CBO MEMORANDUM

COMPARING FEDERAL EMPLOYEE BENEFITS WITH THOSE IN THE PRIVATE SECTOR

August 1998

CONGRESSIONAL BUDGET OFFICE
SECOND AND D STREETS, S.W.
WASHINGTON, D.C. 20515

NOTES

Unless otherwise indicated, all years referred to in this memorandum are fiscal years.

Numbers in the text and tables may not add to totals because of rounding.

For years, analysts have raised concerns about the generosity of the retirement and other benefits available to federal employees. This memorandum looks at federal employee benefits and how they compare with those of employees of large private-sector firms. The analysis was undertaken as background in support of ongoing Congressional Budget Office (CBO) analytical work for the Congress.

R. Mark Musell of CBO's Special Studies Division prepared the memorandum under the supervision of Arlene Holen. Kristin McCue and David Torregrosa assisted with the analysis. Joseph R. Antos, James L. Blum, Linda Bilheimer, Sandra Christensen, Paul Cullinan, and David M. Delquadro, all of CBO, provided helpful comments on early versions of the report. Outside CBO, valuable comments and assistance were provided by Lex Miller of Watson Wyatt & Company, Ron Gebhardtsbauer at the American Academy of Actuaries, Carolyn Merck at the Congressional Research Service, and Margaret Wrightson and Jennifer Cruise at the General Accounting Office.

Sherry Snyder edited the manuscript, and Leah Mazade proofread it. Sharon Corbin-Jallow prepared the memorandum for publication, and Laurie Brown prepared the electronic version for CBO’s Web site (www.cbo.gov).

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SUMMARY

The federal government and many private firms provide various benefits as part of their employees' compensation. This analysis compares federal government and private-sector practices covering retirement, health insurance, and other major employee benefits. It complements a 1997 analysis in which the Congressional Budget Office (CBO) compared federal and private-sector pay. That analysis found that, on average, the federal government pays less than private-sector firms for similar jobs. It also offered evidence that low pay means that the government sometimes accepts less experienced workers.

Results and Conclusions

The analysis compares the dollar value of benefits that various types of hypothetical employees earn in a year. The employees vary by age, income, and years of service, thus providing a broad comparison. The values represent only the portion of benefits that employers provide, not those that employees pay for directly. Comparisons are constructed to isolate differences in benefit values that arise solely from differences in provisions of the benefit plans.

On that basis, the analysis suggests that employee benefits represent a significant portion of the compensation packages of both the federal government and the large private firms covered by this analysis. Depending on age, salary, length of service, and retirement plan, benefits range from 26 percent to 50 percent of pay for federal employees and from 24 percent to 44 percent of pay for employees of the large private firms. In most cases examined, the value of the employee benefit package offered by the federal government exceeds the value of comparable benefits offered by private firms. The federal advantage can reach 7.2 percent of pay (see Summary Table 1). The analysis also indicates the following:

- Federal workers covered by the Federal Employees Retirement System (FERS) have somewhat higher benefits, overall, than employees of large private firms. The benefits of FERS employees are also more generous than those of their counterparts who are covered by the Civil Service Retirement System (CSRS).

- Federal vacation, holiday, disability, FERS, and retiree health benefits generally are more generous than benefits of the same type offered by the private firms. Federal health insurance and life insurance, however, lag behind those benefits in the private sector. How the value of CSRS benefits compares depends on the age,

SUMMARY TABLE 1. COMPARISON OF THE ANNUAL VALUE OF FEDERAL AND PRIVATE-SECTOR BENEFITS FOR FIVE HYPOTHETICAL EMPLOYEES (In dollars)

Age (Years)	25	35	55	60	50
Service (Years)	2	10	20	20	25
Salary (Dollars)	25,000	45,000	75,000	45,000	50,000
Retirement					
CSRS	a	a	10,770	3,545	8,309
FERS	1,750	5,320	14,435	6,644	8,715
Private sector	1,110	3,516	10,998	5,116	6,227
Health Insurance					
CSRS	a	a	4,091	5,097	3,014
FERS	1,711	2,041	4,091	5,097	3,014
Private sector	2,211	2,538	4,617	5,726	3,459
Retiree Health Insurance					
CSRS	a	a	1,319	1,778	2,059
FERS	493	1,224	1,319	1,778	2,059
Private sector	225	568	648	820	1,002
Life Insurance					
CSRS	a	a	397	479	100
FERS	-53	-64	397	479	100
Private sector	46	101	943	916	423
Sick Leave and Disability					
CSRS	a	a	2,766	1,750	1,371
FERS	409	882	3,352	2,057	1,598
Private sector	367	779	2,793	1,716	1,354
Holiday and Vacation					
CSRS	a	a	10,385	6,231	6,923
FERS	2,212	5,193	10,385	6,231	6,923
Private sector	2,067	4,780	9,158	5,495	6,338
Total					
CSRS	a	a	29,728	18,880	21,776
FERS	6,522	14,596	33,979	22,286	22,409
Private sector	6,026	12,282	29,157	19,789	18,803
Benefits as a Percentage of Pay					
CSRS	a	a	39.6	42.0	43.6
FERS	26.1	32.4	45.3	49.5	44.8
Private sector	24.1	27.3	38.9	44.0	37.6
Difference as a Percentage of Pay					
CSRS	a	a	0.8	-2.0	5.9
FERS	2.0	5.1	6.4	5.5	7.2

SOURCE: Congressional Budget Office using data from Watson Wyatt & Company.

NOTES: Private-sector values reflect practices as of 1996.

CSRS = Civil Service Retirement System; FERS = Federal Employees Retirement System.

a. The two youngest employees would not be eligible for CSRS because the plan was closed in 1983.

income, and years of service of the employees. Employees who are able to retire early do well under the CSRS program.

- For federal jobs with pay near the level of their private-sector counterparts, the advantage in employee benefits would put the value of the entire compensation package (pay and benefits together) at or above that of the private sector. For the large number of federal jobs with pay gaps above the national average of 22 percent, federal pay and benefits together would still be well below the compensation offered for similar jobs by large firms. Those jobs include many higher-graded and higher-skilled positions.

The results are consistent with findings of earlier comparisons. In a recent study of employee retirement benefits, the General Accounting Office also found FERS benefits more generous than those of both CSRS and private-sector firms. An analysis by the Congressional Research Service found, as does this analysis, that federal and private benefit packages were fairly close in value, with the federal government often offering more valuable retirement benefits but less valuable health insurance.

