

**“REFORM” OF THE UNITED STATES AND BRAZILIAN RETIREMENT
SYSTEMS FOR FEDERAL EMPLOYEES****LARRY W. BEEFERMAN**Director, Pensions and Capital Stewardship Project, Labor and Worklife Program,
Harvard Law School, Cambridge Massachusetts, USA lwb@law.harvard.edu**ARTHUR BRAGANÇA DE VASCONCELLOS WEINTRAUB**Law Professor at the Federal University of São Paulo arthurbvw@gmail.com**ABSTRACT**

Recently, Brazil made changes to its retirement system as it concerned public sector workers, changes which in certain ways were similar to those which occurred for most federal workers in the United States somewhat over a quarter of a century ago. Broadly speaking it involved the conversion of a purely pay-as-you-go defined benefit plans to a hybrid of a reduced pay-as-you-go defined benefit plan with a funded defined contribution plan. In the United States, the latter is called the Thrift Savings Plan which now has over 4.5 million participants and nearly \$400 billion in assets.

This paper offers a brief history of the origins of the U.S. system up until the changes in question were made, what were among the major factors or considerations which appear to have spurred the changes, a little bit about the constituencies which seem to have driven or resisted change as the case may be, the modifications that were envisioned, and expectations as to the difference that was expected to be wrought from those alterations. It canvases the differences between the then “old” and the “new” systems in relation to what was ostensibly sought to be achieved. It then draws on what is a surprisingly thin literature to describe the outcomes of the changes more than 25 years later with an eye to hoped-for or anticipated results at the outset. We then detail important elements of the new Brazilian system – which is at an early stage – with an eye to similarities and differences between it and the one we have described with a focus on how the outcomes of the system in the U.S. might bear on thinking in Brazil as it moves forward with its own. We conclude briefly with thoughts on the nature and merits of further pursuing the comparison and inquiry.

Keywords: retirement system, reform, Brazil, U.S.A., federal employees.

I. Introduction

This writing of this brief essay is animated by the broad similarity of certain recently enacted, dramatic changes in Brazil to the retirement system for federal employees (among other public sector workers), to significant changes legislated over 25 years ago to the retirement system for federal employees in the United States.

More particularly, according to law enacted in 2012 those who become new Brazilian public sector employees – whether federal, state, or municipal employees – will be participants in a new retirement system, one with two parts. (which are discussed at length below). First, they will they will, like those already employed before the effective date of the legislation, be able to earn a right to lifetime, indexed post-retirement income payments – “pension” benefits – but only in relation to a portion of their salaries up to a cap. Second they have the opportunity to establish and contribute to individual retirement accounts a percentage of their annual earnings above that cap which must be matched by the federal government. Under the 2012 law, although those who had already been employed prior to its effective date can remain in the old system, they have the right, within 24 months, to elect to join the new one.

These and certain other aspects of both the old and the new system are broadly similar to those which characterized the retirement system for United States federal employees prior and subsequent to, respectively, the effective date of legislation enacted in the U.S. in 1986. Moreover, in a number of respects the interests, concerns, and motivations which were factors in causing alternations in the system in the U.S. seem not unlike those which appear to have played in role in producing the result last year in Brazil.

This paper in fair measure focuses on the U.S. experience, though not based on any judgment as to the merits of the U.S. system on its own terms or in comparison to what has emerged in Brazil with a particular focus on federal employees.[1] Rather, detailing the U.S. experience affords a basis for relevant audiences in each of the countries to learn about the choices of this sort – what they were and in certain respects, why they were made. It also affords the opportunity to to compare the somewhat similar choices – and in some respects, with the possible added benefit of slightly over a quarter of a century of hindsight from the U.S. experience. This, in turn, might inform thinking in each country about what further changes, if any, might be worth considering in the future.

That being said, we observe that that “pension reform” – what we prefer to refer to as retirement system or plan reform – is a very complicated and serious business. In that regard we cite two leading scholars who have offered a cautionary note.[2] They stress three principles for the analysis upon which reform should be ground: that one must recognize that pension systems have multiple objectives; that one should consider the pension system as a whole; and perhaps most importantly, reform should be framed in a second-best context! That is, there is no single best pension system. Any system has to navigate the constraints of the fiscal and institutional capacity of the relevant public or private players, the realities of actual behaviors in terms of the impact of the system on saving and the labor supply, the income distribution prior to any government distribution, priorities – from poverty relief to risk sharing within and across generations to the weight of history – and so-called “path dependence.

We refer to this friendly warning as an upfront acknowledgment that in exploring assessing either of the federal employee retirement systems (or more broadly the overall retirement systems) in the two countries, we recognize that they have many “moving parts” and innumerable “players” with diverse and often conflicting interests rooted – sometimes deeply so – in personal or institutional histories. And that admission is intended to encourage readers to expect informative and hopefully important descriptions, comparisons, and insights from this account of the two schemes, but not what might be drawn from a much lengthier, detailed, and textured one.

The paper has four main parts. The first offers a brief history of the origins of the U.S. system up until the changes in question were made, what were among the major factors or considerations which appear to have spurred the changes that were made, a little bit about the constituencies which seem to have driven or resisted change as the case may be, the modifications that were envisioned, and expectations as to the difference that was expected to be wrought from those alterations. Second, we canvas the differences between the then “old” and the “new” systems in relation to what was ostensibly sought to be achieved. Third, we draw on what turns out to be a rather thin literature to describe the outcomes of the changes more than 25 years later with an eye to hoped-for or anticipated outcomes at the outset. Lastly, we canvas elements of the new Brazilian system – which is at an early stage – with eye to similarities and differences between it and the one we have described with a focus on how the outcomes of the system in the U.S. might bear on thinking in Brazil as it moves forward with its own. We conclude briefly with thoughts on the nature and merits of pursuing the comparison and inquiry.

II. From the U.S. Civil Service Retirement System to the Federal Employees Retirement System: What Changes Were Sought, Why, and Which Were Made

A system for provision of retirement benefits for United States civilian federal employees – the Civil Service Retirement System (CSRS) – was established in 1920.[3] “The primary objective of the [CSRS] was to improve the economy and efficiency of public management by staffing federal positions with employees fully capable of carrying out their duties.”[4] Insofar as “retirement security of individuals who [had] devoted substantial periods of their lives to government services” was an objective, it ‘was defended as a means for improving the work force.’ [5] It was only many decades later that the latter objective was raised and the former diminished.

The system provided those employees with a defined benefit plan. Its terms at the outset have been characterized as “far from generous.” It has been said to have accorded considerable management discretion as to the timing of retirement in order to “keep opportunities open and to reduce expensive turnover, to achieve stability and to adjust to dislocations, and in general, to improve the image of government service in the public eye.”[6] According to this view, there was “little doubt that the initial objectives of the CSRS were to keep costs down and to assist supervisors.”[7] However, as a practical matter there may have been other motives. According to one report, the system was born out of a pressing management need to remove from employment permanently tenured personnel who could no longer perform effectively because of age or infirmities. Many employees had grown quite old and often became inefficient in their work and incompetent for continued service. Because most elderly workers had not been able to make provision for their old age, and because isolated instance of removing them had drawn adverse public reaction, it was very difficult to induce managers to dismiss them. As a result, an unofficial, unauthorized pension system had evolved that simply retained on the employment rolls, under various pretexts, all superannuated employees with many years of service and paying them full salary for little or no work.[8]

Originally, the CSRS “provided only for two types of retirement – mandatory and disability.”[9] But in 1930 optional ones were added on the rationale that “certain individuals become superannuated and inefficient earlier in life than other and affording such employees the opportunity to retire a few years early with fair remuneration for long service would enhance government efficiency.”[10] There was a further liberalization in 1942 allowing people to retire at lower benefits with fewer years of service “because most other public retirement systems

provided earlier retirement options and the change would reduce the number of employees retiring on disability, thereby effecting savings in administrative costs.[11] Over the years, though, “[m]andatory retirement rules were relaxed and disability provisions were liberalized,” “[o]ptional retirement, survivor benefits, and protections for involuntarily separated workers were added” and coverage expanded.[12] These modifications have been characterized as being “designed to maintain morale and facilitate mobility among Federal workers, [and] were expected to improve Government operations.”[13] They reflected a broader shift away from benefits “as payments granted to achieve management objectives” to “the concept of retirement of as an indirect or deferred form of compensation,” a development which mirrored broader changes in the U.S. during the Depression and through the years of World War II.[14] However, after 1969, under fiscal pressure, the Government started to reduce the policy of benefits expansion and the purchasing power of benefit payments decreased.[15]

In all events, as of the early 1980s – shortly before the changes to the CSRS with which this paper is concerned were made – its key features included the following:

(1) Required employee contributions into the Civil Service Retirement and Disability Fund (CSRDF) of 7% of total pay;[16]

(2) Vesting of benefits after 5 years of service;[17]

(3) Benefits calculated on a “salary base” of the average of the three highest years of salary;[18]

(4) Graduated accrual of benefits: 1.5%, 1.75%, and 2.0% of the salary base for the first 5, second 5, and post 10 years of service, respectively;

(5) Qualification for unreduced benefits: age 55 with 30 years of service; age 60 with 20 years of service; age 62 with 5 years of service;[19]

(6) Cost of living adjustments were fully indexed using the Consumer Price Index;[20] and

(7) Contributions were (and could only be) be invested in “special-issue [U.S.Treasury] bonds that earn interest equal to the average rate on the Treasury’s outstanding long-term debt.”[21]

Note that “[i]nitially, only employees made regular payroll contributions to the fund. Regularly scheduled agency contributions were not mandated until the 1950s.” However, in 1956, Congress enacted legislation which “required federal agencies to make contributions to

the Civil Service Retirement Trust Fund on behalf of their eligible employees. The contributions made by federal agencies were equal in amount to the money paid into the fund by their employees, and were made from appropriations that agencies received specifically for this purpose.”[22]

As of that time the vast majority of private sector employees were required to participate in the federally mandated pay-as-you-go Social Security system.[23] and many, though not all, state and local employees had to as well.[24] By contrast, federal civil employees were not.

