TRANSACTIONS OF SOCIETY OF ACTUARIES
1964 VOL. 16 PT. 1 NO. 46

FINANCING THE FEDERAL RETIREMENT SYSTEMS

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THIS paper is directed principally at the broad question of financing the fifteen federal retirement systems which cover various classes of federal employees. These systems, which presently cover about 5 million active employees and account for over $2 billion of annual benefit payments, are financed by an assortment of methods ranging from pay-as-you-go to full reserve funding. In general, the financing methods are inadequate, inconsistent, and fail to disclose the true long-range costs involved. The lack of uniformity stems largely from the complexity of the financing problems and the controversy which surrounds them, and the absence of regular, coordinated actuarial review of all systems.

The paper is based on studies made in 1963 by the author during the three and a half months he spent working in the Bureau of the Budget while participating in the Brookings Institution Public Affairs Fellowship Program. Although the opinions expressed in the paper are those of the author,[1] they reflect ideas developed after a great many discussions with actuaries and economists working throughout the federal government.

In order to set the stage for discussion of the financing problems, Section I of the paper is devoted to a broad description of the fifteen systems in terms of coverage, benefits, actuarial condition, and present methods of financing. This is followed in Section II by a discussion of certain aspects of federal budget and accounting practices which bear directly on the financing question. Section III is essentially a synthesis of the first two sections and contains a discussion of the difficult theoretical and practical problems that arise when strictly actuarial considerations are embedded in the federal fiscal framework. Section IV describes the Administration's new proposal for improving the financing of the Civil Service Retirement System, and Section V presents some conclusions and recommendations.

Following is a topic outline of the material presented in this paper:

I. Summary of Federal Retirement Systems
   A. Coverage during Fiscal 1962 (Table 1)
   B. Retirement for Age and Service (Table 2)

[1] It is to be emphasized that the views in this paper are not necessarily those of the organizations with which the author has been associated.

I. SUMMARY OF FEDERAL RETIREMENT SYSTEMS

A. *Coverage during Fiscal 1962 (Table 1)*

Table 1 shows that in fiscal 1962 the federal retirement systems covered about 5 million active employees with a $24 billion payroll and that almost 1 million persons on the retired rolls received $2 billion of benefit payments. Six of the systems are contributory and nine are noncontributory. It is apparent that the over-all financial picture is dominated by the two most important systems, the Civil Service System, which covers most civilian employees of the federal government, congressional employees, and members of Congress, and the Military System, which covers members of the Army, Navy, Air Force, and Marines.

Employees of the TVA and members of the uniformed services (excluding policemen and firemen, D.C.) are also covered under Social Security (OASDI), and regular employee and employer contributions are made as in the case of any other covered employment. While employees under the other systems are not covered by Social Security, study groups have recommended that Civil Service employees be brought under Social Security coverage and that the Civil Service System be appropriately modified. Despite the fact that the adoption of such a proposal would greatly strengthen the inadequate survivor benefits for short service employees under the Civil Service System, the federal employee unions have

strenuously resisted this suggestion. Reasons for their opposition have not been made clear but apparently rest on the questionable belief that extension of Social Security coverage to Civil Service employees would eventually result in elimination or atrophy of the present staff retirement system.

B. *Retirement for Age and Service (Table 2)*

Since this paper is directed principally at the broad question of financing, no attempt is made to describe the detailed provisions of the various systems. However, in order to provide some feel for the level of benefits provided by these systems, the provisions for voluntary retire-

TABLE 1

FEDERAL RETIREMENT SYSTEMS
COVERAGE DURING FISCAL 1962

System	Number of Employees in the System		Covered Payroll	Benefits Paid	Ratio of Benefits to Payroll
	Active	Retired	(Unit—$1,000)		
	Contributory Systems				
Civil Service	2,250,000	601,714	$13,096,000	$1,057,644	8.1%
Tennessee Valley Authority	11,082	993	77,669	1,944	2.5
Foreign Service	4,400	1,021	46,300	5,525	11.9
Public School Teachers, D.C.	3,717	1,401	25,759	4,899	19.0
Policemen and Firemen, D.C.	4,039	2,564	26,092	8,161	31.3
Board of Governors Plan of the Federal Reserve System	537	109	3,660	406	11.1
	Noncontributory Systems				
Military	2,800,000	328,752	$10,226,040*	$ 895,854	8.8%
Coast Guard	31,212	9,929	121,766*	31,046	25.5
Public Health Service	1,913	388	18,536*	2,304	12.4
Coast and Geodetic Survey	184	118	1,169*	786	67.2
Federal Judiciary	378	86	8,871	2,040	23.0
Judiciary of D.C.	21	2	372	30	8.1
Judiciary of Tax Court	14	4	315	47	14.9
Judiciary of Territories	5	5	113	68	60.2
Panama Canal Construction Workers	.....	1,771	.....	1,624	.....
Grand total	5,107,502	948,857	$23,652,662	$2,012,378	8.5%

NOTE: Number of employees and payroll are generally at 6/30/62; retired employees include survivor beneficiaries. Benefits are amounts paid in fiscal 1962 and include death and withdrawal payments.

* Cash pay and allowances (excludes cost of rations, clothing, and shelter furnished).

TABLE 2

FEDERAL RETIREMENT SYSTEMS
RETIREMENT FOR AGE AND SERVICE

System	Lowest Age and Related Service for Full Voluntary Retirement Benefit			Retirement Benefit as Per Cent of Base Assuming Required Age and Service of:			
	Age	Service (Years)	Benefit as Per Cent of Base(a)	30 Years	35 Years	40 Years	Maximum (Per Cent of Base)
	Contributory Systems						
Civil Service:							
Regular	60(b)	30(b)	56¼%(c)	56¼%	66¼%	76¼%	80%
Investigative	50(b)	20(b)	40	60	70	80	80
Congressional Employee	60(b)	30(b)	67½	67½	77½	80	80
Congressional Member	60(b)	10(b)	25	75	87½	100	80(e)
TVA	65	No Service Req't.		45(d)	52½(d)	60(d)	None
Foreign Service	50	20	40	60	70	70	70
Public School Teachers, D.C.	60(b)	30(b)	56¼(c)	56¼	66¼	76¼	None
Policemen and Firemen, D.C.	50	20	40	70	70	70	70
Board of Governors, F.R.S.	60(b)	30(b)	56¼(c)	56¼	66¼	76¼	80
	Noncontributory Systems						
Military	.....	20	50%(f)	75%	75%	75%	75%
Coast Guard	.....	20	50(f)	75	75	75	75
Public Health Service	.....	20	50(f)	75	75	75	75
Coast and Geodetic Survey	.....	20	50(f)	75	75	75	75
Federal Judiciary	65(g)	15(g)	100	100	100	100	100
Judiciary of D.C.	.....	20	66⅔	100	100	100	100
Judiciary of Tax Court	70(h)	10(h)	50	100	100	100	100
Judiciary of Territories	65(g)	15(g)	100	100	100	100	100
Panama Canal Construction Workers	None	3	50	(i)	(i)	(i)	75

(a) With two exceptions, "base" means "largest average salary during any five consecutive years" for the contributory systems, and "final salary" for the noncontributory systems. The exceptions are the Policemen and Firemen, D.C., where "base" means "final salary," and the Panama Canal Construction Workers, where "base" means "average salary during employment."
(b) Or age 62 and 5 years' service.
(c) If base is at least $5,000; if base is lower, percentage is higher.
(d) Consists of guaranteed annuity equal to ½ per cent for each year of service, plus estimated 1 per cent for each year of service as purchased by actuarial equivalent of member's contributions.
(e) 80 per cent of final salary, not 80 per cent of base (largest average salary for any 5 consecutive years).
(f) In these systems, percentages apply to basic pay only (i.e., excluding special pay and allowances). Hence ratios to total compensation would be less.
(g) Or age 70 and 10 years' service.
(h) Or 18 years' service.
(i) Length of service never reaches 30 years.

ment are summarized in Table 2. In addition, the following paragraphs contain a few comments regarding specific benefit provisions which are of particular interest. In appraising the levels of benefits in Table 2 and subsequent sections, it is important to realize that employees under the uniformed service plans and the TVA plan receive OASDI benefits in addition to those shown. This is particularly significant in the survivorship and disability categories.

The Civil Service System contains four benefit formulas covering (1) regular employees, (2) investigative employees, (3) congressional employees, and (4) congressional members. The basic benefit formula for regular Civil Service employees is as follows (the term "average salary" means "largest average salary during any five consecutive years"):

Each of 1st 5 years of credited service
Larger of (A) 1½ per cent of average salary, or
(B) 1 per cent of average salary, plus $25
Each of 2nd 5 years of credited service
Larger of (A) 1¾ per cent of average salary, or
(B) 1 per cent of average salary, plus $25
Each year of service beyond 1st 10 years
Larger of (A) 2 per cent of average salary, or
(B) 1 per cent of average salary, plus $25

For investigative employees, the formula is 2 per cent for each year of service; for congressional employees the formula is the same as for regular employees except that 2½ per cent is credited for each of the first 15 years of service as a congressional employee. The formula for congressional members is 2½ per cent for each year of service.

A recent amendment to the Civil Service Retirement Act (October 11, 1962) provides for an automatic cost-of-living adjustment. The amendment provides that

1. Effective April 1, 1964, if the change in the price index[2] from 1962 to 1963 shall have equaled a rise of at least 3 per centum, each annuity payable from the fund which has a commencing date earlier than January 2, 1963, shall be increased by the per centum rise in the price index adjusted to the nearest one-tenth of 1 per centum.
2. Effective April 1 of any year other than 1964 after the price index change shall have equaled a rise of at least 3 per centum,[3] each annuity payable from the fund which has a commencing date earlier than January 2 of the

[2] Annual average over a calendar year of the Consumer Price Index (all items—U.S. city average) published monthly by the Bureau of Labor Statistics.

[3] Since the most recent increase.

preceding year shall be increased by the per centum rise in the price index adjusted to the nearest one-tenth of 1 per centum.

This cost-of-living provision was incorporated almost verbatim in the military pay bill passed in 1963 (H.R. 5555, 88th Cong., 1st Sess.) and is now a part of the uniformed services retirement systems. It has also been incorporated into the plan covering employees of the Board of Governors (FRS). From Table 1, then, it is seen that about $2 billion of federal retirement benefits are now tied automatically to the Consumer Price Index.[4]

This recent development is of great importance in that it might spread to others who demand the same protection against inflation, e.g., private pension plans, Social Security beneficiaries, public bondholders. Such indexing of retirement and other benefits on a wide scale might not only weaken resistance to inflation but could very well foster it. Demands to include an indexing provision in private pension plans will present difficult actuarial problems.