Method and Qualifications

Dollar values were calculated by Watson Wyatt & Company, a benefits consulting firm, in consultation with CBO. Benefit values for private firms reflect the 1996 practices of the 800 predominantly large firms in the company's database. Those firms employ almost 12 million workers. Dollar values calculated for federal employees are based on data from the Office of Personnel Management covering federal employment, benefit provisions, and participation in various benefit programs.

The benefit comparisons cover only major benefits—those that usually make up the large part of any employee benefit package. Firms may offer different benefits to different groups of employees. The benefits considered in this analysis are those that cover the bulk of the rank-and-file, white-collar workers in the federal government and the private firms.

Results reflect the predominance of large firms in the Watson Wyatt & Company database. The comparisons are therefore most relevant for many professional and other higher-level jobs for which such firms would more likely serve as a source of competition for federal recruitment.

Preparing such comparisons involves making assumptions about employee behavior, rates of inflation, and other factors. CBO tested several equally plausible sets of assumptions. The results presented are based on patterns of retirement among federal employees and on federal economic assumptions, which produce the highest federal benefit amounts. Results using assumptions based on experience in the private sector are presented in Appendix B. That alternative analysis shows the federal advantage in benefits can reach about 5.6 percent of pay.

Given the uncertainties associated with estimating benefit levels, these estimates should not be interpreted as definitive. Rather, this analysis offers new information that illustrates the general magnitude and direction of differences in the level of federal and private-sector benefits.

INTRODUCTION

Providing various benefits, such as retirement plans and health insurance, to supplement employees' pay is a common practice among governments and private firms. Such benefits are favored under the tax code and provide employees with a measure of economic security as well as access to health and other services. They also promote the stability of the workforce.

Analysts have criticized benefits for federal civilian employees as relatively generous when compared with practices in private firms.[1] In past analyses, the Congressional Budget Office (CBO) has cited such claims as a possible rationale for trimming benefits.[2] Over the years, the Congress has considered a variety of changes in federal benefits intended to bring federal practices more in line with those of private firms. Those proposals have included delaying cost-of-living adjustments for retirement benefits and reducing the government's share of health insurance costs.

Building on an earlier analysis that compared federal and private-sector pay, this memorandum compares benefits for federal employees with those offered by a selected group of large private employers.[3] The comparison indicates that for various hypothetical federal employees, the value of federal benefits surpasses that of the average benefits of the private firms considered. Under assumptions that make federal employee benefits look generous when compared with others, the federal advantage can reach 7.2 percent of pay.

Method of Analysis

The analysis from which those results derive compares the present dollar value of benefits earned for a year of work by hypothetical federal and private employees. The specific method for calculating those values varies from benefit to benefit. A more detailed discussion of the methods CBO used can be found in Appendix A.

The dollar values cover only the portion of benefits that employers provide; they exclude the portion that employees pay for directly. The comparisons are designed so that differences in benefit values reflect only differences in the provisions of benefit plans. Two aspects of the comparisons, in particular, help ensure a focus on variations in benefit provisions.

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1. Peter G. Peterson, *Facing Up* (New York: Simon and Schuster, 1993), p. 103.

2. See, for example, Congressional Budget Office, *Reducing the Deficit: Spending and Revenue Options* (March 1997), p. 251.

3. See Congressional Budget Office, *Comparing Federal Salaries with Those in the Private Sector*, CBO Memorandum (July 1997), the findings of which are summarized in the last section of this memorandum.

First, the analysis compares the value of benefits that the same set of five hypothetical employees would earn in the federal government and the private sector. Thus, results are free of the variations in values one might expect if the comparisons covered workers with characteristics that varied between the federal and private sectors. CBO selected the age, salary, and years of service for each hypothetical employee to illustrate a variety of typical circumstances. The hypothetical employees have the following profile:

Age	Salary (Dollars)	Years of Service
25	25,000	2
35	45,000	10
60	45,000	20
55	75,000	20
50	50,000	25

Second, the analysis uses a common set of assumptions about interest rates, retirement patterns, and other factors to compute the dollar values of both federal and private-sector benefits. Thus, results are free of differences that one might expect if one assumed that federal and private-sector employees behaved differently. The assumptions about behavior that the analysis used generally reflect federal experience.

Dollar values were calculated by Watson Wyatt & Company in consultation with CBO. The Bethesda, Maryland, firm specializes in analyzing employee benefit programs and has experience comparing federal and private-sector benefits. Most benefit values for private firms reflect the 1996 practices of the 800, predominantly large firms the Watson & Wyatt database covers. Those firms employ almost 12 million workers. Dollar values calculated for federal employees are based on data from the Office of Personnel Management on federal employment, benefit provisions, and participation in various benefit programs. The comparisons include two estimates of the value of federal benefits. The estimates differ primarily because of differences in the values assigned to retirement. Each estimate covers one of the government's two major retirement systems—the Civil Service Retirement System (CSRS) or the Federal Employees Retirement System (FERS).

Qualifications of the Analysis

Employee benefit costs may vary among firms for many reasons. For example, other things being equal, a firm with older employees will probably have relatively higher benefit costs. This analysis attempts to isolate differences in costs attributable to the nature and size of the benefits offered. Accordingly, the values presented should not be mistaken for comparisons of average costs.

CBO constructed a number of comparisons, each using different, equally plausible sets of assumptions. Results proved sensitive to the assumptions used. The results presented here use analytic methods and assumptions that yield the highest dollar values for federal benefits, generally those based on the retirement behavior of federal workers. That approach makes it simpler to reject, where results warrant, claims that federal benefits are substantially more generous than those in the private sector. CBO also made a similar comparison based on assumptions that reflect private-sector, rather than federal, experience. That analysis, presented in Appendix B, also shows that federal benefits are more generous than those in the private sector, but by a smaller margin. Under the alternative assumptions, the federal advantage does not exceed 5.6 percent of pay.

The database used to generate both sets of estimates covers mostly large private firms. The required detailed data on small firms are generally not available. As described throughout the text, large firms usually offer more generous benefits than small firms. Results, therefore, should not be interpreted as representing all firms. The comparisons are most relevant for many professional and other higher-level jobs for which large firms would more likely serve as a source of competition for federal recruitment.

The analysis focuses only on the major components of the benefit packages of the federal government and the private sector. The benefits compared are retirement, health insurance, retiree health insurance, life insurance, time off for sickness and disability, and time off for holidays and vacations. Those cover most rank-and-file, white-collar employees in government and the private firms in the database. Executives and other groups of employees—for example, federal law enforcement officers—have different benefits. Both public and private organizations offer a wide range of smaller benefits—such as leave sharing, day care, and parking privileges—that are not considered in this analysis.