The confluence of increasing concern about the rising costs of and fiscal challenges to both the Social Security System and the CSRS (and the import of both for the federal fisc) occasioned serious public discussion of the need for changes in both.[25] Over the course of the ensuing six years, contention among the new Republican President, Ronald Reagan – whose first term began in January 1981 – the Republican controlled Senate, and the Democratic controlled House of Representatives, resulted in precisely that.[26]

In December 1981 President Reagan appointed an ostensibly bipartisan National Commission on Social Security Reform (the so-called Greenspan Commission), which became an important vehicle for proposing specific recommendations to address these issues. Within a relatively short span of months after its report in 1983 a broad range of its proposals, including a gradual increase in the age for qualifying for full retirement benefits from 65 to 67, affecting all current members of the Social Security system, were enacted into law.[27] However, also among the provisions was inclusion in the Social Security system of all federal civilian employees hired into permanent employment on or after January 1, 1984.[28]

At first blush this addition of uncovered workers brought more revenues into the system which could help avoid having to make more dramatic and perhaps politically unpopular effective reductions in benefits.[29] Moreover it was argued by some that federal civil service employees unfairly benefited from the Social Security system. The contention was that insofar as those (relatively high wage) employees also worked in the private sector for some period during their lifetime careers, even though they contributed to that system, their relatively short careers effectively entitled them to benefits similar to those of lower wage, life career private sector workers. The Social Security system’s formula for benefits was skewed in the favor of lower wage workers.[30] Another author has suggested what is in some respects an opposing argument to the effect that “the TSP was adopted in part to address inequity faced by some

federal employees at the top of the GS pay scales who would get less retirement income from GS and Social Security because of the progressive nature of Social Security benefits.”[31]

These changes were made over the strenuous objections of federal civil service employees who strongly favored the existing scheme and were skeptical of the viability of Social Security and were correspondingly resistant to having to pay payroll taxes into the system.[32] In turn, the changes had a powerful influence on what was to follow. Of necessity, enrolling new employees in Social Security required reconfiguration of the CSRS. Otherwise there would have been a duplication of benefits and a substantial increase in employee contributions overall. The solution could have been some re-jiggered combination of two defined benefit plans – one pay-as-you-go and the other (in certain way) funded. The alternative was to pare down what both systems in combination afforded employees and add on a defined contribution component, which those employees had strongly opposed as well. However, an argument which had considerable political purchase for the relevant players was based on the claim that “the most common private-sector program for large companies” – “a three-tiered plan” involving Social Security, “a modest defined benefit plan,” and a “voluntary thrift plan” involving matching employer and employee contributions.[33]

The dominant proponents of change sought dramatic changes to the *status quo* involving some combination of the following:

(1) Include new federal employees in the Social Security System (which had already been accomplished);

(2) In all events reduce the estimated cost of the existing system – the normal employer cost – gauged by some at 25% of payroll, to the federal government/taxpayer in some measure with an eye to the cost being more comparable to that of certain private plan;[34]

(3) Insofar as the defined benefit character of the scheme is retained, cut the cost of living adjustments (COLAs) applied to benefits and/or reduce the level of benefits through changes in the age or other criteria for qualification for receipt of benefits or in the formulas for calculating benefits

(4) Reduce the scale of or completely eliminate the defined benefit scheme;

(5) Replace it in whole or part with a defined contribution scheme;

(6) Require a sufficient level of employee contributions and some matching employer contributions to any new defined contribution scheme;

(7) Invest least some of the contributions in other than the special U.S. Treasury securities to which CSRS investments had been limited, but .

(8) Restrict investments a way prevented significant control of or influence of the federal government of companies in the portfolios or impact on financial markets;[35] and

(9) Keep control of the assets out of the reach of Congress to prevent it laying claim to them to use for “political purposes” and have an organizational structure and standards designed to avert mismanagement of those assets.[36]

While the motivations for the above were largely financial in character, others were of different nature. Some concerned what might be termed “human resource” issues:

(10) Offer individual accounts attractive to certain kinds of workers which government wanted to hire or retain, especially professional and technical and mid-career workers – who were not likely to pursue lifetime careers with the federal government and not get any or the full rewards of the CSRS defined benefit plan – because they could more freely in and out of government employment.[37]

The legislation as enacted made a number of key modifications to the law.[38] They included the following:

(1) All federal civil employees hired on or after January 1, 1984 were obliged to be members of the Federal Employees Retirement System (FERS);

(2) They were required to participate in a defined benefit plan similar to that of the CSRS but with substantially lower – potentially about 60% lower – annual accrual of benefits as a percentage of the salary base than that for CSRS participants[39]; their COLA was to be as much as 1 percentage point lower than that of CSRS participants and it was to commence only after they reached the age 62 (whereas it commenced at retirement – as early as age 55 – for CSRS participants) [40];

(3) The earliest retirement age was increased from 55 to 57 years[41];

(4) They were required to make combined contributions into the Social Security system and the CSRDF fund of 7.0% of pay up to the maximum Social Security tax base) and (initially) 1.3% of any pay above that base[42];

(5) They were eligible to participate in a defined contribution plan, the Thrift Savings Plan (TSP) (a) into which the employer was required to automatically contribute 1% of pay (b)

into which the employee could contribute up 10% of pay with a required employer match \$1 per \$1 for the first 3% and \$0.50 per \$1 for the next 2% with (c) automatic vesting of all but the automatic 1% employer contribution, which vested after 2 or 3 years depending upon employee status [43];

(6) With some minor exceptions, TSP participants were allowed to elect investment in either (a) a special U.S. government securities fund, (b) a fixed income securities fund, using insurance company Guaranteed Investment Contracts, bank certificates of deposit or other private-sector securities, or (c) equities, using a stock index fund (invested in proportion to a diversified common stock portfolio) [44];

(7) (a) Investments through the TSP were to be managed by a 5-member board appointed by the Presidential, taking into account one Senate and one House recommendation and (b) the board barred from exercised voting rights in connection with common stock owned by the plan.[45]

(8) TSP participants could elect a payout in the form of (a) an annuity for life or a fixed term; (b) cash at retirement, death, or disability; or (C) as a roll-over to an Individual Retirement Account (at termination of employment) [46]; and

(9) According to “final estimates,” FERS would result in “an employer normal cost of 22.9 percent of payroll” compared to 25 percent for the CSRS.[47]

Those who were employed before January 1, 1984 were at the outset obliged to remain in the CSRS. However, during “open seasons” in 1987 and 1998 CSRS participants were allowed to switch from the CSRS to the FERS.[48] As it turned out, “[n]early all workers who had the option to choose between the old and new system chose to remain in the old system.”[49]

Note that not all federal civil employees were covered by the CSRS or FERS. For example, there were separate retirement systems for the Foreign Service, Central Intelligence Agency, and Federal Reserve Board.[50] It appears that these employees successfully resisted being part of the FERS as did members of the military initially. (In 2000 the latter joined its nonmilitary component).[51]

As remarked above, in discussions about the design of FERS, one powerful feature was that it be comparable to private sector plans. In certain respects it is, at least with regard to large private sector employers. Many offered defined benefit plans with a supplementary defined

contribution and of course, private workers were required to participate in Social Security. The FERS model is similar in that way except that in the private sector it is very unusual for employers with defined benefit plans to contribute to the supplementary defined contribution plans.[52] The CSRS provided “greater inflation protection for retirees than [did] typical nonfederal plans” though the latter “often adjust[ed] benefits” on an *ad hoc* basis and the CSRS adjustments were “cut back significantly” between 1986 and 1995.[53] “CSRS generally provided great benefits at age 55 than nonfederal plans, but nonfederal benefits were superior at age 62 when Social Security benefits become available to nonfederal retirees.”[54]

III. From the U.S. Civil Service Retirement System to the Federal Employees Retirement System: Outcomes and Consequences Over 25 Years After the Transition

It seems remarkable but as far as we are aware there has been little in the way of systematic review and assessment of the impact of the dramatic changes wrought in the 1980s. To be sure, we will take note shortly of some subsequent efforts to tweak the scheme but they seem to simply take for granted the system as it was refashioned.

Federal fisc

As described, an animating concern was the state of the federal fisc. With respect to that one commentator – twenty-five years after the fact – who describes himself as having been “deeply involved in every aspect of the arduous five-year campaign it took to enact FERS,” has broadly claimed that the reform “successfully reduced federal spending on retirement benefits (*although exactly how much is still debated*).”[55] At first blush, this might be deemed to be true if one credits the estimates that the CSRS demanded upwards of 25% of payroll. A recent publication reported that with respect to fiscal year 2012, the four mandatory federal costs associated with FERS – “the normal cost of the FERS basic annuity [12.7% of payroll less 0.8% which employees pay 0.8% resulting in a federal contribution]....equal to 11.9% of payroll,” “Social Security [6.2% of wages and salaries up to \$110,000 in 2012], the 1% agency contribution to the TSP, and the matching contributions to the TSP [which can add up to 4% of wages and salaries]” – could cost 22.9% of employee pay.[56] Note that in contrast with the CSRS, FERS benefits are required to be fully funded by the sum of contributions from employees and their employing agencies and the interest earnings of the CSRDF.”[57]

According to one projection running out to 2085, past the estimated date of the death of the last worker or survivor still covered by the CSRS, expenses would have dropped to 22.8% of payroll and 0.16% of the GDP.[58]

Of course, for the FERS basic annuity, as for the CSRS annuity, the assets in the CSRDF are required to be exclusively U.S. Treasury securities. Hence when the time comes to pay the annuities monies must be made available to meet the obligation, either from the funds appropriated for the operation of the agencies which employed the annuitants, general tax revenues, or some other source. Even then it would appear that over time the burden of the debt will decline, at least relative to national GDP. More particularly it would appear that in 2010 the CSRDF “assets” were 5.4% of GDP and were projected to be 3.7% and 3.3% of GDP in 2070 and 2085 respectively. [59]

Participation and contributions

As of 2011 less than one-sixth of federal employees were enrolled in the CSRS [60] it was estimated the last participating member of the CSRS would die by 2085.

