emerged[2].

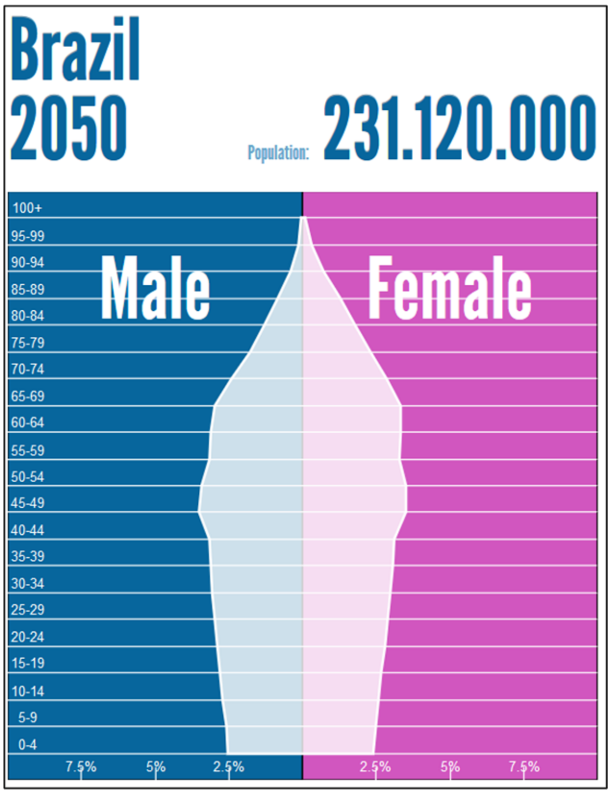
In Brazil the first law that dealt with Social Security is dated March 26, 1888 to which regulated the right to retirement of employees of the Post Office, but the starting point is considered the Decree 4.682 of January 24, 1923, known as *Law Eloi Chaves* (author of the respective project). This mandated the creation of a Retirement Cash and Pensions for employees of each railway company[3].

After more than one hundred twenty years, the retirement pension issue remains one of the greatest challenges of Brazil and the world. One of the contributing factors for this is the aging

[1] (McGill, Brown, Haley, & Schieber, 2005)
[2] (McGill, Brown, Haley, & Schieber, 2005)
[3] (Ministerio da Previdencia, 2015)

population[4]. Recently, the United Nations Population Fund, the United Nations body responsible for population issues, published in its report that by the year 2050 one in five people will be sixty years or older[5]. According to projections from The Brazilian Institute of Geography and Statistics - IBGE[6], in 2050, approximately 30% of the population will be 60 year or older, as shown below.

Figure 1– Population Pyramids of Brasil in 2050



Source*:* (Populationpyramid, 2015)

In the literature, the imbalance in world social security is attributed to several factors. Among them, stand out the high public debt, the steady rise in life expectancy, the economic logic of the financial sustainability in ageing society and the fiscal austerity[7].

[4] (Mattil, 2006)
[5] (United Nations Population Fund, 2012)
[6] (Instituto Brasileiro de Geografia e Estatistica, 2015)
[7] (Gale, Shoven, & Warshawsky, 2004) (Ebbinghaus, 2011) (McGill, Brown, Haley, & Schieber, 2005)

In Brazil, besides the aforementioned reasons, also contributing to the worsening of the social security, the Brazilian Constitution of 1988[8]. The Constitution expanded the rights and coverage of retirements and pensions without an indication of their revenue sources.

In 1998, seeking to correct the course of social security in Brazil, especially the retirement pension of public employees, appointed at the time as the great villain of the social security, the Constitutional Amendment 20[9] was published on December 15. Among many changes, it enabled the establishment of Complementary Social Security Scheme - RPC for public employees of the Union, States, Federal District and Municipalities for the values that exceeded the ceiling paid by the General Social Security Scheme - RGPS.

In 2003, again, there were significant changes in social security of public employees through Constitutional Amendment 41[10] on December 19. The Amendment emphasized that the Complementary Social Security Scheme should use a defined contribution plan.

In Brazil, similar to United States, changes were also influenced by the ongoing debates about the differences between the retirement system for the private sector and the public employees. The debate was motivated by generous benefits for public employees and the high cost of maintaining this system to the public treasury[11].

These changes have altered the pattern of significant retirement pension of public employees of Federal, States and municipalities. First, it allowed the establishment of the Complementary

[8] (Constituição Federal do Brasil, 1988)
[9] (Emenda Constitucional n 20, 1998)
[10] (Emenda Constitucional n 41, 2003)
[11] (Mitchell & Anderson, 2009)

Social Security Scheme. Second, it limited the payment for Special Social Security Scheme - RPPS, which adopt the Complementary Social Security Scheme - RPC at the ceiling of the General Social Security Scheme. Third, it determined that the Complementary Social Security Schemes offered benefit plans only in a defined contribution plan.

Although these changes were made in 2003, it was not until April 30, 2012, through Law 12.618[12] that the Union established the Complementary Social Security Scheme for federal public employees. This law fixed the maximum retirement pensions payable by Special Social Security Scheme at the ceiling limit the Union's employees set by the General Social Security Scheme, and authorized the creation of three Closed Complementary Social Security Entities.

After the Law 12.618/2012 was approved, other Brazilian states such as São Paulo, Rio de Janeiro, Minas Gerais, Espírito Santo, Ceará, Bahia, Pernambuco, Paraná, Rio Grande do Sul and Rondônia also established the Complementary Social Security Scheme. As a result, the need for a deeper analysis of the Complementary Social Security Scheme in defined contribution plan implemented by the Union and by these Brazilian states.

The objective of this paper is to analyze the recent changes in Brazil public employee’s retirement system because of changes introduced by the Union and its implications, advantages and disadvantages regarding the Special Social Security Scheme of Public employees of the Municipality of Porto Alegre.

Therefore, this paper will present the basics of the Defined Benefit Plan and the Defined Contribution Plan. After the three different pension schemes existing in Brazil will be shown

[12] (Lei Federal 12.618, 2012)

as well as the main changes introduced by Constitutional Amendments 20 and 41 and Law 12.618. Then will be presented the Special Social Security Scheme of the Municipality of Porto Alegre. Then will also portrayed some contribution plans experiences set in place by the United States and Chile. Finally, the paper will be present the conclusions of this study.

