

An hourglass graphic with a globe in the top bulb and another globe in the bottom bulb. The top bulb is dark blue, and the bottom bulb is light blue. The hourglass is light gray. The globe in the top bulb is dark blue, and the globe in the bottom bulb is light blue. The hourglass is centered on the page.

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Report 98-810

*Federal Employees' Retirement System: Benefits and
Financing*

Patrick Purcell, Education and Public Welfare Division

March 8, 2007

Abstract. This report describes the benefits provided to retired federal employees under both the Civil Service Retirement System (CSRS) and the Federal Employee Retirement System (FERS). All federal employees initially hired after 1983 are covered by FERS, but most current retirees receive benefits under CSRS. The report explains how benefits are calculated under both programs, describes the Thrift Savings Plan (TSP), and discusses the financial status of the Civil Service Retirement and Disability Fund.

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Federal Employees' Retirement System: Benefits and Financing

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March 8, 2007

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Summary

Most civilian federal employees who were hired before 1984 are covered by the Civil Service Retirement System (CSRS). Federal employees hired in 1984 or later are covered by the Federal Employees' Retirement System (FERS). Both CSRS and FERS require participants to contribute toward the cost of the plans through a payroll tax. Employees who are covered by CSRS contribute 7.0% of pay to the Civil Service Retirement and Disability Fund (CSRDF). They do not pay Social Security taxes and are not eligible for Social Security benefits. Employees who are covered under FERS contribute 0.8% of their full pay to the civil service trust fund and pay 6.2% of wages up to \$97,500 in 2007 to Social Security.

The minimum retirement age (MRA) under CSRS is 55 for workers who have at least 30 years of service. Starting in 2003, the minimum retirement age under FERS began to rise. For workers who attain age 55 in 2007, the MRA under FERS is 55 and 10 months. It will reach age 57 for those born in 1970 or later. FERS and CSRS also allow retirement with an unreduced pension at age 60 for employees with 20 or more years of service, and at age 62 for workers with at least 5 years of service.

The Thrift Savings Plan (TSP) is a *defined contribution* retirement plan similar to the "401(k)" plans provided by many employers in the private sector. In 2007, employees covered under either CSRS or FERS can contribute up to \$15,500 to the TSP. Employees age 50 and older can contribute an additional \$5,000 to the TSP. Employees covered by FERS receive employer matching contributions of up to 5% of pay from the federal agency by which they are employed. Federal workers covered by CSRS also can participate in the TSP, but they receive no matching contributions from their employing agency.

The Office of Personnel Management (OPM) estimates the cost of CSRS to be an amount equal to 25% of employee pay. The federal government pays 18% of this amount and the other 7.0% is paid by employees. OPM estimates the cost of the FERS basic annuity at an amount equal to 12% of pay. The federal government contributes 11.2% of this amount and the other 0.8% is paid by employees. There are three other employer costs for employees covered by FERS. Both the employer and employee pay Social Security taxes equal to 6.2% of pay up to the maximum taxable amount; agencies automatically contribute an amount equal to 1% of employee pay to the TSP; and agencies also make matching contributions to the TSP.

At the start of FY2006, the Civil Service Retirement and Disability Fund had an *unfunded liability* of \$576 billion, consisting of a \$581 billion deficit for CSRS and a \$5 billion surplus for FERS. Although the civil service trust fund has an unfunded liability, it is not in danger of becoming insolvent. At no point over the next 75 years will the fund be exhausted. The Civil Service Retirement and Disability Trust Fund is invested in special-issue U.S. Treasury bonds. Congress could permit the trust fund to invest in other assets—such as corporate stocks and bonds—but the effects of such a change on the federal budget and on government ownership of private-sector assets would deserve careful consideration by Congress.

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Background on Retirement Plan Design

Employers establish retirement programs both to help them attract workers with valuable skills and to enable older workers to retire without facing the prospect of inadequate income. Employers must balance the goals of providing adequate retirement income with controlling the cost of the retirement program. For employers in the private sector, another important consideration is the regulatory environment in which their retirement plans must operate. Private-sector retirement plans must comply with the relevant provisions of federal law, including the Employee Retirement Income Security Act (ERISA), the Age Discrimination in Employment Act (ADEA), and the Internal Revenue Code.

Two Types of Retirement Plans

Retirement programs generally can be classified as either *defined benefit* plans or *defined contribution* plans. In a defined benefit plan, a worker's retirement benefit is typically paid as a life annuity based on years of service and average salary in the last few years before retirement.¹ A defined contribution plan is much like a savings account maintained by the employer on behalf of each participating employee. The employer contributes a specific dollar amount or percentage of pay into the account, which is usually invested in stocks and bonds. In some cases, the amount that the employer contributes depends on the amount the employee contributes from his or her pay. When the worker retires, the retirement benefit that he or she receives will depend on the balance in the account, which is the sum of all the contributions that have been made plus interest, dividends, and capital gains (or losses). The retiring worker usually has the choice of receiving these funds as a series of fixed payments over a period of years, as a lump sum, or in the form of a life annuity.

One important difference between these two types of retirement plans is that in a defined benefit plan it is the *employer* who bears the financial risk, whereas in a defined contribution plan it is the *employee* who bears the financial risk. In a defined benefit plan, the employer promises to provide retirement benefits in the form of a life annuity or its actuarial equivalent.² To pay the promised benefit, the employer must make contributions to a pension fund that is invested in stocks, bonds, and other assets. The employer's contributions to this fund plus the expected investment earnings on the contributions must be sufficient to pay the pension benefits that workers have earned under the plan. The employer is at risk for the full amount of retirement benefits that have been promised to employees and their survivors. If the pension plan is underfunded, the employer must make additional contributions so that the promised benefits can be paid.

