

a modest level of living, its cost is substantially above the weekly benefits under unemployment insurance, even when they are at the statutory maximum. As shown in table 5, in none of the 34 cities in which this budget was priced did the maximum weekly benefit equal half the cost of goods and services for a family of four. In Jacksonville the proportion was 27.4 percent, in seven cities it was 31.7-34.2 percent, in 15 cities 35.0-38.6 percent, and in 10 cities 40.3-44.8 percent. Only in Buffalo could the maximum weekly benefit defray as much as 48.1 percent of the cost of goods and services in the budget.

These differences in the ratio of the maximum weekly benefit to the cost of goods and services result largely from differences in the maximum weekly benefit. Five of the seven cities with the highest ratios had a maximum weekly benefit of \$25, and two had a maximum of \$26, while the city with the lowest ratio had a maximum of \$15. The cost of goods and services in the least expensive city was 88 percent of that in the most expensive; the lowest maximum weekly benefit was only 58 percent of the highest maximum benefit (54 percent of the maximum including dependents' allowances in Michigan).

Among families of smaller size, of course, the maximum weekly benefit could meet a larger proportion of the budget costs. For a single person, however, the maximum weekly benefit was sufficiently large in only one of the 34 cities—Buffalo—to fully cover living costs. The ratio of the maximum weekly benefit to these costs was next largest in New York, Los Angeles, Baltimore, San Francisco, and Boston (97.3-94.8 percent). For the majority of the 34 cities in which this budget was priced, however, the ratio ranged between 69.9 and 79.2 percent.

The weekly benefit was not enough to pay for even the essentials of food, housing, and utilities—expenditures that cannot easily be deferred during unemployment—for a family of four persons. The basic maximum weekly benefit could purchase only 48.9 percent of those essentials in Jacksonville. In 22 cities it could purchase 56.2-69.4 percent, and only in three cities—Buffalo, Los Angeles, and San

Francisco—could it bring as much as 80.5-86.4 percent.⁷

Dependents' Allowances

In five States—Connecticut, the District of Columbia, Massachusetts, Michigan, and Nevada—the greater cost of basic necessities for larger-size families is met to some extent by the payment of allowances in behalf of certain dependents. These weekly allowances of \$1, \$2 or \$3 per dependent are nominal, however, in relation

⁷ The cost of these items for families of other sizes was not estimated. From table 5, however, it would appear that in most cities the maximum weekly benefit could purchase food, housing, and utilities for persons living alone.

to the increase in costs as family size increases. In each of the 34 cities the total weekly cost of goods and services increased about \$10 with each additional member of the family. In Detroit, for example, where a claimant would receive a \$2 allowance for each dependent child, these costs were \$26.31 for a person living alone, \$37.23 for a family of two persons, \$47.87 for three persons, and \$57.19 for four persons. Nominal as the \$2 allowance for dependents is in relation to these costs, the total allowance for dependents in Michigan could increase the weekly benefit by as much as 47 percent and bring the augmented benefit to 98 percent of previous weekly earnings.

Recent Amendments to the Civil Service Retirement Act

By Robert J. Myers*

Provision of survivor benefits under Federal old-age and survivors insurance in 1939 and under the Railroad Retirement Act in 1946 greatly strengthened and extended the protection given to wage earners and their families. The recent amendments to the Civil Service Retirement Act which, among other liberalizing changes, provided benefits for survivors of Federal employees, are of equal significance to students of social insurance. For that reason, and because the Bulletin carries monthly data on the operations of the Civil Service Retirement Act as a regular part of its reporting on developments in social insurance and allied fields, it offers the following discussion and evaluation of the recent changes in that act.

A SWEEPING REVISION of the Civil Service Retirement Act was effected on February 28, when the President approved Public Law No. 426 amending the provisions of that act. In brief, the major changes in the benefit structure are the introduction of a single, simple, and generally more liberal formula for computing annuity benefits and the provision of benefits for survivors of employees in active service as well as for survivors of annuitants. At the same time, the employee contribution rate was increased from 5 percent to 6 percent, effective in July 1948. Many other changes of importance were made—some liberaliz-

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ing benefits and others simplifying administrative procedure.

This article discusses in detail the revised system and also indicates how the amendments have changed certain of the previous provisions.¹ In addition, it presents tables of illustrative benefits and certain actuarial analyses of the elective options offered and the over-all cost of the program. Certain minor points, such as the application of the system to legislative employees, have been omitted, as have such administrative details as the payment of

¹ A brief summary of the amendments appeared in the *Bulletin*, March 1948, p. 33. For a discussion of the former provisions, see the *Bulletin*, April 1941, pp. 29-42, and February 1942, pp. 77-79.

benefits when the annuitant is legally incompetent.

Benefit Formula

For all employees retiring on or after April 1, 1948, there is now only one formula for computing the basic annuity, regardless of the mode of separation. The same formula also applies for those who are separated from service on or after that date and receive a vested deferred withdrawal annuity. For determining the annual retirement benefit for those whose highest salary² is \$5,000 or less, the formula is 1 percent of highest salary plus \$25, for each year of service. For employees whose highest salary is \$5,000 or more, the formula is a straight 1½ percent per year of service.³ For example, a \$3,000 employee would receive an annuity of \$55 (\$25 plus 1 percent of \$3,000) multiplied by his years of service; correspondingly, a \$6,000 individual would receive an annuity of \$90 multiplied by his years of service. Unlike the previous provisions, the new law sets no maximum on the number of years of service that may be used in this computation, but there is a maximum limiting the annuity to 80 percent of the highest salary.⁴ Both for employee annuities and for survivor annuities, the monthly amount payable is rounded to the nearest dollar, presumably for administrative simplicity. The upper half of table 1 shows illustrative monthly annuities computed by this formula for variations in period of creditable service and highest salary.

In general, this new benefit formula produces higher amounts than did the previous law, which in effect provided four rather complicated formulas. The amounts are not higher in all cases, however, especially at the extremes of the salary scale. Under the previous law, lower-paid individuals with long service could receive an-

² Throughout the article this term means the highest average annual salary received during 5 consecutive years of service.

³ The two computations, of course, yield the same result when the salary is \$5,000.