The uniformed services plans all provide for voluntary[5] retirement at 20 years of service with retired pay computed on the basis of $2\frac{1}{2}$ per cent for each year of service. The percentage is applied to basic pay at time of retirement. Although military pay consists of three elements, basic pay, special pay, and allowances, basic pay alone is used in the computation of retirement pay. For all personnel eligible for nondisability retirement, basic pay is about 70 per cent of the total of pay, allowances, and cost of rations, clothing, and shelter. This proportion is higher for officers and for higher grade enlisted personnel.

C. *Contribution Rates and Trust Fund Activity during Fiscal 1962 (Table 3)*

As shown in Table 3, the employee contribution rate is $6\frac{1}{2}$ per cent of pay for all contributory systems except the TVA system where the employee contribution rate varies by age at entry and sex, and except that members of Congress pay $7\frac{1}{2}$ per cent (the slightly higher contribution rate for members of Congress is nothing more than token recognition of a much higher level of benefits). There is no consistent rationale underlying the basis of government contributions to the various systems. In the case of the Civil Service and Foreign Service systems, the government simply matches the employees' contributions at the $6\frac{1}{2}$–$7\frac{1}{2}$ per cent rate.[6] The

[4] The change in the Price Index from 1962 to 1963 was less than 3 per cent.

[5] Subject to approval of the Service Secretary in the case of officers.

[6] The Civil Service Act requires this matching and also provides that the Civil Service Commission "shall submit estimates of the appropriations necessary to finance

TVA contributed 8¼ per cent in 1962 which, together with employee contributions, is intended to cover normal cost, to help liquidate the unfunded accrued liability by June 30, 1990, and to provide some strengthening of the investment reserve. The government contributed 18.3 per cent in 1962 to the Public School Teachers, D.C., system, which amount was the actuary's estimate of the government's share of normal cost plus

TABLE 3

FEDERAL RETIREMENT SYSTEMS
CONTRIBUTION RATES AND TRUST FUND ACTIVITY
DURING FISCAL 1962

(UNIT—$1,000)

	Civil Service	TVA	Foreign Service	Public School Teachers (D.C.)	Policemen and Firemen (D.C.)	Board of Governors (FRS)	Total
Contribution rate:							
Employee	6½%(a)	(b)	6½%	6½%	6½%	6½%	.....
Government	6½%(a)	8.25%	6½%	18.3%	(f)	16.18%	.....
Trust fund 6/30/61	$11,158,978	$114,217	$32,455	$37,496	(f)	$9,396	$11,352,542
Contributions:							
Employee	863,521	3,464	6,048(e)	1,716	1,700	227	876,676
Government	895,887	6,034	2,853	4,745	6,461	533	916,513
Total	$ 1,759,408	$ 9,498	$ 8,901	$ 6,461	$8,161	$ 760	$ 1,793,189
Investment income	315,849	5,647(c)	1,369	1,270	(f)	454	324,589
Benefits paid	1,057,644(e)	2,755(d)	5,525	4,899	8,161	642(g)	1,079,626
Increase in trust fund	1,017,613	12,390	4,745	2,832	(f)	572	1,038,152
Trust fund 6/30/62	$12,176,591	$126,607	$37,200	$40,328	(f)	$9,968	$12,390,694

(a) 7½ per cent for members of Congress.
(b) Varies by age at entry and sex from 5.66 per cent for male age 17 to 11.81 per cent for female age 64.
(c) Includes capital gain of $870,000.
(d) Includes $604,000 transferred to variable annuity fund and $207,000 for administrative expenses.
(e) Includes $2,836,000 transferred from Civil Service Retirement and Disability Fund to Foreign Service Retirement and Disability Fund.
(f) No trust fund maintained. District government contributes an amount which together with employee contributions is sufficient to meet benefit payments.
(g) Includes single premium transferred to Bank Plan in respect of current year's retirees under Board plan.

interest on the unfunded accrued liability. The government contribution rate of 16.18 per cent in the case of the Board of Governors, FRS plan, is set to amortize the unfunded accrued liability over the remaining active lifetime of existing covered members.

The system covering the Policemen and Firemen, D.C., appears somewhat anomalous in Table 3. It is the only contributory system for which no trust fund is maintained; the government simply contributes an amount which, together with employee contributions, is sufficient to

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the fund on a normal cost plus interest basis and to continue this Act in full force and effect." There is no requirement that such additional appropriations actually be made.

meet the current year's benefit payments. This is not an uncommon method of financing policemen and firemen plans of local governments.

There is no uniform investment policy applicable to the funds generated by the several contributory systems.[7] In the case of the TVA and the Board of Governors, FRS, the funds are invested by the trustees of those systems (First National City Bank of New York in the former case; Investment Committee of its own Board of Trustees in the latter). Only about 3½ per cent of the assets of the TVA plan are invested in U.S. Government securities; about a third of the assets of the Board of Governors, FRS, plan are so invested. Assets of the other three systems with trust funds are invested by the Secretary of the Treasury. In the case of the Foreign Service system, the law provides that the assets be invested in special issues of the U.S. Government at an interest rate of 4 per cent for regular contributions and 3 per cent for voluntary contributions (for past service). A 1961 amendment to the Civil Service Retirement Act provides that funds may be invested in U.S. Government securities (special issues) at an interest rate equal to the average market yield, computed as of the end of the calendar month next preceding the date of such issue, borne by all marketable interest-bearing obligations of the United States then outstanding with maturity dates more than four years from the end of such calendar month.[8] In addition, the Secretary of the Treasury may invest Civil Service System funds in public issues if he deems that such purchases are in the public interest (less than 10 per cent of the investments made in 1962 were in such public issues). The law does not specify an interest rate for investments of the Public School Teachers, D.C., system, and the Secretary of the Treasury is free to invest such funds in public issues as he sees fit.

Following are the average yields on assets held by the various systems as of June 30, 1962:

AVERAGE YIELD ON ASSETS HELD AS OF JUNE 30, 1962

System	Average Yield
Civil Service	2.8%
TVA	4.0
Foreign Service	3.9
Public School Teachers, D.C.	3.2
Board of Governors, FRS	4.1

[7] None of the noncontributory systems is funded.

[8] This is exactly the same basis as used for OASDI funds.

The low rate for the Civil Service System reflects the fact that the effect of the 1961 amendment (described in the preceding paragraph) is not yet fully realized; for example, 1962 investments in special issues were at a $3\frac{3}{4}$ per cent interest rate. It would seem hard to justify, on any grounds, the different investment policies for the three systems (Civil Service, Foreign Service, Public School Teachers, D.C.) under which funds are invested by the Secretary of the Treasury acting as trustee.

D. *Summary of Most Recent Actuarial Valuations (Table 4)*

Table 4 summarizes the results of the most recent actuarial valuations of the various systems. The Civil Service System receives continuing actuarial attention by its Board of Actuaries, presently consisting of D. C. Bronson, George B. Buck, Jr., and R. R. Reagh. The Civil Service Retirement Act requires that a valuation be made at intervals of 5 years, or oftener if deemed necessary by the Civil Service Commission. These valuations have been carried out under the supervision of M. S. Brown, Chief Actuary of the Commission. The TVA and the Board of Governors plans are valued annually by George B. Buck, Inc. The Public School Teachers, D.C., plan and the Foreign Service plan must by law be valued at intervals of 5 years, or oftener if deemed necessary by the Secretary of the Treasury. These valuations have been performed by C. W. Kroll of the Treasury Department who holds the position of government actuary. There are no legal requirements with regard to actuarial valuations of any of the other systems.

The first and only comprehensive study of Federal Retirement Systems was made by the Committee on Retirement Policy for Federal Personnel (created by the 82d Congress, Public Law 555, commonly referred to as the Kaplan Committee for its chairman, H. Elliot Kaplan) which submitted its reports during the period January–June, 1954. The valuations in Table 4 which are dated in 1952, 1953, or 1954 were made by that Committee, through its Council of Government Actuaries.[9] No valuations of those plans have been made since. The military system is under the continuing attention of Mr. J. B. Glenn, actuary for the Defense Department, and the 1958 valuation in Table 4 was prepared under his supervision. All the valuations summarized in Table 4 were made at a 3 per cent interest rate except for TVA ($3\frac{1}{2}$ per cent) and Foreign Service (4 per cent).

Table 4 presents three important measures of actuarial condition: Unfunded Accrued Liability, Normal Cost, and Level Premium Cost (the

[9] M. S. Brown, J. B. Glenn, J. P. Jones, R. J. Myers, S. A. Miller. One of the recommendations of the Committee was to set up a permanent Council of Government Actuaries. This has not been done.

latter two as a per cent of payroll). Unless otherwise noted, the meaning of these measures is as follows:

Normal cost.—Normal cost is defined as the level percentage of payroll, for a typical distribution of new entrants, which must be paid into the fund during each year they are in service to pay fully for all benefits to them and to their survivors. Salary scales used in determining normal costs do not anticipate any increases in the general level of salaries. The normal cost percentage, when applied to the total payroll in a single year, is generally interpreted to represent a

TABLE 4

FEDERAL RETIREMENT SYSTEMS
SUMMARY OF MOST RECENT ACTUARIAL VALUATIONS

System	Date of Valuation (1)	Unfunded Accrued Liability (Unit—$1,000) (2)	Normal Cost(a) (3)	Interest on Unfunded Accrued Liability (a) (4)	Level Premium Cost(a) (3)+(4) (5)
	Contributory Systems				
Civil Service	6/30/58	$27,451,000	13.8%	7.4%	21.2%
TVA	6/30/62	10,657	12.0	(b)	12.0
Foreign Service	12/31/61	282,000	29.7(c)	24.4	54.1
Public School Teachers, D.C.	6/30/61	101,132	17.5	11.7	29.2
Policemen and Firemen, D.C.	12/31/52	91,700	18.8	17.4	36.2
Board of Governors, FRS	2/28/62	None(d)	22.7(d)	None	22.7
	Noncontributory Systems				
Military	6/30/58	38,511,974	18.6(e)	11.7(e)	30.3(e)
Coast Guard	12/31/53	490,200	8.4(f)	12.5(f)	20.9(f)
Public Health Service	No valuation ever made				
Coast and Geodetic Survey	No valuation ever made				
Federal Judiciary	2/28/54	8,496	14.4	5.3	19.7
Judiciary of D.C.	No valuation ever made				
Judiciary of Tax Court	No valuation ever made				
Judiciary of Territories	No valuation ever made				
Panama Canal Construction Workers	6/30/53	16,500(g)	.....	.....	.....

(a) As per cent of payroll.
(b) Less than 0.05 per cent.
(c) Includes past service costs resulting from transfer of employees from the Civil Service plan to the Foreign Service plan, with an inadequate transfer of funds (only the employee's contributions with interest are transferred).
(d) Normal cost is set to amortize unfunded accrued liability over remaining active lifetime of existing covered members.
(e) Payroll taken as cash pay and allowances.
(f) Payroll taken as cash pay and allowances plus value of payments in kind.
(g) Excludes undetermined amount for widow beneficiaries of retired members.