For 2011, the average and median contributions for all participants were \$5,306 and \$3,340 respectively. Not surprisingly, average and median contributions increased with the tenure of participants and with the age of participants.

Of all the participants, 11.6% made no contributions themselves. (That is they received only the mandatory 1% of salary agency contribution.) The rates of participation contribution varied with tenure: the highest, 92.2%, was for those with 0-2 years’ tenure whereas the lowest, 83.0%, was for those with 2-5 years’ tenure. For those with less than 20 years tenure, participation rose with age; for those with more than 20 years, it fell. [61]

According to an earlier study, in 2007, the overall participation rate was 89.9% and 73.1% contributed more than the maximum agency match.[62] While the participation rate for those age less than 20 was 56.2%, starting with those over 20 it ranged from 87.0% to 91.4% (for those between 60 and 69).[63] There were somewhat larger differences according to salary, with rates ranging from 81.4% for those with salaries under \$30,000 to 96.8% for those with salaries over \$250,000. [64]

According to the same study, except for those under 20, minority participation was about 4 to 5 percentage points lower than non-minorities. Participation rates were in the same lower

range across all tenure groups. Participant rates were also lower for those with salaries under \$50,000 but roughly equal for those above.[65]

Findings from a two-part survey done in late 2006 and early 2007 pointed to an overall participation rate of 87.1%. That rate increased with salary, ranging from 77.6% for those under \$40,000 to 94.7% to those with \$80,000 or more. The overall rate was steady for all but the oldest: 90.0% for those under 40, 90.3% for those in their 40s, and 82.7% for those 50 and over. The differences were more dramatic the lower the salary of the individuals. For the most part, participation rates increased with tenure.[66]

Investments

Permissible Investments

Over the years the investment choices afforded to FERS participants have widened. They now include 5 core funds which invest in (a) “short-term U.S. Treasury securities” with the interest paid “calculated monthly based on the market yields of all U.S. Treasury securities with more than 4 years to maturity” (the “G” Fund); (2) “a broad index representing the U.S. Government, mortgage-backed, corporate, and foreign government sectors of the U.S. bond market” (the “F” Fund”); (3) a “stock index fund that tracks the Standard & Poor's 500 (S&P 500) Stock Index (the “C” Fund”); (4) a “market index of small and medium-sized U.S. companies that are not included in the S&P 500 index” (the “S” Fund) ; and (5) a “broad international market index, made up of primarily large companies in 22 developed countries”(the “I” Fund)”[67]

Returns on permissible investments

As of December 2011, from their inception dates (indicated) average annual returns were as follows:

April 1, 1987 5.6% for the G fund

January 29, 1988 7.12% for the F fund

January 29, 1988, 9.23% for the C fund

May 1, 2001 6.115 for the S fund

May 1, 2001 2.88% for the I fund [68]

Account balances

For 2011, the average and median account balances for all participants were \$82,461 and \$40,144, respectively. For the longest term participants – those with more than 20 years of tenure – the average and median account balances were \$185,741 and \$155,119, respectively. The figures for those with such tenure were quite similar regardless of whether they were in age groups 40-59, 60-60, and 70+, namely the averages and medians were in the ~\$190-210,000 and \$154-\$162,000 range, respectively.[69]

Investment Choices

According to an earlier study, in 2007, 28.0% of participants invested in only the G Fund.[70]

In the aggregate, as of December 31, 2011, overall TSP assets were \$289.2 billion while the different TSP funds held the following amounts of assets (percentage of all TSP assets)

G Fund: \$130.3 billion (45.1%)

C Fund: \$ 65.7 billion (22.7%)

F Fund: \$ 20.1 billion (7.1%)

S Fund: \$ 21.5 billion (7.4%)

I Fund: \$ 14.9 billion (5.2%)

L Funds: \$ 36.5 billion (12.6%)[71]

Note that The L Funds are a variant of so-called target date funds and invest in the other five TSP funds.[72]

According to a 2008 survey, investing substantial portions of their assets in the G Fund for the most part cuts across TSP participants as a matter of age and tenure. The percentages increased with age from 38.8% for those between 30 and 39 to 59.0% for those age 60 and over. The figure for those under the age of 30, who had much smaller balances, was 54.6%.[73] There were broadly similar results for holdings of the F and G funds combined. [74] The figure decreased by tenure from 52.6% for those with 2 to 5 years tenure to 42.8% for those with 15 to 25 years. For those with under 2 years and over 25 years tenure it was 69.3% and 50.5%, respectively. [75]

Administrative Costs

The costs to administer the TSP are paid from its assets. Administrative costs of the TSP in 2010 reduced earnings in the funds by 0.025 percent or about 25 cents for each \$1,000 invested. By comparison, asset management fees for private sector 401(k) plans range from 60 to 170 basis points.[76]

Income in Retirement

According to one series of estimates for federal employees who started their careers in 2011 and retire after 30 years, the different components of the FERS were projected to produce the following outcomes for them:

1. Their basic retirement annuity would be 32% of their final pre-retirement year annual salary, regardless of the level of their salary.
2. Their benefit payments for Social Security would range from 25% of that salary (for the lowest salaried) to 14% (for the highest salaried). (The reason for the range is that Social Security benefits in relation to working lifetime income are skewed in favor of lower income workers.)
3. In addition, if they made no contributions to the TSP, they would receive an estimated 3% of that salary, regardless of its level. Should they make contributions which gain the maximum government agency match, they would receive an estimated 25% of that salary, regardless of its level. Should they make the maximum possible contribution they would receive an estimated 37% of that salary.

Overall, those who make no contributions to the TSP would receive from 60% (for the lowest salaried workers) to 49% (for the highest salaried workers) of their final, pre-retirement year salary.

Those who contribute enough (5%) to get the maximum government match would receive from 82% (for the lowest salaried workers) to 71% (for the highest salaried workers) of their final pre-retirement salary.

Those who contribute the maximum (10%) would receive from 94% (for the lowest salaried workers) to 83% (for the highest salaried workers) of their final retirement salary.[77]

However, among other things, these figures assume an average annual nominal rate of return on investment through the TSP of 8.0%. But if one uses the historical returns on all but the L funds since inception and calculates the rate of return weighted for the amount actually invested by TSP participants in these funds as of the end of December 31, 2012, the figure is 6.7%. Arguably then, assuming that future returns and the allocation to TSP funds remain the same, the fraction of pre-retirement income produced from the TSP would be substantially lower.

Moreover, currently there are many who argue that the expected returns for U.S. investments will for an extended in the future be lower than those achieved for a corresponding period in the past. This and related arguments have been the basis for contentions that both public and private sector defined benefit plans should reduce what were their historical assumed rates of return. If these assertions have merit then the fraction of pre-retirement income produced from the TSP will be even lower.[78]

As noted above, defined benefit payments to members of the CSRS and of the Social Security System are fully adjusted for inflation. By contrast, those of the FERS are substantially but not entirely so. In addition, whether and how the income streams which FERS members might derive subsequent to retirement from the assets they have accumulated in the TSP at the time of retirement might change in relation to inflation is very difficult to ascertain given a diverse and conflicting literature on the sensitivity of investment returns of various assets to inflation. It would appear that the annuities available for TSP retirees to purchase with the assets they have accumulated in the plan are not inflation adjusted.[79] Any annuities they might purchase on an individual basis from outside the plan would, at first blush, appear to be obtainable at a great cost in terms of the level of income they would receive. Moreover, what they would receive would be highly sensitive to prevailing interest rates at the time of retirement.

In all events, the income projections presuppose that participants have or will purchase an annuity at their retirement. However, according to a 2008 survey, less than 3.6% of members of FERS participants stated they had plans to purchase a TSP annuity when they separated from service with the system.[80] Although the percentage increased with the size of a member's account balance, absolutely it was still quite low.[81] Moreover, this held true regardless of whether the respondents were active workers or non-active retired or not retired workers.[82] Interestingly, a very modest percentage of active members and non-retired not active members

planned to roll over all or some of their TSP balances to a 401(k) or another employer’s plan when separated from service: 4.1% and 7.9%, respectively.^[83]

Decisions to retire

As suggested by some, there was a recognition which informed the policy debate/political struggles of the different possible career paths of federal employees within and in and out of the federal service. And certainly, the matter of retirement plan design is linked to its impact on employee decisions to retire as well, of course, to take up offers of employment, and retention. Notwithstanding the importance of the subject, we could locate only one study bearing on that subject. It looked at the effect of the financial crisis on federal employee decisions to retirement and in essence suggested that employers reliant on the TSP delayed retirement.^[84]

IV. The New System in Brazil: Important Elements and First Steps Toward Implementation

As noted above, with the signature of President Dilma Rousseff on April 30, 2012, dramatic changes to the retirement system available to Brazilian federal employees were, as the ultimate outcome of an enabling 2003 Constitutional Amendment^[85], enacted into law.^[86] It would appear that, not unlike the situation in the United States in the early 1980, these changes were spurred by a perceived concern about the near and long term drain of the then current system on federal finances.

Broadly speaking, it also seems that among the primary reasons for these changes were perceived differences in the compensation of public as compared to private sector workers, particularly as they related to retirement benefits and, insofar as the federal government had financial responsibilities with respect to those benefits, the differential fiscal burden it produced. Below we describe certain aspects of the Brazilian retirement system which ostensibly relate to those reasons.

That system has many different elements which, in turn, might be applied in different ways to different kinds of workers, their spouses, and survivors, the nature of their participation in the labor market, their level of need, etc. So for present purposes, the description may be broadly but not universally accurate and focuses on just three aspects which are most relevant for the issues here.