In a defined contribution plan, the employer bears no risk beyond its obligation to contribute a specified dollar amount or percentage of pay to each employee's retirement account. In these plans, the employee bears the risk that his or her retirement account will be sufficient to provide adequate retirement income. If the contributions to the account are insufficient, or if the securities in which the account is invested lose value or appreciate too slowly, the employee might reach

¹ A *joint and survivor annuity* pays a smaller initial benefit in exchange for a guarantee that the worker's spouse will continue to receive an annuity after the retired worker's death.

² The actuarial equivalent of a life annuity is a lump-sum payment that could purchase an annuity of equal value, assuming a certain interest rate and life expectancy.

retirement age without the financial resources needed to maintain his or her desired standard of living. If this occurs, the worker might have little choice but to delay retirement.

CSRS and FERS

Most civilian federal employees who were hired before 1984 are covered by the Civil Service Retirement System (CSRS). Employees covered by CSRS do not pay Social Security taxes and are not eligible for Social Security benefits. Federal employees first hired in 1984 or later are covered by the Federal Employees' Retirement System (FERS). All federal employees who are covered under FERS pay Social Security taxes and are eligible for Social Security benefits. Federal employees enrolled in either CSRS or FERS also may participate in the Thrift Savings Plan (TSP), which is a defined contribution plan. Only employees covered under FERS, however, are eligible for employer matching contributions to the TSP.

Origins of the Federal Civilian Retirement System

Congress passed the Civil Service Retirement Act of 1920 (P.L. 66-215) to provide pension benefits for civilian federal employees. In 1935, Congress created the Social Security system for workers in the private sector. In the 1950s, Congress allowed state and local governments to bring their employees into Social Security, and today about three-fourths of state and local employees are covered by Social Security. Federal employees remained outside of Social Security until Congress passed the Social Security Amendments of 1983 (P.L. 98-21). This law required all civilian federal employees hired into permanent employment after January 1, 1984, to be covered by Social Security.

Enrolling federal workers in both CSRS and Social Security would have resulted in substantial duplication of benefits and would have required employees to contribute more than 13% of pay to the two programs. Consequently, Congress directed the development of a new retirement system for federal workers with Social Security as its cornerstone. The new plan was intended to incorporate many features of the retirement programs of large employers in the private sector. The result of this effort was the Federal Employee Retirement System Act of 1986 (P.L. 99-335), enacted on June 6, 1986. FERS has three elements:

- Social Security,
- the FERS *basic annuity* (a defined benefit plan), and
- the Thrift Savings Plan (a defined contribution plan).

FERS now covers all federal employees initially hired into federal employment on or after January 1, 1984, and employees who voluntarily switched from CSRS to FERS during “open seasons” in 1987 and 1998.³ Former federal employees who were vested in CSRS and are later rehired by the government after a break in service can either join FERS or participate in the “CSRS offset plan.” Under this plan, 6.2 percentage points of the employee’s payroll contribution and an equal share of the employer contribution are diverted from CSRS to the Social Security trust fund. Later, the retiree’s CSRS annuity is reduced (offset) by the amount of his or her Social Security benefit. Both CSRS and the CSRS offset program will terminate with the death of the

³ The open season held from July through Dec. 1998 was authorized by P.L. 105-61, enacted on Oct. 10, 1997.

last worker or survivor still covered under that program, which the Office of Personnel Management (OPM) estimates will occur around the year 2070.

Eligibility and Benefit Amounts Under FERS and CSRS

Under both CSRS and FERS, two factors determine an employee's eligibility for a retirement annuity: age and years of service. The amount of the worker's retirement annuity is determined by three factors: the number of years of service, the accrual rate at which benefits are earned for each year of service, and the salary base to which the accrual rate is applied.

Private-sector pensions usually provide two retirement options related to age and years of service. Most plans define a "normal retirement age" at which workers can retire with an immediate, unreduced pension. According to the U.S. Department of Labor, among workers in private establishments that offered defined-benefit pension plans in 2003, 73% of workers covered by defined benefit pensions were in plans with a normal retirement age of 65.⁴ Eighty-four percent of workers covered by defined benefit pensions were in plans that offered an early retirement option before the normal retirement age. The most common early retirement option was retirement at age 55 for workers with at least 10 years of service. Almost all plans with an early retirement option pay a reduced benefit because these pensions will, on average, be paid over a longer period. The typical reduction in the benefit amount for workers who retire early is 5% for each year below the normal age of retirement. For example, a worker retiring at age 55 in a defined benefit plan with a normal retirement age of 62 would have his or her pension permanently reduced by 35% below the amount that would have been paid to an employee retiring at age 62 with the same salary and years of service.

Retirement Age and Years of Service

Under CSRS, a worker with at least 30 years of service can retire at age 55; a worker with at least 20 years of service can retire at age 60; and a worker with 5 or more years of service can retire at age 62.

Federal employees are fully vested in the FERS basic retirement annuity after 5 years of service. The earliest age at which a worker can retire under FERS was 55 for workers born before 1948. The retirement age under FERS began to increase in 2003 for workers born in 1948, and it eventually will reach age 57 for those born in 1970 or later. (See **Table 1**.) A worker who has reached the minimum retirement age and has completed at least 30 years of service can retire with an immediate, unreduced annuity. A worker with 20 or more years of service can retire with an unreduced annuity at age 60, and a worker with at least 5 years of service can retire at age 62.

⁴ *National Compensation Survey: Employee Benefits in Private Industry in the United States, 2003*, U.S. Department of Labor, Bureau of Labor Statistics, Bulletin 2577, Oct. 2005.

Table I. Minimum Retirement Age Under FERS

Year of Birth	Minimum Retirement Age
1947 or earlier	55 years
1948	55 years, 2 months
1949	55 years, 4 months
1950	55 years, 6 months
1951	55 years, 8 months
1952	55 years, 10 months
1953 to 1964	56 years
1965	56 years, 2 months
1966	56 years, 4 months
1967	56 years, 6 months
1968	56 years, 8 months
1969	56 years, 10 months
1970 or later	57 years

Source: U.S. Office of Personnel Management.