NOTE: All valuations in the table are at a 3 per cent interest rate except for TVA (3½ per cent) and Foreign Service (4 per cent).

fair measure of the cost of accruing future benefits resulting from the additional year of service.

Accrued liability.—The accrued liability is defined as the present value of future benefits for the existing population less the present value of future normal costs for the existing population, where the normal cost is at the rate calculated for the new entrant distribution, as defined above. The resulting accrued liability is generally interpreted as a past service liability, i.e., as the present value of future benefits attributable to past service.[10]

Level premium cost.—Level premium cost is defined as the sum of normal cost and interest on the unfunded accrued liability, expressed as a percentage of payroll. If the total payroll is assumed to remain constant in the future, the existing fund and the level premiums collected in the future will put the system in actuarial balance, i.e., the existing fund plus the present value of future level premiums will be equal to present value of future benefits, and the unfunded accrued liability will remain constant. The existence of actuarial balance is apparent if one notes that the present value of the portion of the level premium covering interest on the unfunded accrued liability is itself equal to the unfunded accrued liability.

The Civil Service normal cost of 13.8 per cent was produced by the 1958 valuation of that system (at 3 per cent interest). Although no new valuation has been made, the Civil Service Commission estimates that the current normal cost, at a $3\frac{1}{2}$ per cent valuation interest rate, is 12.5 per cent.

E. *Estimated Unfunded Accrued Liability as of June 30, 1962 (Table 5)*

The estimates of unfunded accrued liabilities shown in Table 5 for the following systems were made by the actuaries associated with them: Civil Service; TVA; Foreign Service; Public School Teachers, D.C.; Board of Governors (FRS); Military; and Coast Guard. Estimates of unfunded liabilities for the other systems were made on a very crude basis by the author in order to complete the table. The unfunded accrued liability for all the federal retirement systems, as of June 30, 1962, is about $83 billion compared to total funds on hand of only $12 billion. We might say, then, that the federal retirement systems are in total about 13 per cent funded. The fact that the unfunded accrued liabilities of the federal retirement systems are generally increasing is apparent if Table 5 is compared with Table 4. It is also of interest to note that the total unfunded accrued liability for all systems at June 30, 1953, was about $30 billion[11] compared to the $83 billion at June 30, 1962.

[10] See "Measure of Actuarial Soundness in a Pension Plan of the Railroad Retirement Type," A. M. Niessen, *TSA*, VI, 26, for a discussion of the nature of this approximation.

[11] Senate Document #89, Part IV, 83d Cong., 2d Sess., "Retirement Policy for Federal Personnel."

F. *Projection of Future Benefit Payments for Selected Systems (Table 6)*

Projections of future benefit payments have been made by the actuaries of four of the systems and are shown in Table 6. Benefits in all the projections are based on existing legislation and recent levels of employment. Neither the Civil Service nor the Military projection allows for any increases under the automatic cost-of-living provision. The leveling off of the projected benefits under the Military System (extrapolated after 1980 by the author) reflects the 20-year service requirement and the peaks produced by World War II and the Korean War. It is apparent, in light of

TABLE 5

FEDERAL RETIREMENT SYSTEMS
ESTIMATED UNFUNDED ACCRUED LIABILITY AS OF JUNE 30, 1962
(UNIT—$1,000,000)

System	Estimated Unfunded Accrued Liability (1)	Funds on Hand (2)	Total Accrued Liability (1)+(2) (3)	Degree of Funding (2)÷(3) (4)
	Contributory Systems			
Civil Service	$33,660.0	$12,176.6	$45,836.6	26.6%
TVA	10.7	126.6	137.3	92.2
Foreign Service	290.0	37.2	327.2	11.4
Public School Teachers, D.C.	101.5	40.3	141.8	28.4
Policemen and Firemen, D.C.	160.0	0	160.0	0
Board of Governors, FRS	None (a)	10.0	10.0	100.0(a)
	Noncontributory Systems			
Military	47,500.0(b)	0	47,500.0	0
Coast Guard	700.0	0	700.0	0
Public Health Service	79.0	0	79.0	0
Coast and Geodetic Survey	11.5	0	11.5	0
Federal Judiciary	47.0	0	47.0	0
Judiciary of D.C.	1.5	0	1.5	0
Judiciary of Tax Court	1.5	0	1.5	0
Judiciary of Territories	1.0	0	1.0	0
Panama Canal Construction Workers	16.0	0	16.0	0
Grand Total	$82,579.7	$12,390.7	$94,970.4	13.0%

(a) Normal cost is set to amortize unfunded past service liability over remaining active lifetime of existing covered members.
(b) Defense Department estimate of unfunded accrued liability as of 6/30/64, after October 1963 military pay raise, is $57.6 billion.

the assumptions, that the projections in Table 6 represent an understatement of future benefits. Although the increases in benefits appear large, it must be remembered that gross national product, national income, and taxing capacity will also grow in the future. For example, as a rough first approximation, an annual growth rate of 3 per cent in taxing capacity (at present tax rates) will yield twice as much in taxes in 23 years, four times as much in 46 years.

TABLE 6

FEDERAL RETIREMENT SYSTEMS
PROJECTION OF FUTURE BENEFIT PAYMENTS FOR SELECTED SYSTEMS

Fiscal Year	Civil Service(a) (Billions)	Foreign Service(b) (Millions)	Public School Teachers, D.C.(c) (Millions)	Military System(d)(e) (Billions)
1965.....	$1.5	$ 7.8	$ 5.8	$1.3
1970.....	2.3	12.3	7.0	1.9
1975.....	2.8	19.3	8.3	2.6
1980.....	3.2	27.2	9.2	3.3
1985.....	3.5	34.0	9.7	4.0
1990.....	3.8	40.0	10.2	4.3
1995.....	4.1	46.0	10.6	4.6
2000.....	4.4	51.9	10.9	4.8
2005.....	4.7	57.0	11.1	4.9
2010.....	4.8	61.5	11.3	5.0

(a) Assumes level payroll during projection period. (Projection as of 3/21/63.)
(b) Assumes 350 officers enter the system each year, resulting in an increase in active force from 4,400 at 6/30/62 to an ultimate level of 7,100. (Projection as of 12/31/61.)
(c) Assumes 242 teachers enter the system each year, resulting in an increase in active teachers from 3,700 at 6/30/62 to an ultimate level of 4,500. (Projection as of 6/30/61.)
(d) Assumes active strength remains level during projection period. (Projection as of 5/15/61.)
(e) Series extrapolated after 1980 by author, based on pattern suggested by earlier Defense Department long-range projection.

This completes the description of the various federal retirement systems. While there is great diversity among these systems, it must be remembered that the federal government is a large employer with very diverse functions. It is completely justifiable for the federal government to maintain many different retirement systems, each designed for a specific set of purposes. However, there can be no real justification for the diversity in methods of financing and cost reporting, or for differences in benefit provisions which are not directly related to differences in conditions of employment.

Before the theoretical and practical aspects of financing questions are considered, it will be helpful to review certain aspects of the budget and

accounting practices of the federal government. This is done in Section II following.

II. FEDERAL BUDGETS AND ACCOUNTING

The Budget of the United States consists of two parts, the politically important Administrative Budget which covers receipts and expenditures of federally owned funds—the general fund, special funds, public enterprise funds, and intra-governmental revolving and management funds—and the Trust Fund Budget[12] which covers receipts and expenditures of all trust funds (e.g., OASDI, Unemployment, Civil Service Retirement and Disability, etc.). What is especially important for our purposes is that these two budgets are interrelated—income of one may be an expenditure

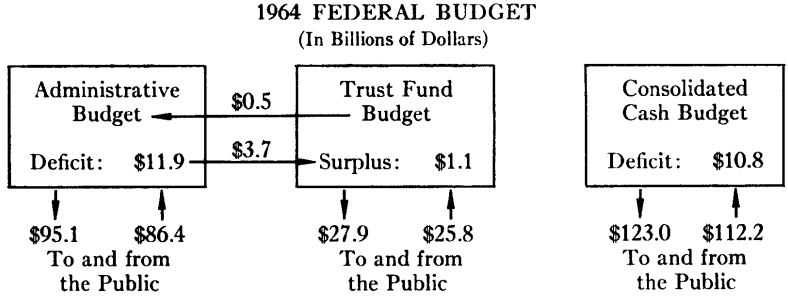

FIG. 1

of the other. The 1964 Administrative Budget showed receipts of $86.9 billion ($86.4 billion from the public, $0.5 billion from the trust funds) and expenditures of $98.8 billion ($95.1 billion to the public, $3.7 billion to the trust funds). The 1964 Trust Fund Budget showed receipts of $29.5 billion ($25.8 billion from the public, $3.7 billion from the government) and expenditures of $28.4 billion ($27.9 billion to the public, $0.5 billion to the government). The interrelationship between these two budgets is shown in Figure 1.

The interrelationship between these two budgets appears in Figure 1 as the $3.7 billion of Administrative Budget expenditures which are Trust Fund Budget receipts, and the $0.5 billion of Trust Fund Budget expenditures which are Administrative Budget receipts. The $3.7 billion consists of $1.9 billion of employee and government contributions for retirement plans, $1.6 billion of interest on investments of trust funds,

[12] Technically there is no official Trust Fund Budget as such; each trust fund is accounted for separately. The concept of a single Trust Fund Budget is used here for ease of explanation.

and $0.2 billion of miscellaneous items. The $0.5 billion consists largely of repayments of advances to the trust funds from federally owned funds.

It is apparent from Figure 1 that the increase in government debt held by the public is equal to the combined deficit of both budgets,[13] namely, $11.9 billion less $1.1 billion, or $10.8 billion. This combination, which is also shown in Figure 1, is referred to as the Consolidated Cash Budget. Alternatively, the combined deficit could be obtained by taking total payments to the public of $123.0 billion (95.1 + 27.9) less total receipts from the public of $112.2 billion (86.4 + 25.8).

A final comment on Figure 1 which is important for the discussion which follows is that the $1.1 billion of Trust Fund surplus is invested in Treasury securities and becomes a part of the public debt.

It will be helpful for later discussions to see what would have happened in 1964 if an additional $1.0 billion had been placed in the Civil Service Retirement and Disability Fund to "strengthen" that system. We consider two possibilities, both assuming that cash expenditures remain unchanged.

If taxes were *not* increased, the intergovernmental transfer of $3.7 billion shown in Figure 1 (an Administrative Budget expenditure and a Trust Fund receipt) would have become $4.7 billion, thereby increasing the Administrative Budget deficit to $12.9 billion and increasing the Trust Fund surplus to $2.1 billion. The additional $1.0 billion of Trust Fund surplus would have been invested in Treasury securities. If these transactions are collapsed, it is apparent that the Treasury simply would have increased the public debt through the issuance of $1.0 billion of additional securities and, in its capacity as trustee, held them as a part of the Civil Service Retirement and Disability Fund.