Given the various limitations and qualifications associated with the comparisons, the results should not be viewed as definitive estimates of federal and private benefits. The CBO analysis offers new information that suggests the general magnitude and direction of differences in employee benefits.

HOW FEDERAL AND PRIVATE-SECTOR BENEFIT PACKAGES COMPARE IN TOTAL

Two principal conclusions follow from the comparisons presented in this memorandum:

- o The package of benefits offered by both the federal government and the private firms in the database represents a significant portion of employee compensation (see Table 1). The value of the benefit package for the hypothetical employees ranges from about 26 percent to 50 percent of pay for federal workers and from about 24 percent to 44 percent of pay for private-sector workers.

- o The total dollar value of federal benefits is generally higher than that of private benefits. The differences in federal and private values range from a federal disadvantage of about 2 percent of pay to a federal advantage of about 7 percent of pay.

Considering individual benefits, the analysis shows that FERS offers benefits with a higher value than many private-sector retirement plans offer. The federal system also appears to offer better vacation, holiday, disability, and retiree health benefits than the private-sector firms. Retirement benefits under CSRS and federal health and life insurance benefits, however, sometimes lag behind those in the private sector.

Those results are consistent with the findings of earlier analyses. In a recent comparison of retirement benefits, the General Accounting Office also found that FERS benefits are more generous than the retirement benefits offered by private firms.[4] An analysis by the Congressional Research Service found that federal and private benefit packages are fairly close in value and that the federal government in many cases offers more valuable retirement benefits but less valuable health insurance.[5]

4. General Accounting Office, *Federal Retirement, Federal and Private Sector Retirement Program Benefits Vary*, GAO/GGD-97-40 (April 1997).

5. Congressional Research Service, *Federal Civil Service Retirement: Comparing the Generosity of Federal and Private-Sector Retirement Systems*, CRS Report for Congress 95-687 EPW (June 5, 1995).

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SOURCE: Congressional Budget Office using data from Watson Wyatt & Company.

NOTES: Private-sector values reflect practices as of 1996.

CSRS = Civil Service Retirement System; FERS = Federal Employees Retirement System.

a. The two youngest employees would not be eligible for CSRS because the plan was closed in 1983.

Federal retirement benefits can have a dollar value much higher than that offered by many firms in the private sector, but much depends on the retirement plan and the employee being compared. Generally, retirement under FERS compares more favorably with private-sector practice than retirement under CSRS.

The Federal Retirement Systems for Civilian Employees

The Civil Service Retirement System and the Federal Employees Retirement System cover about 2.7 million employees, including employees of the U.S. Postal Service. Pension payments to 2.4 million survivors and retirees totaled over $40 billion in 1997.

CSRS was established by the Civil Service Retirement Act of 1920. The program preceded Social Security, and most federal employees in CSRS do not accumulate Social Security benefits. The plan covers most employees hired before 1984 and is closed to new members. CSRS is a defined benefit plan, in which the employer promises a benefit level at retirement. That benefit is usually determined by a formula that ties the size of the benefit to the employee's length of service and earnings.

Under CSRS, most employees may retire and begin collecting pensions without penalty at age 55 with 30 years of service, at age 60 with 20 years of service, or at age 62 with five years of service. The pension paid is a percentage of the average salary for the highest three years of earnings as a federal employee. Under the formula for determining that percentage, most employees earn up to 2 percent of the high-three average salary for each year of service. Annuities are usually adjusted annually to reflect changes in the consumer price index (CPI). Employees generally contribute 7 percent of pay toward their future benefit.

FERS was established by the Federal Employees' Retirement System Act of 1986 and covers civilian employees hired after January 1984 and others who elected to switch from CSRS. Under FERS, employees receive retirement income from three sources: the Thrift Savings Plan, a defined benefit plan, and Social Security.

The federal Thrift Savings Plan (TSP) is a defined contribution plan. Under such plans, employers generally make periodic contributions to retirement accounts set up for each employee. The level of the employer contribution is commonly set to match employee contributions according to a specific formula. Employers usually guarantee contributions but not a particular benefit level at retirement, as under defined benefit plans. The 401(k) plans offered by many employers are examples of defined contribution plans.

In TSP, federal agencies automatically contribute 1 percent of individual earnings to the plan on behalf of any worker covered by FERS. In addition, the employing agency matches voluntary employee deposits dollar for dollar for the first 3 percent of pay and 50 cents for each dollar for the next 2 percent. The entire federal contribution for employees putting aside 5 percent therefore amounts to 5 percent of pay. Employees may contribute another 5 percent of pay, but they receive no government match for that portion. The Internal Revenue Service limits contributions that both federal and private-sector employees can make to defined contribution plans. The limit is $10,000 in 1998. FERS employees currently have three options for investing their contributions: a fund indexed to common stock, a bond fund, and a government securities fund. Employees become eligible to withdraw from their TSP accounts when they separate from federal service or under certain other circumstances, including financial hardship. (Employees in CSRS may also contribute to TSP, but they can contribute only 5 percent of pay and receive no matching contribution from the government.)

The defined benefit plan under FERS, like CSRS, provides a pension that is a portion of the high-three average salary. However, most FERS employees earn pension benefits at a lower rate than under CSRS—1 percent of the high-three salary for each year of service. (The accrual rate is 1.1 percent for retirement at 62 or older with at least 20 years of service.) The age and service requirements for immediate, unreduced annuities are similar to those under CSRS, but the government will gradually increase the minimum retirement age, currently 55, under FERS. Cost-of-living adjustments (COLAs) may also be lower under FERS than under CSRS, depending on the rate of increase in the CPI.

Employee contributions toward future retirement benefits under FERS total 7 percent for Social Security and the defined benefit plan together, plus any voluntary contributions to TSP.

Results of the Comparisons

The FERS retirement benefit has a higher dollar value than does that under either the private plans in the database or CSRS. The values of the various components of the retirement plans are shown in Table 2.

The values represent retirement benefits earned for the current year of employment, assuming that hypothetical workers will retire, on average, at rates observed for the federal workforce. Watson Wyatt & Company computed separate values for each part of the three-part FERS. Values for FERS assume that each of the hypothetical employees has served a full career under that program, even though some values assume service greater than the length of time the program has been in existence. Values for the private sector, which represent the average for all firms in the database, are shown for both defined benefit and defined contribution plans. (Averages for each type reflect the fact that some employers have no plan of that type.) Separate values are shown for Social Security.