An employee covered by FERS can retire with a *reduced* benefit at the minimum retirement age if he or she has completed at least 10 years of service. The retirement benefit is permanently reduced by 5% multiplied by the difference between the normal retirement age and the retiree's age at the time the annuity begins. For example, an employee with at least 10 years of service who retires at 55 would receive a pension benefit that is reduced by 35% below the amount that would be paid to an individual with the same salary and years of service who retired at age 62.

Retirement Income Adequacy

Replacement Rates

A commonly used measure of retirement income adequacy is the percentage of pre-retirement income replaced by pension income. This measure—the *replacement rate*—is expressed by the following ratio:

$$\frac{\text{annual retirement benefits}}{\text{annual pre-retirement earnings}}$$

Replacement rates usually are based on the sum of the employee's pension benefit and Social Security benefit. Because retirees do not have the expenses that are associated with having a job, most people are able to maintain their previous standard of living with less income than they had while working. Although there is no fixed rule about what comprises an adequate replacement rate, most pension analysts believe retirement income should replace at least 70% to 80% of pre-retirement income.⁵ Workers who had low-wage jobs generally need a replacement rate near the

⁵ U.S. General Accounting Office, *Federal Pensions: Thrift Savings Plan Has Key Role in Retirement Benefits*, HEHS- (continued...)

high end of this range because a higher proportion of their income is expended on non-discretionary items, such as food, clothing, shelter, health care, and taxes.

Determinants of the Replacement Rate

The basic retirement annuity under both CSRS and FERS is determined by multiplying three factors: the *salary base*, the *accrual rate*, and the number of *years of service*. This relationship is shown in the following formula:

$$\text{Pension Amount} = \text{salary base} \times \text{accrual rate} \times \text{years of service}$$

Salary Base

In both CSRS and FERS, the *salary base* is the average of the highest three consecutive years of base pay.⁶ This is often called “high-3” pay.

Accrual Rates

The *accrual rate* is the pension benefit earned for each year of service, expressed as a percentage of the salary base. Under FERS, workers accrue retirement benefits at the rate of 1% per year. A worker with 30 years of service will have accrued a pension benefit equal to 30% of high-3 pay. For employees in FERS who have at least 20 years of service and who work until at least age 62, the accrual rate is 1.1% for each year of service. For example, a worker covered by FERS who retires at 61 with 29 years of service would receive a FERS annuity equal to 29% of his or her high-3 average pay. Delaying retirement by one year would increase the FERS annuity to 33% of high-3 average pay (30 x 1.1 = 33).

Federal employees covered under CSRS accrue pension benefits at rates that increase with length of service. Workers covered by CSRS accrue benefits equal to 1.5% of high-3 pay for each of their first five years of service; 1.75% of high-3 pay for the sixth through tenth years; and 2.0% of high-3 pay for each year of service after the tenth year. These accrual rates yield a replacement rate of 56.25% for a worker who retires with 30 years of federal service. CSRS accrual rates are higher than the accrual rates under FERS because employees covered by CSRS do not pay Social Security payroll taxes or receive Social Security retirement benefits.

Members of Congress, congressional staff, federal law enforcement officers and federal firefighters accrue benefits at higher rates under both CSRS and FERS than do other federal employees. Under CSRS, Members of Congress and congressional staff accrue benefits at the rate of 2.5% for each year of service. This results in a replacement rate of 75% after 30 years of service. Law enforcement officers and firefighters accrue benefits at the rate of 2.5% for each of their first 20 years of service and 2.0% for each year thereafter. Under FERS, Members of Congress, congressional staff, law enforcement officers, and firefighters accrue pension benefits at the rate of 1.7% per year for their first 20 years of service and 1.0% per year for years of

(...continued)

96-1, Oct. 1995.

⁶ This calculation is based on nominal or “current dollars” rather than indexed or “constant dollars.”

service after the 20th year. These accrual rates yield a pension equal to 34% of the FERS salary base after 20 years of service and 44% after 30 years of service.

Replacement Rates for Federal Retirees

For a worker with 30 years of federal employment, CSRS will provide a replacement rate equal to 56.25% of high-3 average pay, and a slightly lower percentage of final annual pay. Estimating replacement rates under FERS is complicated by the fact that income from two of its components—Social Security and the TSP—will vary greatly depending on the individual's work history, contributions to the TSP, and the investment performance of his or her TSP account.⁷

Early Retirement, Social Security and the "FERS Supplement"

Because Social Security retirement benefits cannot begin before age 62, Congress included in FERS a temporary supplemental benefit for workers who retire before age 62. This benefit, the "FERS supplement" is paid to workers who retire at age 55 or older with at least 30 years of service or at age 60 with at least 20 years of service. The supplement is equal to the estimated Social Security benefit for which the worker will become eligible at age 62, but is based *only* on the portion of Social Security payments that are attributable to the worker's years of federal employment.

It is paid only until age 62, regardless of whether the retiree chooses to apply for Social Security at 62.

Cost-of-living Adjustments (COLAs)

Cost-of-living adjustments protect the purchasing power of retirement benefits from being eroded by inflation in the prices of goods and services. COLAs increase the nominal amount of retirement income, but they do not raise the real value of this income, provided that they are based on an accurate measure of inflation. In 1972, Congress passed legislation providing for automatic cost-of-living adjustments (COLAs) for Social Security. Congress passed this legislation in order to *save* money, because previous ad hoc increases in Social Security benefits had been criticized for being too strongly subject to political influences and, consequently, overly generous relative to the rate of inflation. Social Security COLAs are based on the change in the Consumer Price Index for Urban Wage and Clerical Workers (CPI-W). Private-sector pension plans typically do not provide automatic COLAs. According to the Bureau of Labor Statistics, only 7% of employees in private establishments who participated in a defined benefit pension plan in 2000 were covered by a plan that provided automatic post-retirement cost-of-living adjustments.