⁴ This limitation, however, affects only low-salaried employees with long service, as, for example, a \$1,500 employee with more than 30 years of service or a \$2,500 employee with more than 40 years of service.

nunities exceeding their highest salary, but that is no longer possible because of the 80-percent limitation. Likewise, at the upper end of the salary scale, the few persons with long periods of service at a high salary would have received a higher annuity under the "matching" formula that was formerly in effect. In neither of these instances can the limitation be considered very serious since such cases will be relatively infrequent; moreover, it is impracticable, if not impossible, to ensure that everyone will gain when a system is changed.

Present Annuitants

For employees who had already retired and were receiving annuities before April 1, 1948, the benefits were not recomputed on the basis of the new benefit formula, as is often done when a retirement system is changed. Instead, the annuitants received a flat increase in monthly payments of 25 percent or \$25, whichever was smaller; in other words, annuities of less than \$100 were raised 25 percent and larger annuities were increased \$25.

The increase applied to the annuity actually being received regardless of whether it had been reduced because of early retirement or previous election of a joint and survivor annuity at time of retirement under the old law, but it did not apply to the survivor annuity (if one had been elected or was then in effect).

Moreover, the annuitant had the option of retaining his original annuity and making a survivor annuity available for his or her spouse; the amount of the latter annuity is 50 percent of the employee's annuity but in no case more than \$50 a month. It is payable immediately upon the death of the employee annuitant regardless of the age of the spouse and continues for life. This survivor annuity is paid in addition to any survivor annuity elected under the old law.

While this procedure of granting optional survivor protection was administratively simple, it presented substantial "bargains" to many individuals and difficult choices to others because the factors are on an arbitrary rather than an equitable actuar-

Table 1.—Illustrative monthly annuities for retired employees¹ and for widows when no children are present²

Highest 5-year average salary	Years of creditable service							
	5	10	15	20	25	30	35	40
Employee ¹								
\$1,500.....	\$17	\$33	\$50	\$67	\$83	\$100	\$100	\$100
\$2,000.....	19	38	56	75	94	113	131	133
\$2,500.....	21	42	63	83	104	125	146	167
\$3,000.....	23	46	69	92	115	138	160	183
\$3,500.....	25	50	75	100	125	150	175	200
\$4,000.....	27	54	81	108	135	163	190	217
\$5,000.....	31	63	94	125	156	188	219	250
\$6,000.....	38	75	113	150	188	225	263	300
\$7,000.....	44	88	131	175	219	263	306	350
\$8,000.....	50	100	150	200	250	300	350	400
\$9,000.....	56	113	169	225	281	338	394	450
\$10,000.....	63	125	188	250	313	375	438	500
Widow ²								
\$1,500.....	\$8	\$17	\$25	\$33	\$42	\$50	\$50	\$50
\$2,000.....	9	19	28	38	47	56	66	67
\$2,500.....	10	21	31	42	52	63	73	83
\$3,000.....	11	23	34	46	57	69	80	92
\$3,500.....	13	25	38	50	63	75	88	100
\$4,000.....	14	27	41	54	68	81	95	108
\$5,000.....	16	31	47	63	78	94	109	125
\$6,000.....	19	38	56	75	94	113	131	150
\$7,000.....	22	44	66	88	109	131	153	175
\$8,000.....	25	50	75	100	125	150	175	200
\$9,000.....	28	56	84	113	141	169	197	225
\$10,000.....	31	63	94	125	156	188	219	250

¹ Amount before any reduction for early retirement or election of a joint and survivor annuity; assumes all refunds have been repaid and all service credit purchased.

² For conditions under which this annuity is payable, see text. Amount shown assumes that employee did not have a reduction in his annuity for

early retirement and had repaid all refunds and made all service credit deposits.

NOTE: The figures in this table may differ slightly from those arising for actual cases because of differences in method of rounding, but differences will rarely, if ever, exceed \$1.

ial basis. For instance, an annuitant aged 65 with an annuity of \$100 a month had the option of increasing that annuity to \$125 or of letting it remain at \$100 and providing his wife with an annuity of \$50 after his death, if she should outlive him. Since the same reduction applied regardless of the age of the wife, a man with a young wife will receive far more from the option than he would if it were calculated on an equitable actuarial basis, while a man whose wife is nearer his own age will get less of a bargain; in fact, if the wife is older than the husband, the latter suffers a loss in that the reduction is greater than it should be on a proper actuarial basis.

Persons about to retire when the amendments were enacted had to make a difficult decision because of the great differences that would arise if they retired before the effective date of April 1, or afterward. The question was not only which date would give the larger annuity⁵ but also which type of survivor benefit would be most advantageous. As will be shown subsequently, survivor protection may differ considerably, depending on date of retirement.

Service Requirement for Annuity Benefits

For all types of annuities (age retirement, disability retirement, vested withdrawal, and survivor) the employee must have had 5 years of *civilian* service, not all necessarily in a position covered by the retirement system. In most cases, however, *military* service does count in the benefit computation once this minimum service requirement is met; moreover, once 5 years of civilian service have been acquired, military service may be used to meet the various service requirements, such as the 30 years needed for voluntary retirement at ages 55-60. Hereafter, unless otherwise specified, the term "service" will be used to denote both civilian and military combined.

⁵ Retirement under the previous law, supplemented by the \$25 or 25-percent increase mentioned above, would be more favorable for all persons other than those with medium-range salaries (roughly \$2,500 to \$4,000) or those with long periods of service (since in most cases only 30, or at most 35, years were creditable previously).

Compulsory Age Retirement

Retirement is compulsory at age 70 if the employee has at least 15 years of service. Those with less than 15 years' service at age 70 must retire as soon thereafter as they have completed the 15 years. The Government cannot, as it could under the previous law, require retirement when the conditions for voluntary retirement (see below) are met.

Voluntary Age Retirement

Voluntary retirement at the option of the employee is possible at age 62 with 15 or more years of service⁶ or at age 60 with 30 or more years of service. In addition, those with 30 or more years of service may elect to retire between the ages of 55 and 60, but their annuity as computed by the usual formula will be reduced one-fourth of 1 percent for each month that they are under age 60 at time of retirement, or, in other words, 3 percent for each year. (For example, for retirement at exact age 55, the reduction would be 15 percent.) However, this reduction is much smaller than if it were computed on an actuarial basis, which would result in a rate of about 6 or 7 percent per year instead of 3 percent. Thus there is some "bargain" element for early voluntary retirees.

