

# Seventh Actuarial Valuation of the Railroad Retirement System

by ABRAHAM M. NIESSEN\*

*Benefits payable under the Railroad Retirement Act largely parallel those payable under the Social Security Act, and in addition there is a degree of coordination between the two insurance programs. The most recent valuation of the railroad retirement account and the accompanying discussion of the financial interchange provision are therefore believed to be of interest to many Bulletin readers.*

THE Railroad Retirement Act requires that a valuation of the railroad retirement account, showing the railroad retirement program's financial condition, be made at intervals of not longer than 3 years. The seventh actuarial valuation, showing the account's status on December 31, 1956, took into account the 1956 amendments to the Railroad Retirement Act and to the Social Security Act. Soon after its completion, however, Congress passed the Social Security Amendments of 1958. The original estimates were therefore revised and now represent the actuarial status of the railroad retirement account on December 31, 1958.

The program was found to have, as of that date, an actuarial deficiency of 4.18 percent of taxable payroll (equivalent to \$213 million a year on a level basis), of which 3.25 percent represents the estimated deficiency as of December 31, 1956, and 0.73 percent the effect of the 1958 amendments to the Social Security Act. The fact that no deficiency payments were made during 1957 and 1958 accounts for the remaining 0.2 percent.

## Benefits and Taxing Provisions

The following brief description of the benefit programs that make up the railroad retirement system<sup>1</sup> is

\* Chief Actuary, Railroad Retirement Board. The opinions expressed in this article are those of the author and do not necessarily represent the official views of the Railroad Retirement Board.

<sup>1</sup> For a detailed description, see the Railroad Retirement Board, *Annual Report 1958*, and "1956 Amendments to the Railroad Retirement Act," *Social Security Bulletin*, May 1957.

presented as background to the valuation.

*Service requirements.* — For all types of benefits payable under the Railroad Retirement Act, the general service requirement is 10 years. When workers have less than 10 years of creditable railroad service, their railroad credits are transferred to the old-age, survivors, and disability insurance program and treated in the same manner as earnings credits acquired in employment or self-employment covered by the Social Security Act.

*Types of benefits.* — Retirement benefits are normally payable at age 65, but employees who have 30 years of service may retire at age 60 with an actuarially reduced annuity. The actuarial reduction does not, however, apply to the annuity of women employees.

The act also permits retirement because of total and permanent disability, regardless of age. In addition, an employee may retire because of occupational disability, provided he has a current connection with the railroad industry and meets specified age or service requirements.

*Retirement annuity formula.*—The formula is the same for both age and disability annuities and is of the type found in staff pension plans. The earnings base is a career average—that is, the average creditable earnings over the whole period of actual creditable service. The annuity formula is 3.04 percent of the first \$50 of average monthly compensation, plus 2.28 percent of the next \$100, plus 1.52 percent of the next \$200, with the total multiplied by the num-

ber of years of creditable service. (Years of service may include service rendered before 1937, the year contributions were first collected.)

Alternative minimum formulas may apply, under certain conditions, when the average earnings are less than \$200.

*Spouses' annuities.*—Annuities are payable to the spouse of the retired worker under conditions similar to those specified in the Social Security Act before it was amended in 1956 to permit a wife to claim benefits at age 62 (but with the amount permanently reduced). The amount is half that paid the employee but cannot be more than the maximum wife's benefit currently payable under the Social Security Act.

*Survivor benefits.*—The provisions relating to survivor benefits are in principle similar to those in the 1939 amendments to the Social Security Act. They are, however, strongly modified by the "social security minimum guarantee." In addition, the Railroad Retirement Act provides for a residual benefit that is similar to the cash refund feature found in most pension plans and many annuity policies issued by private insurance companies.

*Social security minimum guarantee.*—Monthly benefits paid under the Railroad Retirement Act can in no instance be less than the benefit or the additional benefits that the family unit in question could have received under the Social Security Act on the basis of the railroad service involved. This provision has rather limited application to retirement benefits, but for monthly survivor benefits it supersedes the regular formulas in a substantial majority of the cases.

*Work restrictions.* — Payment of employee and spouses' annuities is subject to a general restriction against railroad work and work for the last employer, even if not a railroad; any amount of earnings results

in a suspension of the annuity. Other work is permitted regardless of the amount of earnings. Disability annuities payable to persons under age 65 are, however, suspended for any month in which the annuitant earns more than \$100.

Monthly survivor benefits are subject to the work restrictions in old-age, survivors, and disability insurance and, in addition, to a restriction against railroad work regardless of the amounts earned.

*Coordination with old-age, survivors, and disability insurance.* — The social security minimum guarantee and the provision for transferring to old-age, survivors, and disability insurance the wage credits of short-term railroad employees effect a degree of coordination between the two insurance programs. Further coordination results from (1) the reduction of spouses' annuities under the railroad program by the amount of certain old-age, survivors, and disability benefits, and (2) the transfer of funds between the railroad retirement account and the old-age and survivors insurance and disability insurance trust funds (the financial interchange provision).

*Taxing provisions.* — The payroll taxes are 6¼ percent for both employers and employees on earnings up to \$350 a month and are not scheduled to increase in the future. Railroad payrolls are not subject to direct old-age, survivors, and disability insurance taxes, although such taxes are paid indirectly by the railroad retirement system under the financial interchange.