COLAs have been in effect since 1962 for CSRS. CSRS annuities are fully indexed for inflation, as measured by the CPI-W.⁸ As a cost-control measure, Congress provided for limited indexing of

⁷ For estimates of the replacement rates under FERS, see CRS Report RL30387, *Federal Employees' Retirement System: The Role of the Thrift Savings Plan*, by Patrick Purcell.

⁸ Under both CSRS and FERS, COLAs are effective in January each year, based on the percentage increase in the CPI-W for the most recent third quarter (July-September) compared to the previous third quarter. In 1994, 1995, and 1996 COLAs for civil service annuitants were delayed from January until April as a means of achieving budgetary savings. (continued...)

the basic annuity under FERS. Under FERS, the basic annuity is fully indexed if inflation is under 2% per year and partially indexed if inflation exceeds 2%. If the CPI-W increases by up to 2%, then the FERS monthly benefit amount increases by the same percentage. If the CPI-W increases by 2% to 3%, the FERS annuity increases by 2%. If the CPI-W increases by more than 3%, the FERS annuity increases by the rise in the CPI-W minus one percentage point. As a further restraint on the costs associated with COLAs, FERS provides COLAs only to retirees who are age 62 or older, annuitants of any age who are retired by reason of disability, and to survivor annuitants of any age.

The Thrift Savings Plan: An Integral Component of FERS

The Thrift Savings Plan (TSP) is a *defined contribution* retirement plan similar to the “401(k)” plans provided by many employers in the private sector.⁹ The TSP is a key component of FERS, especially for workers in the middle and upper ranges of the federal pay scale, who are unlikely to achieve adequate retirement income—as measured by the replacement rate—from Social Security, the FERS basic annuity, and the federal government’s automatic contribution of 1% of pay to the TSP. As of January 2007, the Thrift Savings Plan held \$210.3 billion in assets and had 3.7 million participants among the federal civilian workforce, the uniformed services, and former employees who continued to hold retirement assets in the TSP.

For all federal workers covered by FERS, the agency where they are employed contributes an amount equal to 1% of the employee’s base pay to the TSP, whether or not the employee chooses to contribute anything to the plan. In 2007, federal employees can contribute up to \$15,500 to the TSP.¹⁰ Employees age 50 and older can contribute an additional \$5,000. Contributions to the TSP are made on a pre-tax basis, and the contributions and investment earnings are free from taxes until the money is withdrawn from the account. In addition, employers covered by FERS receive employer matching contributions of up to 5% of pay, according to the schedule shown in **Table 2**. Federal workers covered by CSRS also may participate in the TSP, but they receive no matching contributions from their employing agency.

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See CRS Report 94-834, *Cost-of-Living Adjustments for Federal Civil Service Annuities*, by Patrick Purcell for a complete history of COLAs under CSRS and FERS.

⁹ “401(k)” refers to the section of the Internal Revenue Code that authorizes deferral of income taxes on contributions to retirement savings plans and the interest and dividends on those contributions until funds are withdrawn.

¹⁰ The annual limit on contributions is set in law at §402(g) of the Internal Revenue Code. Prior to 2006, employee contributions were limited to the lesser of a specific percentage of pay or the amount permissible under I.R.C. §402(g). The *Consolidated Appropriations Act of 2000* (P.L. 106-554) eliminated the percentage-of-pay limitations on contributions to the TSP, effective in 2006.

Table 2. Government Matching Rate on TSP Contributions by FERS Participants

(as a percentage of salary)		
Employee	Government	Total
0.0%	1.0%	1.0%
1.0%	2.0%	3.0%
2.0%	3.0%	5.0%
3.0%	4.0%	7.0%
4.0%	4.5%	8.5%
5.0% or more	5.0%	10.0%

Source: Federal Retirement Thrift Investment Board.

The TSP and Portability of Benefits

The TSP adds an important element of portability to retirement benefits that was absent under CSRS. All TSP participants are immediately vested in their contributions to the plan, all federal matching contributions, and any growth in the value of their investment from interest, dividends, and capital gains. Participants are fully vested in the 1% agency automatic contributions to the TSP after three years (two years for congressional employees and executive branch political appointees). Workers can therefore move more easily between federal employment and jobs in other sectors of the economy, while carrying a significant portion of their accrued retirement benefits with them.

Investment Options in the TSP

The contribution that the TSP makes to a federal employee's retirement income will depend on the value of the account at retirement. The value of the account in turn will depend on the worker's salary during his or her career, the percentage of salary that was contributed to the TSP, the number of years over which investment earnings accrued, and the performance of the funds into which the employee directed the contributions. Participants in the TSP may choose among five funds in which they can invest their TSP contributions:

- The "C" fund is a common stock index fund consisting of the corporations that are represented in Standard and Poor's Index of 500 common stocks. These comprise most of the largest and best-known corporations in the United States. Because stock prices can both rise and fall, the value of investments in the "C" fund may both increase and decrease over time.
- The "F" fund, or "Fixed Income Index Investment Fund," is a bond index fund that tracks the performance of the Shearson Lehman Brothers Aggregate (SLBA) bond index. These securities consist of government bonds, corporate bonds, and mortgage-backed securities. Like the "C" fund, the securities purchased by the "F" fund may fluctuate in value and investments in this fund are thus subject to some risk.

- The “G” fund consists of U.S. government securities and pays interest equal to the average rate of return on long-term U.S. government bonds. The “G” fund is the safest of the TSP funds because the principal is guaranteed not to decline in value.
- The Small Capitalization Stock Index Fund (the “S” fund) is invested in a portfolio of common stocks that matches the distribution of stocks in the *Wilshire 4500* index. The *Wilshire 4500* represents smaller companies than those in the *S&P 500*.
- The International Stock Index Investment Fund (the “I” fund) invests in the common stocks of foreign corporations represented in the Morgan-Stanley *EAFE* (Europe, Australia-Asia, Far East) index.¹¹

In 2005, the TSP introduced three “Lifecycle Funds.” The Lifecycle Funds are invested in various combinations of the five existing TSP funds. According to a statement by the executive director of the TSP, participants who invest in these funds “will benefit from having professionally designed asset allocation models available to optimize their investment performance by providing portfolios that are appropriate for their particular time horizon.”¹² The participant’s time horizon is based on the future date he or she expects to begin withdrawing money from the Thrift Savings Plan.