Involuntary Separation Retirement

Employees who are involuntarily separated after 25 or more years of service receive reduced annuities on the same basis as early voluntary retirees.⁷ For those with less than 25 years of service who are involuntarily separated, only deferred annuities at age 62 are available, as will be de-

⁶ Employees aged 62 or over who have less than 15 years of service but 5 or more years of civilian service can, under the withdrawal annuity provision (described subsequently), elect immediate retirement, with the annuity computed by the usual formula. Employees in this category, however, while they get the advantages of the same benefit formula, cannot obtain the very favorable joint and survivor annuity options that those with 15 or more years of service may elect.

⁷ Quite obviously an individual involuntarily separated with 30 or more years of service and at age 55 or over qualifies under either this category or as an early voluntary retiree. In either case the benefits available are identical in all respects.

scribed subsequently. Formerly persons with 5 or more years of service who were involuntarily separated could receive actuarially reduced annuities beginning at age 55. Although this provision was no "bargain" actuarially, it was of great convenience and advantage to certain individuals in this category.

Disability Retirement

Employees who have had at least 5 years of civilian service and who are disabled so that they cannot perform their usual work can retire at any age. The annuity is computed by the regular benefit formula, with no reduction because they are below the normal retirement age. The provisions for this category are largely unchanged from those in the previous law.⁸

Withdrawal Benefits

Individuals who leave Government employment before completing 5 years of civilian service can receive only a refund of their own contributions to date with accumulated interest,⁹ referred to subsequently as the "account."

The so-called tontine charge of \$1 per month of service, formerly deducted from the individual account, has been completely eliminated, for both past and future months, in the case of persons withdrawing after March 1948.

Employees who withdraw after having had at least 5 but less than 20 years of civilian service may elect either a refund of their account or a vested deferred annuity at age 62, computed by the regular benefit formula.¹⁰ Previously, such individuals could use only two of the four annuity formulas. For middle and high-salaried employees these formulas gave lower amounts than would be available in the event of retirement di-

⁸ The law contains various administrative provisions in regard to determination of initial disability, continued proof of disability, and recovery from disability, but they are not discussed here.

⁹ Before 1948 the interest rate was 4 percent while the individual was in service and 3 percent otherwise; in 1948 and thereafter it is 3 percent in all cases.

¹⁰ The election to receive a vested deferred annuity instead of a refund is not binding; the individual can obtain a refund of his account at any time between withdrawal from service and age 62.

rectly from active service. As indicated previously, individuals who are at least 62 years old but who have less than 15 years of service may, nevertheless, effect immediate retirement by coming under this withdrawal annuity provision. If an individual elects to receive a vested deferred annuity but dies before age 62, the accumulated account is paid. It might be pointed out that, on the whole, persons who take the cash refund instead of the deferred annuity suffer a considerable financial loss, since in most instances the actuarial value of the deferred annuity will always be appreciably—three to four times—greater.

Persons withdrawing after 20 years of civilian service can receive only the vested deferred annuity. They thus cannot lose their old-age protection by electing a lump-sum refund.

Individuals who had at least 5 years of service and who withdrew between January 24, 1942,¹¹ and April 1, 1948, continue to have the same rights to vested deferred annuities as under the previous law; the benefit amounts and all other conditions are unchanged by the amendments unless they should return to service, in which event the conditions of the new law prevail.

Survivor Benefits for Deaths in Active Service

At the death of an employee who has had less than 5 years of civilian service there is only a lump-sum refund of the account. If the employee has had 5 or more years of civilian service, monthly survivor benefits are provided in many instances. With respect to the deaths of married women and all nonmarried persons without children, however, only the lump-sum payment of the account is available. Under the previous law (applicable to deaths on or before February 28, 1948) the death benefit in all cases was merely the return of the account.

When a married man dies and there are no children, his widow, if she is at least 50 years of age or when she reaches age 50, receives a life annuity equal to half her husband's annuity,

computed as of the date of his death and for the full amount without any reduction because he was under retirement age. In other words, the same computation applies here as would apply for a disability annuity. The lower half of table 1 shows illustrative monthly annuities for widows. The annuity ceases on remarriage. If the widow is under age 50 at the time of her husband's death, only the deferred annuity, not the lump sum, is available. If the annuity ceases because of death or remarriage, and if the total payments that have been made do not equal the account as of the date of the husband's death, a refund of the difference is then payable as a lump sum. As a result of these widow's benefits, a considerable amount of insurance is added to the holdings of Government employees. For instance, for a man aged 55 with

25 years of service and with a wife aged 50 and no children, the equivalent face amount of insurance is about \$9,000 for a \$2,000 employee, \$14,000 for a \$4,000 employee, and \$25,000 for an \$8,000 employee.

The widow of a man with children (unmarried and under age 18, or regardless of age if incapable of self-support by reason of disability) receives the annuity immediately, whatever her age. The annuity continues throughout her lifetime (or until remarriage) even if she is still under age 50 when the children are no longer eligible. Each child receives half the widow's annuity (or, in other words, one-fourth of the employee annuity) but with a monthly maximum of \$30 per child or \$75 for all children in the family.