2. PENSIONS PLAN

According to the literature13, there are two ways to establish a retirement pension plan: Defined Benefit Plan and Defined Contribution Plan. Is it understood that a retirement plan covers the beneficiary in the event of death, serious illness, disability, old age, and others cases defined by the plan of the settlor.

2.1 Defined Benefit Plan

In this mode, the benefits are pre-set and the beneficiary knows in advance the amount of his or her benefit. On the other hand, the contribution is variable (indefinite). The contribution is calculated annually by actuarial valuation, which aims to determine the amount necessary to meet the commitments to future benefits. That is, if the values necessary to ensure the solvency and the plan balance is insufficient, one must change the value of the contribution. This plan allows the benefit plans employees to receive payment indefinitely. The calculations are performed based on actuarial evaluation and the total size of the mass. Usually the employer and employee make the contribution. The main features of this plan are the contributory and solidarity[14].

The formula of defined benefit plan involves the employee contribution, as a variable factor, and benefit, as a fixed factor[15]. The formula is made to provide a fixed benefit after the employee's retirement. The benefit may vary based on some predetermined indicator such as inflation or the National Consumer Price Index.

[13] (Mattil, 2006); (McGill, Brown, Haley, & Schieber, 2005); (Gale, Shoven, & Warshawsky, 2004)
[14] (Reis, 2002)
[15] (Gale, Shoven, & Warshawsky, 2004); (Mattil, 2006)

The benefit formula has several variations[16], but is primarily divided into horizontal benefit and the benefit unit. The first considers only the income of the beneficiary, and the second takes into account the salary and contribution of time.

The majority of defined benefit plans require a minimum of input, which may vary from plan to plan, usually five, ten, fifteen or twenty years. The plans also require a minimum age (Normal Retirement Age, varies by country) so that beneficiary can apply for retirement with defined benefits. However, each plan may set lower age limits for retirement with their proportional reductions in benefits.

There are three essential components that define the provisioning of the benefit: the amount of benefit to be paid, the participant's age at which the benefit is paid in full and the type of annuity.

2.2 Defined Contribution Plan

In this mode instead of benefit, there are fixe contributions rates. The benefit is the result of payment over the plan, plus the respective income. In this mode, each employee has an individual account that receives the payment during the plan as well as their interest.

Contributions may vary in each plan, but generally, the employer defines the amount or percentage of the salary to be deposited in favor of the employee. This plan may rely solely on the employer's payment or both the employee and the employer.

[16] (McGill, Brown, Haley, & Schieber, 2005)

There are several types of defined contribution plans. In the United States stand out from the Profit-Sharing Plan and the §401 (k)[17]. In Profit-Sharing Plan, employers contribute a part of the company's profit in the account of each employee according to a predetermined formula. This plan encourages employee productivity, since the greater the profit, the more payment employees will receive. However, the plan §401 (k) has the characteristics of the tax incentive. Employee and employer contribute. Other features of this plan include the possibility of early withdrawal to purchase real estate, medical expenses, etc. In this plan there are a few investment alternatives to the employee who must choose the one that best suits his or her risk. Risk will be discussed in the fifth chapter.

[17] (McGill, Brown, Haley, & Schieber, 2005); (Mitchell & Anderson, 2009)

3. THE BRAZILIAN SOCIAL SECURITY SCHEME

According to the Ministry of Social Welfare[18], the Brazilian social security system is divided into three groups: General Social Security Scheme (RGPS), Special Social Security Scheme (RPPS) and Complementary Social Security Scheme (RPC).

3.1 General Social Security Scheme

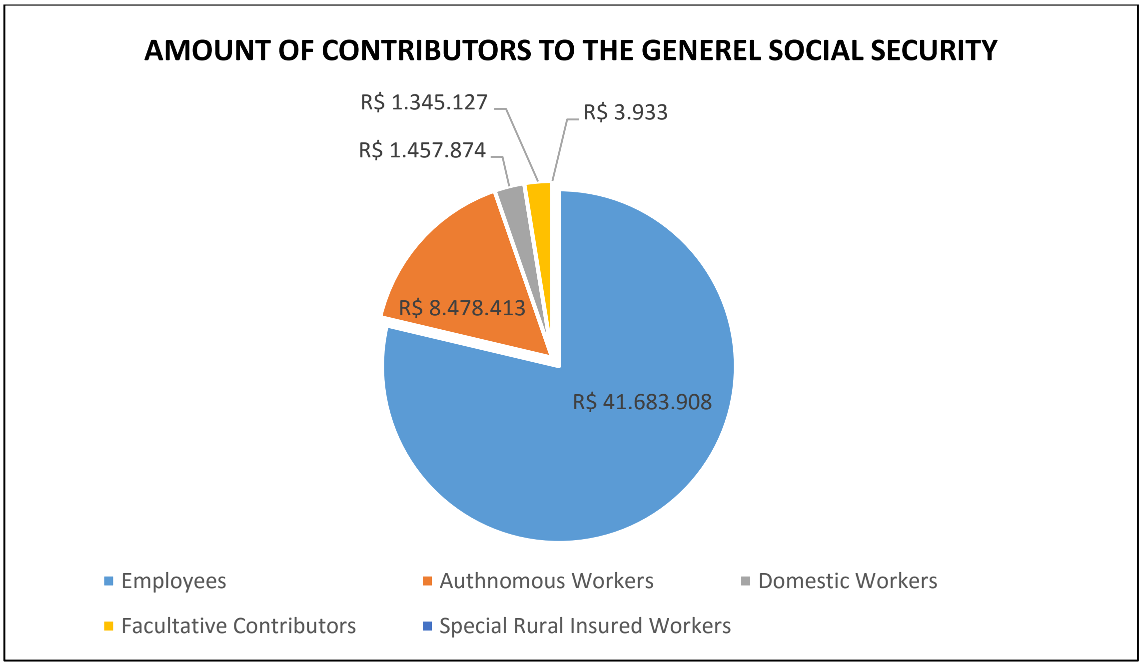
The General Social Security Scheme (RGPS) have contributory and compulsory membership. They are managed by the National Social Security Institute - INSS, under the Ministry of Social Welfare. The RGPS is the largest of the three schemes. Its main objective is to guarantee the income of the employees and his family in case of illness, disability, old age, death, involuntary unemployment, maternity and seclusion.

Among the contributors are employers and employees from the private sector, domestic workers, autonomous workers, facultative contributors and special rural ensured workers. The minimum benefit value paid is R$ 788.00 and the ceiling is R$ 4,663.75[19].