As described in Appendix A, the method of calculating the dollar amounts varies by type of plan. For defined benefit plans and Social Security, dollar values represent the present value of future benefits earned in the current year. Values for

TABLE 2. COMPARISON OF THE ANNUAL VALUE OF FEDERAL AND PRIVATE-SECTOR RETIREMENT BENEFITS FOR FIVE HYPOTHETICAL EMPLOYEES (In dollars)

Age (Years)	25	35	55	60	50
Service (Years)	2	10	20	20	25
Salary (Dollars)	25,000	45,000	75,000	45,000	50,000
Civil Service Retirement System					
CSRS/defined benefit	n.a.	n.a.	10,770	3,545	8,309
Social Security	n.a.	n.a.	n.a.	n.a.	n.a.
Thrift plan/defined contribution	n.a.	n.a.	n.a.	n.a.	n.a.
Total	n.a.	n.a.	10,770	3,545	8,309
Federal Employees Retirement System					
FERS/defined benefit	565	2,331	7,923	2,749	4,681
Social Security	210	739	2,762	1,645	1,534
Thrift plan/defined contribution	975	2,250	3,750	2,250	2,500
Total	1,750	5,320	14,435	6,644	8,715
Private Sector					
Defined benefit	245	1,094	5,159	1,748	2,786
Social Security	210	739	2,762	1,645	1,534
Defined contribution	655	1,683	3,077	1,723	1,907
Total	1,110	3,516	10,998	5,116	6,227

SOURCE: Congressional Budget Office using data from Watson Wyatt & Company.

NOTES: Private-sector values are averages that include a value of zero for firms that do not offer a plan of the types indicated.

n.a. = not applicable.

Social Security reflect benefit levels under current law, which could change. Values for defined contribution plans equal the employer contribution.

Federal and Private-Sector Retirement. Generally speaking, the benefit provisions of FERS and CSRS are generous compared with those of private plans in the database. Only 8 percent of the private plans, for example, provide the kind of automatic postretirement cost-of-living adjustments found in FERS and CSRS. Only about 15 percent of the private plans allow employees to retire with full pensions at age 55 with 30 years of service, as federal employees are able to do. Finally, only about 28 percent of private plans provide the kind of automatic, unmatched employer contribution that is part of TSP.

Consistent with such provisions, the dollar values of retirement benefits under FERS exceed private-sector values for each of the hypothetical employees. But why the poor showing for CSRS in the comparisons? First, some of the hypothetical employees would not have the age and service necessary to benefit from some of the more generous aspects of CSRS. For example, the federal values for the employee at age 60 with 20 years of service do not reflect the generosity of early retirement at age 55 with 30 years of service. Second, other employees (such as the employee who is age 25 with two years of service) would be eligible for early retirement and the other generous benefits under federal retirement but would not be likely to stay in government to receive them; values are discounted to reflect that. By contrast, the hypothetical employee who is age 50 with 25 years of service would qualify for early retirement and would be likely to continue in federal service until eligible to retire. For that employee, the value of federal retirement exceeds the value for private firms. Such early retirements are not unusual for federal service: voluntary retirements from CSRS for employees at ages 55 through 59 with 30 or more years of service accounted for 40 percent of all CSRS retirements in 1997.

Finally, the advantage CSRS holds when comparing individual benefit provisions, such as COLAs or early retirement, appears to be more than offset, in many cases, by the fact that many private-sector plans include Social Security and a defined contribution plan in addition to a defined benefit plan.

Qualifications of the Retirement Comparisons. Federal retirement plans would look much more generous than they do here if they were compared with those of the private sector as a whole. The private firms in the database are not representative of private practices; they offer relatively generous retirement benefits compared with many other firms. For example, all 800 firms offer some retirement program, and two-thirds offer plans that include both a defined contribution plan and a defined benefit plan to supplement Social Security. By contrast, data for 1993 from the Employee Benefit Research Institute show that only about 60 percent of all civilian nonagricultural wage and salary workers outside of government have employer- or union-sponsored retirement programs, and only about 20 percent of those participating in retirement plans have coverage under both defined benefit and defined contribution plans.

Federal benefits would also look more generous than they do here if the comparisons had considered benefits to survivors of employees, but that information was not available. The eligible surviving spouses and children of employees covered by FERS and CSRS receive annuities and other payments that are more generous than those available from private firms.

Comparisons of FERS and CSRS. For most of the hypothetical employees compared, retirement benefits under FERS have a much higher value than under CSRS. In part, that is because the government pays benefits under TSP as employees earn them. Accordingly, dollar values for TSP need not be discounted for the probability of reaching retirement age as do values for CSRS. Also, CSRS would have compared better with FERS if higher inflation assumptions had been warranted, because CSRS offers better inflation protection than FERS.

Even the defined benefit values alone under FERS are fairly close, in most cases, to the values under CSRS. The reason is that the comparisons exclude benefits covered by direct contributions from employees. CSRS offers a bigger defined benefit in total, but employees pay more for it than they pay for the defined benefit under FERS. Consider, for example, the case of the hypothetical employee age 60 with 20 years of service. Comparisons show that the value of the defined benefit under FERS is close to the value under CSRS—$2,749 compared with $3,545. By contrast, results that cover all benefits, including those paid for directly by employees, show that the value of FERS is well below that of CSRS—$2,965 compared with $5,436.

The exception to the generalization that FERS has much higher dollar values than CSRS is the case of the hypothetical employee age 50 with 25 years of service. For that case, the values of the two programs are much closer. That outcome reflects the fact that such an employee would be eligible under CSRS for the very generous option to retire at age 55 with a full pension and full protection from inflation. (Employees under FERS could also retire early but would not have that full protection.)

HEALTH INSURANCE BENEFITS

The Federal Employees Health Benefits (FEHB) program, which began in July 1960, provides health insurance for over 4 million federal employees and annuitants, as well as their dependents and survivors. The annual cost to the government is about

$17 billion. Both the government and the employee contribute toward the cost of health insurance coverage according to a complex formula. Currently, the government pays about 70 percent of the premiums for active employees and annuitants, and the enrollees pay the balance.

FEHB has features that compare favorably with those of plans offered by leading firms. Many federal employees have a wide choice of plans and may change plans during annual "open seasons." Also, the program's participating plans offer catastrophic protection that limits employees' out-of-pocket costs for large medical expenditures. By contrast, many of the plans offered by private firms in the database include no out-of-pocket limit on employees' expenses.

Nevertheless, the value of federal health benefits is lower than the value of those offered by the 800 private firms in the sample. The amounts compared for each hypothetical employee represent the dollar value of estimated health costs covered by insurance minus any portion of benefits that employees pay for directly. Calculating those amounts involved two basic steps. First, Watson Wyatt & Company estimated a package of medical expenses for each hypothetical employee. Then, it applied the major provisions of insurance plans against those expenses to determine how much each plan would cover.