Table 2 gives illustrative monthly annuities for families consisting of a

Table 2.—Illustrative family monthly annuities for widow and orphans¹

Highest 5-year average salary	Years of creditable service							
	5	10	15	20	25	30	35	40
Widow and 1 child:								
\$1,500.....	\$13	\$25	\$38	\$50	\$63	\$75	\$75	\$75
\$2,000.....	14	28	42	56	70	84	96	97
\$2,500.....	16	31	47	63	78	93	103	113
\$3,000.....	17	34	52	69	86	99	110	122
\$3,500.....	19	38	56	75	93	105	118	130
\$4,000.....	20	41	61	81	98	111	125	138
\$5,000.....	23	47	70	93	108	124	139	155
\$6,000.....	28	56	84	105	124	143	161	180
\$7,000.....	33	66	96	118	139	161	183	205
\$8,000.....	38	75	105	130	155	180	205	230
\$9,000.....	42	84	114	143	171	199	227	255
\$10,000.....	47	93	124	155	186	218	249	280
Widow and 2 children:								
\$1,500.....	17	33	50	67	83	100	100	100
\$2,000.....	19	38	56	75	94	113	126	127
\$2,500.....	21	42	63	83	104	123	133	143
\$3,000.....	23	46	69	92	115	129	140	152
\$3,500.....	25	50	75	100	123	135	148	160
\$4,000.....	27	54	81	108	128	141	155	168
\$5,000.....	31	63	94	123	138	154	169	185
\$6,000.....	38	75	113	135	154	173	191	210
\$7,000.....	44	88	126	148	169	191	213	235
\$8,000.....	50	100	135	160	185	210	235	260
\$9,000.....	56	113	144	173	201	229	257	285
\$10,000.....	63	123	154	185	216	248	279	310
Widow and 3 children:								
\$1,500.....	21	42	63	83	104	125	125	125
\$2,000.....	23	47	70	94	117	131	141	142
\$2,500.....	26	52	78	104	127	138	148	158
\$3,000.....	29	57	86	115	132	144	155	167
\$3,500.....	31	63	94	125	138	150	163	175
\$4,000.....	34	68	102	129	143	156	170	183
\$5,000.....	39	78	117	138	153	169	184	200
\$6,000.....	47	94	131	150	169	188	206	225
\$7,000.....	55	109	141	163	184	206	228	250
\$8,000.....	63	125	150	175	200	225	250	275
\$9,000.....	70	131	159	188	216	244	272	300
\$10,000.....	78	138	169	200	231	263	294	325

¹ For conditions under which this annuity is payable, see text. Amount shown assumes that employee did not have a reduction in his annuity for early retirement and had repaid all refunds and made all service credit deposits.

NOTE: The figures in this table may differ slightly from those arising for actual cases because of differences in method of rounding, but differences will rarely, if ever, exceed \$1. Figures below line are those that result from the maximum provision on orphan annuities.

¹¹ Before the 1942 amendments to the law, individuals who withdrew from service could not generally receive vested deferred annuities but instead had to take refunds.

widow and different numbers of children. It will be observed that the maximum provisions on the children's annuities have an appreciable effect on the total amount, particularly if the employee was in the high-salary bracket and had moderate or long service. When there are more than three children, the total benefit is, in most instances, the same as when there are three children, in view of the fact that the \$75 maximum for the children applies in all such cases. When any annuities are terminated by the death of the widow or child or by a child's marriage or attainment of age 18, the benefit amounts are recomputed on the basis of the new family composition as though it had existed at the time the employee died; no such recomputation is made, however, when the widow remarries or reaches age 50. The same refund provision as in the case of married men without children applies if the aggregate annuity payments made to all beneficiaries are less than the account.

The survivor benefits for married men with children also afford considerable insurance protection. The equivalent face amount for a man aged 30 with 10 years of service and with a wife aged 25 and three children aged 0, 2, and 4 is about \$10,000 for a \$2,000 employee and \$14,000 for a \$4,000 man. The corresponding figures for a man aged 45 with 25 years of service and with a wife aged 40 and three children of 5, 10, and 15 years are \$17,000 and \$24,000, respectively.

Survivor annuities are payable to the surviving orphan children of non-married persons—that is, chiefly with respect to the deaths of widows and widowers. The conditions of payment of these child survivor annuities are the same as those when the mother is present, but the amounts are larger. Each child receives half of the employee annuity, but not more than \$40 a month; the maximum for all children in the family is \$100.

Illustrative family monthly annuities for various numbers of orphans when there is no widow present are given in table 3. For most of the cases shown the maximum provisions apply rather than the amount as computed from the benefit formula. As has been said, the total benefit is gen-

erally not increased for children in excess of three, because of the \$100 maximum provision. It is interesting to note that in numerous instances the total family benefit for a widow and three children is less than if the widow were not present—less, in other words, than when there are merely three orphan children. In the case of a \$3,000 employee with 15 years of service, for example, the benefits would total \$86 in the first situation and \$100 in the second. Likewise, in many instances a widow and two children receive only the same amount as do two children alone.

Survivor Benefits for Deaths After Retirement

The survivor benefits discussed up to this point have been those available to the families of employees who retired before April 1, 1948. This sec-

tion deals with survivor benefits payable on the death of employees retiring after that date.¹² As indicated earlier, no survivor benefits are pay-

¹² An anomalous situation arises for those who retired after February 28 and before April 1, 1948. The employee annuity is computed by the previous law and is increased for April and thereafter by \$25 or 25 percent unless the joint and survivor option, described previously, is elected for the spouse. However, if there are eligible children when the annuitant dies, the survivor benefits to the widow and orphans under the new law (as described hereafter) are payable and are computed from the new formula. Apparently, it is possible for a widow to receive two separate annuities with respect to her husband, one for life under the joint and survivor option made available for existing annuitants by the new law, and the other, if eligible children were left, payable to age 50. In fact, there could even be three separate annuities for the widow if the husband had also elected a joint and survivor annuity (on an actuarial basis) under the old law.

Table 3.—Illustrative family monthly annuities for orphans when no widow is present ¹

Highest 5-year average salary	Years of creditable service							
	5	10	15	20	25	30	35	40
1 child:								
\$1,500	\$8	\$17	\$25	\$33	\$40	\$40	\$40	\$40
\$2,000	9	19	28	38	40	40	40	40
\$2,500	10	21	31	40	40	40	40	40
\$3,000	11	23	34	40	40	40	40	40
\$3,500	13	25	38	40	40	40	40	40
\$4,000	14	27	40	40	40	40	40	40
\$5,000	16	31	40	40	40	40	40	40
\$6,000	19	38	40	40	40	40	40	40
\$7,000	22	40	40	40	40	40	40	40
\$8,000	25	40	40	40	40	40	40	40
\$9,000	28	40	40	40	40	40	40	40
\$10,000	31	40	40	40	40	40	40	40
2 children:								
\$1,500	17	33	50	67	80	80	80	80
\$2,000	19	38	56	75	80	80	80	80
\$2,500	21	42	63	80	80	80	80	80
\$3,000	23	46	69	80	80	80	80	80
\$3,500	25	50	75	80	80	80	80	80
\$4,000	27	54	80	80	80	80	80	80
\$5,000	31	63	80	80	80	80	80	80
\$6,000	38	75	80	80	80	80	80	80
\$7,000	44	80	80	80	80	80	80	80
\$8,000	50	80	80	80	80	80	80	80
\$9,000	56	80	80	80	80	80	80	80
\$10,000	63	80	80	80	80	80	80	80
3 children:								
\$1,500	25	50	75	100	100	100	100	100
\$2,000	28	56	84	100	100	100	100	100
\$2,500	31	62	94	100	100	100	100	100
\$3,000	34	69	100	100	100	100	100	100
\$3,500	38	75	100	100	100	100	100	100
\$4,000	41	81	100	100	100	100	100	100
\$5,000	47	94	100	100	100	100	100	100
\$6,000	56	100	100	100	100	100	100	100
\$7,000	66	100	100	100	100	100	100	100
\$8,000	75	100	100	100	100	100	100	100
\$9,000	84	100	100	100	100	100	100	100
\$10,000	94	100	100	100	100	100	100	100