According to the Ministry of Welfare, in 2013, the total number of contributors to the RGPS was 59,969,255, pursuant to payment in the chart below:

[18] (Ministerio da Previdencia, 2015)
[19] (Ministério da Previdência Social, 2013)

Graphic 1 – Amount of Contributors to the General Social Security Scheme



Source: (Ministério da Previdência Social, 2013)

3.2 Special Social Security Scheme

The Special Social Security Scheme (RPPS)[20] is intended for public employees of the Federal Government, State Government, Federal District and Municipalities, including their associate government agencies and the Executive, Legislative and Judiciary brunches. The Law 9.717, of November 27, 1998, regulates the RPPS and organization and its operating methods.

On December 15, 1998, through Constitutional Amendment 20[21], the RPPS, have experienced significant changes, among which are:

[20] (LEI 9.717, 1998)
[21] (Emenda Constitucional n 20, 1998)

1. The contributory, observing criteria that preserve financial and actuarial balance;
2. The replacement of length of service for the period of contribution;
3. A 20% toll for missing the old retirement age;
4. Voluntary retirement with full pay for men with 35 years of contributions and 60 years of age and for women with 30 years of contributions and 55 years of age;
5. Voluntary retirement with earnings proportional to length of service, provided the requirements of 65 years for men and 60 years for women;
6. Mandatory retirement with proportional pay after 70 years of age for men and women;
7. 10 year of time proven in public service and 5 years in the effective post exercise;
8. The basis for calculating the proceeds, considering the last remuneration received by the server in the effective post from which occurred retirement; and
9. Limitation of retirement benefits and pensions, on the occasion of its concession to the amount of compensation that the server received in its permanent position.

On December 19, 2003 Constitutional Amendment 41[22] imposed new changes in the RPPS, as highlighted below:

1. The sympathetic character through contribution of the respective public entity, the active and inactive employee and pensioners, subject to criteria that preserve financial and actuarial balance;
2. Fixing the ceiling of the public employees of all powers to the remuneration of the Minister of the Supreme Court within the limits set out in item XI of Article 37 of the Brazilian Constitution;

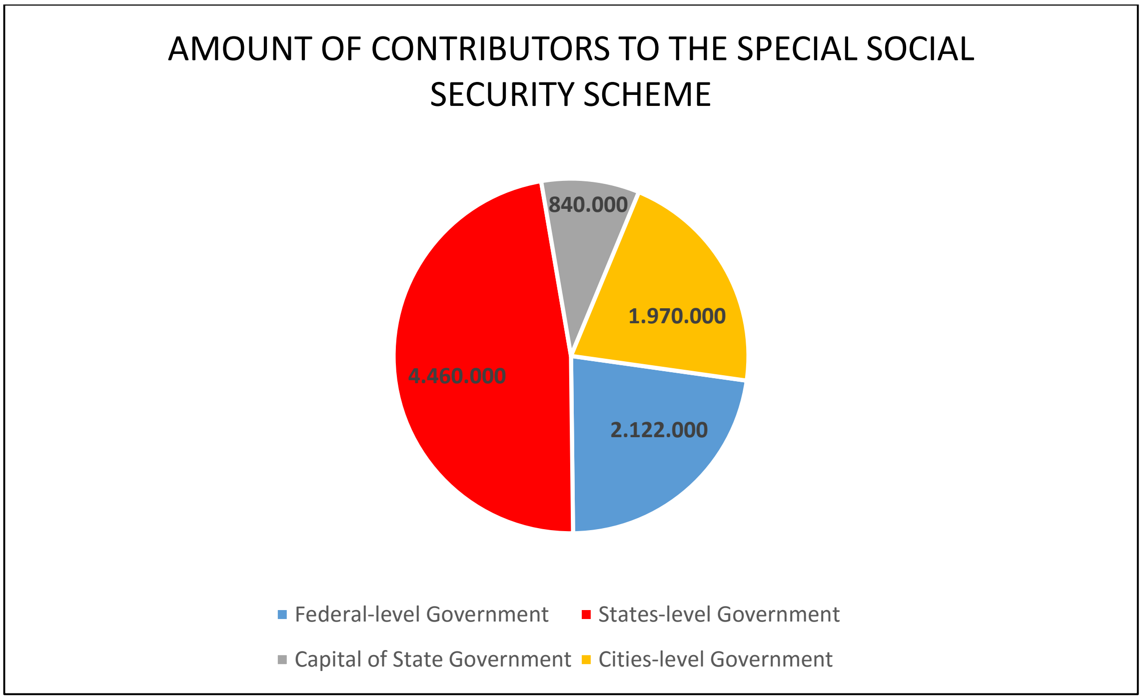
[22] (Emenda Constitucional n 41, 2003)

3. The end of the entire salary in retirement, established as calculating the simple arithmetic average of 80% higher salaries;
4. The end of parity for new servers - the advantages and benefits granted to active employees do not extend to retired employees; and
5. The limitation of pensions in the amount of the total income of the deceased employee or employee remuneration in the effective post where the death occurred, up to a maximum limit for the benefits of the general social security scheme, plus 70% of the amount in excess of this limit.

Such changes reflected the need to consolidate a new public social security model, based on the contributory, solidarity and in financial and actuarial balance of the scheme. From these changes, the Special Social Security Scheme started to receive contributions from their public entities, the active and inactive employees and pensioners. The Special Social Security Scheme benefits are plans in the defined benefit type. Currently the minimum amount of benefit paid under this scheme is R$ 788.00 and the ceiling is R$ 33,763.00.

In Brazil, the Union and all states have their RPPS. Among the 5,593 Brazilian municipalities that offer social security system, 2,030 have a Special Social Security Scheme and 3,341 cities are linked to the General Social Security Scheme. Approximately 9,392,000 million employees are linked to an RPPS as distribution in the chart below:

Graphic 2– Amount of Contributors to the Special Social Security Scheme



Source: (Ministério da Previdência Social, 2013)

Importantly, if the federal government, the states, the Federal District and the municipalities do not institute its Special Social Security Scheme, it must be bound to the General Social Security Scheme.

3.3 Complementary Social Security Scheme

Lately, Complementary Social Security Scheme (RPC) is an optional benefit, which provides the worker an additional pension insurance and was included by Constitutional Amendment 20 of December 15, 1998. Said amendment enabled the Union, the States, the Federal District and the municipalities to establish the Complementary Social Security Scheme for those employees who earn more than the ceiling of the RGPS.