Watson Wyatt & Company estimated the packages of medical expenses using an extensive medical claims database. The database allowed them to identify expenses, in different categories of medical services, that would be typical of employees with characteristics that matched those of the hypothetical employees in the comparisons. The dollar value of health insurance for each hypothetical private-sector employee is the average cost covered by insurance for plans in the database. The dollar values for the hypothetical federal employees are the weighted averages of medical costs covered by four typical FEHB plans that together cover about half of the federal workforce (see Appendix A).

The relatively low values for FEHB, despite the program's advantages, reflect the fact that the government requires employees to pay a larger share of the cost of health insurance than do many private-sector firms. For example, although the government pays, on average, roughly 70 percent of the premiums for active employees and annuitants, about one-quarter of all firms in the database pick up the entire cost of individual coverage and about 10 percent pick up the entire cost for family coverage with up to two dependents.

A number of qualifications pertain to the comparisons of health benefits. The trend among private firms has been toward asking employees to pay an increasingly larger share of costs. Thus, the federal disadvantage estimated here may narrow in the future. Also, if the comparisons covered all private-sector employees, about one-third of whom have no health insurance, federal insurance would compare favorably. Finally, the method used for comparing employee health benefits does not capture the full value associated with the option federal employees have to pick health insurance plans best suited to their needs. Therefore, the federal benefits may actually have a higher value to employees than the comparisons suggest.

Among federal plans, Kaiser Mid-Atlantic, the one health maintenance organization (HMO), appears to offer benefits of higher value to younger workers than the other plans but not to older workers. The claims experience used to compute estimates indicates that this phenomenon may reflect selection of HMOs by young people expecting better coverage for prenatal and maternity care.

HEALTH INSURANCE BENEFITS FOR RETIREES

Most employees who retire from government with an immediate annuity are able to continue participating in FEHB and pay the same amount in premiums that they did before retirement. Comparisons put the value of federal insurance for retirees well above the value of benefits offered by the private firms in the database. For example, the value of retirement health benefits for the hypothetical employee in FERS at age 55 and with 20 years of service is more than double the average value for a similar employee at the private firms. The values compared are the annual amounts needed to fund the expected future medical benefits for federal retirees over each employee's career. In contrast to the values calculated for workers' health benefits, the values for federal retirees' health benefits cover only one plan and those for the private sector cover only selected insurance plans. Thus, results may not be representative of the results that would obtain if data from more plans had been available.

The favorable showing for federal retirees' health benefits reflects, in part, the fact that such benefits are less common in the private sector. About 65 percent of the firms in the database provide health programs for retirees. If compared with all private firms, federal retiree health benefits would look even more generous. A recent survey of all U.S. employers found that well below half provide medical benefits to retirees.[6] In addition, offering health insurance to retirees is becoming less common among private firms. Five years earlier, in the 1991 database, 74 percent of employers offered retiree health programs. That downward trend is

6. William M. Mercer, *Mercer/Foster Higgins National Survey of Employer-Sponsored Health Plans* (New York: William M. Mercer, 1997), p. 32.

attributable to changes in accounting standards that require employers to identify the costs of future medical benefits for retirees as a liability on their balance sheets.[7]

The other factor that increases the value of federal retirees' health insurance compared with private benefits is the approach FEHB takes in coordinating benefits with Medicare. Medicare is the government's health insurance program for people age 65 and older and for certain others. The government and private plans usually adopt one of several standard methods of integrating their benefits with Medicare's. As described further in Appendix A, the method adopted by the federal government is relatively generous.

LIFE INSURANCE BENEFITS

The federal government offers its employees an opportunity to participate in a group life insurance program. Payments to survivors under the basic program equal the annual amount of an employee's pay plus $2,000. The minimum benefit is $10,000. (Additional benefits are provided for employees under age 45.) Costs are shared by the government and the employee: employees cover about two-thirds of premiums and the government one-third. Additional insurance may be purchased entirely at the employee's expense. All the private firms in the database also offer their employees some form of life insurance.

Comparisons show that the dollar value of federal life insurance benefits is below that of insurance offered by the private firms. The values compared for each hypothetical employee are the expected payouts under federal or private plans, based on the probability of death and adjusted to exclude the portion of benefits employees contribute toward directly.

The relatively poor showing for federal life insurance reflects a number of factors. About 90 percent of the private firms offer insurance entirely at the employer's expense, and many plans have higher benefits than the government's. Over half the firms, for example, offer payments of 1.5 times pay or more. In addition, many firms in the private sector offer lower premiums to younger employees. Some offer benefits free to the youngest employees. In contrast, the federal program charges the same premium to all employees. Thus, at younger ages, the federal fees in many cases exceed the value of insurance, even considering the

7. The Financial Accounting Standards Board's accounting standard no. 106 requires companies to recognize the cost of retirees' health benefits in their financial statements during the periods in which employees earn the benefits. They must also recognize the liability for benefits already earned both by current retirees and active employees. The requirement took effect in 1993.

additional benefits provided to younger workers. Comparisons covering the younger hypothetical employees therefore show a negative value for federal life insurance.

SICK LEAVE AND DISABILITY BENEFITS

Sick leave and disability programs replace all or part of an employee's income when illness or injury results in an inability to work. The federal government provides benefits for both long- and short-term inability to work. Full-time federal employees earn 13 sick days at full pay per year that they can use for temporary problems. For long-term inability to work, federal employees may receive annuities under FERS and CSRS. Employees under FERS may receive benefits from Social Security and the defined benefit portion of FERS, subject to rules that coordinate benefits under the two programs. Generally, annuity levels under FERS and CSRS are set to make up some portion of predisability income. Most private-sector employees are eligible for disability benefits under Social Security. Aside from that, many firms offer limited benefits. For example, even for employees with five years of service, 3 percent of firms in the database offer no sick or disability leave at full pay, 25 percent offer 10 days or fewer, and another 40 percent offer 60 days or fewer.

As a result, the values for federal sick leave and disability benefits exceed those for the private firms. The benefits calculated for each hypothetical employee are the present value of expected employer-financed payments to employees under sick and disability programs for disabilities occurring in the current year. The comparison covers only basic benefits for sickness and disability. Employers, however, may grant related benefits not considered here. For example, the government offers paid time off for employees who serve as organ or bone-marrow donors.

HOLIDAYS AND VACATIONS

The federal government, like many private employers, provides its employees with paid holidays and vacations. Federal employees receive 10 paid holidays from work each year. They earn paid vacation according to length of federal service. New employees working full time earn 13 days of vacation leave per year. Employees with longer service, however, can earn up to 26 days of vacation per year.