Historical rates of return for the five TSP funds are shown in **Table 3**. For the years before 2001, the rates of return for the S and I funds represent the rates of return for the indices on which those funds are based.

Table 3. Annual Rates of Return for Thrift Savings Plan Funds

Year	G Fund	C Fund	F Fund	S Fund	I Fund
1988	8.8%	11.8%	3.6%	20.5%	26.1%
1989	8.8	31.0	13.9	23.9	10.0
1990	8.9	-3.2	8.0	-13.6	-23.6
1991	8.1	30.8	15.7	43.5	12.2
1992	7.2	7.7	7.2	11.9	-12.2
1993	6.1	10.1	9.5	14.6	32.7
1994	7.2	1.3	-3.0	-2.7	7.8
1995	7.0	37.4	18.3	33.5	11.3
1996	6.8	22.8	3.7	17.2	6.1
1997	6.8	33.2	9.6	25.7	1.6
1998	5.7	28.4	8.7	8.6	20.1
1999	6.0	21.0	-0.8	35.5	26.7

¹¹ Both the “S” fund and the “I” fund were added to the TSP in May 2001 in accordance with the *Thrift Savings Plan Act of 1996* (P.L. 104-208).

¹² Statement of Gary A. Amelio, executive director of the Federal Retirement Thrift Investment Board before the Senate Subcommittee on Securities and Investment, June 14, 2005.

Year	G Fund	C Fund	F Fund	S Fund	I Fund
2000	6.4	-9.1	11.7	-15.8	-15.2
2001	5.4	-11.9	8.6	-2.2	-15.4
2002	5.0	-22.1	10.3	-18.1	-16.0
2003	4.1	28.5	4.1	42.9	37.9
2004	4.3	10.8	4.3	18.0	20.0
2005	4.5	5.0	2.4	10.5	13.6
2006	4.9	15.8	4.4	15.3	26.3
1988-2006	6.4%	11.9%	7.2%	12.7%	7.5%

Sources: <http://www.tsp.gov>, <http://www.wilshire.com>, and <http://www.msci.com>.

Note: Rates of return for the C, G, and F funds are shown net of TSP expenses.

TSP Withdrawal Options

At retirement, there are three ways an employee can withdraw funds from the TSP. Funds can be withdrawn

- as a life annuity,¹³
- in a single “lump-sum” payment,¹⁴ or
- in a series of monthly payments, either for a fixed number of months or in a fixed dollar amount, until the account is depleted.

The retiree can choose to have payments begin immediately or at a later date. There is a 10% tax penalty for those who retire before the year in which they turn 55 if they withdraw funds before age 59½, either as a lump sum or as a series of fixed payments (unless the payments are based on life expectancy, as in an annuity).

Employer and Employee Contributions to CSRS and FERS

Both CSRS and FERS require participants to contribute toward the cost of their future pensions through a payroll tax. Employees who are covered by CSRS contribute 7.0% of base pay to the Civil Service Retirement and Disability Fund (CSRDF). Workers covered by FERS contribute

¹³ An annuity is a contract between the individual and a financial institution, usually an insurance company, in which the individual exchanges a lump sum for a guaranteed stream of monthly payments for the rest of his or her life, and often for the lifetime of a surviving spouse. The insurance company invests the lump sum and uses the earnings of the investment as well as the principal to make payments to the annuitant. Payments are based both on the estimated rate of return from the investment and actuarial estimates of the annuitant's remaining life expectancy at retirement.

¹⁴ A new TSP record-keeping system went online in 2003. In addition to providing daily valuation of funds, it allows retirees to withdraw funds from the TSP in the form of a partial lump-sum withdrawal with the remainder paid as an annuity.

0.8% of pay to the Fund.¹⁵ Federal employees covered by FERS also pay Social Security taxes of 6.2% on salary up to the maximum taxable wage base (\$97,500 in 2007). Participants in CSRS are not covered by Social Security.¹⁶ Congress made the sum of FERS contributions and Social Security payroll taxes equal to the CSRS contribution rate so that workers with the same salary would have the same take-home pay, regardless of whether they were covered by CSRS or FERS. Members of Congress contribute 8.0% of salary to the CSRDF if covered by CSRS and 1.3% of salary if covered by FERS. All members of Congress pay Social Security taxes, regardless of whether they are covered by CSRS or FERS.¹⁷

In the private sector, employers are required by the Employee Retirement Income Security Act of 1974 (ERISA, P.L. 93-406) to pre-fund the benefits that workers earn under defined benefit plans. Any unfunded liability of the pension plan must be amortized over a period of not more than seven years. Pre-funding of future pension obligations is beneficial for workers because there is always the possibility that a firm could go out of business. A firm that closes down will no longer have revenues to pay its pension obligations, and if these obligations were not fully funded, retirees and employees of the firm would lose some or all of their present and future pension benefits. A federal agency, the Pension Benefit Guarantee Corporation (PBGC), collects premiums from employers to finance insurance against the failure of firms that have unfunded pension liabilities. PBGC insurance does not guarantee that a retiree will receive 100% of the pension benefits that were promised by an employer. The PBGC guarantees a maximum annual benefit of \$49,500 for a worker retiring at age 65 in 2007. The maximum benefit is lower for workers who retire before 65.