In 2003, the Constitutional Amendment 41 of December 19, 2003 determined that the Complementary Social Security should be offered benefit plans only in a defined contribution plan.

On April 30, 2012 the Law 12.618[23] establishes the Complementary Social Security Scheme for public employees effective position holders of the Union, their agencies and foundations, including members of the judiciary, the public prosecutor of the Union and the Court of Accounts Unity.

Among its changes were:

1. The employees who joined the public service to before the beginning of the Complementary Social Security Scheme effective may choose to stay in RPPS or migrate to the RPC;
2. For employees who entered the public service after the date of commencement of the Complementary Social Security Scheme effective, membership is mandatory for employees that have higher salary to the maximum limit established for the benefit of the General Social Security Scheme;
3. The server may cancel at any time, participation in the Complementary Social Security Scheme. However the employee, may be entitled only to a refund of contributions made by the employee himself;
4. In case of employee-cancellation, contributions invested by the employer will be returned in full to the paying entity;

[23] (Lei Federal 12.618, 2012)

5. The Special Social Security Scheme will grant the benefits up to the limit established by the General Social Security Scheme;
6. The creation of three Closed Complementary Social Security Entities of the Federal public employees, one which for the executive, legislative and judiciary branches;
7. Unscheduled benefits will be defined in the regulations of each plan;
8. The benefits should ensure, in addition to retirement benefits and pension, at least the benefits of disability events and death and, if applicable, the coverage of other actuarial risks;
9. The contributions of the employer and employee will focus on the portion of the contribution base that exceeds the maximum limit for the benefits of the RGPS;
10. The employee of contribution rates that exceed the value of the General Social Security Scheme may be 7.5%, 8% or 8.5%;
11. The employer contribution rates will be equal to the employee, as set forth in benefit plan regulation and may not exceed the percentage of 8.5%;
12. While the employer can contribute up to 8.5%, the employee may contribute in addition to that limit;
13. The normal retirement will correspond to a temporary income, according to the employee survival expectation, obtained from the general mortality table; and
14. If the employee exceeds the life expectancy he or she will be paid an annuity that will correspond to 80% of the amount paid the last installment of retirement.

4. THE SPECIAL SOCIAL SECURITY SCHEME IN PORTO ALEGRE

Porto Alegre is the state capital of Rio Grande do Sul and the southernmost city in southern Brazil. Portuguese immigrants coming from the Azores founded it in 1772. It has an area of 496.682 square kilometers and approximately 1.476 million habitants. It has average life expectancy of 71.59 years and illiteracy rate of less than 2.28% of the population.

The city is divided into 80 districts[24] and has a vast geography such as hills, lowlands and a large lake, the Guaiba. It has eight large parks, 600 community parks and 1.3 million trees on public roads.

Porto Alegre is the capital of participatory democracy and was recently awarded the games of the FIFA World Cup. Among the cultural attractions of the city, include the Book Fair, the Casa de Cultura Mario Quintana, Erico Verissimo the Culture Center, Usina do Gasometro and the Iberê Camargo Foundation.

The city of Porto Alegre has 27 (twenty-seven) offices, seven Local Authorities and four companies. It has 22,424 employees between public employees from office effective provision and employee hired by the Consolidation Labor Law - CLT. In 2014, its revenues reached R$ 5.554 billion.

Among its Municipalities is the Department of Special Social Security Scheme of the Public employees of Porto Alegre - Previmpa.

[24] (Prefeitura Municipal de Porto Alehre, 2015)

4.1 Special Social Security Scheme (RPPS) of Porto Alegre

The Previmpa is the Board's governing body Special Social Security Scheme (RPPS) in Porto Alegre[25].

4.2 Historic Background

With the changes imposed by Constitutional Amendment 20/1998 and Law 9.717 of 1998, on September 6, 2001 the city of Porto Alegre published the Supplementary Law 466[26], which provided for the transition rules and changes in the Special Social Security Scheme of the Public employees of Porto Alegre - PREVIMPA. During this transition period, the new Special Social Security Scheme of the Municipality of Porto Alegre assumed full payment of pensions based on 100% of the compensation or proceeds to which the deceased employee would have rights to as well as continue in to pay current benefits.

The Law 466 created the fund of the Special Social Security Scheme of Porto Alegre for public employees and set up a social contribution rate of 6.75%, calculated on the total remuneration of the active employee to fund the RPPS for a period of twelve (12) months. After this period, the rates would be set based on actuarial calculations to ensure the financial and actuarial balance.

Then the Complementary Law 478[27] of September 26, 2002, provided for the operation and consolidation of the Department of Special Social Security Scheme of the public employees of

[25] (PREVIMPA, 2015)
[26] (LEI COMPLEMENTAR 466, 2001)
[27] (LEI COMPLEMENTAR 478, 2002)

the Municipality of Porto Alegre - PREVIMPA. Porto Alegre was given a legal personality under public law with administrative, financial and accounting autonomy and staff of its own.

On May 28, 2004, Complementary Law 505[28], set new rates of social security contributions for funding purposes of the Department. It established rates of 9% for active employees, retirees and pensioners, until February, 28 2005, 10% from March, 1 2005 to August, 31 2005 and 11% from September 1, 2005 until present.

As for the municipality, the rate of 18% until February 28, 2005 was established 20% from March, 1 2005 until 31 August 2005 and 22% from September 1, 2005 until present. In addition, the same law established that the social contribution of the Porto Alegre to RPPS would double the social contribution of the insured.