Comparisons show that federal employees receive more generous holiday and vacation pay than do employees of private firms. Values compared are the employee's daily rate of pay times the number of days off that the employee receives. The calculations assume that employees take all leave available to them or receive cash for the current year's time off. The comparisons cover only policies for holidays and vacations, although employers may grant employees leave for other reasons. The government, for example, grants leave to employees called to court as a witness on behalf of the U.S. government, for National Guard service, and for other reasons.

COMPARING PAY AND BENEFITS

The 1997 CBO memorandum *Comparing Federal Salaries with Those in the Private Sector* concluded that, on average, the government offers about 22 percent less pay than the private sector for similar jobs. The memorandum noted, however, the wide variation in how federal and private-sector salaries compare. Higher-skilled professional, administrative, and technical jobs generally show the greatest pay disadvantage relative to the private sector. Some lower-skilled and clerical jobs, however, show little or no pay disadvantage.

Such variations, along with those identified for the five hypothetical employees, make generalizing about the federal compensation package difficult. (Gaps in pay and benefits between the federal and private sectors, measured as a percentage of pay, cannot be added.) For federal jobs with pay near the level of their private-sector counterparts, an advantage in benefits could put the value of the full pay and benefits package at or above the private sector's. But this analysis shows that not all federal employees have an advantage in benefits. Differences in the value of benefits ranged from a federal advantage of 7.2 percent of pay to a federal disadvantage of 2 percent of pay.

For the significant number of federal jobs with pay gaps near or above the national average of 22 percent, however, federal pay and benefits together would still be well below what large firms offer for similar jobs—even for federal employees with the largest relative advantage in the value of benefits. That conclusion is consistent with evidence offered in the earlier study that for some jobs, the government has to accept employees with less experience and education than do private firms recruiting for many of the same types of jobs.

APPENDIX A. ANALYTIC METHOD AND DETAILED RESULTS

This appendix provides additional details about the comparisons of federal and private-sector employee benefits prepared by the Congressional Budget Office (CBO) in consultation with Watson Wyatt & Company of Bethesda, Maryland. The amounts compared represent the present value of benefits earned in a year by five hypothetical employees. The dollar values cover major benefits for rank-and-file employees. CBO selected analytic methods and assumptions so that the comparisons would show federal benefits to their best relative advantage. The estimates may therefore be viewed as offering an upper bound on the generosity of the federal benefits included in the comparisons. Appendix B shows results under a different set of assumptions.

The Watson Wyatt & Company Database

The dollar value of private-sector employee benefits used in the comparisons reflects the practices of 800 firms in a database maintained by Watson Wyatt for 1996. Those firms employ nearly 12 million workers. They are also large: about 90 percent of them employ more than 1,000 workers (see Table A-1). Those large firms account for nearly the entire workforce covered by the database. By contrast, census data for 1994 show that only about half of all employees work for firms of 500 or more employees. Also, firms in the database are disproportionately engaged in manufacturing—about 34 percent compared with 6 percent of all U.S. firms.

The values presented in this analysis should not be interpreted as representative of the private sector as a whole. The large firms in the database are more likely to offer benefit packages than are other, smaller private firms. For example, all 800 firms offer some retirement program, but data from the Employee Benefits Research Institute show that, nationwide, 40 percent of all employees have no employer-sponsored retirement plan. Because large firms predominate in the database, the results reported apply best to jobs for which such firms would be more likely to serve as a source of competition in recruitment. Those jobs would include many professional and administrative jobs as well as some higher-level technical positions. Such jobs make up a growing share of the federal workforce—up from 58 percent in 1985 to 70 percent in 1995.

Comparing Federal Retirement with Private-Sector Practices

The retirement values compared are the present values of benefits earned for the current year of employment. Watson Wyatt & Company computed separate values for the Civil Service Retirement System (CSRS) and each part of the three-part

Federal Employees Retirement System (FERS). Values computed for FERS assume that employees have been covered by the program for their entire career, even though the length of the careers assumed for some of the hypothetical employees exceeds the length of time the program has been in existence. For the private sector, values representing the average for the database are shown for two types of retirement programs—defined benefit and defined contribution plans. (Averages for each type reflect the fact that some employers have no plan of that type.) Separate values are also shown for Social Security. As described below, the method of calculating the values used in comparisons varies by type of retirement plan.

Estimating Values for Defined Benefit Pensions. The values calculated in the comparisons for defined benefit plans represent the present value of future benefits divided by the expected length of service (the projected unit credit normal costs).

TABLE A-1. FIRMS INCLUDED IN THE WATSON WYATT & COMPANY DATABASE, BY SIZE AND INDUSTRY

	Number of Firms	Percentage of All Firms in Database
By Size of Firm (Number of employees)		
Less Than 1,000	80	10
1,000 But Less Than 5,000	322	40
5,000 But Less Than 10,000	145	18
10,000 But Less Than 25,000	137	17
25,000 But Less Than 50,000	64	8
50,000 or More	48	6
No Response	8	1
All Firms	804	100
By Industry		
Manufacturing	277	34
Financial	140	17
Health Care	85	11
Other Nonmanufacturing	267	33
Not-for-Profit	35	4
All Firms	804	100

SOURCE: Congressional Budget Office using data from Watson Wyatt & Company.

Generally, the values are the amount the employer would have to put aside in a year in order to have enough on hand at a hypothetical employee's retirement to pay the benefits earned in that year.[1]

Making such computations requires assumptions about expected salary growth, age at retirement, mortality, separation rates, interest rates, and, if the benefit is indexed, inflation. Watson Wyatt & Company used the same set of assumptions in calculating values for all pension plans (see Table A-2). Assumptions reflect federal practices based on data from actuaries at the Office of Personnel Management. Regarding mortality, the analysis assumes a fixed schedule of deaths through age 110. That schedule reflects mortality rates in the 1983 Group Annuity Mortality Table for male lives with a three-year age setback (that is, the mortality rate used approximates that for both males and females).

Estimating Values for Social Security. The amounts used in comparisons for Social Security in the private sector and in FERS, consistent with the approach used in assigning values to defined benefit programs, represent the present value of future benefits earned in a year. The level of those future benefits reflects provisions of current law, which could change. Calculations assume that employers pay for half of the benefits under Social Security, reflecting current law under which employees and employers each pay 6.2 percent of pay up to the taxable wage cap.