One aspect is the government mandated scheme for private sector workers, *Regime Geral de Previdência Social* (“RGPS”)(General Regime of Social Security) which, roughly speaking, might be understood as a social insurance scheme similar to that of Social Security in the United States. Another is the plan mandated for public sector employees – in effect, an occupational pension plan for them – the *Regimes Próprios de Previdência Social* (“RPPS”)(Public Sector Regime of Social Security). The third involves such retirement-related schemes as are available through private sector employers.

For private sector workers who were enrolled in the RGPS after 1998, the benefit at retirement age is the (1) “benefit salary” (which is the average of the worker’s 80% highest salaries since July 1994) times a “Social Security Factor” (which is based on the worker’s age, life expectancy, and length of contributions to the system), but (2) no less than a minimum amount (R\$ 678 as of December, 2013) and (3) no more than a maximum amount (R\$ 4,159 as of December, 2013). The benefit is adjusted for inflation. Men and women can receive the benefit by reason of age when they are 65 and 60 years, respectively (a minimum of 15 years of contributions are required to be entitled to age benefit); by reason of service, 35 and 30 years, respectively.[87] On the revenue side, private sector workers and the government are required to contribute up to 11% of wages up to a “wage ceiling” and 20% of all wages, respectively to the system.[88] (Of course, regardless of these contributions the government is responsible for any deficit in the system.) In 2010, the system “cover[ed] some 23 million beneficiaries” and disbursed “around 6½ percent of GDP,” with an annual fiscal deficit of 1 percent.[89] The system in 2009 had about 233 million beneficiaries, disbursed about 7,2% of GDP, and had a deficit of 1.4% of GDP.

The public sector system has undergone multiple changes over roughly the last 20 years which has made it relatively less and less generous but, clearly there are older cohorts which will enjoy higher ones. Public sector employees in the RPPS had been entitled to receive 100 per cent of their salary at the time of retirement and their pension after retirement had been pegged to the current wages of workers in similar positions. For those enrolled after 2003 the benefit will be based on 100 percent of their average career wage and thereafter will be adjusted for inflation.[90] Men and women enrolled in the system after 1998 can receive the benefit when they reach the ages of 60 and 55 years, respectively. A minimum of 10 years of service entitles a participant to a benefit.[91] On the revenue side, workers enrolled after 2003 and the government must contribute 11 per cent and 20per cent of the workers’ wages or salary, respectively. (Again, regardless of these contributions, the government is responsible for any

deficit in the system.) In 2010, the system had about 1 million beneficiaries and disbursed about 2 percent of GDP, with an annual fiscal deficit of 1.4 percent.[92] The overall system for both federal and state and municipal workers in 2009 involves about 3 million beneficiaries, disbursing about 4.3% of GDP, and had a deficit of 1.7% of GDP.[93]

For proponents of change, the two systems in combination pose an increasing fiscal challenge. According to one report, over the coming twenty years the financing need of the system will “undergo a modest rise”; thereafter, “the gap will increase sharply” as the old age dependency ratio “continue[s] rising steeply.”[94] As a general matter this has been attributed to “relatively generous replacement rates, a low average retirement age and current indexation rules.”[95] However, relative to its substantially smaller size, the RPPS’s financial requirements are far greater than that of the RGPS, an outcome which is attributed to the ostensibly relatively higher pension benefits offered by the RPPS (as compared to the RGPS, perhaps especially for legacy participants).

Arguably, the disparity between public and private sector workers’ retirement benefits might be less insofar as the latter gain them through the workplace rather than through the RGPS. It is true that private sector workers may have the opportunity to participate in single or multiple-employer plans (referred to as “closed funds”). However, participation in such plans is quite low: in 2008, there were just 2.8 million private sector participants.[96] By contrast there were 92.5 million workers in the formal sector in 2012 and many more in the informal sector who, by definition, cannot participate in a plan.[97] (Note that both public sector and private sector workers can choose to participate in other retirement related schemes offered by financial institutions.)

Under the new scheme, all those who commence federal employment after February 2013 must participate in a plan which provides them with a pension which is the lesser of their final salary or R\$ 4,159 (equal, as of September 12, 2013, to U.S.\$ 1,824).[98] (The figure of R\$ 4,159 is same as the maximum pension a private sector worker may receive as a participant in RGPS.) It would appear that relatively speaking only a modest fraction of federal employees who would be subject to the new system will be affected because only one-third of federal workers earn salaries above the cap, though presumably, unless the cap is inflation-adjusted, over time more and more will.[99]

To enable payment of that pension, employees – as they do now – must contribute 11% of their earnings. Similarly, as currently, the government is obliged to ensure payment of the

promised pension so its contributions in combination with those of its employees must be sufficient to the task. Most recently, the government contribution has been 22% earnings (so under the new system the government would contribute 22% of each worker's earnings up to the R\$4159 cap) though it may well vary over time.

In addition to the pension these new employees may voluntarily contribute up to 7.5%, 8.0%, or 8.5% of their earnings. The government must match those contributions. Note that our focus here is on promised retirement income and/or the accumulation of assets for retirement. However, the law determines that some of the contributions be designated for special funds to finance the so-called "solidary", or mutual benefits, e.g. death and disability. Whether and how there is provision for benefits in connection with death or disability is hardly an unimportant consideration in the design of the system but the subject is beyond the scope of this paper.[100]

Clearly the changes made to the Brazilian retirement system for federal employees are similar though not identical to those legislated in the U.S. in 1986. For both, what was solely a defined benefit plan was converted into a more modest scale defined benefit plan combined with a defined contribution plan. In the U.S. the scaling back of the defined benefit largely took the form of reducing the percentage of the worker's three highest yearly salaries which they would receive in retirement. It did not place a cap on the salaries which would be one basis for the calculation of the amount to be received. By contrast, for Brazilian employees, the reduction took the form of capping the amount of (final) salary which can be the basis for receiving a pension. However, there is an additional significant difference: the occupational (defined benefit) pension federal employees consists of both that which they get from being compulsorily enrolled in the Social Security System and what they get from their federal occupational (FERS) pension; by contrast, no comparable, no additional (defined benefit) pension is afforded Brazilian federal employees beyond the occupational one.

With respect to the defined contribution add-on under the new systems, the U.S. has a modest mandatory contribution component for employers, 1% of earnings; Brazil has none. Each has a voluntary component with the Brazilian one being ostensibly more generous to employees. It mandates a real for real match of government to employee contributions up to 8.5% of earnings; the U.S. requires a dollar for dollar match up to only 2% of earnings and just 50 cents per dollar for the next 3% of earnings.

Insofar as employees might want to use their defined contribution plan accumulations to acquire an ostensible secure stream of income in retirement, in the U.S. but not in Brazil, the

retirement system offers workers the opportunity to purchase (non-inflation adjusted) annuities with their accumulations. The former may annuitize them as a life annuity and only at the time they become eligible for their defined benefit payments. In the event they are separated from their federal employer before their retirement date they may withdraw the monies, transfer them to another qualifying retirement plan, put it in individual retirement account, etc. If they are separated, or most FERS participants, their right to their agency’s automatic (1%) contributions (and their earnings) is triggered only if they have completed three years of service. There are no vesting requirements for matching contributions.[101] Similarly, Brazilian federal employees who leave government service prior to retirement may keep monies accumulated in their accounts up to that point and have it managed on their behalf by the system. Alternatively they can withdraw the monies and transfer it to another private pension plan without penalty.

There are greater differences between the two countries in terms of how the contributions to the defined contribution plans are invested. In the U.S., as noted, under the TSP participants may choose among a modest menu of investments to direct their contributions. What they accumulate over time will reflect their pattern of contributions and the investment choices they make. To date, the types of investments which may appear on the menu by the TSP Board have been specified by Congress, essentially indexed funds composed of domestic or non-domestic bonds or publicly traded equities. Thus, the TSP Board makes no meaningful investment decisions itself and has very influence over the choices which are available to TSP participants.

By contrast, in Brazil participants have no role in how their or matching contributions are invested. Rather, all of their contributions and contributions made on their behalf are pooled and invested under the aegis of the Fundação de Previdência Complementar do Servidor Público Federal (Funpresp) (Foundation of Complementary Pension of Federal Public Sector Employees), subdivided into three segments for executive, legislative, and judicial employees: Funpresp-Exe, for executive branch employees, Funpresp-Leg, for legislative branch employees and Funpresp-Jud, for judiciary branch employees.[102] What they accumulate over time will reflect their pattern of contributions and their pro-rata share of the profits and losses associated with the pattern of investments made by those authorities. Legislation prescribes both broad categories of investments which are permissible, namely, fixed income, equities, structured investments, investments abroad and real estate (Resolution 3792 - Part VIII, Article 17;[103] and specific maximum percentages, on an individual or group basis, of different permissible kinds of investments which fall within those categories. (See, for example,

Resolution 3792 - Article 35).[104] If investments are made beyond those limits the plan can be sanctioned by the Superintendência Nacional de Previdência Complementar (Previc) (Pension Funds Superintendence), the national regulatory body which oversees closed pension funds. At the extreme, a plan can be denied its status as a qualifying pension plan and perhaps incur tax penalties.