4.3 Framework

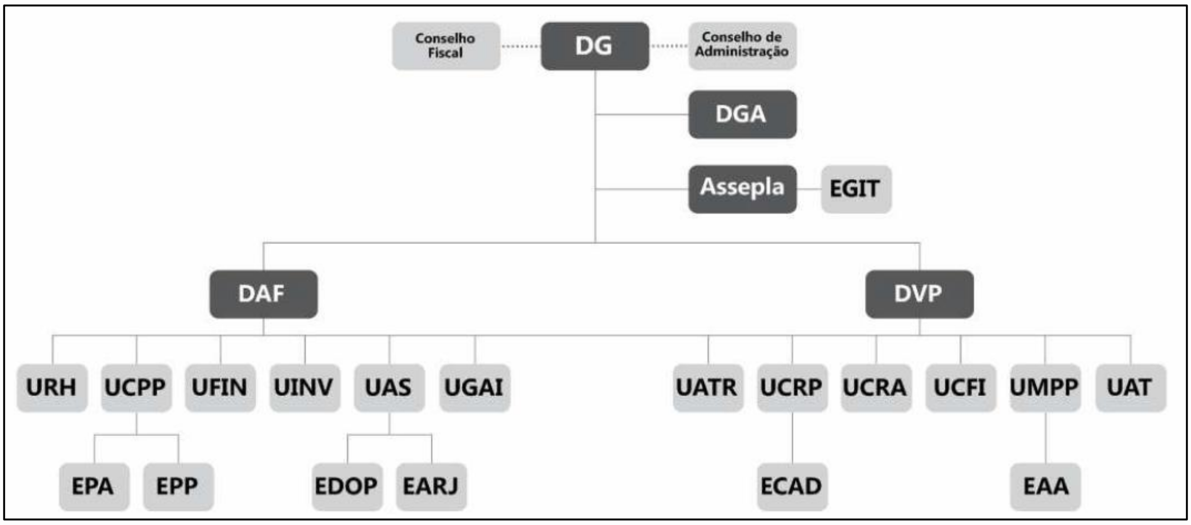
An Executive Board, a Management Board and a Supervisory Board form the RPPS of Porto Alegre. The Board of Directors is a superior organ of deliberation, formed by twenty (20) members and their alternates. The board consists of public employees, active or retired. Moreover, ten (10) elected by the employees and ten (10) appointed by the mayor of the executive of Porto Alegre. The Audit Committee is composed of 8 (eight) members and their alternates. The Committee consists of public employees, active or retired. In addition, four (4) elected by the employees and 04 (four) appointed by the mayor of Executive of Porto Alegre. The Executive Board consists of a Director General, one Director General Adjunct, one

[28] (LEI COMPLEMENTAR 505, 2004)

Administrative-Financial Director and one Director of Social Security, all public employees, active or retired.

The Previmpa[29] has one hundred and two employees, of which 72 (seventy-two) are provided. The Department also counts 6 attaches servers of other organs of the municipality and 35 interns, distributed over various units and teams as seen in the following chart:

Organogram 1 - Previmpa



Source: (Previmpa, 2014)

4.4 Operation

The Previmpa aims to assure their beneficiaries' livelihoods in the event of disability, maternity, old age, family responsibilities, and imprisonment or death of those who their depend on economically. The benefits of the insured are: retirement, health leave, maternity

[29] (PREVIMPA, 2014)

leave and family wage. The benefits already offered to dependents are pension for death and aid-seclusion.

Consist in revenue of PREVIMPA[30]:

1. The social security contributions of active employees, retirees and pensioners;
2. The social contributions of the municipality;
3. Donations, grants and legacies;
4. Revenues from financial investments and equity investments;
5. The amounts received as compensation from other pension schemes;
6. Funding for coverage of any differences to fund current pensions; and
7. The resources allocated to fund the pensions of active employees and their dependents, who joined prior to September 10, 2001.

The management and maintenance of Previmpa is funded by the management fee amounts to 2% (two percent) of the value of the remuneration, salaries and allowances paid to employees in the previous year, passed in equal monthly installments.

4.5 Mass Segregation

In order to solve the actuarial deficit of the pension system of the Municipality of Porto Alegre and get the financial and actuarial balance required by Constitutional Amendment 20/1998, and Law 9.717/1998, the rate of social contribution was established and created the Department of RPPS of Porto Alegre.

[30] (LEI COMPLEMENTAR 478, 2002)

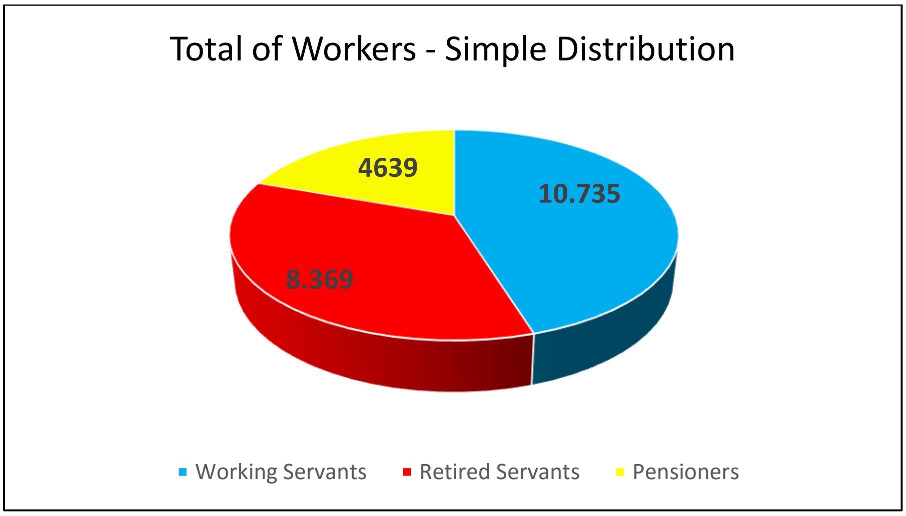
Therefore, from the start of creation, the plan of RPPS divided the public employees into two distinct groups: Simple Distribution Financial System (pay-as-you-go) and Capitalized System.

4.6 Simple Distribution Financial System

The employees that joined the Municipality before September 9, 2001 (date of publication of the law which established the Capitalized System), were in the Financial System of Simple Distribution (pay-as-you-go). This is a financial plan cash flow where all the contributions of active employees, retirees and pensioners, as well as the municipality are used for payment of pension benefits. The municipality through financial support helps the differences between the collection of contributions of participants and the payment of the benefits of this group.

According to Previmpa data, in 2014, the Simple distribution Financial System had 23.743 contributors, distributed according to the chart below.