¹ For conditions under which this annuity is payable, see text. Amount shown assumes that employee did not have a reduction in his annuity for early retirement and had repaid all refunds and made all service credit deposits.

NOTE: The figures in this table may differ slightly from those arising for actual cases because of differences in method of rounding, but differences will rarely, if ever, exceed \$1. Figures below line are those that result from the maximum provision on orphan annuities.

able after retirement (or for that matter, after withdrawal) in the case of employees who withdraw after 5 years of civilian service and receive vested withdrawal annuities. For age retirements and disability retirements, monthly survivor benefits are available in certain instances—in some cases for all individuals concerned and in other cases only when the employee has made an election. In all instances, there is a provision for refund of the difference between the total annuity payments made after all possible annuities have terminated and the account at the time of retirement.

If there are eligible children at the time the man dies, an annuity is payable to the widow in the same amount as those outlined in connection with deaths in active service, that is, half the husband's full annuity prior to any reduction actually made because of a joint and survivor annuity. However, this annuity ceases at age 50 (or earlier death or remarriage) whether or not any children are then eligible. That age limitation is set because a joint and survivor annuity for the widow, beginning at age 50, may be elected. Likewise, the children receive the annuities described previously. A similar annuity is paid the children of a nonmarried annuitant.¹²

Two types of joint and survivor annuities are available to annuitants who take a reduction in their own benefit. One type is available to married men for their surviving widows, and the other type is for nonmarried persons for a named beneficiary. Strangely enough, this option may not be elected by married women, even though the married women who were on the annuitant roll as of the effective date could make such an election in lieu of the increased annuity. Nonmarried annuitants—excluding those retired for disability, to whom the option is not available—must furnish proof of good health.

Under the option for married men, the widow's annuity is 50 percent of the full employee annuity. It is payable only after age 50, and it ceases

¹² There is a minor exception that will probably occur very rarely in actual practice; a child cannot receive, with respect to the same person, an annuity both under this provision and under a joint and survivor option.

Table 4.—Joint and survivor annuity factor for married male annuitant under civil-service retirement system as percent of factor on reasonable actuarial basis¹

Age of wife	Factor in law as percent of factor on actuarial basis, ¹ when retirement age of employee annuitant is—			
	55	60	65	70
20.....	97	102	109	120
30.....	101	111	125	150
40.....	99	112	134	180
50.....	101	112	131	173
60.....	102	108	120	141
70.....	96	99	105	115

¹ Based on Standard Annuity Table at 3-percent interest. These comparisons would differ only slightly if the computations had been based on the U. S. White Lives Table.

on remarriage. The annuity payable to the employee during his lifetime is the full annuity reduced by 10 percent if the wife is 60 years or over at the time the husband retires (regardless of his age) and by an additional three-fourths of 1 percent for each year the wife is under age 60 at that time, with a maximum reduction of 25 percent (i. e., for wives aged 40 or under). It should be noted that the reductions specified apply only to the employee annuity and not to the annuity for the surviving widow. Thus, for instance, if the employee annuity prior to election of the option is \$100 per month, the reduced amount payable to the employee for life would be \$90 if his wife is aged 60, \$84 if she is aged 52, and \$75 if she is aged 40 or under; in all instances, however, the surviving widow would receive \$50. It will thus be seen that in general this option, if it is elected, ties in with the annuity benefits payable for deaths in active service¹⁴ and with the survivor benefits automatically paid with respect to annuitants who leave children at their death.

The factors prescribed in the law for the reduced employee annuity when the husband elects this option, unlike those for joint and survivor

¹⁴ An exception occurs when the annuitant has retired before age 60 and his annuity has been reduced 3 percent for each year under that age. Consider, for instance, an employee with a full annuity of \$100 a month who retires at age 55 and whose actual annuity is therefore \$85. If he dies, his widow receives half his annuity or \$42.50. If, on the other hand, he had died just before retiring, she would have received an annuity of \$50.

annuities in the former act, are not on an actuarial basis. In most instances, but by no means in all, they represent a "bargain" to the annuitant. These arbitrary factors were probably introduced for ease in administration, but they create significant inequities as between different individuals. Table 4 compares, for certain combinations of ages of husband and wife, the factors that will be applicable according to the law, and those developed on a sound actuarial basis. As will be seen, in some instances the factors in the law are more generous by as much as 80 percent, although in certain other cases there is a relative underpayment of about 5 percent.

For nonmarried employees electing a joint and survivor annuity option the survivor annuitant must have an insurable interest in the employee, as, for example, in the case of a parent, brother, or child.¹⁵ This survivor annuity, unlike that for the widow, is payable immediately on the death of the employee annuitant and runs for life without any specific age limit and regardless of marriage or remarriage.

¹⁵ See footnote 13, however, for the limitation on duplication of benefits in this case.