Estimating Values for Defined Contribution Pensions. The dollar values compared for defined contribution plans are simply the employer contribution that the employee earns during the year. The employer contribution is calculated as the amount the employer would match for a given level of employee contribution, plus any automatic contributions. All employees are assumed to make contributions according to the same fixed schedule that varies contributions by income. Thus, differences in values among plans reflect differences in the generosity of employer contributions and not differences in the level of actual employee participation in various plans. The assumed employee contribution for the hypothetical employee with a salary of $25,000 is 3.25 percent of pay; for the two employees with an annual salary of $45,000 and the one with a salary of $50,000, 5.5 percent of pay; and for the employee at $75,000, 6.1 percent of pay. For plans that capped contributions below the levels just described, calculations assumed the lower contributions.

1. The projected unit credit normal cost for an employee would, all else being equal, increase with length of service because of the greater probability of reaching retirement age, among other reasons. Under an alternative measure used by the government and others, the normal cost is instead calculated as a level amount.

Comparing the Government's Employee Health Insurance Program with Private-Sector Practices

The comparisons value health insurance as the employee's estimated medical costs covered by insurance in the year, minus any contributions the employee makes. The method for calculating the values involves two steps. First, Watson Wyatt & Company estimates a package of medical costs that each hypothetical employee could be expected to incur in a year. It then applies the provisions of each insurance plan against those medical costs to determine the portion each plan would cover. Private-sector values for each hypothetical employee represent the average medical costs covered for all firms in the database. The amount for federal employees is the

TABLE A-2. ASSUMPTIONS USED TO VALUE DEFINED BENEFIT RETIREMENT PLANS

Assumption	Percent
Interest Rate	7.0
Annual Increases in Pay	4.25
Increases in the Cost of Living	4.0
Annual Increases in the Social Security Wage Base	5.0
Retirement Rates for Employees with 30 Years of Service	
At age 55	75.0
At age 60	85.0
At age 62	50.0
At age 65	100.0
Retirement Rates for Employees with 20 Years of Service	
At age 55	0
At age 60	47.0
At age 62	60.0
At age 65	100.0
Selected Separation Rates	
At age 20	15.0
At age 35	5.0
At age 50	1.0

SOURCE: Congressional Budget Office using data from Watson Wyatt & Company.

weighted average medical costs covered by four typical plans: the Government Employees Hospital Association's standard benefit plan, the Kaiser Foundation's standard health plan for the mid-Atlantic region, Blue Cross and Blue Shield's standard benefit plan, and Mail Handlers' high-option benefit plan. Together, those four plans cover about half of the federal civilian workforce (see Table A-3).

Watson Wyatt estimates the package of medical costs for each hypothetical employee using an extensive database that tracks medical expenses and the use of medical services by age, sex, type of insurer, employment status, and family status. (Most major medical services are represented. They fall into the categories of medical care, alcohol and drug treatment, physician office visits, physician and other charges for surgery, physician and other charges for obstetrics, treatment for nervous and mental conditions, prescription drugs, lab and X-ray services, home health care, hospice care, nursing and other extended care, and emergency room care.) The database contains information on average costs for specific services and user groups and on the units of services purchased, which allows the calculation of copayments and cost sharing. Data on medical expenses come from private firms and insurers. Information on dental expenses was provided by the Michigan chapter of the American Dental Association.

TABLE A-3. COMPARISON OF THE ANNUAL VALUE OF FEDERAL AND PRIVATE-SECTOR HEALTH INSURANCE BENEFITS FOR FIVE HYPOTHETICAL EMPLOYEES (In dollars)

Age (Years)	25	35	55	60	50
Service (Years)	2	10	20	20	25
Salary (Dollars)	25,000	45,000	75,000	45,000	50,000
Private-Sector Firms	2,211	2,538	4,617	5,726	3,459
Federal Government					
Government Employees Hospital Association	1,569	1,911	3,980	4,981	2,887
Kaiser Mid-Atlantic	1,901	2,144	3,892	4,704	2,992
Blue Cross and Blue Shield	1,737	2,064	4,117	5,125	3,035
Mail Handlers	1,662	2,008	4,078	5,107	3,008
Weighted average	1,711	2,041	4,091	5,097	3,014

SOURCE: Congressional Budget Office using data from Watson Wyatt & Company.

Watson Wyatt & Company estimated a different package of medical costs for each hypothetical employee. Each package represents the costs that claims experience in the database indicates is typical for employees with characteristics that match those of the hypothetical employees. For purposes of developing the packages of medical expenses, each employee is assumed to be a composite of a single person and a person with dependents. Forty-two percent of the costs in a package are those for a single person, 22 percent are for an employee and one dependent, and 35 percent are for a family. Calculations assume that 1 percent of all employees would elect no coverage.

Once the package of medical costs has been developed for each hypothetical employee, Watson Wyatt applies the provisions of each insurance plan against those costs to determine the portion that would be covered by insurance. All major provisions are included in the analysis, including deductibles and payment percentages, employee copayments, and out-of-pocket limits. In applying the provisions, Watson Wyatt holds medical costs for each employee constant, except when estimating values for HMOs. In that case, some variation is adopted in the packages of costs to reflect the unique claims experience of HMOs; HMOs generally emphasize preventive care and early intervention and tend to have lower rates of hospitalization than other plans. Watson Wyatt adjusts its database to approximate employees' experience in HMOs using information collected from selected HMOs, academic studies, and other sources.

For preferred-provider plans, the estimates assume that 70 percent of the services occur within the network. The expenses under a point-of-service plan assume that 90 percent of the services are provided within the network.

By holding the package of medical costs fairly constant in determining the amounts of health insurance benefits, the comparison understates the value of the Federal Employees Health Benefits (FEHB) program. Because federal employees can choose from among a variety of insurance plans in FEHB, they have a greater opportunity than most private-sector employees to select insurance that offers the most generous coverage for their particular needs. That would reflect itself in variations in the typical claims experience under each participating plan, variations not reflected in the method used here except through the distinction between HMOs and non-HMOs. Thus, the federal benefit may be more valuable to federal employees than indicated in the results presented.

Comparing the Government's Retiree Health Insurance Program with Private-Sector Practices

The dollar values estimated are the amounts needed to fund the expected future medical benefits of retirees over each employee's career. Estimated future medical costs for private-sector firms are based on the experience of selected Watson Wyatt & Company clients. Plan provisions were applied against those expected costs to determine the portion covered by insurance, taking into consideration eligibility requirements, caps on coverage, and other factors. The calculations used to determine the amounts needed to fund those benefits incorporate the same methods and assumptions used to compute unit credit amounts under defined benefit retirement plans.