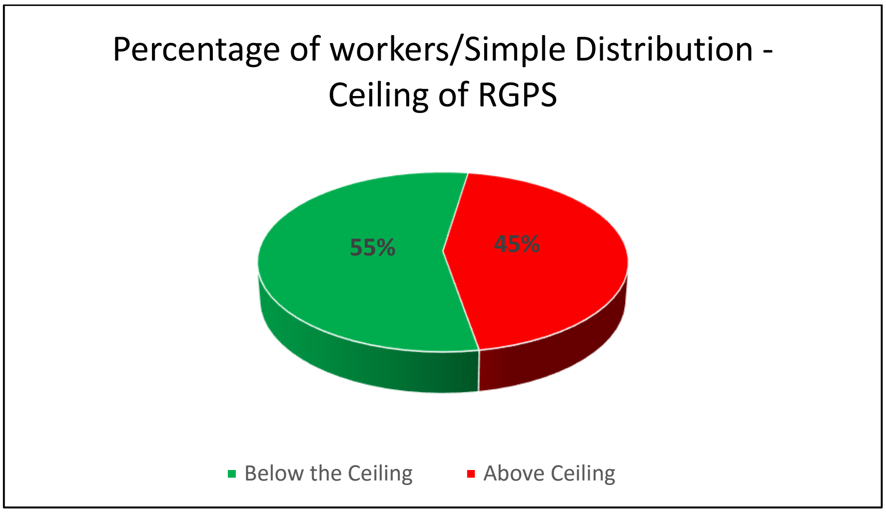
Graphic 3 – Total of Workers – Simple Distribution



Source: (Previmpa, 2014)

These workers’ wages are 55% lower than the ceiling of the General Social Security Scheme and 45% higher, as the chart below.

Graphic 4 – Percentage of workers/Simple Distribution – Ceiling of RGPS



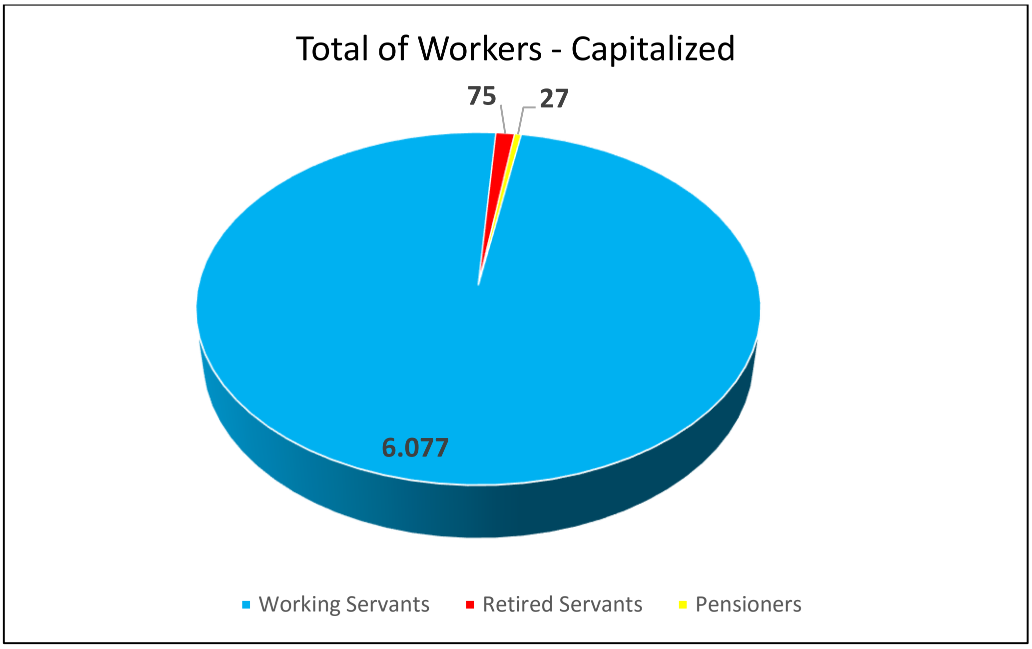
Source: (Previmpa, 2014)

4.7 Capitalized System

The employees that joined the Municipality after September 10, 2001 of Porto Alegre is in the Capitalized Fund. This is a pension plan where contributions (active employees, retirees and pensioners, as well as the municipality) form a guarantee fund for payment of future benefits for participants of the scheme. The values are applied in the financial market by RPPS himself, respected the rules of the National Monetary Council - CMN.

According to Previmpa data, in 2014, the Capitalized System had 6.179 contributors, distributed according to the chart below.

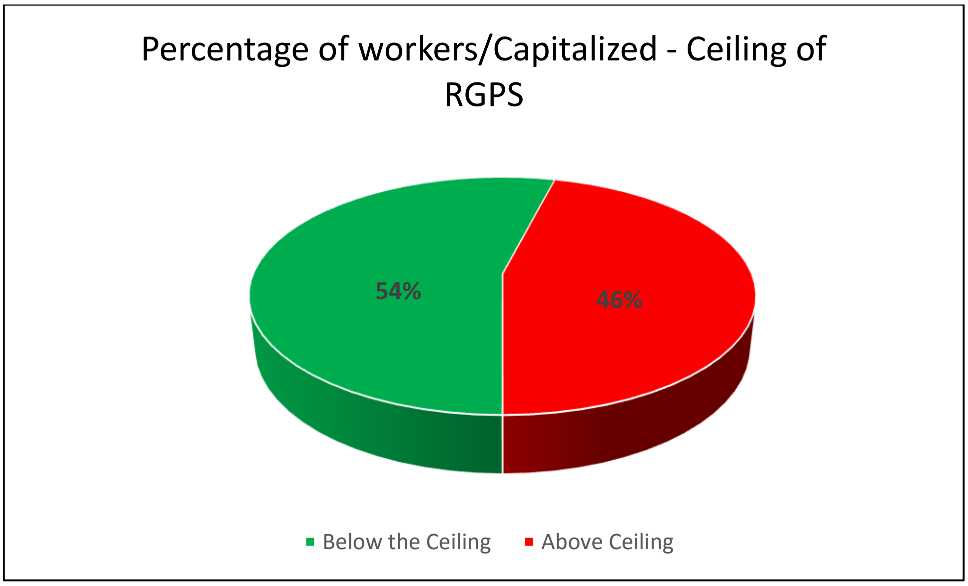
Graphic 5 – *Total of Worker Capitalized*



Source: (Previmpa, 2014)

54% of these workers have incomes below the ceiling of the General Social Security Scheme and 46% have higher incomes, as the chart below.

Graphic 6 – Percentage of workers/Capitalized – Ceiling of RGPS



Source: (Previmpa, 2014)

4.8 Actuarial Evaluation

According to the Actuarial Valuation[31] of 2014, capitalized scheme has solved its deficit, with the following rates:

- Normal employee contribution: 11%;
- Normal employer contribution: 18.969%;
- Supplement employer contribution: 5.175%.