Table 5.—Joint and survivor annuity factor for nonmarried annuitant under civil-service retirement system as percent of factor on reasonable actuarial basis¹

Age of female survivor annuitant	Factor in law as percent of factor on actuarial basis, ¹ when retirement age of employee annuitant is—			
	55	60	65	70
Male employee				
10.....	87	95	106	121
20.....	84	92	102	116
30.....	80	87	97	109
40.....	95	95	90	101
50.....	101	101	103	107
60.....	100	105	108	109
70.....	95	98	103	109
80.....	92	94	96	100
Female employee				
10.....	81	87	95	106
20.....	78	84	92	102
30.....	75	80	87	97
40.....	89	89	82	90
50.....	96	95	95	96
60.....	97	100	99	100
70.....	94	95	98	103
80.....	92	92	94	96

¹ Based on Standard Annuity Table at 3-percent interest. These comparisons would differ only slightly if the computations had been based on the U. S. White Lives Table.

The amount is always half the reduced employee annuity, rather than half the full employee annuity as in the case of widows. The reduction in the employee annuity is based on the difference in age between the employee and the survivor annuitant, as follows:

Survivor younger than employee by—	Percentage reduction
Less than 5 years.....	10
5-9 years.....	15
10-14 years.....	20
15-19 years.....	25
20-24 years.....	30
25 years or more.....	40

Once again, in most instances, these arbitrary factors contain a "bargain" element, as is shown in table 5 for certain selected cases, although by no means as much as in the case of married men. As will be seen, however, in many instances the reductions are too large as compared with factors computed on an actuarial basis. As a result, while the arbitrary factors are favorable to some annuitants, they are very unfavorable to others, with a range of variation as high as 20 percent in each direction. Moreover, there are the very serious objections that no allowance is made for the sex of the employee and the survivor annuitant, and that the various age groups are so broad as to cause a significantly large difference in border-line cases.

The new survivor provisions are much more comprehensive than those formerly available. Under the old law, both age and disability annuitants could choose between two types of annuities for themselves. The first type, which was most commonly used, was in effect a cash refund annuity, while the second was a somewhat larger annuity but with no refund at death. The cash refund annuity differed from the one in the present law for employees who do not elect a joint and survivor annuity in that it reduced the account only by the amount of the annuity purchased by the account, rather than by the total annuity payments received, as at present; on the whole, therefore, a refund was payable if death occurred within about 10 years after retirement.¹⁶ The

¹⁶ Under the present law there will probably be no refund in most instances unless the annuitant dies within 2 or 3 years after retirement.

new basis is, of course, much easier to administer and is equally justifiable, actuarially and logically.

In addition, under the former law, annuitants retired for age could elect a joint and survivor annuity payable to any designated survivor regardless of the latter's insurable interest. The survivor annuity was payable immediately on the death of the annuitant and ran for the lifetime of the survivor, regardless of age or remarriage. The amount of the reduction was determined on an actuarial basis according to the various age-sex combinations of the employee annuitant and the survivor annuitant and which of the two options was elected.¹⁷ In the great preponderance of the cases, the new provisions are more favorable to employees than the old provisions although there are certain disadvantages, such as the limitations in regard to remarriage, the minimum age at which payments commence, and who can make the elections. In a few cases, also, the arbitrary factors for computing the joint and survivor annuity produce too great a reduction.

Reemployment of Annuitants

Previously, when annuitants returned to work under the system, their benefits were entirely recomputed, which occasionally had the effect of creating some very appreciable "loopholes." Under the new law these loopholes are in most instances no longer possible, because annuitants aged 60 or over who are reemployed must continue to receive the original annuity. No service credit will be given for the period of reemployment, and no retirement deduction will be made, but the pay is reduced by the amount of the annuity.

Redeposit of Refunds

All refunds received must be re-deposited upon return to service or else none of the service in the period covered by the refund will be creditable in computing the amount of annuity, though it will be used in determining length of service in meeting

¹⁷ The survivor annuity could be for either the full amount or half the amount of the reduced annuity. Of course, the reduced annuity would be less in the former case because of the larger survivor benefits provided.

eligibility requirements. In all but a few rare instances—when the annuity is affected by the 80-percent maximum on the size of the benefit, for example—the annuity will be materially reduced if the refunds are not re-deposited.

Purchase of Service Credit

Formerly, if there was creditable service for which contributions had not been made, credit was given in determining length of service, though the annuity was reduced by the amount that would have been purchasable, on an actuarial basis, by such contributions if they had been made. The new law introduces an arbitrary factor to determine this "purchasable" amount. Thus the amount of the annual annuity as computed by counting all service is reduced by 10 percent of the accumulated service-credit deposit that was not made as of date of retirement. For example, if the annuity would have amounted to \$1,500 a year on the basis of contributions having been made for all service, but if a service-credit deposit of \$1,000 (including interest to date of retirement) had not been made, the annuity actually paid would be reduced to \$1,400. In most instances this reduction is larger than it would be on an "actuarial" basis, which is probably fair enough as a sort of penalty, though it does not apply equally to all individuals. As a result, under the new law it is in most cases advantageous to purchase all such service credit, especially just before retirement; under the old law there was by no means such a clear case for this action.

Military Service

Full credit is given for all military service except when such service is used as the basis for retired pay for other than service-connected disability resulting from enemy combat or explosion of an instrument of war.

Duplication of Benefits

Except for the relatively infrequent cases of annuitants who leave minor children when they die, there is no provision against the payment of more than one separate annuity to a particular individual. Thus a woman can receive retirement benefits as a result

of her own employment and also as a widow. Likewise, a widow or a child annuitant may receive the annuity and work for the Government at the same time.

Contribution Rate

In the first full pay period occurring after June 30, 1948, the contribution rate will be increased from 5 percent to 6 percent. For many individuals this increase is larger than the value of the additional benefits payable, if any, while for others the very valuable survivor benefits alone are worth more than the additional 1-percent contribution. Because of the refund feature and the sizable governmental share of the cost of the system, however, no employee can properly feel that the benefit provisions as changed are unfair.

Voluntary Contributions

The provision for voluntary contributions has been used relatively little. Of the 111,000 employee annuitants on the roll as of June 30, 1947, for example, only 900 or less than 1 percent had additional annuities because they had made such voluntary deposits. That provision is continued but on a somewhat different basis. As before, an employee may deposit up to 10 percent of his total salary back to August 1920. These deposits must be made while the employee is in service but at any time before retirement, though they cannot be made until the employee has redeposited all refunds received and purchased all service credit. The money accumulates, as in a savings bank, at 3-percent interest and is refunded at the death of the employee and may be withdrawn on separation before retirement. Thus, if an employee leaves the service before he is eligible for immediate retirement benefits, he may either withdraw the deposits plus interest or leave them to purchase a deferred annuity. At retirement the accumulated amount is used to purchase an annuity that has the same cash-refund feature as that of the regular annuity.¹⁸ For the ad-

¹⁸ Reduced joint and survivor annuity options will be available for all retirants, regardless of sex or marital status, on the same basis as for regular annuities of non-married annuitants; that is, the survivor annuity is half the reduced employee annuity.