Suppose that Congress could not live with a $12.9 billion deficit (11.9 + 1.0) and decided to increase taxes by $1.0 billion to keep the Administrative Budget deficit at $11.9 billion. The analysis is the same as in the preceding paragraph except that Administrative Budget receipts from the public would also be increased by $1.0 billion, leaving the Administrative Budget deficit at the desired figure of $11.9 billion. The Treasury would have in its possession an additional $1.0 billion of cash to apply to cash expenditures and would not have to borrow as much from the public. Treasury debt held by the Civil Service Retirement and Disability Fund would still be $1.0 billion greater as under the first alternative, but in the case where taxes are increased, the "strengthening" of the Civil Service Retirement and Disability Fund would not cause any in-

[13] Assuming no change in the Treasury's cash balance and ignoring certain other minor items.

crease in total Treasury debt (debt is simply shifted from the public to the Fund).

The important point in the foregoing examples is that a contribution to the Civil Service Retirement and Disability Fund may represent only an accounting transaction with no real monetary effect, or it may result in increased taxes and the reduction of an equivalent amount of Treasury Debt held by the public. This matter is discussed more fully in Section III following.

Having reviewed the various federal retirement systems in terms of benefits, coverage, and actuarial condition and having explored briefly certain aspects of federal budgets and accounting, we turn our attention to the question of financing these systems. Specifically, when we integrate the principles of actuarial soundness with the realities of federal finance, do we discover a particular method of financing which can be defended against all others on traditional actuarial grounds, or do we find that the choice of a particular method of financing rests largely on other grounds, principally economic and political?

III. THEORETICAL AND PRACTICAL CONSIDERATIONS IN FINANCING THE FEDERAL RETIREMENT SYSTEMS

It is apparent that the government has no consistent policy with regard to the financing of its various retirement systems. The noncontributory systems as well as the contributory system covering Policemen and Firemen, D.C., are financed on a current-cost basis (referred to as pay-as-you-go by proponents, and owe-as-you-go by opponents); the Public School Teachers, D.C., system is financed by paying normal costs plus interest on the unfunded liability (referred to as a "normal cost plus interest" basis); the Civil Service system is financed by the government matching employee contributions (referred to as the "matching" basis[14]); the TVA system is essentially on a full reserve basis; the Board of Governors' plan is not on a full reserve basis but the contribution rate is set to put the system in actuarial balance.

In order to arrive at a common method of financing these systems, it is necessary to answer the difficult questions that are posed in the following paragraphs. They are, of course, questions that were posed years ago in the great debates over Social Security financing. They are discussed here in the context of the Federal Retirement Systems, where considerations of personnel management and accurate cost disclosures are paramount.

[14] A new approach calling for more funding has recently been proposed by the Administration (see Section IV).

A. *Can Advance Funding Reduce the Tax Burden in Future Years?*

The principal argument here is that the burden of retirement plan costs should not be passed on to future generations, but should be borne by the present generation to the extent that such benefits are accruing. This implies that more taxes collected now, to cover the excess of the cost of accruing benefits over benefits actually paid, will mean less taxes required in future years. This argument is not as simple as it may seem.

Those who argue affirmatively say that the additional taxes collected to cover the excess of accruing costs over actual benefit disbursements would reduce the need for borrowing from the public. In effect, the government would borrow from the retirement fund instead of from the public (as was illustrated on page 279). Thus, the argument goes, the total Treasury debt and interest on the debt would be unchanged, but a portion of the interest on the debt could be used to pay retirement benefits instead of interest payments to public bondholders.

The proponent of this line of reasoning may think that he is arguing the merits of a reserve plan but, in fact, he is arguing the merits of increased taxation. He is saying that (1) the reserve method will result in higher taxes; (2) higher taxes will result in a transfer of debt from the public to the retirement fund; and (3) the revised fiscal policy implied by (1) and (2) will result in economic growth and stability at least as favorable as without the revision.

If higher taxes will put the economy of the future in a better position to bear the burden of retirement payments, then higher taxes are desirable with or without a reserve method of financing and the point should be argued on economic grounds, not on actuarial grounds. This opinion is not universally shared; a strong statement to the contrary appears in Professor J. S. Parker's book, *Social Security Reserves*, namely:

> The opponents of the reserve have thought in terms of the entire economic system as well as in terms of the retirement system. They have been more interested in the nation's economic system than they have been in the retirement system itself. Their preoccupation with problems of general federal finance is apparent in their writings. Those problems are primary in their thinking; the successful functioning of the federal system of old-age insurance is clearly secondary to them.

In the author's opinion, the problems of retirement plan financing *must* be viewed in the light of the total federal fiscal picture if meaningful conclusions are to be obtained. Viewing these problems entirely apart from the over-all fiscal picture is tempting because the analysis appears

simpler and more familiar; unfortunately this approach does not avoid the complexities of the problem but evades them.

B. *Are the Trust Funds a Fiction?*

The Civil Service Retirement and Disability Fund consisted of $12 billion of government bonds at June 30, 1962. Is this a "fund" as the term is normally used or is it only a recognition of government liability? Or is it both? Even if this fund is deemed valid, is the government in a better position to meet its retirement plan obligations than if the fund did not exist? Some would argue that this fund is an accounting fiction since (1) the money it represents has already been spent, (2) if the government needed to use any of the $12 billion it would still have to tax or borrow to raise the cash, and (3) the problems of taxing or borrowing are the same with or without the $12 billion fund.

Statements (1) and (2) are an attack on the validity of the fund itself, while statement (3) implies that, regardless of whether or not the fund itself is valid, the process of creating the fund has been an accounting deception which produced no real fiscal effects. It would seem that despite the fact that statements (1) and (2) are both true, the validity of the governmental trust funds is unassailable; however, the question of whether or not any real fiscal effects have been produced is a highly debatable one. This latter question was discussed in the previous section (III, A), although it was viewed there prospectively while in the present context it is being viewed retrospectively (that is, the process of creating the trust fund in the past *might* have resulted in higher taxes which reduced the need for borrowing from the public and thereby left the government in a better position to meet its present and future obligations).

Doubt about the substance of the governmental trust funds reflects a transfer of certain attitudes held in the case of private pension plans. Most of us would object strongly to the use of a corporation's own bonds as the sole investment media for its pension plan. The objection is not that the bonds are of doubtful validity (the corporation may have a triple-A rating) but that the ability of the pension plan to meet its obligations would rest solely on the future earning power of the corporation. In other words, there is an objection to the failure of the plan to diversify its assets and rest its security on a broader (and therefore safer) base of future earning power. While this criticism is quite justified in the case of a private pension plan, it is completely unjustified in the case of a federal government pension plan. The federal government cannot obtain any higher order of security by investing its pension plan funds in the private economy or in bonds of a foreign government.

The essence of the argument here is that the validity of a fund is measured by the earning power which gives it substance, not by its ownership. The validity of the funds held by a life insurance company rests on the earning power of the corporations whose bonds it holds. The validity of the funds held by the federal retirement systems rests on the earning power (taxing capacity) of the federal government. An attack on the validity of the governmental trust funds is an attack on the credit of the government and can be supported only on that ground. In the author's opinion, governmental trust funds are valid funds in every sense of the word.

Entirely apart from the question of whether or not the trust funds are valid funds, and whether or not the process of creating these funds produces any real fiscal effects, it is clear that the public debt securities held by the trust funds are a liability of the federal government. In a fully funded retirement system, they would represent the past service liability. This suggests another possible justification of a full reserve system, namely, that whether or not future burdens are reduced, and whether or not the trust funds are a hoax, the reserve method will at least force public recognition of the government's accruing liabilities. In other words, one might ask:

C. *Should All Past Service Liability Be Recognized Formally by the Issuance of Public Debt?*

This suggestion was made by Mr. R. M. Peterson a few years ago in connection with comments on the Civil Service Retirement System (*TSA*, XI, 824). The rationale behind the proposal is clear enough. The significance of the public debt is that it represents a stream of future payments (interest and principal) to which the government is committed as a result of *value already received.* The past service liability in a retirement system represents a stream of future payments (retirement benefits) to which the government is committed as a result of *value already received.* The analogy would seem to be conclusive. However, when Mr. Peterson's suggestion is pursued beyond the confines of the Civil Service Retirement System it poses some severe practical problems.

In February 1962, Maurice H. Stans (former Director of the Bureau of the Budget in the Eisenhower Administration) wrote an article which appeared in the *Washington Post* (2/19/62), "Uncle Sam Faces Trillion Dollar Debt." He noted that the present national debt of $300 billion is far from all we owe for the past. He stated that the total value of future benefits voted to veterans and their dependents amounted to $300 billion and that unfinanced liabilities for Military and Civil Service retirement

amounted to $70 billion. On top of that, he added $300 billion of unfunded past service liability for Social Security and an estimated $150 billion for commitments for highway improvements, public housing, civil public works, etc., as well as for unspent balances of appropriations for the defense program. Summing it all up, he said, "This makes the total present undertakings of the government, to be paid from future taxes, in excess of a trillion dollars."

There would seem to be no valid argument against Mr. Stans's figure of a trillion dollars as being a reasonable estimate of the present value of future payments to which the government is now committed as a result of value already received. It would seem, then, that the logical extension of Mr. Peterson's suggestion would require the issuance of enough public debt securities so that our national debt would stand at a trillion dollars instead of its present level of about $310 billion. The political repercussions to such a move are staggering to the imagination.

Realizing that the real financial and economic benefits of a full reserve method are quite debatable and may not exist at all, and in any event cannot be considered apart from the over-all fiscal picture, we turn our attention to aspects of the problem other than the pure economic one. One can argue that a particular method of financing is desirable because its accounting and reporting aspects alone, through psychological and political effects, will lead to the desired objectives. It might be well, before going any further, to spell out in some detail these ultimate objectives we seek to achieve through a particular financing method. The following four objectives are suggested:

To assure that

1. Retirement benefits will be paid as promised.
2. Retirement benefits do not become too great a future burden.
3. Retirement costs bear a reasonable relationship to compensation.
4. Currently accruing retirement costs are known and considered in program evaluations and budgetary allocations.

Most of us would agree that these are desired objectives, but we would probably not agree, except in the case of the first one, whether or not they had been or were being achieved. Nevertheless, in the light of these objectives we can discuss the surface characteristics of various financing methods which would have psychological and political implications. For example,

D. *Does Advance Funding Make the True Costs of a Retirement System Better Known?*

In a speech before the Convention of the New Jersey Bankers Association May 13, 1938, A. W. Willcox stated:

> The primary function of the reserve account is to write into each annual budget an appropriation equal to that year's increment in accrued old-age pension liability, and to write into the public debt statement of the U.S. as of any given time the total liability accumulated up to that time—to spread these liabilities upon the public records, where all who run may read.