The dollar values for the federal government are based on benefits provided under the Government Employees Hospital Association insurance plan. The amounts for the private sector reflect the benefits offered by 12 firms selected to represent the different levels of benefits offered by firms in the database. All of the firms selected offer benefits for retirees both before and after age 65. Given the small number of firms and the judgmental nature of the sample, the results may not be representative of the database as a whole.

Two key assumptions in estimating values relate to expected inflation in the medical sector and the method insurance plans use to coordinate benefits with Medicare after age 65. For inflation, the calculations assume an initial rate of 2.6 percent, increasing to an ultimate annual rate of 5.7 percent by 2003. For coordinating benefits with Medicare, plans follow four basic methods, described below in general terms.

- Under *carve-out*, the most common method used in the private sector, plans determine what they would have paid in the absence of Medicare and then deduct any amount paid by Medicare. The retiree pays expenses that are not covered by the employers' insurance plan.

- *Coordination of benefits*, the method used by the federal government, offers the most generous benefit. Under that approach, plans pay amounts not covered by Medicare but no more than the amount they would have paid in the absence of Medicare. Many retirees enjoy a level of benefit superior to that received while employed.

- *Exclusion* is a method that often provides a level of benefit that falls between the two just described. Under this approach, the plans apply copayments and deductibles to any amount not covered by Medicare.

- o Under the *wrap-around method*, plans cover any deductibles and copayments required by Medicare. They may also offer employees coverage for services that Medicare does not cover—prescription drugs, for example.

Each of the major forms of coordination is represented among the 12 private firms used in the comparisons. Results are weighted to reflect the prevalence of the different forms of coordination in the database. For 1996, 51 percent of firms offering retiree health benefits used carve-out, 14 percent used coordination of benefits, 9 percent used exclusion, and 26 percent offered wrap-around benefits, or supplements to Medicare. Results are also weighted to reflect the prevalence of retiree health programs in the database.

Comparing Federal and Private-Sector Sick Leave and Disability Programs

Benefits for each hypothetical employee are the present value of payments employees receive from employers each year as part of the basic sick and disability benefit programs. For each hypothetical employee, those payments take into consideration the benefits available under employer plans for absences of different durations and the probability that those absences will occur. The probabilities and durations of absences are based on data from the Society of Actuaries.

Private-sector values are averages for the database. Long-term disability provisions differ under CSRS and FERS, and separate values are computed for each. Benefits under both are funded in part by employee retirement contributions. For purposes of this comparison, however, estimates assume that federal disability benefits are fully funded by employers. All employee contributions to federal pension plans are assumed to fund retirement benefits. Thus, the disability benefit reported here is somewhat overstated. That irregularity, however, is offset by a corresponding understatement of employer funding for retirement, so that total values for all benefits combined are not affected.

APPENDIX B. ALTERNATIVE COMPARISON

This appendix provides an alternative set of estimates of how federal and private-sector employee benefits compare. In contrast to the estimates in the text, this set reflects economic and other assumptions based on private-sector, rather than federal, experience. The assumptions derive from surveys of actuaries conducted by Watson Wyatt & Company. Both sets of assumptions seem equally plausible. In this set, federal benefits compare less favorably with those of the private sector than do the estimates presented in the text (see Table B-1). The federal advantage reaches at most 5.6 percent rather than 7.2 percent of pay.

The alternative assumptions affect only the values covering retirement and retiree health insurance benefits. In general, the assumptions lower the dollar values of federal benefits relative to those in the private sector (see Table B-2). Several factors account for that result. The higher interest rate, all else being equal, lowers the present-value estimates used in comparisons for defined benefit retirement systems—an effect that has a particularly strong impact on programs, such as the Civil Service Retirement System, that consist of only a defined benefit plan. Moreover, the alternative estimates assume fewer early retirements—fewer employees leave government for retirement at points in their careers that take the best advantage of the most generous aspects of the federal retirement program.

TABLE B-1. COMPARISON OF THE ANNUAL VALUE OF FEDERAL AND PRIVATE-SECTOR BENEFITS FOR FIVE HYPOTHETICAL EMPLOYEES (In dollars)

Age (Years)	25	35	55	60	50
Service (Years)	2	10	20	20	25
Salary (Dollars)	25,000	45,000	75,000	45,000	50,000
Retirement					
CSRS	a	a	6,677	3,750	5,427
FERS	1,488	4,306	10,768	7,025	7,710
Private sector	1,055	3,310	8,338	5,405	5,559
Health Insurance					
CSRS	a	a	4,091	5,097	3,014
FERS	1,711	2,041	4,091	5,097	3,014
Private sector	2,211	2,538	4,617	5,726	3,459
Retiree Health Insurance					
CSRS	a	a	1,099	1,589	1,076
FERS	177	511	1,815	1,589	1,076
Private sector	82	241	815	738	494
Life Insurance					
CSRS	a	a	397	479	100
FERS	-53	-64	397	479	100
Private sector	46	101	943	916	423
Sick Leave and Disability					
CSRS	a	a	2,766	1,750	1,371
FERS	409	882	3,352	2,057	1,598
Private sector	367	779	2,793	1,716	1,354
Holiday and Vacation					
CSRS	a	a	10,385	6,231	6,923
FERS	2,212	5,193	10,385	6,231	6,923
Private sector	2,067	4,780	9,158	5,495	6,338
Total					
CSRS	a	a	25,415	18,897	17,911
FERS	5,944	12,869	30,808	22,478	20,421
Private sector	5,828	11,749	26,664	19,996	17,627
Benefits as a Percentage of Pay					
CSRS	a	a	33.9	42.0	35.8
FERS	23.8	28.6	41.1	50.0	40.8
Private sector	23.3	26.1	35.6	44.4	35.3
Difference as a Percentage of Pay					
CSRS	a	a	-1.7	-2.4	0.6
FERS	0.5	2.5	5.5	5.5	5.6

SOURCE: Congressional Budget Office from data provided by Watson Wyatt & Company.

NOTES: Private-sector values reflect practices as of 1996.

CSRS = Civil Service Retirement System; FERS = Federal Employees Retirement System.

a. The youngest two employees would not be eligible for CSRS because the plan was closed in 1983.

TABLE B-2. ASSUMPTIONS USED TO VALUE DEFINED BENEFIT RETIREMENT PLANS

Assumption	Percent
Interest Rate	8.0
Annual Increases in Pay	5.5
Increases in the Cost of Living	4.0
Annual Increases in the Social Security Wage Base	4.5
Retirement Rates	
At age 55	25.0
At age 60	33.0
At age 62	50.0
At age 65	100.0
Selected Separation Rates	
At age 20	15.0
At age 35	5.0
At age 50	1.0

SOURCE: Congressional Budget Office using data from Watson Wyatt & Company.