Table 6.—Annual income (payable monthly) under cash refund annuities per \$100 of single premium

Age	Civil-service retirement		U. S. White Lives Table 1939-41 at 3-percent interest	Standard Annuity Table at 3-percent interest	Selected insurance companies under—	
	Present	Former			Settlement option	Single premium
Men						
55.....	\$7.00	\$6.91	\$6.35	\$5.89	\$5.39	\$4.48
60.....	8.00	7.62	7.08	6.48	5.94	4.90
65.....	9.00	8.55	8.02	7.21	6.62	5.39
70.....	10.00	9.75	9.23	8.12	7.48	5.95
Women						
55.....	\$7.00	\$6.45	\$6.01	\$5.41	\$4.93	\$4.13
60.....	8.00	7.04	6.71	5.89	5.39	4.48
65.....	9.00	7.79	7.60	6.48	5.94	4.90
70.....	10.00	8.76	8.75	7.21	6.62	5.39

ditional annuity, however, the refund period will generally run for 10 to 12 years, since the account is reduced only by the amount "purchasable" by the voluntary contributions and the Government does not directly provide any of the annuity.

Formerly the amount of such annuity was based on actuarial factors computed at somewhat of a "bargain" rate, since the mortality table used made no allowance for the future improvement in mortality that is very likely to occur, and at the same time used the generous interest rate of 4 percent. Now the law contains arbitrary factors that vary only by age and not by sex. Each \$100 of voluntary contribution in the accumulated deposit account will purchase an annual annuity of \$7 for employees retiring at age 55 or under;¹⁹ the amount purchasable increases by 20 cents for each year that the individual is above age 55 at time of retirement—that is, the factor is \$8 for age 60, \$9 for age 65, and \$10 for age 70.

Table 6 compares the annual income under cash refund annuities from various sources for a single premium of \$100 for men and women at selected ages. In addition to the present and former factors for the civil-service retirement system, the table shows those computed from two life tables using an interest rate of 3 percent,

¹⁹ A constant factor for ages under 55 is probably justified because this class consists of disability annuitants for whom annuity values are relatively constant regardless of age.

which is the rate currently credited on individual accounts. The first life table is the official one for white persons in the United States, based on the experience in 1939-41, while the second is the Standard Annuity Table which has been used by most life insurance companies as the basis for their annuity rates.²⁰ In addition, there are shown factors used by several representative large insurance companies under their settlement options (which are in effect the net rates without any allowance for expenses) and for their single premiums (which do include an allowance for expense and mortality selection).

Since the factors used in a governmental system such as this can, no doubt, justifiably be on a nonexpense basis, their actuarial adequacy can more properly be compared with the net rates under the two life tables and with the settlement option rates. As may be seen from table 6, the current factors under the civil-service provisions are higher than the former ones by about 5 percent for men and 15 percent for women. In comparison with the population life table, the current factors are about 10 percent higher for men and almost 20 percent higher for women. In comparison with the Standard Annuity Table, the differential is about 25 percent for men and almost 40 percent for women. In com-

²⁰ Actually, in the last few years most companies have adopted a stricter basis by using this table but rating down the ages; for instance, a person aged 60 is considered aged 58.

parison with insurance company rates the current civil-service factors give about 35 percent more for men and 50 percent more for women than do the settlement option rates, and about 65 percent and 80 percent more than the single premium rates. The "bargain" element present in the voluntary deposit system is therefore very considerable.

Actuarial Cost of the Program

In considering the cost of the new system it will be of interest to consider first the cost of the previous law, both at the time of its enactment in 1942 and when the new law was being considered.

The 1942 act was originally estimated to cost about 15½ percent of pay roll on a level-premium actuarial basis, of which 5 percent was paid by the employees and the other 10½ percent by the Government.²¹ The 1948 estimate of the cost of the 1942 act indicated a total level-premium cost of only 10 percent of pay roll, so that the employees' 5-percent contributions paid half the cost; the Government's share of the cost was only 5 percent of pay roll, in contrast to the 10½ percent estimated earlier. This great difference appears to be due entirely to two factors, namely, the higher salary rates²² and the use of different age and service distributions of active employees.²³

The costs discussed above have been in terms of percentage of pay roll, which is probably the soundest basis for cost comparisons. However, dollar figures also might be of interest. Thus, in 1942 the Government cost was estimated at \$136 million per year on the basis of the 1940 pay roll, while in 1948 the corresponding figure was \$224 million. This increase of about 65 percent arose because the rise in pay roll more than offset the relative

savings in cost that resulted from the factors already mentioned.

It has been estimated²⁴ that the total level-premium cost of the present law is about 12½ percent of pay roll, of which the employees pay 6 percent. Thus the Government cost of about 6½ percent of pay roll is higher than its cost of 5 percent for the 1942 act but about one-third lower than was estimated at the time it was enacted. In terms of dollars, the Government cost for the present law is probably about \$285 million a year.

The cost of the civil-service retirement system is difficult to determine exactly, not only because of the necessary range of variation present in any actuarial estimate but also because of the numerous optional features available to employees by election. Since such features are not on an actuarial basis, election of any one instead of another can result in an appreciable profit or loss to the fund. For instance, if most employees who withdraw with more than 5 but less than 20 years of civilian service take their refunds instead of the more valuable deferred-annuity rights, the system will "save" money. On the other hand, if most retiring employees elect the joint and survivor annuity options or use the optional deposit system, the cost to the fund will be greater because the factors used, in general, grant more than the actuarial equivalents.

Comparison With Survivor Protection Under Old-Age and Survivors Insurance

The survivor protection provided for Government employees under the new law differs materially from that offered to workers covered under the old-age and survivors insurance system. In many respects the civil-service retirement survivor protection is superior, although in other important respects it is not.