[31] (PREVIMPA, 2015)

5. EXPERIENCES OF DEFINED CONTRIBUTION PLAN

Over time, other countries have adopted defined contribution plan, the highlights are the United States and Chile.

5.1 Retirement System in United States

The United States - US have the highest Gross Domestic Product - GDP in the world. In 2014, GDP was US$ 16.76 trillion. The population is approximately 320 million, and life expectancy is 79 years on average. The population over 60 years old is 20%.

The United States Social Security System is based on three pillars[32]. The first, public social security, the second, private pensions and the third, individual pension plans.

The public pension in the US is destined for workers in general and public employees. However, public employees have a special coverage plan. In the public system, both the employee and the employer contribute a 6,2% rate on wages. The self-employed contribute 12,4% on income. Public security is based on simple sharing, pay-as-you-go. The retirement age is 65-67 years for men and women, and 40 years of contributions is required.

The second pillar, the Supplementary Pension Plan, called the Occupational Funds, cover approximately 140 million people and accumulate approximately $ 11 trillion in reserves. The US pension plan provides a defined benefit plan and a defined contribution plan. The age for full retirement is 65 for men and women.

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[32] (Fornero & Sestito, 2005); (Ebbinghaus, 2011) (Mattil, 2006) (McGill, Brown, Haley, & Schieber, 2005)

The Benefit Defined Plan - BD, are required to a percentage of the company's employees. Minimum age for retirement may vary, being: 57 years old combined with 30 years of contributions, 60 years old with 20 years of contribution or 62 years old with five years of contribution. There is no differentiation between long retirement for men and women. These should provide protection for cases of death and disability. The defined benefit plan is a funded scheme, where resources are invested in US Treasury bonds.

The Defined Contribution Plan - CD are not required. It is up to the employee to join or not. Unlike the BD, the risks are borne by the employee. As in BD and CD plans are a capitalization system, where resources are invested according to the choice of each employee.

The Thrift Saving Plan (TSP) covers federal public employees. In this plan, the minimum age for retirement is 57 years old. Public employees and the government make contributions. For public employees who joined before retirement on December 31, 1983, there is a defined benefit plan. As for those who entered after this date, there is a defined contribution plan. Employees can contribute up to 10% of their compensation, are deductible from income tax up to the amount of $ 18,000. The federal government participates to the 5% limit. The funds are invested according to the server option, and may be in treasury bonds, fixed income, ordinary American stocks, US stocks of small companies or international stock funds.

The defined contribution plan used by most private sector workers in the US is the Plan 401 (k). Currently in the US there are over 513,000 401 (K), covering more than 80 million participants. The plan name, "401 (k)" originated from the Internal Revenue Code section that regulates the plan. Thus, the contribution is made before focusing state and federal taxes. The employer participates with the same percentage of the employee, which may vary from 3% to 6% of the employee's salary, depending on each company. The annual application limit is U$ 46,000, and after three years at the company, the employee is entitled to the employer's contribution.

The last pillar of the American security is called Individual Retirement Account - IRA. Are individual accounts of voluntary participation whose objective is the accumulation of benefits for retirement.

As happened in Chile, the US also has present some problems in relation retirement[33]. Among the reasons are: employees did not do so well at to allocating the assets. In addition, many employees gave up in their Defined Contribution Plan.

Nebraska, is a high-profile example that adopted a Defined Contribution Plan to their public employees. According to the (Mitchell & Anderson, 2009) the Defined Contribution Plan was not adequate to ensure that all employees would have enough retirement income. Furthermore, in this case, the retirement income was lower when compare with the Defined Benefit Plan.

5.2 Retirement System in Chile

Chile has the sixth largest GDP and the highest GDP per capita of South American countries, respectively US $ 335 billion and US $ 19,100. It has a population of approximately 18 million habitants. According to the UN, it is the 49th country as the best HDI (Human Development Index) in the world and the first in South America. The life expectancy of its population is 79 years on average.

[33] (Mitchell & Anderson, 2009)

In 1981, by Decree Law 3.500 implemented a mandatory individual capitalization system managed by private funds, thus making it one of the first countries to significantly change the security model of the time. For their pioneering spirit, was a reference in social security for many other countries in South America.

Just as the US, the Chilean model was based on three pillars[34]: the first, public and funded by taxes; the second based on the pension plan managed by private pension funds for both servers from the private sector and for public employees; the last, for voluntary savings. All public employees and private sector workers who entered the labor market after retirement were forced to contribute to the Supplementary Pension Plan, managed by the Administration of the Pension Fund - AFP. The contribution rate was 10% of the total employee remuneration, plus 3.2% of the remuneration to the title insurance for disability and unemployment. The employee is entitled to choose the Administration of the Pension Fund

The minimum age for retirement was 60 years for women and 65 years for men. The benefits are a result of individual contributions accumulated, plus or reduced the interest. The retirement pension may be in the form of lifetime annuity, programmed monthly withdrawals or a combination of both. The State shall guarantee the minimum return and, in the case of bankruptcy, guarantees 100% of the minimum pension and 75% of the capital accumulated by the insured to the maximum. There is also a minimum benefit guarantee for policyholders who have not contributed for at least 20 years and reached the minimum age. Benefits are adjusted annually.

[34] (Cortes & Flores, 2014) (Reis, 2002); (Feldstein, 1998)

The reform in Chile has not achieved the expected results. Among the reasons are: the low coverage of the pension system (49% of the economically active population); the high administrative costs of the AFPs; the difficulty of the population up to 20 years of contributions; the expectation of receipt of less than 50% of that received in the activity; the concentration of contributions within Pension Administration Funds.

In 2008, seeking to solve these problems, the Chilean government increased the state's presence creating a facing pension system for the poorest people, offering subsidies to encourage the hiring of young people into the labor market by implementing unemployment insurance, increasing control over the AFPs and regulating the amounts charged by the management fees.

6. CONCLUSION

The concepts presented and reported cases can expose some implications of the adoption of the Complementary Social Security Scheme for federal public employees. The advantages and disadvantages of the Special Social Security Scheme of Porto Alegre and the Complementary Social Security Scheme for federal public employees are compared, both from the perspective of employees and employers.

First, it is important to clarify that many of the changes introduced by Constitutional Amendments 20/1998 and 41/2003 were important to the financial balance of federal entities, establishing important concepts as solidarity and contributory. Other changes include correcting ages and adding the contribution period for retirement, ending the completeness of salaries and introducing the simple arithmetic average of 80% (eighty percent) higher salaries for the calculation for retirement was very important.