The federal government requires firms in the private sector to pre-fund employees' pension benefits to ensure that if a firm goes out of business, there will be funds available to pay its pension obligations. Although the federal government is unlikely to "go out of business," there are other reasons that Congress requires federal agencies and their employees to contribute money to the Civil Service Retirement and Disability Fund.¹⁸ First, by providing a continuous source of budget authority, the trust fund allows benefits to be paid on time, regardless of any delays that Congress may experience in passing its annual appropriations bills. Secondly, the balance in the trust funds acts as a barometer of the government's future pension obligations. Given a fixed pension plan contribution rate and benefit structure, a rising trust fund balance indicates that the government is incurring obligations to make higher pension payments in the future.¹⁹ Finally, prefunding pension obligations forces federal agencies to recognize the full cost

¹⁵ As mandated by the *Balanced Budget Act of 1997* (P.L. 105-33), employee contribution rates under both CSRS and FERS rose by 0.25% in Jan. 1999 and by a further 0.15% in Jan. 2000. Another increase of 0.1% was scheduled for Jan. 2001. Employee contribution rates were then to revert to their base levels—7.0% under CSRS and 0.8% under FERS—on Jan. 1, 2003. The increases in employee contribution rates under both CSRS and FERS were repealed (effective Dec. 31, 2000) by the FY2001 *Department of Transportation Appropriations Act* (P.L. 106-346). The repeal applies to all federal employees except for members of Congress, who continued to pay the higher contribution rate mandated by BBA-97 until Jan. 1, 2003.

¹⁶ Former federal employees are eligible for Medicare at age 65, regardless of whether they were covered by CSRS or FERS, and federal workers in both programs pay the Hospital Insurance (HI) payroll tax of 1.45% on all salary and wages.

¹⁷ See also CRS Report RL30631, *Retirement Benefits for Members of Congress*, by Patrick Purcell.

¹⁸ In general, state and local governments do not face this risk either; however, they are more like private businesses in that they have in some cases defaulted on their public debts.

¹⁹ As is explained later in this report, a large trust fund balance does *not* by itself make it easier to pay these benefits when they come due. This is a fundamental distinction between the federal government and other employers in their ability to prefund benefits.

of their personnel when requesting annual appropriations from Congress. Otherwise, these costs would be recognized only in the central administrative accounts of the Office of Personnel Management (OPM), and not by the agencies where the costs are incurred.

The Role of Employee Contributions

Federal employees must contribute either to CSRS or FERS, but employee contributions pay for a comparatively small part of the retirement annuities paid by these programs. Contributions to CSRS and FERS are not deposited into individual employee accounts. Nor is the amount of a federal worker's pension based on the amount of his or her contributions. All contributions are paid into—and all benefits are paid out of—the Civil Service Retirement and Disability Fund. There are, however, both *budgetary* and *actuarial* reasons that federal employees are required to contribute to CSRS and FERS.

Employee Contributions from a Budgetary Perspective

Employee contributions generate revenue that reduces the proportion of pension costs that must be borne by the public through income taxes and other taxes. In the context of the federal budget process, employee contributions may make federal workers more conscious of their role as “stakeholders” in these programs, thus generating some protection for federal retirement benefits during the annual budget debates. In FY2006, employee contributions to CSRS and FERS totaled \$3.7 billion, equal to 4.2% of the total income of the Civil Service Retirement and Disability Fund. The other major sources of revenue to the CSRDF are agency contributions, contributions of the U.S. Postal Service on behalf of its employees, interest on the federal bonds held by the fund, and a transfer from the general revenues of the U.S. Treasury. This transfer is necessary because the costs of the older of the two federal retirement programs, CSRS, are not fully covered by employee and agency contributions. FERS benefits are required by law to be fully funded by the sum of contributions from employees and their employing agencies.

Employee Contributions in Actuarial Terms

Actuaries calculate the cost of pension programs in terms of “normal cost.” The normal cost of a pension plan is the level percentage of payroll that must to be set aside each year to fund the expected pension benefits that will be paid to all members of an employee group and their surviving dependents. Normal cost is based on estimates of attrition and mortality among the workforce, and estimates of future interest rates, salary increases, and inflation.

OPM estimated the normal cost of CSRS to be 25% of payroll in FY2006. The federal government's share of the normal cost of CSRS is 18% of payroll. The Civil Service Retirement Amendments of 1969 (P.L. 91-93) require participating employees and their employing agencies each to contribute an amount equal to 7.0% of basic pay to the Civil Service Retirement and Disability Fund to finance retirement benefits under CSRS. The combined contribution of 14% of employee pay does not fully finance the retirement benefits provided under the Civil Service Retirement System. The costs of the CSRS that are not financed by the 7.0% employee and 7.0% agency contributions are attributable mainly to increases in future CSRS benefits that result from (1) employees' annual pay raises, and (2) CSRS annuitants' annual cost-of-living adjustments. In actuarial terms, the employee and agency contributions totaling 14% of pay are equal to the *static*

normal cost of CSRS benefits.²⁰ This is the benefit that would be paid if employees received no future pay raises and annuitants received no future cost-of-living adjustments. The *dynamic normal cost* of CSRS pensions includes the cost of financing future benefit increases that result from pay raises and cost-of-living adjustments.²¹

Contributions from employees and the federal agencies that employ them meet about 56% of the normal cost of CSRS. ($14.0/25.0 = .56$) The remaining 44% of the cost of CSRS is paid from the interest earned by bonds held by the retirement and disability trust fund, special contributions by the U.S. Postal Service for retired postal workers, and through transfers from the general revenues of the U.S. Treasury. The Bush Administration has proposed that each federal agency should pay the full cost of CSRS benefits on an accrual basis, as is done under FERS. Each agency would contribute to the CSRDF an amount equal to 18% of payroll, which represents the dynamic normal cost of CSRS minus the required employee contribution of 7.0% of pay. The Office of Management and Budget (OMB) states that this “would require agencies to fund the full Government share of the accruing cost of pensions ... as they are earned by all Federal civilian and military employees.”²² Congress has not acted on the proposal.