On its face, the governance and management of Funpresp is far more important to Brazilian federal employees than that of the Thrift Savings Plan Retirement board is to United States federal workers because, as noted, the former have no investment choices and all the decision-making power, subject to law, is in the hands of Funpresp whereas there is at least some modest menu of choices for TSP members

With respect to organization, each has a deliberative council, supervisory board, and executive board for which there is equal representation of sponsors and employees. Representatives of the latter are chosen by the plan members. Provisionally members of the boards in the 3 branches will be designated by the President of the Republic, Supreme Court President Justice and the Presidents of the Congress. Government representatives are to be appointed by the President and must be from among people who have special qualifications. Unions designate the employee representatives.[105]

Executive Branch Funpresp (Exe) came into operation in October 2012. (The Brazilian Treasury allotted R\$50 million to cover start-up administrative expenses of the fund.) The deliberative council defined investment limits of between 45% and 100% for fixed income. For the portion remaining, up to 35% of the fund assets can be in equities (as allowed under Resolution 3792) and the allocation to infrastructure can be as much as 10%. Ricardo Pena Pinheiro, CEO of Funpresp-Exe has indicated that the fund will initially follow a conservative approach with the highest concentration in government bonds and private, long-term, low credit risk.[106] The pension fund will have an investment and risks committee, which will act as an advisory body to the executive board. For the first two years, the intermediaries through which investments are to be made initially will be the Bank of Brazil (BB DTVM) and Caixa Econômica Federal (Federal Bank), with half of the total each.[107] After that period, the fund will establish rules by which private banks would be allowed to participate in bidding to make investments for the fund, limited to a maximum of 20% of overall funds for each bank.[108] As of this writing, the Legislative Funpresp (Leg) benefit plan, which begins with \$25 million from the Treasury for start-up expenses has not yet approved an investment policy.[109] Judiciary Funpresp (Jud) has, as of this writing, not been established/begun operation.

Given the greater power accorded to Funpresp decision-makers than to TSP board members, the possible constraints of the former exercising it loom larger. On its face the latter have much more discretion because, per the discussion they are subject only to fiduciary duty as broadly framed or stated by a variant of the “prudent person” standard of ERISA. However, again as noted, such play is narrow since it is greatly cabined by the legislative prescription of a small number of investment menu choices. Although there is reference in the Brazilian legislation to fiduciary duty it appears that as a practical matter the primary constraints are a relatively detailed specification of the categories of permissible investments and particular kinds of investments within those categories from which Funpresp decision-makers can choose in constructing the portfolio and, in some measure, percentage limits as to the extent of those choices.[110]

That being said, it is not clear what goals or parameters inform or guide how those decision-makers should construct their portfolios. For defined benefit plans, decisions can and must be made in light of projected liabilities (for payment of promised pension benefits) over an extended future, plausible estimates of which can be made based on estimates of active worker movements in and out of the work force, changes in salaries over the work career, formulas for calculating benefits, etc. In turn, an investment/strategy plan can be formulated in the hope and expectation that that there will be the assets available needed to meet those liabilities. By contrast, at first blush there are no similar relatively clear, quantitative financial objectives for the pooled investment for all members’ assets which Funpresp manages. Even if, in principle, there were a credible set of objectives which could be formulated it would seem that devising them would require reasonable projections as to the patterns of participation in and contributions to the defined contribution part of the system, but we not are no aware of any. Moreover, insofar as information about historical patterns with respect to private sector defined contribution plans could be a helpful guide, but as we understand it, the available data is scanty.[111]

As a practical matter then, what the impact of the new system on future retirement income (beyond the capped defined benefit pension) for new Brazilian plan participants might be would seem to be largely an unknown since neither a creditable characterization of the pattern of contributions nor the investment returns on those contributions on which an estimate of the impact might be based appears to be available.

Similarly, it is not clear what analysis is available about the macroeconomic effect of the changes. According to an International Monetary Fund report, the “quantitative impact of the reform is small in broad macroeconomic terms...[,] a consequence of the circumscribed scope of the reform in terms of affected beneficiaries.”^[112] With reference to an apparent animating concern about the government’s fiscal condition, it suggests that the new scheme will yield “an improvement in the balance of the RPPS from 2033 onwards, with gains rising to 0.4 percent of GDP per year in the long run,” with “an overall impact of around 10 percent of GDP in NPV terms up in the long run.”^[113] Beyond that the report offers some broad gauge suggestions which we do not assess here to the effect that it will “encourage long-term private savings and thereby support the development of financial markets” because of the “reduc[tion] of replacement rates for higher earners (which will also have the effect of increasing ”[p]rogressiveness within RPPS...as well as equity *vis-à-vis* private sector workers.”^[114]

Conclusion

In the United States, more than 25 years ago, and in Brazil more recently, somewhat similar changes were made to the retirement plans for federal employees and perhaps for somewhat similar reasons. That is, both altered what was plainly a pure defined benefit plan to one which provided lower defined benefit plan benefits and added a defined contribution component to which employees may contribute and to which the government must in some measure contribute. (One major difference was that in the United States, while there were cuts to the occupational defined benefit plan, a defined benefit component was added through compulsory participation in the Social Security system.) Also, for both, the modifications were motivated in part by concerns about projected shortfalls in funding for the existing system, the corresponding fiscal burden on the government of funding it, and beliefs about the relative generosity of public sector employee benefits (and perhaps wages and salaries as well) as compared to those of private sector employees. While in the United States the changes were to some degree motivated by concern about the role of the retirement plan in the government’s ability to attract and retain different kinds of works and influence workers’ retirement decisions, it is not clear if the same was true for Brazil.

While there has been over quarter of a century of experience with the U.S. system, this essay suggest that there has been relatively little analysis of how it has worked in practice and been successful (or not) in relation to those factors which are thought to have spurred or induced its creation. In a somewhat similar vein, although Brazil has just begun to take the extremely

important steps needed to implement the mandated changes, there are not readily evident defined goals for or measures or benchmarks by which the success of the system as it has been prescribed to operate can be assessed. If this is a fair characterization then this essay might be viewed as not only just a first enquiry to evaluate the experience of each country for its own sake but also a basis for a fruitful dialogue by which the experiences can be compared and learning on both sides gained.

[1] In the United States, the existence and terms and provisions of retirement plans for public sectors are the result of legislative action and/or collective bargaining at the state, county, or municipal level. As a result there are thousands of different plans with different provisions, among others, for benefits, contributions, governance, and the like. (However the by far predominant model has been that of a defined benefit plan though in recent years financial, political, and other pressures have spurred a move in a modest number of cases to other kinds of plans, primarily hybrid ones. Thus, there any comparison between public sector retirement schemes below the federal level in both Brazil and the United States would require a different and extensive discussion.

[2] “Reforming Pensions,” by Nicholas Barr and Peter Diamond, CESIFO Working paper No. 2523, January, 2009. <http://ssrn.com/abstract=1330758>

[3] Civil Service Retirement Act of 1920 (P.L. 66-215).

[4] “Civil Service Retirement System: History,Provisions, and Financing,” by Dennis S. Snook, Congressional Research Service, May 7, 1981, p. 2. <http://babel.hathitrust.org/cgi/pt?id=pur1.32754077661753#page/11/mode/1up>

[5] Id.

[6] Id. At 8.

[7] The original Act required a contribution of 2.5% of basic salary. ” Benefits and Beneficiaries Under the Civil Service Retirement Act,” by Ruth Reticker, *Social Security Bulletin*, April, 1941, 29-42, 32.

[8] “Overview of Federal Retirement Programs,” Statement of Johnny C. Finch, Assistant Comptroller General, General Government Programs, Before the Subcommittee on Post Office and Civil Service, Committee on Governmental Affairs, Untied States Senate, May 22, 1995, p. 3. <http://www.gao.gov/assets/110/106032.pdf>

[9] “Id.

[10] Id. “

[11] “Overview of Federal Retirement Programs,” Statement of Johnny C. Finch, Assistant Comptroller General, General Government Programs, Before the Subcommittee on Post Office and Civil Service, Committee on Governmental Affairs, Untied States Senate, May 22, 1995, p. 3. <http://www.gao.gov/assets/110/106032.pdf>

[12] “Civil Service Retirement System: History, Provisions, and Financing,” by Dennis S. Snook, Congressional Research Service, May 7, 1981, p. 9. <http://babel.hathitrust.org/cgi/pt?id=purl.32754077661753#page/11/mode/lup>

[13] Id. at 10.

[14] Id.

[15] “Federal Employees’ Retirement System Act of 1986,” by Richard G. Schreitmueller, *Transactions of Society of Actuaries*, Vol. 40, Part 1, 1988, p. 544

[16] Id. at 7. “[I]n 1969, the CSRS employee payments were set at 7 percent of pay.” “Statement of Carolyn L. Merck, Specialist in Social Legislation Education and Public Welfare Division Congressional Research, Service Library of Congress May 22, 1995, Senate Committee on Affairs Subcommittee on Post Office and Civil Service.” <http://www.navairdevcen.org/NARFE/CongressReport.pdf>. Monies in the CSRDF are accumulated to be paid out to retirees and their surviving dependents. Originally those retirees were only members of the CSRS. After the changes discussed in the text, retirees also included members of the FERS who, as described in the text, receive generally smaller annuities than members of the CSRS.

[17] “A Retirement Plan for Federal Workers Covered by Social Security: An Analysis of the Federal Employee Retirement System (P.L.99-335), Civil Service Retirement Team, Education and Public Welfare Division, Congressional Research Service, July 21, 1986, p. 16. http://www.wikipension.com/images/f/fd/CRS_Report_on_FERS_retirement_system.pdf

[18] Id. at 4. The original CSRS provided for a maximum dollar amount of any annuity (of \$1,200 in 1926). “Overview of Federal Retirement Programs,” Statement of Johnny C. Finch, Assistant Comptroller General, General Government Programs, Before the Subcommittee on Post Office and Civil Service, Committee on Governmental Affairs, United States Senate, May 22, 1995, p. 4. <http://www.gao.gov/assets/110/106032.pdf>

[19] “A Retirement Plan for Federal Workers Covered by Social Security: An Analysis of the Federal Employee Retirement System (P.L.99-335), Civil Service Retirement Team, Education and Public Welfare Division, Congressional Research Service, July 21, 1986, p. 16. http://www.wikipension.com/images/f/fd/CRS_Report_on_FERS_retirement_system.pdf

[20] Id. at 17. Note, though, over the years there were numerous changes to the COLA, some by reason of SCRS statutory changes but COLAs were “often...reduced, delayed, or skipped as part of budget reduction efforts.” “Overview of Federal Retirement Programs,” Statement of Johnny C. Finch, Assistant Comptroller General, General Government Programs, Before the Subcommittee on Post Office and Civil Service, Committee on Governmental Affairs, United States Senate, May 22, 1995, p. 5. <http://www.gao.gov/assets/110/106032.pdf> Note that Cown argues that one of the Senators of was an architect of the changes intended by them “to protect employee benefits from constant political attack” on the premise that if the retirement scheme in which they participated were similar to that of “the rest of American workers, the federal system would not be subjected to frequent political turmoil.”