The chief advantages of the civil-service survivor benefits lie in the amount of the benefits, which for long-service employees are at an appreciably higher level than those under old-age and survivors insurance, and in the lower age at which

widow's benefits are payable. Also from the viewpoint of the individual beneficiary there are advantages in that the civil-service survivor benefits are hedged in by fewer restrictions. The benefit may continue, for example, while the survivor is working for the Government or receiving an annuity in his own right.

On the other hand, the survivor benefits offered by the civil-service system possess a number of serious disadvantages:

1. For short-service employees the benefits are very small, and these persons are probably the ones with the greatest social need, since they are at the younger ages when their children have long potential periods of dependency;

2. Because of the maximum limitations on children's benefits, more emphasis is placed on the annuity for the widow than for the family, which seems less desirable from the standpoint of society as a whole;

3. Survivor protection for the aged widow of an annuitant is available only on an elective basis and then only if the annuitant takes a reduction in his own annuity. Under old-age and survivors insurance, on the other hand, the employee receives his full benefit, and his wife, if she is eligible, also receives a monthly benefit. In general, experience has indicated that elective options are rarely used by many persons, and their potential value is therefore not realized;

4. Employees withdrawing from service lose all their survivor protection immediately;

5. Widow's benefits are payable to relatively young widows whether or not they have children in their care: since this is an expensive feature, the money could perhaps better be used for the more socially desirable protection of children.

Summary and Conclusions

The recent amendments to the civil-service retirement system have gone a long way toward providing broad protection for Government employees. The new survivor benefits partially fill a very serious gap. The new annuity formula is in general more liberal and is easier to understand. In certain sectors, however, the system still does

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²¹ *Twenty-Second Annual Report of the Board of Actuaries of the Civil Service Retirement and Disability Fund*, for the fiscal year ended June 30, 1942 (H. Doc. 259, 78th Cong., 1st sess., p. 9).

²² Because of the weighted nature of the benefit formulas, increases in salary did not produce corresponding proportional increases in benefits.

²³ With the growth in Government employment, a greater proportion of the employees in 1948 had, in general, little or no previous service.

²⁴ *Congressional Record*, Feb. 26, 1948, p. 1808.

- S. A.), Washington, Vol. 5, Jan. 1948, pp. 16-23. 15 cents.
- A report, based on surveys conducted by the Chamber in 1945 and 1946, of individual health and accident policies and of group accident and health policies providing weekly benefits.
- "Medical Service Plans Under Collective Bargaining." *Monthly Labor Review*, Washington, Vol. 66, Jan. 1948, pp. 34-39. 30 cents.
- A study of two comparable plans—the Labor Health Institute in St. Louis and the Union Health Center in Philadelphia.
- MERRILL, MALCOLM H. "Federal-State-Local Relationships in the Financing of Local Health Services." *Public Health Reports*, Washington, Vol. 63, Feb. 20, 1948, pp. 244-251. 10 cents.
- MORGAN, JOHN S. "Pauper Medical Care, Health Insurance, or National Health Service: The British Experiment." *Social Service Review*, Chicago, Vol. 21, Dec. 1947, pp. 446-455. \$1.50.
- Outlines the evolution of medical care programs in Great Britain.
- NEW YORK ACADEMY OF MEDICINE. *Medicine Today—The March of Medicine*, 1946. New York: Columbia University Press, 1947. 177 pp. \$2.
- Presents the Academy's plans for solving the problems involved in providing adequate medical care.
- NEW YORK STATE COMMISSION TO FORMULATE A LONG RANGE HEALTH PROGRAM. *A Program for the Care of the Chronically Ill in New York State*. Albany: Williams Press, Inc., 1947. 109 pp. (Legislative Document No. 68, 1947.)
- Describes the nature and extent of the problem of chronic illness and recommends needed services and facilities, giving their estimated costs.
- RICHTER, L. "Demands for Service Under Health Insurance." *Canadian Journal of Public Health*, Toronto, Vol. 39, Jan. 1948, pp. 1-10. 25 cents.
- Discusses the Dalhousie surveys of morbidity and medical care in two representative communities in Nova Scotia—a coastal town, Glace Bay, where a system of health insurance for miners and their families was operated, and Yarmouth, also a coastal town, where medical care was rendered on the conventional basis.
- RITSON, MURIEL. "Scotland and the New National Health Service." *Public Affairs*, Halifax, Nova Scotia, Vol. 11, Dec. 1947, pp. 30-35. 35 cents.
- Describes practitioner service, dental care, hospital care, and nurse and specialist services under the Health Service Act that will go into effect on July 5, 1948.
- ROSS GARRETT AND ASSOCIATES. *Report to Social Security Commission of the Garment Industry*. St. Louis, Mo.: Ross Garrett and Associates, 1947. 75 pp.
- A report on the health program that outlines its organization, gives the scope and pattern of the medical services provided, and presents a budget showing estimated administrative costs.
- STEFFEN, CURT. "Medical Care Under Compulsory Sickness Insurance in Germany." *Social Service Review*, Chicago, Vol. 21, Sept. 1947, pp. 345-353. \$1.50.
- A study prepared at the request of the United States Senate Committee on Education and Labor. "The purpose of this study is not to advocate the adoption of the German system in other countries but to present the facts regarding the German situation during the normal years."
- STEINHAUS, H. W. "Voluntary Health Insurance Plans." *Spectator; Property Insurance Review*, Philadelphia, Vol. 13, Sept. 11, 1947, p. 16 ff.
- Some practical aspects of plans administered by a private insurance company.
- WILSON, NORMAN. *Municipal Health Services*. London: George Allen & Unwin Ltd., 1946. 178 pp. \$2.25.
- Part 1 describes services for the prevention or cure of ill health; parts 2 and 3 discuss the administrative machinery of such services and the new national health service.

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not give adequate protection; namely, in the case of survivor protection for persons with few years of service and those who leave the service before the normal retirement age. Extension of the old-age and survivors insurance system to Federal workers as a floor of protection upon which could be built

both retirement and survivor benefits of the civil-service retirement system would in general eliminate these gaps in protection. At the same time it would remedy such other defects as the dilution or loss of old-age and survivors insurance benefits for covered workers who enter Government employment.