OPM estimated the normal cost of the FERS basic annuity at 12% of payroll in 2006. Federal law requires agencies to contribute an amount equal to the normal cost of FERS minus employee contributions to the program, which are equal to 0.8% of payroll. Consequently, the normal cost of the FERS basic annuity to the federal government is equal to 11.2% of payroll ($12.0 - 0.8 = 11.2$). The federal government has three other mandatory costs for employees covered by FERS. Social Security taxes are 6.2% of payroll on both the employee and the employer up to the maximum taxable amount of earnings (\$97,500 in 2007). All agencies automatically contribute an amount equal to 1% of employee pay to the TSP. Agencies also make matching contributions to the TSP. The normal cost of FERS to the federal government is therefore at least 18.4% of pay for the average employee, or slightly higher than the normal cost of CSRS. Federal matching payments to the TSP can add up to 4 percentage points to this total, depending on an employee's voluntary contributions.

CSRS and FERS differ in the way that each federal agency must budget for its contributions toward employee pension benefits. Under FERS, each agency must include the *full normal cost* of the FERS basic benefit (11.2% of pay in 2006) in its annual budget request. Under CSRS, each agency must budget only a 7.0% contribution, even though this is less than the cost of the program. The costs associated with CSRS that are not paid by the employee contribution of 7.0% and the agency contribution of 7.0% are treated as a general obligation of the U.S. Treasury.

In both CSRS and FERS, government contributions to the Civil Service Retirement and Disability Trust Fund result in the Treasury issuing securities that are credited to the fund. The contributions for both programs are commingled and benefits for retirees and survivors in both programs are paid from the Civil Service Retirement and Disability Fund, which is a trust fund of the U.S. government. Government contributions to the TSP go into individual accounts for each TSP participant. The accounts are managed by the Federal Retirement Thrift Investment Board.

²⁰ A pension plan's *normal cost* is the level percentage of pay that, invested today at a particular real rate of interest will be sufficient to fully finance the retirement benefits under the plan.

²¹ Two other elements of a pension plan's dynamic normal cost are increases in benefits that result from (1) new or expanded benefits and (2) newly covered groups of workers.

²² OMB News Release 2001-47, Oct. 15, 2001.

The TSP is not a trust fund of the U.S. government. TSP accounts are individually owned by the participants in the TSP in the same way that 401(k) accounts are owned by workers in the private sector.

Financing Pension Benefits for Federal Employees

At the start of FY2006, the Civil Service Retirement and Disability Fund had net assets of \$666 billion available for benefit payments under both CSRS and FERS. At the same time, the accrued actuarial liability under the CSRS and FERS plans was \$1,242 billion.²³ In other words, on October 1, 2005, the civil service trust fund had an *unfunded actuarial liability* of \$576 billion. All of this unfunded liability is attributable to CSRS because federal law has never required that employee and agency contributions to the fund must equal the present value of benefits that employees accrue under that plan. In contrast, The FERS Act requires that the benefits accrued each year by employees covered by FERS must be fully funded by contributions from employees and their employing agencies.

Although the civil service trust fund has an unfunded liability attributable to CSRS, the Civil Service Retirement and Disability Trust Fund is not in danger of becoming insolvent. According to the projections of the fund's actuaries, there is no point over the next 75 years at which the fund will be exhausted. Actuarial projections of the credits that will be entered to the fund and the benefits that will be paid from it indicate that the Civil Service Retirement and Disability Fund will be able to meet its financial obligations in perpetuity. According to OPM, "the total assets of the CSRDF, including both CSRS and FERS, continue to grow throughout the term of the projection, and ultimately reach a level of about 4.8 times payroll, or about 23 times the level of annual benefit outlays."²⁴ One reason that the civil service trust fund will not exhaust its resources for the foreseeable future is that all federal employees hired since 1984 are covered by FERS. By law, the benefits that employees earn under FERS must be *fully funded* by the sum of annual contributions made by employees and their employing agencies.

Federal Trust Funds and Pre-Funding of Benefits

The Civil Service Retirement and Disability Trust Fund is similar to the Social Security Trust Fund in that 100% of the monies deposited are used to purchase special-issue U.S. Treasury bonds. This exchange between the trust fund and the Treasury does not result in revenues or outlays for the federal government. It is an *intra-governmental transfer*, which has no effect on the size of the government's budget surplus or deficit.²⁵

Federal trust funds are not a "store of wealth" like private pension funds. The assets of the civil service retirement trust fund are special-issue bonds of the U.S. Treasury that function solely as a

²³ The actuarial present value of benefits is based on the *dynamic normal costs* of the plans, which include all future costs, including COLAs.

²⁴ Civil Service Retirement and Disability Fund, *Report for the Fiscal Year Ended September 30, 2004*, p 8.

²⁵ A trust fund merely represents *budget authority*. Only *revenues* and *outlays* affect the size of the annual budget surplus or deficit. The excess revenues that result in a trust fund surplus therefore reduce the government's deficit (or increase its surplus) and the outlays for retiree and survivor benefits either reduce the government's budget surplus or increase the budget deficit. However, the exchange of cash for bonds (or vice versa) between the trust fund and the Treasury does not affect the deficit because it is an exchange that occurs entirely *within* the government.

record of unexpended budget authority. These bonds cannot be sold by the trust fund to the general public in exchange for cash. They can only be returned by the fund to the Treasury, which recognizes each bond as representing an equivalent dollar-value of budget authority to be used for the payment of benefits to federal retirees and their survivors, and for no other purpose. As has been reported by the United States Office of Management and Budget:

These [trust fund] balances are available to finance future benefit payments and other trust fund expenditures—but only in a bookkeeping sense. The holdings of the trust funds are not assets of the Government as a whole that can be drawn down in the future to fund benefits. Instead, they are claims on the Treasury. When trust fund holdings are redeemed to pay benefits, Treasury will have to finance the expenditure in the same way as any other Federal expenditure: out of current receipts, by borrowing from the public, or by reducing benefits or other expenditures. The existence of large trust fund balances, therefore, does not, by itself, increase the Government's ability to pay benefits.²⁶