[21] “Federal Employees’ Retirement System: Budget and Trust Fund Issues,” by Katelin P. Isaacs, Congressional Research Service, September 27, 2012, p. 4. http://digitalcommons.ilr.cornell.edu/cgi/viewcontent.cgi?article=1963&context=key_workplace

[22] Id. at 11

[23] The Social Security system not only encompasses pension benefits for workers who satisfy age and work history requirements but also for their spouses as well as disability benefit who satisfy relevant requirements.

[24] As of 2011, “[a]bout 27.5% of state and local government employees (about 6.6 million persons) work in positions that are not covered by Social Security,” though “[c]overage rates var[ied] considerably across states. “Social Security: Mandatory Coverage of New State and Local Government Employees,” by Dawn Nuschler, Alison M. Shelton, and John J. Topoleski, Congressional Research Service, July 25, 2011, p. 1. <http://www.nasra.org/resources/CRS%202011%20Report.pdf> According to one report, which reported that “roughly 30%” of those works were not covered in 1996, noted that how many workers are not covered by Social Security and where they reside are difficult to answer.” “The Impact of Mandatory Social Security Coverage of State and Local Workers: A Multi-State Review, by Alicia Munnell, AAUP, August, 2000, pp. 5-6. http://assets.aarp.org/rgcenter/econ/2000_11_security.pdf

[25] It has been suggested that one influential factor was that because of “the high inflation of the 1970s, federal retirement benefits were increasing [for that reason alone] by significant amounts every year.” “Twenty-Five Years After Federal Pension Reform,” by Jamie Cowen, Employee Benefit Research Institute, Issue Brief No. 359, July 2011, p.5. http://www.ebri.org/pdf/briefspdf/EBRI_IB_07-2011_No359_FERS86.pdf The author also contends that “in some cases...[retirees’ incomes]... actually exceeded the salaries of [the] employees [who replaced them].” Id.

[26] “Federal Employees’ Retirement System Act of 1986,” by Richard G. Schreitmueller, *Transactions of Society of Actuaries*, Vol. 40, Part 1, 1988, p. 546. In parallel with the discussion of system changes the Reagan administration effected *ad hoc* cuts in the CSRS through the federal budget process. “Twenty-Five Years After Federal Pension Reform,” by Jamie Cowen, Employee Benefit Research Institute, Issue Brief No. 359, July 2011, p. 5. http://www.ebri.org/pdf/briefspdf/EBRI_IB_07-2011_No359_FERS86.pdf

[27] “Report of the National Commission on Social Security Reform,” *Social Security Bulletin*, February 1983, Vol. 46, No. 2, pp. 1-38. <http://www.ssa.gov/policy/docs/ssb/v46n2/v46n2p3.pdf>

[28] Pursuant to the Social Security Amendments of 1983 (P.L. 98-21).

[29] According to one view “conservative and liberal groups were aligned in favor of inclusion but for different reasons, namely because of “fairness to taxpayers” and “as a way of strengthening Social Security,” respectively, while “[f]ederal employee unions and organizations opposed the proposal, stating that a supplementary retirement system should be designed first and that the expected savings to Social Security would not materialize.” “Federal Employees’ Retirement System Act of 1986,” by Richard G. Schreitmueller, *Transactions of the Society of Actuaries*, Vol. 40 . Part. 1, 1988, 543-610, 545. A portent of that and other changes was 1982 legislation including those same federal civil employees in Medicare, the federally mandated health insurance system for people of age 65 and older and requiring them to make the same contributions to that system

as already covered workers. See “Summary of 1982 Legislation Affecting SSI, OASDI, and Medicare, *Social Security Bulletin*, July 1983, Vol. 46, No. 7, 49-60, 54-55. <http://www.ssa.gov/policy/docs/ssb/v46n7/v46n7p49.pdf>

[30] “Twenty-Five Years After Federal Pension Reform,” by Jamie Cowen, Employee Benefit Research Institute, Issue Brief No. 359, July 2011, p. 4. http://www.ebri.org/pdf/briefspdf/EBRI_IB_07-2011_No359_FERS86.pdf This assertion was complemented by one that for federal employees “their average wages while employed by the federal government exceed that of average private-sector wages.” *Id.* However, if proper adjustment is made for the different job, skill, and education composition of federal civil service employees as compared to private sector ones, this difference might well disappear or perhaps even be reversed. CITE Note that federal employee groups and unions are said to have opposed the legislative changes in part because “[l]ess-than-adequate pay was compensated by a generous pension plan.” *Id.* at 6.

[31] “Federal Employees’ Retirement System and the Thrift Savings Plan: Creating a Combined Approach to Retirement Security,” by Diane Oakley, National Institute on Retirement Security, Issue Brief, 2012, p. 9. http://www.nirsonline.org/storage/nirs/documents/FERS/fers_final_report.pdf

[32] Among the factors which may not have worked in employees’ favor was the 1981 strike of federal air controllers who were then fired by President Reagan. *Id.* at 11.

[33] *Id.* at 7. As of 1986, for those private sector workers with a plan, 37% had a defined benefit plan only, 30% had a defined contribution plan only, and 33% had both.” *FAQs About Benefits—Retirement Issues*,” Employee Benefits Research Institute. <http://www.ebri.org/publications/benfaq/index.cfm?fa=retfaq14fig2> As of 1985, for single-employer plan with more than a 100 participants, DB contributions per active participant were slightly lower than DC contributions. September 2002 • EBRI Issue Brief “An Evolving Pension System: Trends in Defined Benefit and Defined Contribution Plans,” by David Rajnes, Employee Benefits Research Institute, Spring, 2002, p. 18, Figure 15. <http://www.ebri.org/pdf/briefspdf/0902ib.pdf>

[34] “Twenty-Five Years After Federal Pension Reform,” by Jamie Cowen, Employee Benefit Research Institute, Issue Brief No. 359, July 2011, p. 8. http://www.ebri.org/pdf/briefspdf/EBRI_IB_07-2011_No359_FERS86.pdf. “The Reagan Administration was committed to limiting the new plan’s cost to that of the average in private industry.” *Id.* at 13. There were diverse claims about the costs of various kinds of private plans, a range of legislatively proposed plans, etc. See “Federal Employees’ Retirement System Act of 1986,” by Richard G. Schreitmuller, *Transactions of Society of Actuaries*.- Vol. 40, Part 1, 1988, pp. 554-555 and 575-579.

[35] “Twenty-Five Years After Federal Pension Reform,” by Jamie Cowen, Employee Benefit Research Institute, Issue Brief No. 359, July 2011, p. 9. http://www.ebri.org/pdf/briefspdf/EBRI_IB_07-2011_No359_FERS86.pdf

[36] “Twenty-Five years after federal Pension Reform,” by Jamie Cowen (stating that “[i]n 1986, when FERS was enacted, the employer normal cost of CSRS...was estimated to be 25.5 percent of payroll” while “[t]he estimated cost of FERS was 22.5 percent”), p. 15. http://www.ebri.org/pdf/briefspdf/EBRI_IB_07-2011_No359_FERS86.pdf,

[37] Id. at 8.

[38] See the “Federal Employees’ Retirement System Act of 1986,” P.L. 99–335, Approved June 6, 1986 (100 Stat. 514).

[39] “A Retirement Plan for Federal Workers Covered by Social Security: An Analysis of the Federal Employee Retirement System (P.L.99-335), Civil Service Retirement Team, Education and Public Welfare Division, Congressional Research Service, July 21, 1986, p. 16. http://www.wikipension.com/images/f/fd/CRS_Report_on_FERS_retirement_system.pdf

[40] Id. at 17. “A Retirement Plan for Federal Workers Covered by Social Security: An Analysis of the Federal Employee Retirement

[41] Id. at 16.

[42] Id. at 15. Social Security payroll taxes for retirement benefits are levied on wages and salaries up to a cap which has increased over the years. For 2013 it was \$113,700. “Benefits Planner: Maximum Taxable Earnings (1937-2013),” U.S. Social Security Administration. <http://www.ssa.gov/planners/maxtax.htm>

[43] “A Retirement Plan for Federal Workers Covered by Social Security: An Analysis of the Federal Employee Retirement System (P.L.99-335), Civil Service Retirement Team, Education and Public Welfare Division, Congressional Research Service, July 21, 1986, p. 21. http://www.wikipension.com/images/f/fd/CRS_Report_on_FERS_retirement_system.pdf

[44] Id. at 22.