The Comptroller General in a letter dated October 27, 1959, to the Honorable Carl Hayden, Chairman of the Senate Appropriations Committee, made the following statements in connection with the financing of the Civil Service Retirement and Disability System:

> The making of appropriations for the amount of normal cost plus interest would result in automatic inclusion of the cost of the retirement system in the budget and financial reports of the Government and its agencies. Under current accounting and reporting processes, costs of the Government for the Civil Service retirement system are included in financial reports only to the extent that they are appropriated for. Thus the cost of the retirement system is now only partially disclosed in financial reports.
>
> We believe that all costs of operating the Government should be adequately disclosed in its accounts and financial reports and the fact that this result could be achieved for the retirement system by adopting the normal cost plus interest basis for measuring appropriations to the fund is, in our opinion, an important reason for adopting that practice.

These are perhaps the most compelling arguments in favor of using an advance funding method to finance the various retirement systems. In fiscal 1962 the appropriations to finance the Civil Service Retirement System and the Military System were identical (by coincidence) at $896 million. The Civil Service appropriation just about covered the government's share of normal cost for that system, while the Military appropriation fell short of the government's share of normal cost by more than a billion dollars. Thus, the accruing costs were completely known in the former case and only half-known in the latter.

When no current funding is provided it becomes easy to provide liberal deferred benefits, because it will be some future legislator's problem to appropriate the funds. Not only does this promote the building up of financial problems, but it understates current costs of using manpower, thus opening the way for misallocation of resources and manpower waste.

E. *Does the Existence of Reserves Associated with Advance Funding Inhibit Unreasonable Benefit Liberalizations?*

Those who argue affirmatively say that the full disclosure of costs and the requirements for appropriations on an accrual basis that are associated with a reserve system (i.e., the tie-in between benefits and contributions) would inhibit the Congress from making unreasonable liberalizations in benefits. Certainly those members of Congress who view the reserve as a liability would be so inhibited.

However, many argue that the reserve will be viewed as a fund, not as a liability, since it is labelled as a Trust Fund, and this will lead to pressures for liberalizations of benefits. R. A. Hohaus (*TASA*, XXXVII, 159) reports this quotation from the Honorable A. A. Ballantine, former Under Secretary of the Treasury:

> This wholly novel, inconceivably vast reserve fund, into which all existing Government obligations might be drawn, together with newly created obligations, is not only delusive but dangerous. It would tend to promote Government extravagance, upset established financial practices, upset credit conditions, prejudice the operations of the banks and insurance companies, and to invite unwarranted increase in payments against the fund. No other country has attempted anything of this nature.

The argument that an advance funding method would lead to government extravagance was one of the two most important reasons which led to abandonment of the reserve principle as originally intended for the Social Security program in favor of the present partial funding basis which is much closer to a current-cost approach. The other important reason was concern over the size of the payroll tax.

F. *Does Advance Funding Give Employees More "Legal" Assurance That Benefits Will Be Paid as Promised?*

Under an advance funding method, the Congressional act of appropriation is made in advance of the time the benefit is paid, i.e., at the time of accrual. The retirement benefits are paid directly from the trust fund and do not require any Congressional action at the time of payment. Even if part of the benefit payments are derived from interest on the fund, the statement is still true since interest on the public debt is paid under an automatic indefinite appropriation. In order to repudiate retirement benefits, the Congress would have to take positive action and repudiate the purposes for which the trust fund was created. This would be a severe step, indeed, and an extremely unlikely one.

In the case of the current-cost method, the retirement benefit is appropriated by the Congress in the year it is paid. Repudiation in this case

could take the form of a revision of the retirement plan and a lower current appropriation. Furthermore, under a current-cost method the Congress is faced with a more rapidly increasing series of appropriations than under a normal-cost method, resulting in greater exposure to repudiation.

The question of repudiation is not an academic one. The following quotations are from an article in the *Washington Post*, dated May 21, 1963, entitled "Rising Expense of Retirements May Lengthen Military Terms":

> Sharply rising outlays for retirement pay may force military men to serve longer in uniform to earn retirement, Pentagon officials indicated yesterday.
>
> At the urging of the House Armed Services Committee, the Defense Department has started an exhaustive review of the future impact of present laws permitting voluntary retirement after 20 years of service. The study is directed at possible changes to reduce costs. . . . But they said there seemed no way of holding down costs other than by lengthening the minimum service for retirement to perhaps 25 years.

It would seem that an advance funding method does give employees considerably more assurance that benefits will be paid as promised.

IV. ADMINISTRATION PROPOSAL FOR FINANCING THE CIVIL SERVICE RETIREMENT SYSTEM

Despite the difficulties apparent in the theoretical considerations just discussed, it is necessary to make practical decisions regarding the financing of the federal retirement systems. Responding to Congressional criticism, the Administration presented its proposal for "improving the financing of the Civil Service Retirement System" in identical letters dated May 9, 1963, to the President of the Senate and to the Speaker of the House of Representatives. The letter states that "as a result of failure to contribute adequate sums in the past, the unfunded liability of the system has grown to an estimated $34 billion as of June 30, 1963. Unless steps are taken to increase the present level of contributions, the unfunded liability will continue to grow, and as benefit disbursements increase the Civil Service Retirement and Disability Fund will vanish by 1990."

At present, employees contribute 6½ per cent of pay to the Fund and the employing agencies contribute an equal amount. This covers the estimated 12.5 per cent normal cost and leaves ½ per cent as a partial contribution toward interest on the unfunded accrued liability. The Administration proposal provides that these contributions continue and that, in addition, the employing agencies make supplemental contributions of ½ per cent of pay in 1965, increasing ½ per cent each year until an 11 per

cent supplemental rate is reached in 22 years (1986), and remaining level thereafter at the 11 per cent rate.

The proposal might be referred to as a "deferred normal cost plus interest" approach. A regular normal cost plus interest approach would have required the immediate payment of $1.1 billion of interest on the unfunded liability, such payment representing about 8 per cent of payroll. The budgetary climate was such as to make an appropriation of this size politically unfeasible (due to its effect on the Administrative Budget as explained earlier) even though no cash is involved. In lieu therefore, the proposed legislation sets forth a schedule of increasing supplemental contributions beginning with an acceptable ½ per cent rate in 1965 which amounts to a supplemental contribution of only $73 million. During the next 22 years the unfunded liability will continue to grow, although its growth will be somewhat arrested as a result of the supplemental contributions. According to the projections of the Civil Service Commission, the growth in the unfunded liability will be arrested completely in 1986 at about $48 billion. At that time the 11 per cent supplemental contribution, together with ½ per cent coming out of the regular matching contributions, will be equal to interest on the $48 billion unfunded liability, and the system will then be on a "normal cost plus interest" basis. Hence, the designation "deferred normal cost plus interest."

Another important element in the Administration proposal is an attempt to prevent "jumps" in the unfunded liability as a result of benefit or coverage liberalizations. As stated in the letters to the Congress, "any new or increased benefits resulting from future changes in the Civil Service Retirement Act would not become effective and no benefits would accrue until the full estimated increase in unfunded liability for past service which would otherwise result from such change in the Act had been appropriated to the fund. This would avoid the escalation of unfunded liabilities because of benefit or coverage liberalizations."

The Administration proposal appears reasonable to the author except for the requirement that the supplemental appropriations be included directly in the individual agency budgets. The supplemental appropriations represent payments for past "sins" and are not a current cost of operating the government. The real measure of the cost of the retirement plan for use in making operating decisions is the normal cost which is currently estimated to be 12.5 per cent, just about equal to the combined employee and agency contributions of 6½ per cent each. The supplemental contributions representing interest on the unfunded liability should be made as a lump-sum appropriation and not charged to individual agencies. The choice that was made is apparently based on the belief that

allocation of the supplemental contributions to the agency budgets will more likely result in the necessary Congressional appropriations. The present system of charging the regular 6½ per cent contribution to the Agency budgets has worked well. Another defect of the proposal is that it contains no automatic financing provision to cover "jumps" in the unfunded liability resulting from general salary increases or from increases in retired benefits deriving from the automatic cost-of-living provision. Nor does the proposal provide automatic financing for increased normal cost resulting from salary increases or benefit liberalizations. However, it will be difficult to achieve enactment of even the limited measures contained in the Administration proposal.

V. CONCLUSIONS AND RECOMMENDATIONS

The problem that confronts us stems directly from the simple fact that the full impact, in a cash sense, of retirement plan commitments made today will not be realized until many years in the future. It is the kind of problem which justifies the existence of the life actuary, and he has been able to cope with it successfully in the private sphere. When a private entity makes a commitment for future retirement benefits, it is able to discharge that commitment by giving up an actuarially determined portion of its current cash income and relying on a more diversified and secure earning power, outside its own entity, for the payment of future benefits. In the case of the federal government, there is no external earning power more secure than its own, and it cannot transfer the burden of future retirement payments by giving up a portion of current cash income.

The problem of federal retirement plan financing is inextricably woven into the fabric of over-all fiscal policy. Our goal, especially as actuaries, should be to see that the role played by the retirement systems as a part of the total picture is fully understood by the fiscal planners.

Following are four recommendations which reflect the considerations discussed in this paper and which give some hope of realization in the foreseeable future:

1. *Creation of a Permanent Board of Actuaries*

This suggestion was made by the Kaplan Committee in its 1954 report but was never implemented. The piecemeal development and financing of the federal retirement systems is evident from the material presented in this paper. Actuarial analyses are made for the more important systems but not on a coordinated or consistent basis.

In order to achieve desired uniformity with respect to benefit struc-

tures, methods of financing, and actuarial cost reporting, all of the systems should be brought under the attention of a Board of Actuaries. Since coordination of federal financial activities is a primary responsibility of the Bureau of the Budget, the Chairman of the Board of Actuaries might well be an actuary on the permanent staff of the Budget Bureau. He should be a Fellow of the Society of Actuaries, should report at a high level in the Bureau, and ideally should have the title of Government Actuary.[15] Members of the Board should be drawn from those actuaries presently working in important areas of the government, e.g., Civil Service Commission, Defense Department, Social Security Administration, Railroad Retirement Board, Veterans Administration; and the Board might well include an actuary engaged in private practice. The Board would not be restricted to retirement plan matters only but would serve as actuarial adviser to the Bureau of the Budget with respect to all actuarial problems of the federal government.

2. *Annual Cost Reporting*

Regardless of the financing methods adopted, the Board of Actuaries should prepare an annual report on the status of the various retirement systems, and a summary of the results should be included as a regular special analysis in the Budget document. The summary should cover financial transactions, unfunded liabilities, normal costs, level premium costs, and, most importantly, projections of benefit payments in future years.