Government trust funds, however, *can* ease the burden of future benefit payments if an increase in the trust fund balance represents a net increase in national saving. Again, quoting OMB:

From an economic standpoint, the Government is able to prefund benefits only by increasing saving and investment in the economy as a whole. This can be fully accomplished only by simultaneously running trust fund surpluses equal to the actuarial present value of the accumulating benefits and not allowing the Federal fund deficit to increase, so that the trust fund surplus reduces a unified budget deficit or increases a unified budget surplus. This would reduce Federal borrowing by the amount of the trust funds surplus and increase the amount of national saving available to finance investment. Greater investment would increase future incomes and wealth, which would provide more real economic resources to support the benefits.²⁷

Investment Practices of Federal Trust Funds

Federal trust funds do not represent a store of wealth because they consist entirely of U.S. government bonds. A bond represents wealth only when it is held by someone other than the individual, company, or government that issued it. A bond is an I.O.U.—a promise to pay. One might consider an I.O.U. from someone else to be an asset, provided that the issuer is willing and able to pay the debt when it is due, but writing an I.O.U. to oneself does *not* create an asset. This analogy applies to the U.S. Treasury bonds held by the federal government's trust funds: they are I.O.U.s issued by one agency of the U.S. government and held by another agency of the same government. Both the issuer and holder are part of the same entity: the U.S. government. When federal trust funds redeem their bonds, the Treasury has only one source from which to obtain the required cash: the public. It can do this either by collecting taxes or by borrowing from the public.

Many state and local government pension funds invest in stocks, bonds, mortgages, real estate, and other private assets. If Congress were to permit the Civil Service Retirement and Disability Fund to acquire assets other than U.S. Treasury bonds—such as the stocks and bonds issued by private corporations—such assets could be sold to the public for cash as pension liabilities come due. This would represent a major change in public policy that would have important effects on

²⁶ U.S. Office of Management and Budget, *Budget of the United States Government, Fiscal Year 2008: Analytical Perspectives*, 2006, p. 345.

²⁷ *Ibid.*

the federal budget process and possibly on the private businesses that would effectively be partly owned by an agency of the federal government.²⁸

Among the possible drawbacks of allowing the CSRDF to invest in private assets are that the stocks and bonds purchased by the trust fund would displace purchases of these assets by private citizens, so that while civil service retirement benefits would be prefunded, it would be at the cost of reducing the amount of private-sector assets held by private citizens. In a scenario of "full displacement," there would be no net increase in the amount of saving and investment in the economy, just a reallocation of assets, in which the government would own more private sector stocks and bonds and private investors would hold more Treasury bonds.

A second issue that would have to be considered if the trust fund were to purchase private investment securities would be the fund's management and investment practices. Who would make the investment decisions, and what would be the acceptable level of investment risk for the funds? The most fundamental risk, of course, is that poor investment choices would result in the trust fund losing value over time. Also, what other criteria would govern the choice of the fund's investments? Deciding what constitutes an appropriate investment for a fund that consists mainly of monies provided by the U.S. taxpayers would undoubtedly result in some controversies. Not all companies, industries, or countries would be seen by the public as appropriate places to invest these funds. In short, the question of investing trust fund assets in securities other than U.S. Treasury bonds is one that would deserve close and careful consideration of all the possible ramifications.

Allowing the civil service retirement trust fund to invest in private-sector securities also would have implications for the federal budget. Currently, the trust fund is credited by the Treasury with agency contributions on behalf of covered employees, and receives revenue in the form of employee contributions. Agency contributions are intra-governmental transfers, and have no effect on the size of the government's annual budget deficit or surplus. Employee contributions, however, are counted as revenues of the U.S. government. As it now operates, the only outlays of the trust fund are payments to annuitants (in addition to outlays for administrative expenses and some other minor categories of expenditure). If the trust fund were to purchase private assets such as corporate stocks and bonds rather than U.S. Treasury bonds, there would be an immediate outlay of funds. This outlay by the trust fund would be paid for in part by employee contributions that would be diverted from the general fund of the Treasury. The remainder of the purchase, financed by agency contributions, would replace an intra-governmental transfer with a direct outlay of federal funds.

Because the Treasury would no longer receive employee contributions toward CSRS and FERS as revenue, it would have to borrow an equal amount from the public. Consequently, without an offsetting reduction in outlays elsewhere in the budget or an increase in revenues from another source, the net effect of these transactions would be an increase in the government's budget deficit (or a decrease in the budget surplus). If the budget accounting period extended over a long enough period of time, these transactions would cancel one another out because the long-term effect is merely to move some outlays from the future, where they would have occurred as

²⁸ The Railroad Retirement and Survivors' Improvement Act of 2001 (P.L. 107-90) authorizes the Railroad Retirement Trust Fund to acquire corporate stocks, bonds, and other assets to fund railroad retirement benefits. According to the Congressional Budget Office, "such an action has no clear precedent and raises questions about how the federal government might behave as an investor in private enterprises." (Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2003-2012*, Jan. 2002, p. 88.)

payments to annuitants, to the present, where they occur partly as outlays to purchase assets and partly as a reduction in revenues that currently go to the general fund of the Treasury.

Conclusion

Federal employee pensions are financed by a combination of employee and agency contributions to the Civil Service Retirement and Disability Fund, which is required by law to invest all of its income in U.S. Treasury bonds. The fund currently holds bonds and other government securities valued at \$666 billion and has liabilities of \$1.242 billion. The resulting unfunded liability of \$576 billion is attributable entirely to the old Civil Service Retirement System, which was never fully funded. Nevertheless, the entire CSRDF liability of \$1.242 billion represents a future claim on taxpayers because the entire trust fund is invested in Treasury bonds, which when redeemed will require the Treasury to raise an equivalent dollar value of revenue from the public.

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<http://wikileaks.org/wiki/CRS-98-810>