[45] The TSP is governed by a board composed of five members. All are appointed by the President for four-year terms. One is appointed in light of “the recommendation made by the Speaker of the House of Representatives in consultation with the minority leader of the House of Representatives” and one in light of “the recommendation made by the majority leader of the Senate in consultation with the minority leader of the Senate.” The President designates the Board Chair from among the other three whom he appoints. All are supposed to “have substantial experience, training, and expertise in the management of financial investments and pension benefit plans.” See 5 USC § 8438(b). <http://www.law.cornell.edu/uscode/text/5/8438> Their fiduciary duty is identical to that for trustees for private sector pension plans as specified by federal law. See 5 U.S.C. § 8477 (b)(1) <http://www.law.cornell.edu/uscode/text/5/8477> and 29 USC § 1104(a). <http://www.law.cornell.edu/uscode/text/29/1104>, respectively. Although for public sector state and local plans there is some variation, the standard is largely the same. For the limitation on the exercise of voting rights, see 5 USC § 8438. <http://www.law.cornell.edu/uscode/text/5/8438>

[46] “A Retirement Plan for Federal Workers Covered by Social Security: An Analysis of the Federal Employee Retirement System (P.L.99-335), Civil Service Retirement Team, Education and Public Welfare Division, Congressional Research Service, July 21, 1986, p. 23. http://www.wikipension.com/images/f/fd/CRS_Report_on_FERS_retirement_system.pdf Individual Retirement Accounts are personal accounts for retirement saving to which individuals contribute on a tax-favored

basis. See “Individual Retirement Arrangements (IRAs), Publication 590,” U.S. Internal Revenue Service, 2012. <http://www.irs.gov/publications/p590/>

[47] Federal Employees’ Retirement System Act of 1986. Richard G. Schreitmueller – Transactions of the Society of Actuaries = 1988 Vol. 40 Pt 1, p. 557. Compare, though, “Twenty-Five years after federal Pension Reform,” by Jamie Cowen (stating that “[i]n 1986, when FERS was enacted, the employer normal cost of CSRS...was estimated to be 25.5 percent of payroll” while “[t]he estimated cost of FERS was 22.5 percent”), p. 17. http://www.ebri.org/pdf/briefspdf/EBRI_IB_07-2011_No359_FERS86.pdf

[48] “Federal Employees’ Retirement System: The Role of the Thrift Savings Plan” by Katelin P. Isaacs, Congressional Research Service, March 8, 2013, p. 2. http://digitalcommons.ilr.cornell.edu/cgi/viewcontent.cgi?article=2037&context=key_workplace

[49] “Reform of Pensions for Federal Government Employees in the United States,” by John A. Turner and David M. Rajnes, in *The Role of the State in Pension Provision: Employer, Regulator, Provider*,” Edited by Gerard Hughes and Jim Stewart, Kluwer Academic Publishers, 1999, 49-50, p. 57. See also “Twenty-Five Years After Federal Pension Reform,” by Jamie Cowen, Employee Benefit Research Institute, Issue Brief No. 359 (stating that “[a]pproximately 4 percent of employees eligible to transfer to the new plan actually did so in 1987” with “[t]he number transferring in 1998...even lower.”), July 2011, p.19. http://www.ebri.org/pdf/briefspdf/EBRI_IB_07-2011_No359_FERS86.pdf

[50] “Overview of Federal Retirement Programs,” Statement of Johnny C. Finch, Assistant Comptroller General, General Government Programs, Before the Subcommittee on Post Office and Civil Service, Committee on Governmental Affairs, United States Senate, May 22, 1995. <http://www.gao.gov/assets/110/106032.pdf>

[51] “Twenty-Five Years After Federal Pension Reform,” by Jamie Cowen, Employee Benefit Research Institute, Issue Brief No. 359, July 2011, p. 18. http://www.ebri.org/pdf/briefspdf/EBRI_IB_07-2011_No359_FERS86.pdf

[52] Reform of Pensions for Federal Government Employees in the United States,” by John A. Turner and David M. Rajnes, in *The Role of the State in Pension Provision: Employer, Regulator, Provider*,” Edited by Gerard Hughes and Jim Stewart, Kluwer Academic Publishers, 1999, 49-50, p. 50.

[53] “Overview of Federal Retirement Programs,” Statement of Johnny C. Finch, Assistant Comptroller General, General Government Programs, Before the Subcommittee on Post Office and Civil Service, Committee on Governmental Affairs, United States Senate, May 22, 1995, p. 1, <http://www.gao.gov/assets/110/106032.pdf> However, there was a “wide variation in adjustment practices by employer size as well as by industry.” Id. at 12. Note that by contrast, automatic cost-of-living adjustments have been given by Social Security every year since 1975, when they authorized to start. Before that Congress had made several ad hoc adjustments to benefits.. “The Story of COLAs,” U.S. Social Security Administration. <http://www.ssa.gov/history/briefhistory3.html#colas>

[54] “Overview of Federal Retirement Programs,” Statement of Johnny C. Finch, Assistant Comptroller General, General Government Programs, Before the Subcommittee on Post Office and Civil Service, Committee on Governmental Affairs, United States Senate, May 22, 1995, p. 1. Available at <http://www.gao.gov/assets/110/106032.pdf>

[55] “Twenty-Five Years After Federal Pension Reform,” by Jamie Cowen, Employee Benefit Research Institute, Issue Brief No. 359, July 2011, p. 3. http://www.ebri.org/pdf/briefspdf/EBRI_IB_07-2011_No359_FERS86.pdf. The author was the chief counsel of the U.S. Senate Government Affairs Subcommittee on Civil Service,.... chaired by Republican Senator Ted Stevens, of Alaska. CITE. Note that he was quoted not long after enactment that the legislation cut “by 10 percent the federal government's benefits costs for those federal workers” and that the “main source of that savings...was the reduced cost-of-living provisions of FERS.” Clarifying A Pension Decision Federal Workers Can Choose A Plan,” by Joseph A. Slobodzian, *Philadelphia Inquirer*, July 6, 1987. Available at http://articles.philly.com/1987-07-06/business/26200207_1_federal-workers-federal-employees-retirement-system-fers/3

[56] “Federal Employees’ Retirement System: Benefits and Financing,” by Katelin P. Isaacs, Congressional Research Service, May 10, 2012, pp. 11-12. Available at <http://www.fas.org/sgp/crs/misc/98-810.pdf>

[57] *Id.* at 10. By contrast Federal law “has never required employee and agency contributions must equal the present value of benefits that employees accrue under the CSRS.” *Id.* At 12.

[58] The actual figures for 2010 were 36.3% and 0.48%, reflecting the combined effect of the then remaining participants in the CSRS and the current number of participants in the FERS. See “Federal Employees’ Retirement System: Benefits and Financing,” by Katelin P. Isaacs, Congressional Research Service, February 14, 2012, p. 2 http://digitalcommons.ilr.cornell.edu/cgi/viewcontent.cgi?article=1891&context=key_workplace and “Federal Employees’ Retirement System: Budget and Trust Fund Issues,” by Katelin P. Isaacs, Congressional Research Service, September 27, 2012, p. 8 http://digitalcommons.ilr.cornell.edu/cgi/viewcontent.cgi?article=1963&context=key_workplace

[59] *Id.* “Actually, starting between 2060 and 2065 the fund is projected to have a surplus so the “assets” required would be less and the “assets” to GDP figure somewhat lower. *Id.*

[60] “Federal Employees’ Retirement System: The Role of the Thrift Savings Plan” by Katelin P. Isaacs, Congressional Research Service, March 8, 2013, p. 1. http://digitalcommons.ilr.cornell.edu/cgi/viewcontent.cgi?article=2037&context=key_workplace

[61] “2011 Annual Report of the Thrift Savings Plan Required by §105 of the TSP Enhancement Act of 2009,” Thrift Savings Plan, June 29, 2012, pp. 11-12. 10. http://www.frtib.gov/pdf/reports/ReportsToCongress/TSP-Annual-Report_2011.pdf

[62] “Federal Employee Participation Patterns in the Thrift Savings Plan, Calendar Year 2007,” United States Office of Personnel Management, April 2010, p.5. <http://www.aging.senate.gov/letters/opmreport.pdf>

[63] *Id.* at 7

[64] *Id.*

[65] *Id.* at 10.

[66] “Thrift Savings Plan Participant Survey Results 2006-07,” Presented to the Federal Retirement Thrift Investment Board, by Watson Wyatt, November 2007, p. 7. <http://www.frtib.gov/pdf/survey/participant/2006-TSP-Survey-Results.pdf>

[67] “Summary of the Thrift Savings Plan,” May 2012, p. 12.
<https://www.tsp.gov/PDF/formspubs/tspbk08.pdf>

[68] “Summary of Returns,” Thift Savings Plan.
<https://www.tsp.gov/investmentfunds/returns/returnSummary.shtml>

[69] “2011 Annual Report of the Thrift Savings Plan Required by §105 of the TSP Enhancement Act of 2009,” Thrift Savings Plan, June 29, 2012, p. 10. http://www.frtib.gov/pdf/reports/ReportsToCongress/TSP-Annual-Report_2011.pdf

[70] “Federal Employee Participation Patterns in the Thrift Savings Plan, Calendar Year 2007,” United States Office of Personnel Management, April 201, p.5. <http://www.aging.senate.gov/letters/opmtspreport.pdf>

[71] “Thrift Savings Fund, Financial Statements, December 31, 2011 and 2010,” CliftonLarsonAllen LLP, April 20, 2012, p. 15. <https://www.tsp.gov/PDF/formspubs/financial-stmt.pdf>

[72] “Lifecycle Funds” Thift Savings Plan.”
https://www.tsp.gov/investmentfunds/lfundsheets/fundPerformance_L.shtml

[73] “TSP Participant Survey Results, 2008,” Watson Wyatt, 2011, p. 23, Figure 10.1.
https://www.tsp.gov/PDF/formspubs/tsp-participant-survey-report-2008_11_02.pdf

[74] See “TSP Participant Survey Results, 2008,” Watson Wyatt, 2011, p. 25, Figure 10.5.
https://www.tsp.gov/PDF/formspubs/tsp-participant-survey-report-2008_11_02.pdf

[75] Id at 23, Figure 10.2.