3. *Uniform Basis for Investment of Trust Funds*

The use of special issues bearing arbitrary interest rates prescribed by separate and inconsistent legislation introduces an artificial bias in the comparison of retirement plan costs. Funds for all systems should be invested on the same basis—either public issues as in the case of the Public School Teachers, D.C., or in special issues bearing a realistic rate, e.g., the average rate on all long-term securities of comparable maturities issued in the previous quarter. Only in this way can a cost picture be obtained which is consistent within the federal government and with comparable private systems.

4. *Funding of All Systems on a "Normal Cost Plus Interest" Basis*

The difficulties experienced with the present method of financing the various federal retirement systems stem directly from the fact that they

[15] The position of Government Actuary presently exists in the Treasury Department (not presently held by a Fellow of the Society) and would have to be transferred to the Bureau of the Budget.

are generally open-ended methods. That is, there is no automatic relationship between costs and appropriations. This leads to obscurement of real costs, raises the specter of repudiation, and requires continual pulling and hauling between the Administration and the Congress with regard to the financing. What is desperately needed is a closed method of financing under which changes in costs are automatically reflected in changes in appropriations. In other words, a system is needed which will automatically provide for the full cycle of Congressional action necessary to implement the purposes of the retirement plans, and, most importantly, to require that such action be coincident with changes in costs.

A system which satisfies the above requirements would have to be funded and would necessarily require the regular appropriation of normal costs. In addition, it would have to require some automatic recognition, in terms of appropriations, of any changes in the unfunded liabilities, whether they arose from benefit liberalizations, extensions of coverages, or general salary increases. The minimum way to achieve this latter requirement is through the automatic appropriation of interest on the unfunded liability—in effect, amortization of the unfunded liability in perpetuity.

It is recommended, therefore, that all federal retirement systems be financed by the normal cost plus interest method as soon as practicable, except where stronger financing may be desirable for special reasons (for example, the TVA is expected to operate in the same fashion as a private business). This method has been proposed for the Civil Service System by the Kaplan Committee and by the Comptroller General in his report of October 27, 1959, to the Senate Appropriations Committee. The Kaplan Committee, however, recommended no change in the current-cost method of financing the Military system. The Committee said, in this regard:

> The Committee believes there is no pressing need to place the military retirement system on other than the present pay-as-you-go basis. The uniqueness of the military service, its traditional concepts of the function of its retirement policies, and the constantly fluctuating population of the service (more uncertain now than ever) do not altogether lend themselves to a financial plan other than meeting retirement obligations as they arise. We perceive that a time may come when it might be desirable to reconsider methods of funding and financing the military retirement system. For the time being, however, we recommend no change in the present policy.

The Committee's arguments seem weak, indeed.

Finally, interest on the unfunded liability should not be included in the Agency budgets, but should be a separate lump sum appropriation,

made under the same kind of indefinite authorization used for appropriation of interest on the public debt.

The recommendations that have been made are directed toward the achievement of real understanding, effective control, and proper use of the federal retirement systems. Their choice reflects political considerations to a far greater extent than purely actuarial or economic ones. Almost 30 years ago, Mr. M. A. Linton made the following statement in his paper on the "Reserve Provisions of the Federal Old Age Security Program":[16]

> As a matter of fact the more one studies the proposed contributory plan, the more one comes to the conclusion that its successful working-out may depend on factors that are predominantly political. This phase of the problem cannot be evaluated by any actuarial process.

Mr. Linton's statement is every bit as true today as it was in 1935. But a broad understanding of the purposes and economic effects of funding will serve to foster more enlightened political action.

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DISCUSSION OF PRECEDING PAPER

RAY M. PETERSON:

I wish to applaud the appearance of this paper, particularly since I have been needling the actuarial profession, as recently as the 1963 fall meeting, to exercise a higher order of "constructive citizenship." Of course, it is a little easier to be a constructive citizen if one acquires a fellowship grant and a leave of absence from one's employer. But this is one fellowship that has produced, as a great public service, a paper that is notable for its clarity, completeness, and objective treatment of the subject. If the Congress and the Executive Branch give heed to this study and its recommendations, government housekeeping will be greatly improved. The interest and co-operation of the Bureau of the Budget are encouraging signs.

I agree fully with the four recommendations of the author as desirable objectives. The fourth one, viz., "that all federal retirement systems be financed by the normal cost plus interest method as soon as practicable" (except TVA), goes to the heart of the financing issue. The author refers to my proposal made five years ago which was as follows:

> The payment of interest on the unfunded liability has exactly the same financial effect upon current governmental financial operations as the payment of interest on a recognized amount of debt which is equal to the unfunded liability. Indeed, this unfunded liability should be recognized as a part of the national debt by the issuance of bonds to cover it.[1]

It is evident that the issuance of bonds (in the amount of some $80–$90 billion) will fulfill the author's objective when he says that "what is desperately needed is a closed method of financing under which changes in costs are automatically reflected in changes in appropriations" and that "interest on the unfunded liability should not be included in the Agency budgets but should be a separate lump-sum appropriation, made under the same kind of indefinite authorization used for appropriation of interest on the public debt." It may be that a bond issue is the only effective means of achieving the automatic result desired.

In connection with this question asked by the author, "Does advance funding give employees more 'legal' assurance that benefits will be paid as promised?" may I point out this statement was made in the financing

[1] *TSA*, XI, 824.

proposals of the Civil Service Commission to Speaker McCormack in May, 1963.

The Commission considers that one of its gravest responsibilities is the administration of the Civil Service Retirement System. It is a powerful tool in our personnel program, serving to attract and retain employees of the caliber required to conduct the complex business of government. It contributes toward the financial security for millions of past, present, and future Government employees and their dependents. *There should never exist the slightest doubt of the System's ability to meet these promises. That doubt now exists.*[2]

Pressures to make the administrative budget look good are great. Although President Kennedy, in his preliminary budget for fiscal 1965,

TABLE 1

System	Ratio of Past-Service Liability to Annual Payroll
Civil Service	3.5
TVA	1.8*
Foreign Service	7.1
Public schoolteachers, D.C.	5.5
Policemen and firemen, D.C.	6.1
Federal Reserve	2.7
Military	4.6*
Coast Guard	5.7
Public Health Service	4.3
Coast and Geodetic Survey	9.8
Federal Judiciary	5.3
Judiciary of D.C.	4.0
Judiciary of Tax Court	4.8
Judiciary of Territories	8.8
Total	4.0

* Covered by Social Security.

included some $65 million based on the proposal of the Civil Service Commission, President Johnson knocked it out as part of his great economy move![3]

The generosity of these federal plans is indicated when we relate the total past-service liability to current annual payrolls (Table 1).

These ratios, with appropriate recognition of the presence or absence of Social Security coverage, may be compared, for instance, with the present prior-service liability for the retirement plan covering employees of my company, a quite generous plan, amounting to about 145 per cent

[2] Letter dated May 9, 1963, p. 3. (My italics.)

[3] *Wall Street Journal*, January 22, 1964.

of one year's payroll. If old age benefits corresponding to those under OASDI were provided under our plan, total prior-service liabilities would probably amount to two and a half years' payroll.

Mr. Shur mentions the amendments that tied the retirement benefits under the civil service and military service plans to the Consumer's Price Index. The accrued liability figures in the paper take no account of this feature. If recognition were given to the prospective increase in costs from this source, it would seem reasonable to reflect an assumed 1 per cent annual inflation by valuing the liability at an interest rate of $2\frac{1}{2}$ per cent instead of $3\frac{1}{2}$ per cent (the present assumption) and for an assumed 2 per cent annual inflation, a valuation rate of $1\frac{1}{2}$ per cent is suggested. This would probably increase the liability by 15 or 20 per cent under a 1 per cent inflation assumption and by 30 or 40 per cent for a 2 per cent inflation assumption. As a matter of interest, I asked a staff member of the Civil Service Commission whether Congress requested a cost estimate when they introduced the CPI feature. I was told that there was no such request. This lack of concern as to costs by the Congress is very disturbing, and one hopes that Mr. Shur's paper will stimulate greater cost-consciousness.

Referring to Mr. Shur's warning of the spread of the cost-of-living provision to other areas including OASDI, we may note the following report in the *New York Times* for November 1, 1964, of a campaign speech delivered in California by the now Vice-President of the United States:

HUMPHREY OFFERS NEW AID FOR AGED

WOULD LINK SOCIAL SECURITY TO THE LEVEL OF PRICES

The boldest suggestion made by the Democratic Vice-Presidential candidate was that after Social Security benefits are raised to a "decent" level, "we hope to modify the Social Security benefits structure so that it is responsive to economic changes and fluctuations of the cost of living.". . .

Mr. Humphrey's Social Security suggestion implied some kind of cost of living escalator clause for benefits, but he did not touch on the question of how extra benefits under the system would be financed.

However, it was learned that the matter is being explored by a Presidential study group. The group is examining a suggestion that an escalator for benefits be financed by a system of parallel increases in the "wage base" on which Social Security taxes are paid. . . .

Mr. Humphrey's suggestion today is known to have been cleared with President Johnson.

One may note in passing that at this meeting, when we have a paper by Preston Bassett that outlines a method of accrual accounting for private pension plans, Mr. Shur is presenting a similar approach for the

federal retirement systems. There is another coincidence of events that is also significant. The business community is awaiting with bated breath the expected Report of the Committee on Corporate Pension Funds and Other Private Retirement and Welfare Programs which was originally appointed by President Kennedy in March, 1962. It was charged to include on its agenda

> a review of the implications of the growing retirement and welfare funds for the financial structure of the economy, as well as a review of the role and character of the private pension and other retirement systems in the economic security system of the nation, and consideration of how they may contribute more effectively to efficient manpower utilization and mobility.

This committee includes the Secretary of the Treasury, the Director of the Bureau of the Budget, the Chairman of the Council of Economic Advisors, and the Chairman of the Board of Governors of the Federal Reserve System. Rumor hath it that the Committee, among other things, is concerned about the level of funding of private plans and may seek to establish standards of adequacy. One might well ask that the Committee first look to putting the government house in order as to retirement plan funding and sound fiscal policy, particularly since President Kennedy's directive referred specifically to "other retirement systems" in addition to private pensions. Mr. Shur's paper should serve to turn their critical attention to the federal retirement systems if they will but read, listen, and ponder. As many of us know, a private plan that practiced such relaxed funding as that of the federal programs would be in serious trouble with the Internal Revenue Service.

I have crudely estimated that an accrual cost accounting for all federal retirement systems, as recommended by Mr. Shur, would call for a total annual amount in the neighborhood of $6 billion, with a net increase, perhaps, somewhat greater than $4 billion. This would be a very large, even impossible, order if the administrative budget is to be kept within the politically magic figure of $100 billion. The Administration might well be urged to take the "deferred normal cost plus interest" approach recommended by the Civil Service Commission. This could take the form of starting at the present level of something short of $2 billion, issuing $10 billion of bonds each year for ten years requiring interest service at, say, 3½ per cent, thus producing an annual increment of $350 million and reaching $3½ billion in ten years, and then producing a total annual outlay somewhat greater than $6 billion. This means, of course, that the federal debt would increase by $10 billion a year from this source, and current taxpayers would be paying for this deferred accrued accounting cost only

if taxes are greater than they would be otherwise by the amount of interest required to service this increasing debt.