It is also important to note that many cities, states and the Union itself had been working with a capitalized system and no longer with a simple distribution financial system (pay-as-you-go), touted at the time as the great villain of the pension of public employees.

Second, the change in the pension of public employees of the Union was not only a change in a Special Social Security Scheme for Complementary Social Security Scheme for values that exceed the RGPS limit. In fact, the major change was the shift from defined benefit plan to a defined contribution plan.

This change will have major impact on retirement pension of public employees of the Union and those States that have already adopted the Complementary Social Security Scheme in the form of defined contribution plan. Throughout the completion, we highlight some of them.

6.1 Direct and Indirect Costs for Employees

According to the Ordinance 402 of December 10, 2008[35] the coverage of RPPS expenses will be supported by the Administration Fee of up to two percentage points of the total amount of remuneration, salaries and pensions of insured linked to RPPS on the previous financial year. In practice, as the RPPS has a plan in the form of defined benefit, the administration fee of values end up coming out on top of contributions and does not interfere directly in the future values of the benefits of the servers.

Already in the Complementary Social Security Scheme - PRC of the Union's employees, which is a defined contribution plan, there may be more management fees than loading rate fees. Currently, there is no charge administration fee charged. The charging of interest on the value of the employee's monthly contribution and the employer is 7%. Thus, the public employees of the Union contributing with the PRC, have 7% discounted on the amounts contributed to their individual savings.

According to studies[36], a small variation in administrative costs can significantly reduce future pension benefits for public employees of the Union. In the defined contribution plan, the employer does not have incentives to minimize administration and charging fees, since its

[35] (PORTARIA 402, 2008)
[36] (McGill, Brown, Haley, & Schieber, 2005); (Mitchell & Anderson, 2009)

contribution is defined, unlike what occurs in the RPPS. The administration does not care about the efficiency of the investment or the granting of benefits.

The higher the equity and number of participants in the defined contribution plan, the lower the tendency that the cost goes up, due to economies of scale. For municipalities, the logic is reversed, since they do not have enough employees.

Decreasing of the 11% contribution to the RPPS up to 8.5% for the Complementary Social Security Scheme for amounts exceeding the ceiling of the General Social Security Scheme. For amounts up to the ceiling the employees remains contributing 11% of their remuneration.

6.2 Direct and Indirect Costs for Employer

With the changes and the creation of the Complementary Social Security Scheme, the Union managed to contribute 8.5% in amounts that exceed the benefits of the General Social Security Scheme rather than 22%. To the extent of RGPS ceiling amounts, Union remains contributing with 22%.

Such a change will drastically reduce the benefits of public employees of the Union and States that have adopted such a system compared to the wages that they received as active employees, such happened with the US and Chilean model.

6.3 Investment Risk

The PRC Union, investment risks are borne entirely by the employees, unlike defined benefit plan RPPS where federal agencies are responsible for against losses on investments. Defined contribution plans allow investments as the risk level of decision-making is made by the employees, which impairs the performance of the return on the pension fund assets due to lack of understanding of the principles and strategies of the financial market.

Another risk assigned to the server at a time of financial crisis is to reduce the percentage of its contribution from 8.5% to 7% or even require the cancellation of its registration in the Complementary Social Security Scheme, which is allowed by law. Also it was happened in US and Chile. Another problem is global instability, frequent crises in the financial market and the fall in the stock market and economic risks, which dramatically affect pension funds. Examples are the financial crises of 2001 and 2008. The risks of disability resource management is another factor that can affect the value of future benefits for public employees.

6.4 Pros and Cons for Employees

The main drawbacks to the employees that have joined the Union Complementary Social Security Scheme, besides the already mentioned (direct and indirect costs and risk of investments), also may not be entitled to guaranteed lifetime benefits.

The end of solidarity is another significant disadvantage to the employees. The concept of solidarity assured finance not only benefits one employee, but benefits all of the other employees.

The expected increase or reduction of benefits when compared to salaries of servers when active, will depend greatly on investment results, so it can be characterized as an advantage or disadvantage. However, as seen in this work, examples of Chilean pension and American pension showed significant reductions in retirement benefits when compared with the values that they received as active employees.

In the case of municipalities, the low number of servers in the defined contribution plan may affect the variety and quality of investments, since the bulk of assets just strengthening the investment portfolio.

6.5 Clash of Interests

The Law itself, 12,618 of April 30, 2012, which created the Complementary Social Security Scheme, was established to demanded that the code of ethics and conduct, including rules to prevent conflict of interest and prohibit operations of the directors with related parties.

The Law also determined that the deliberative and fiscal councils were chosen on an equal basis by the federal entity and servers, seeking to mitigate the conflict of interests of the sponsor and servers.

6.6 Additional Factors

The implementation of the Union's Complementary Social Security Scheme and those States that have acceded to this model covered up some problems of the Brazilian social security system. Such problems may represent major distortion in the financial and actuarial balance of the public employees of the federal entities and must be addressed. This Include:

1. Changes in the rules for granting retirement pension and to correct distortions;
2. Compensation between of the Specials Social Security Schemes;
3. Better management of occupational health of public employees, responsible for prolonged absenteeism and the premature retirements;
4. Balance the ages and contribution of time between men and women; and
5. Social Security Education with concepts of responsibility of the participants.

6.7 Closing Comments

Finally, it is noteworthy that the retirement pension of public employees is a problem of economic, financial, political and demographic issues.

The move to the defined contribution plan, the Complementary Social Security Scheme, could increase government spending in the future in terms of health and social security. The delay in retirement, very close to the 70 years age limit (mandatory retirement) will be one of the consequences of the adoption of the Complementary Social Security Scheme as a defined contribution. The expectation of a much lower salary received in the activity will cause the employees to postpone their retirement. As a result, the costs of absenteeism due to health problems will increase significantly, followed by a drop in productivity.

Finally, it is worth noting a significant loss in the attractiveness of the best professionals to public service, as the expectation of a defined benefit plan is one of the biggest attractions of the public career.

As explained above, we believe that a Complementary Social Security Scheme in the defined benefit type as implemented by the Union brings staggering losses to public employees.

From the point of view of the City, the only positive aspect would be a long-term reduction in the value of employer contribution, those values that exceed the ceiling of the General Social Security Scheme. However the side effects would be, in the publisher's point of view, much larger in accordance with the conclusions presented here.

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