[76] Federal Employees’ Retirement System and the Thrift Savings Plan: Creating a Combined Approach to Retirement Security,” by Diane Oakley National Institute on Retirement Security,” August 2012, p. 5.
http://www.nirsonline.org/storage/nirs/documents/FERS/fers_final_report.pdf

[77] “Federal Employees’ Retirement System: The Role of the Thrift Savings Plan,” by Katelin P. Isaacs, Congressional Research Service,” January 11, 2011, p. 13. http://assets.opencrs.com/rpts/RL30387_20110111.pdf

[78] Note that on a somewhat shorter term basis, the interest-based annual returns of the G fund had dropped dramatically from 4.87% to 1.27% between 2007 and 2011. Of course, compound equity returns, among them those in the U.S., have been low or perhaps negative “Summary of Returns,” Thift Savings Plan.
<https://www.tsp.gov/investmentfunds/returns/returnSummary.shtml>

[79] “Life Annuities: Your TSP Annuity Options,” Thrift Savings Plan.
<https://www.tsp.gov/planparticipation/annuities/options.shtml>

[80] “TSP Participant Survey Results, 2008,” Watson Wyatt, 2011, p. 28, Figure 12.1.
https://www.tsp.gov/PDF/formspubs/tsp-participant-survey-report-2008_11_02.pdf

[81] See id. at 28, Figure 12.2

[82] See id. at 28, Figure 12.3

[83] Id.

[84] See “Employee Market Risk and Retirement Cyclicalities: A Natural Experiment,” by Matthew Gustafson, July 2012. <http://ssrn.com/abstract=2083169> or <http://dx.doi.org/10.2139/ssrn.2083169> More particularly, the author states “DC exposure causes retirement age federal employees to delay retirement approximately 50 percent longer during the first year of the crisis. The treatment effect is largest for high income employees, a result that is expected because of the larger treatment. Within this subsample, the DC treatment causes employees planning to retire anytime between July 2009 and July 2011 to delay retirement by an average of 3 months. In addition, as of July 2011 3 months[‘] worth of retirees continue to work because of their DC losses. This lingering effect is concentrated in employees between 60 and 65 years old as opposed to older employees for whom the effect of market losses on retirement has fully reversed.” Id. at 1.

[85] [“EMENDA CONSTITUCIONAL Nº 41, DE 19 DE DEZEMBRO DE 2003.”](http://www.planalto.gov.br/ccivil_03/constituicao/Emendas/Emc/emc41.htm) http://www.planalto.gov.br/ccivil_03/constituicao/Emendas/Emc/emc41.htm

[86] “LEI Nº 12.618, DE 30 DE ABRIL DE 2012.” http://www.planalto.gov.br/ccivil_03/Ato2011-2014/2012/Lei/L12618.htm

[87] The minimum age for receipt of a pension is 53 years for men and 48 years for women. Federal employees are eligible for retirement based on age and service combined; private sector w, which is open to federal workers, is not available to private sector ones.

[88] “Social Security in Brazil: Importance, Problems and Reform Agenda,” by Pedro Jucá Maciel, Brazilian National Treasury – Ministry of Finance, August 12, 2010, Slide 42. <http://www.pedrojucamaciel.com/Social%20Security%20and%20Fiscal%20Policy.pdf>

[89] “Brazil: Selected Issues Paper,” International Monetary Fund, Country Report No. 12/192, p. 4. <http://www.imf.org/external/pubs/ft/scr/2012/cr12192.pdf>

[90] “Recent History, Perspectives and Challenges to Social Insurance: the Brazilian Case,” by Marcelo Abi-Ramia Caetano, United Nations Research Institute for Social Development,” July, 2009, p. 9. <http://www.unrisd.org/80256B3C005BCCF9/search/4D8E7BFF9FC5078EC1257604004C5588?OpenDocument>

[91] “Brazil: Selected Issues Paper,” International Monetary Fund, Country Report No. 12/192, p. 6. <http://www.imf.org/external/pubs/ft/scr/2012/cr12192.pdf>

[92] Id. at 5.

[93] Id. at 5.

[94] Id.

[95] It is suggested that “[t]he indexation of minimum pensions to the minimum wage is a particularly large driver of overall pension costs. About 40 percent of total spending pertains to beneficiaries receiving the minimum pension 4,2 .7% of GDPficiaries and disbursed aboutrequire a different and extensive discussion.r ce, and the like. nad (2/3 of RGPS beneficiaries), which has more than doubled in real terms over the past 15 years.” Note though, that the minimum benefit is a two-edged sword: however expensive it might be through to be, “it has contributed for the important reductions in old-age poverty seen in Brazil.” Id. at 6.

[96] “Perspectivas e desafios para o fortalecimento da sustentabilidade nos Fundos de Pensão no Brasil,” 94 PERSPECTIVAS E DESAFIOS, Relatório social, 2008. http://www.abrapp.org.br/apoio/relatorio_social/2008/perspectivas.pdf

[97] “Número de trabalhadores cresce e atinge 92,5 milhões no Brasil.” <http://noticias.r7.com/economia/noticias/cresce-para-92-5-milhoes-o-numero-de-trabalhadores-no-brasil-20120921.html?question=0>

[98] “Article 3, Law 12618 establishes the cap” http://www.planalto.gov.br/ccivil_03/_Ato2011-2014/2012/Lei/L12618.htm

[99] “Brazil: Selected Issues Paper,” IMF Country Report No.12/192, p. 7. <http://www.imf.org/external/pubs/ft/scr/2012/cr12192.pdf> Correspondingly, according to one report, this is the reason for the very low estimated transition cost of about 0.1 percent of GDP, that is making up for the contributions to the existing system lost because contributions for pensions above the cap will not long be made into the pension system. Id. Nonetheless, according to one report, “[s]ome 10,000 federal public sector employees are expected to be incorporated into Funpresp-Exe during [2013] year alone and in the long-term the government expects the fund to be among the largest in Latin America.” “Brazil’s Funpresp-Exe to begin investing in fixed income and infrastructure,” by [Ulric Rindebro](#), May 10, 2013. <http://www.bnamericas.com/news/insurance/brazils-funpresp-exe-to-begin-investing-in-fixed-income-and-infrastructure>

[100] For a discussion of disability and survival benefits under the CSRS and FERS see “Disability Retirement for Federal Employees,” by Katelin P. Isaacs, Congressional Research Service, September 30, 2010, http://digital.library.unt.edu/ark:/67531/metadc29755/m1/1/high_res_d/RS22838_2010Sep30.pdf and “Survivor Benefits for Families of Civilian Federal Employees and Retirees,” by Katelin P. Isaacs, Congressional Research Service, December 18, 2012. <http://www.fas.org/sgp/crs/misc/RS21029.pdf>, respectively.

[101] “Types of Contributions,” Thrift Savings Plan. <https://www.tsp.gov/planparticipation/eligibility/typesOfContributions.shtml>

[102] There are to be similar but separately organized institutions for state and municipal employees. For example, the State of *São Paulo* was authorized in early 2013 to establish the Fundação de Previdência Complementar do Estado de São Paulo (SP-Prevcom) to manage the investment of state employee contributions (with the possibility that it might manage contributions from municipal employees in that state. See “Fundo de pensão dos servidores paulistas terá patrimônio de R\$ 20 bi,” *Brasil Econômico*, [Ministério da Fazenda](#), Brasil, January 23, 2013. <http://www.fazenda.gov.br/resenhaeletronica/MostraMateria.asp?page=&cod=870632>

[103] “Resolução 3.792, de 24/9/2009,” <http://www.bcb.gov.br/pre/normativos/busca/normativo.asp?tipo=res&ano=2009&numero=3792>

[104] Id.

[105] “ [Barbosa indica próprio biógrafo para presidir Funpresp-Jud](http://www.sinjufego.org.br/index.php/publicacoes/noticias/4729-joaquim-barbosa-indica-biografo-para-presidir-funpresp-jud),” Sinjufego, April 22, 2013. <http://www.sinjufego.org.br/index.php/publicacoes/noticias/4729-joaquim-barbosa-indica-biografo-para-presidir-funpresp-jud>

[106] “Funpresp do Executivo define política de investimentos.” Investidor Institucional, May 6, 2013. <http://www.investidorinstitucional.com.br/fundosdepensao/11325-funpresp-do-executivo-define-politica-de-investimentos.html>

[107] “Funpresp será maior fundo de pensão da América Latina, diz ministra,” by Mariana Branco, 04/02/2013. <http://agenciabrasil.ebc.com.br/noticia/2013-02-04/funpresp-sera-maior-fundo-de-pensao-da-america-latina-diz-ministra>

[108] “LEI Nº 12.618, DE 30 DE ABRIL DE 2012” http://www.planalto.gov.br/ccivil_03/_Ato2011-2014/2012/Lei/L12618.htm

[109] “Funpresp do Executivo define política de investimentos,” Investidor Institucional, May 6, 2013. <http://www.investidorinstitucional.com.br/fundosdepensao/11325-funpresp-do-executivo-define-politica-de-investimentos.html>

[110] According to one report, Funpresp-Exe, the plan administrator for employees in the public sector will “mainly invest in fixed-income (75%)” with “the 25% that it is allowed to invest in variable income” put into “equities of consumer, retail and small caps firms.” Brazil's pension plan administrator for employees in the federal public sector, Funpresp-Exe, will begin investing mostly in fixed-income instruments and then at a later stage in infrastructure projects. It was suggested that “at a later stage,” “when the fund gains critical mass” (perhaps the end of 2014) investment will commence investment “in the infrastructure sector.” Brazil's Funpresp-Exe to begin investing in fixed income and infrastructure,” by [Ulric Rindebro](#), May 10, 2013. http://www.bnamericas.com/content_syndication/extranet2/story.xsql?id_source=&id_noticia=616965&id_sector=11&Tx_idioma=I&id=987770

[111] For the results of a recent survey of benefit plans, including retirement plans, of 236 private multinational, private Brazilian, and state-run or mixed-state/private companies, see “Benefit Plans in Brazil, 28th Survey — 2010,” Towers Watson. http://www.towerswatson.com/pt-BR/Insights/IC-Types/Survey-Research-Results/2011/06/~media/Pdf/Insights/IC-Types/Survey-Research-Results/2011/06/Towers-Watson-Benefit-Plans-Brazil-English_report.ashx

[112] “Brazil: Selected Issues Paper,” International Monetary Fund, Country Report No. 12/192, 2012, p.8. <http://www.imf.org/external/pubs/ft/scr/2012/cr12192.pdf>

[113] Id. at 7.

[114] Id.