One final observation. Voluntary contributions may be made under the Civil Service Retirement Act on very favorable terms (Actuarial Note Number 12, March, 1964, Social Security Administration). The deferred annuities purchasable for male lives are 20–30 per cent greater than those available on our group annuity rates—and the rates for females are the same as those for males. This difference would be diminished by surplus earnings of the insurer. If the Civil Service Plan rates were based on appropriate mortality assumptions and the low rate of interest on the Civil Service Retirement Trust Funds, they could not compete with private insurers. Under these circumstances, should the government be in this form of annuity business at all? This subsidized and inequitable program warrants some critical actuarial attention.

ROBERT J. MYERS:

Mr. Shur has made a valuable contribution in his thorough exploration and analysis of the significant problems involved in the financing bases of the various retirement systems for employees of the federal government. Considering the huge amounts of moneys involved, it is both amazing and discouraging that so little public attention has been given to the situation. It is to be hoped that Mr. Shur's paper will remedy this lack of awareness.

I concur completely with the general basis of the conclusions and recommendations that Mr. Shur has made. I think that other actuaries in the federal service would agree with me that there is a great need for more public recognition of the cost aspects of the various retirement systems for federal personnel. This is true not only for the smaller retirement systems, several of which are in excellent actuarial condition, but also for the two large programs—civil service retirement and the military system. In regard to the former program, for many years the real underlying costs have not been generally recognized in the sense that no action has been taken to do anything about the matter of the large costs that will certainly be faced in the next few decades.

There are several minor points, not particularly affecting the major thesis of Mr. Shur's paper, that require some comment. Mr. Shur agrees with an analysis that the national debt should be some $300 billion higher because of so-called "unfunded past-service liability for Social Security" (with additional amounts for the unfinanced liabilities for the several federal retirement systems and for other programs). This is not a correct analysis because the $300 billion figure for OASDI represents the unfund-

ed accrued liability *if the system were closed to new entrants from now on.* Even if this artificial assumption were considered to be a valid one, the law does not establish any liability on the part of the federal government for any financial problems that the OASDI might have.

Much more important, however, is the point that the proper way to consider the financial status of the OASDI system is by taking into account both present members and future new entrants, since the law provides for compulsory coverage (generally) and establishes a long-range schedule of contribution rates on workers and employers. Thus, when looking at the future cost situation, the fact should be taken into account that the new entrant or normal cost is lower than the ultimate contribution rate. Accordingly, under a compulsory social insurance system this difference can be considered to be just as much of an asset as future benefit payments can be valued as a liability. If CSR were to be considered in this manner, the computed unfunded accrued liability would be only slightly affected, since the normal cost is so close to the 13 per cent employee-agency contribution rate.

The fact that the OASDI combined employer-employee contribution rate is significantly higher than the normal cost is justifiable on the grounds that, just as in a private pension plan that might be financed by paying interest into perpetuity on the frozen unfunded accrued liability, part of the employer contribution for all time to come may be considered to be with respect to the initial group of covered persons.

Mr. Shur implies that the financing principle underlying the original Old-Age Benefits program (now OASDI) was a full-reserve one, whereas now it is on a partial funding basis. Unfortunately, this view has been widely expressed, but it is not true. The financing basis of the original program was much closer to a full-reserve method than the present basis, but it was still far from full-reserve financing. This can readily be seen from the fact that the benefits payable in the early years of operation were far greater in actuarial value than the applicable contributions of the potential beneficiaries, while at the same time the contribution rates were not level but rather were scaled upward. Thus, it would have been impossible, within the financing provided, to have closed off the system to new entrants after the first few years of operation and then to meet the benefit obligations for the initial group.

Mr. Shur points out quite correctly that the financing methods of the various federal retirement systems are inconsistent. Although this is true, it is not necessarily an adverse criticism. Financing methods may well differ as between plans of general scope covering a large number of employees and plans covering only a relatively small number of employees

of a "business type" governmental organization (such as the Tennessee Valley Authority).

With respect to the question of whether all past-service liability should be recognized formally by the issuance of additional public debt with respect thereto, I would raise the question as to whether Mr. Peterson or Mr. Shur thinks that a procedure of similarly increasing the corporate debt should be applicable to the employer who establishes a private pension plan, whether administered through an insurance company or through a trustee.

Mr. Shur recommends the creation of a board of actuaries in connection with the retirement plans for federal personnel, which board should be responsible to the Bureau of the Budget and should be chaired by an individual filling the position of government actuary in the Bureau of the Budget (and who should be a Fellow of the Society of Actuaries). Both Reinhard A. Hohaus and I have been very much interested in this particular matter for a number of years, and it has been our belief that the best solution would be the creation of a position of government actuary associated with the General Accounting Office, which plays a unique role in its relationship with both the Congress and the Executive Branch. Such government actuary would not prepare the actuarial valuations for each system (or, at least, not for the larger ones) but rather would review them. Then, in lieu of the board of actuaries recommended by Mr. Shur, there could be an actuarial advisory committee to the government actuary, just as there is in connection with the life insurance programs administered by the Veterans Administration and the survivor benefit plan of the military retirement system. I believe this to be a better approach than affiliation with the Bureau of the Budget, since that organization tends to be somewhat too politically oriented.

WALTER RIESE:

Mr. Shur is to be congratulated on a fine, thought-provoking paper. My interest in this paper is not purely academic, because for a number of years now my duties at the Department have related largely to the valuation of retirement schemes operated by the government of Canada.

After numbering roughly what appeared to me to be statements of Mr. Shur's opinion, and leaving aside a few that I did not understand or on which I felt disqualified or unqualified to form an opinion, I found that, of the remaining 78 points, we agree on 68; and we disagree on 20. This looks like an initial unfunded liability but is explained by the fact that in 10 instances we agree and disagree. Now, I shall go into as many of these 78 points as time will permit—say, one or two.

I am sure no one here will question Mr. Shur's conclusion that the accruing liabilities of governments are more likely to be recognized if they are valued. Of course, as Mr. Shur points out, recognition is not synonymous with understanding. I do not know who would argue that the liabilities represented by government pensions are not as real as those represented by private pensions, and obviously they *can* be valued. However, once we have finished the valuation, we feel a little like the hen that hatched a duckling. We trust our estimate of the liabilities, but, when we look for the assets to draw up our balance sheet, and we find no assets or only suspicious-looking assets, we naturally tend to become emotionally upset. Nevertheless, I am certain no one here will quarrel with Mr. Shur's conclusion that government pension liabilities must be valued. After all, we could no more sit quietly looking at an unvalued liability than a mountaineer can sit at the foot of Mount Everest.

Now, it may be easier to agree that the liabilities should be valued than that they should be funded. Still, I see nothing incongruous about Mr. Shur's conclusion that government pension liabilities should be "funded," in spite of the fact that the funds may appear fictitious to some and that the funding may have no real fiscal effect. Of course, in the case of private pension plans a need is felt to separate the fortunes of the pension plan from those of the employer, and this need is met by funding. A similar need is not generally felt in the case of government pension plans, and this dissimilarity seems to overshadow all other considerations. But, in the final analysis, since one man's asset is usually another man's liability, are not all funds little more than accounts? If so, the question of whether or not to "fund" government liabilities would reduce to the question of whether or not accounts need to be kept.

While I cannot convince myself that security for government pension beneficiaries is enhanced by maintaining special funds, "honest accounting" seems difficult without them, and I agree with Mr. Shur that there should be available a reasonably consistent measure of the benefits that are conferred. Does this warrant an annual valuation, or might a triennial or quinquennial valuation be sufficient?

One other question bothers me: If we do subscribe to the desirability of valuation and the recognition of pension costs through appropriations, can we accept the "normal cost plus interest" basis as sufficient? How can we justify maintaining in perpetuity certain arbitrary "unfunded liabilities"? How can we say that some existing unfunded liability need not be liquidated, while all newly created ones must be? How, indeed, can we even argue with conviction that the initial unfunded liabilities should not be allowed to increase? Should we perhaps suggest that they

be liquidated over some period of years—long compared to human life expectancy but short compared to infinity—say, fifty or sixty or seventy-five, so that the apparent additional "cost" will be small? Of course, what to do with an unfunded liability is probably no more an actuary's problem than it is a nuclear physicist's problem to decide what to do with his bomb. Nevertheless, one of these days we may be expected to decide whether unfunded liabilities matter and therefore should be liquidated or whether they do not matter and therefore may be ignored. It may then become difficult to maintain the position that they do matter but need not be liquidated.

JOSEPH B. GLENN:

As the author has stated, anyone who considers the question of financing the federal retirement systems will soon discover that he must answer other and larger questions before much progress can be made with the specific problem. Any advantage to the taxpayer that could conceivably be attained by advance funding of the systems can also be attained without such funding by actions in other sectors of the budget (reducing the public debt for instance); also, any such advantage can be completely nullified by actions elsewhere.

For about one hundred and fifty years the federal accounting was strictly of the cash income and outgo variety, and the "balance sheet" consisted of cash on hand and the public debt. A complete changeover to an accrual basis would not be easy. For example, a proper "accrual" basis for veterans' pensions is not immediately evident. It may be, however, that a partial recognition of accruals would be better than none at all.

A person who argued for advance funding of federal retirement systems as "honest accounting for currently accruing costs" received scant attention ten years ago. More recently, however, the audience has increased somewhat in size, attentiveness, and power. This has resulted substantially from the influx into the higher posts of the government of persons who had acquired a greater or lesser knowledge of retirement system financing in their previous positions. The author's paper will be of value to such persons in relating their previous experiences to this particular problem.

In the strict legal sense, the existence of a federal retirement fund does not give rise to any rights that cannot be defeated by simple legislation. Neither does the fact that the employee has contributed, if the contribution was required by law (*Pennie* v. *Reis*, 132 U.S. 464). As a practical matter and in the short run, the existence of a fund and/or the fact that the employee has contributed appears to make the benefits more secure

of payment. The Economy Acts of the early 1930's temporarily reduced military retired pay by amounts ranging from 5 to 15 per cent, but no reduction was made in civil service retired pay.

In the long run, however, the existence of a fund is no guarantee of payment, not even to the extent of the amount in the fund. This is illustrated by the history of the Naval Pension Fund, which was enacted originally by the Continental Congress and re-enacted on March 2, 1799 (1 Stat. 716). Effective July 1, 1935, the fund was abolished, its assets transferred to the surplus account in the Treasury, and amounts previously paid from the fund were thereafter to be paid from appropriations (48 Stat. 1229; 31 USC 725h). The action was strongly opposed at the time, but no legal remedy could be discovered.

Military compensation and military retirement.—Military compensation systems throughout the world provide a larger proportion of the total compensation in the form of deferred and contingent benefits than is common in civilian systems. This similarity in military systems is not a coincidence and is not in general a matter of copying but is a common answer to the same basic problem.

The current United States system is approximately an 80–20 system, that is, about 80 per cent of the total compensation is in the form of immediate cash or in rations, clothing, and shelter furnished, and 20 per cent in the form of deferred and contingent benefits. This may be compared with the 92–8 average in private employment as reported by the United States Department of Commerce for 1963, or 87–13 for the larger private employers as reported by the United States Chamber of Commerce,[4] also for 1963. In 1961 the average compensation of military personnel on active duty was slightly less than the average for men of comparable ages and educational level who were employed in the United States as civilians, including the deferred and contingent benefits in each case.

The basic reasons for the lower retirement ages in the military system are the imperative need for youth and the need to prevent stagnation at the top.

In addition to the arguments for and against funding of other federal retirement systems, there is one that is peculiar to the military and is political in nature. The public hopes that a day will arrive eventually when armed forces will be unnecessary. Changing to a funded system would carry an implication of permanence of the military system that many people would find distressing. Also, countries unfriendly to the United States probably would seize upon it for propaganda purposes.

[4] From the same source (*Fringe Benefits, 1963*) the average for insurance companies was 86–14.

The following tabulation is the most recent projection of disbursements under the military retirement system:

Year Ending June 30	Projected Disbursements
1965	$1,382,000,000
1970	2,127,000,000
1975	2,796,000,000

During this period of time the size of the active force can have very little effect on the disbursements, but an increase in the active-duty pay scale can increase them somewhat.

Proposed board of actuaries.—Creation of such a board would not in itself be very effective in improving the situation. Substantial progress can and will be made only when those at the top want it, and this will occur when the public is ready for it. It is to be hoped that this paper will provide an impetus in that direction.

MANUEL GELLES:

The author is to be commended for a thorough and imaginative analysis of federal retirement systems.

In considering the financing of these systems as contrasted to social security financing, it is important to define the role of the federal government in each case.

In the former case the federal government's role is that of an employer in a closed system. The basis for financing (apart from the taxing powers of the government) should then be on the same general principles as would apply to insurance and pension systems of other large employers or groups of employers. Even if the federal systems were as large as a few life insurance companies combined, this would be true. Actually, the federal retirement systems, covering about five million employees, with about $2 billion of yearly income, rank with respect to size below each of the two largest life insurance companies and not much greater than the next three or so.

The role of the federal government with respect to social security is quite different. There it operates as a clearing house for costs and benefits in what is virtually an open system for meeting those social needs arising mainly from loss of employment income due to old age, death, and disability.

It is true that in either case, whether as employer or as clearing house, the federal government receives its funds from taxation, direct or indirect, immediate or ultimate. However, as an employer it engages equipment and personnel to provide services to the public which are paid for by the

taxes received. It would seem to follow that sound employer-employee relationship financing, where the government is employer, would give government employees, as well as the public generally, a more realistic idea of the cost of services being paid for by taxes.

In its role as a clearing house for programs covering the national welfare, like social security, "anti-poverty," education, and public health among others, the federal government in effect redistributes income and resources, and taxes are the mechanism of this distribution.

Where social services are concerned (and social security in its indifference to equivalence of benefits to cost for the individual and in its compulsory nature comes under this category), financing resolves itself into the decisions made by the public, through their elected representatives, as to what portion of the national product should be allocated to such services and by what method of taxation this should be done. Reserves play a small role; they serve essentially as stabilizers over periods determined by economic and demographic trends.

CONRAD M. SIEGEL:

I would like to compliment Mr. Shur on a fine paper. His commentary concerning the District of Columbia policemen's and firemen's pension funds was of particular interest to me. In recent years I have prepared actuarial studies of similar funds in Pennsylvania municipalities. One firemen's pension fund, started in 1898 with 10 cents per week dues, even tually found itself paying out pensions of 50 per cent of final pay afte1 20 years' service, regardless of age. The actuarial study indicated future costs which were so large that the pension board decided to repudiate most of the benefits. In some cases existing pensioners have had their pensions reduced by two-thirds. The secretary of the pension fund, a young paid fireman, partially on account of the reduction in his prospective pension benefits, decided to look elsewhere for employment, and he is now an apprentice printer.

In another fund, the actuarial study indicated similar results. However, the city council made no adjustment in benefits or contributions, preferring their successors to "deal with the problem" when the fund becomes exhausted in ten or fifteen years. The secretary of this fund, newly eligible for retirement, immediately retired so that he would be sure of "getting his." He is now working at a bank at a reduced salary, busily building up social security credits and looking forward to his retirement under the bank's pension and profit-sharing plans.

There seems to be some cause-and-effect relationship between the actuarial study and the pension-fund secretary's change of employment.

(AUTHOR'S REVIEW OF DISCUSSION)

WALTER SHUR:

It was indeed rewarding to the author to find such broad agreement with the general conclusions of his paper. The reactions of members of the Society to papers of this type in the past would hardly lead one to expect such a result.

Mr. Peterson notes that the business community is "awaiting with bated breath the expected Report of the Committee on Corporate Pension Funds and Other Private Retirement and Welfare Programs," and he hopes that the paper will serve to "turn their attention to the federal retirement systems" as well as to the private systems. Mr. Peterson's hope appears to be well founded according to an article appearing in the November 30, 1964, issue of the *New York World Telegram and Sun* entitled "Johnson To Order Retirement Study." The article stated that "President Johnson soon will set up a high-level committee of government officials to make a new over-all study of all federal retirement systems."

Mr. Peterson suggests that issuing bonds to fund the unfunded accrued liability may be the only effective means of achieving the automatic appropriation of interest on the unfunded liability. The author deliberately avoided making this recommendation (which would accomplish his objectives, as Mr. Peterson suggests) because (1) the funds are not necessary for "solvency" reasons, and (2) any proposal which embodies such a recommendation would probably never be submitted to the Congress and, if submitted, would meet almost certain defeat. The author has placed great emphasis on proper governmental understanding and handling of the retirement plans in the future—the past is done with, and the present unfunded accrued liability, if controlled in the future, will eventually become a relatively minor part of the total financial picture. Payment of interest on the unfunded accrued liability can become automatic through an act of Congress designed for that purpose. The passage of such an act would appear to be within the realm of political possibilities.

Mr. Myers suggests that the $300 billion OASDI unfunded accrued liability is not a debt of the government, since it is accounted for by future contributions from new entrants in excess of normal costs. I would argue that it *is* a debt of the government, since it represents (crudely) the value of accrued benefits for those presently in the system. I would, of course, agree with Mr. Myers that this debt is offset by an asset item consisting of future contributions from new entrants in excess of normal costs. I do not think we are quibbling over semantics; Mr. Peterson's excellent

paper[5] made this quite clear by pointing up sharply the payroll tax burden on future new entrants which is a direct consequence of the $300 billion liability. Mr. Myers' comment that "the law does not establish any liability on the part of the federal government for any financial problems that the OASDI system might have" is undoubtedly correct in a technical sense, but it would hardly seem to be correct in a political sense.

As I mentioned in my comments on Mr. Peterson's discussion, I agree with Mr. Myers that it is not necessary to fund the present unfunded past-service liability.

I recommended that the board of actuaries be headed up by a government actuary in the Bureau of the Budget because that organization has the authority to co-ordinate the financial bases for retirement-plan valuation and accounting by the various agencies. While the General Accounting Office is a highly competent organization, admittedly less political than the Bureau of the Budget, it is basically an auditing organization and has little direct authority over the federal agencies. Certainly, the General Accounting Office should continue, as it has in the past, to analyze and comment on the financial aspects of the federal retirement systems.

Mr. Riese's discussion is a perceptive commentary on the funding problem for a national employee retirement system. His paragraph beginning with "Now, it may be easier to agree that the liabilities should be valued than that they should be funded" goes right to the heart of the problem.

Mr. Riese wonders how we can subscribe to the "normal cost plus interest" basis when it means that some existing liability need not be liquidated, while all newly created ones must be. Actually, the "normal cost plus interest" method does not mean that the unfunded liability will not increase in the future. General salary increases or a change in actuarial assumptions, for example, may lead to such an increase. The "normal cost plus interest" method requires only that interest be paid on the increased unfunded liability, in effect amortizing that liability in perpetuity. I am far more concerned that the unfunded liability be recognized than that it be funded. And the least expensive way to recognize it is to pay the interest on it. Briefly, paying interest on the unfunded liability is good accounting, good accounting forces recognition, and recognition is a prerequisite to proper understanding and management.

Mr. Glenn has sharpened discussion of the question "Does Advance

[5] "Misconceptions and Missing Perceptions of Our Social Security System (Actuarial Anesthesia)," *TSA*, XI.

Funding Give Employees More 'Legal' Assurance That Benefits Will Be Paid as Promised?" with some interesting historical examples. In commenting on the political peculiarities associated with the military system, Mr. Glenn suggests that "changing to a funded system would carry an implication of permanence of the military system that many people would find distressing." In my view, changing to a funded system would be a most important step if it were planned to reduce sharply the number of military personnel. Existing and retired members of the armed forces have earned and accrued valuable pension rights; whether or not these rights materialize into benefits will depend on annual appropriations by the Congress. A severe cutback in the armed forces will result in pension benefits becoming a major part of total military compensation, leading to scrutiny and possible repudiation. In short, I believe the existence of a fund could be taken as an implication of impermanence of the military system, not of permanence.

Mr. Gelles has made a valuable contribution by focusing sharply on the differences in purposes and requirements of a federal employee retirement system and a national social scheme. His view of the government's role in the latter case "as a clearing house for costs and benefits" is a proper one and is not inconsistent with the kind of actuarial analyses of the system made by Mr. Peterson and others. The actuarial analysis does not necessarily imply that the system must be a pure insurance scheme; it is simply an analytical tool which enlightens us as to how the "clearing house" is operating.

Mr. Siegel's comments on two retirement systems which "folded" are a sharp reminder that our theoretical discussions are concerned with very real problems.

I would like to take this opportunity to thank those who made this paper possible without in any way implying that they either agree or disagree with anything in the paper. First and foremost, I am indebted to the Brookings Institution for making the Public Affairs Fellowship available and to my company for making me available. The studies were encouraged by a member of the Bureau of the Budget with whom I worked closely, and I received the complete co-operation of the Bureau in every respect.

I am especially indebted to Mr. Maurice S. Brown, of the Civil Service Commission, and to Mr. Joseph B. Glenn, of the Defense Department, for their patience with my questions and for their wholehearted co-operation in providing me with valuable background and information.

The writing of the paper benefited greatly from the suggestions and comments of a number of persons, particularly Mr. Charles M. Sternhell, Miss Nora Beattie, and Mr. Jack E. Oxley.