### ***Development of the Railroad Retirement Program***

The first Railroad Retirement Act was adopted in 1934 but was declared unconstitutional. A second law was enacted in 1935, but it also encountered constitutional difficulties in the courts. Finally, a new Railroad Retirement Act with a companion tax law was submitted to Congress in 1937 as a result of an agreement by railway management and railway labor. These laws have never been challenged in the courts and form the basis for the present program.

The original 1937 act was in principle similar to the Social Security Act

of 1935 in that it provided for monthly benefits only to employees. (The death-benefit annuities were relatively unimportant.) Annuities as high as \$120 a month were payable immediately; the act provided for disability annuities based on total and permanent disability and for old-age annuities. There was no minimum service requirement and no coordination with social security.

The first major change took place in 1947, when survivor benefits similar to those under old-age and survivors insurance were introduced. At the same time, the eligibility requirements for a disability annuity were greatly liberalized and provision was made for annuities not only for total and permanent disability but also for occupational disability. The survivor benefits were coordinated with those under old-age and survivors insurance in the sense that they could, under specified conditions, be paid either by the Railroad Retirement Board or by the Social Security Administration but not by both simultaneously. In both instances the survivor benefits were computed on the basis of railroad and social security earnings combined. The amended Railroad Retirement Act also contained special provisions for an equitable distribution of the costs of survivor benefits between the two programs. To pay for these extensive liberalizations, the combined tax rate was increased from 7 percent to 11½ percent and provision was made for further increases at regular intervals to a maximum of 12½ percent, which became effective in 1952.

The first increase in the retirement benefit formulas took place in 1948, when employee benefits were increased by 20 percent. Survivor benefits, which were at that time about 25 percent higher than those under old-age and survivors insurance, were not increased. Furthermore, the 1948 amendments restored the cash refund benefit (residual payment), which was available under the original 1937 act but eliminated by the 1946 amendments.

A major overhauling of the program was put into effect late in 1951, when (1) spouses' benefits were added; (2) the formulas were changed to increase retirement an-

nuities by 15 percent and survivor benefits by 33⅓ percent; (3) an absolute 10-year service requirement was introduced for future awards, with railroad retirement credits totaling less than 10 years transferred to old-age and survivors insurance and treated as regular earnings credits under that program; (4) a "social security minimum guarantee" was provided; and (5) a comprehensive system of financial coordination with old-age and survivors insurance, known as the financial interchange, was introduced.

In 1954 the limit on creditable and taxable compensation was raised from \$300 a month to \$350, and certain deductions from employee benefits because of the existence of an old-age insurance benefit based on covered social security earnings were eliminated. The eligibility age for widows, widowers, and parents was lowered from 65 to 60, and eligibility for survivor benefits was extended to disabled children aged 18 or over. In 1955 the deductions from survivor benefits because an old-age insurance benefit was being received were eliminated.

In 1956, a change in the formula increased benefits by 10 percent. The social security minimum guarantee, however, remained at 100 percent of the increased benefit amounts provided under the 1956 amendments to the Social Security Act. No additional taxes were imposed to finance the additional costs, although it was recognized that such action would be necessary in the near future.

No major substantive amendments to the Railroad Retirement Act were passed in either 1957 or 1958. Certain technical amendments enacted in 1958 gave the Board authority to make disability determinations without the meaning of the Social Security Act without the approval of the Social Security Administration, but this authority does not extend to the financial interchange. Another change confers upon railroad employees an insured status that is not less favorable than what would have existed under the Social Security Act. The remaining changes are for the most part purely technical in nature. The Railroad Retirement Act was, however, indirectly amended by the 1958

amendments to the Social Security Act, since that act is the governing law for purposes of the social security minimum guarantee, the maximum on spouses' annuities, and the financial interchange.

### **Financing Policy**

Congress, the Railroad Retirement Board, railway management, and railway labor have always recognized the principle of financing the railroad retirement program on a self-supporting basis. The only sources of revenue that may be counted upon are payroll taxes shared equally by employers and employees, interest on the invested assets, and possible gains from the financial interchange with old-age, survivors, and disability insurance. As far as actuarial soundness is concerned, the same considerations apply to railroad retirement as to old-age, survivors, and disability insurance, which have been stated by the Chief Actuary of the Social Security Administration.<sup>2</sup>

The concept of actuarial soundness as it applies to old-age, survivors, and disability insurance differs considerably from its application to private insurance, although there are certain points of similarity — especially in comparison with private pension plans. The principal difference stems from the fact that a social insurance system can be assumed to be perpetual in nature, with a continuous flow of new entrants as a result of its compulsory character. It may therefore be said that the old-age, survivors, and disability insurance program is actuarially sound if the estimates show that future income from contributions and from interest earnings on the accumulated trust funds will, in the long run, support the disbursements for benefits and administrative expenses.

It is recognized that the railroad retirement system does not have the special strength stemming from the practically national coverage of old-age, survivors, and disability insurance, but the fact remains that the permanence of the railroad retirement system may be taken for

<sup>2</sup> Robert J. Myers, "Old-Age, Survivors, and Disability Insurance: Financing Basis and Policy Under the 1958 Amendments," *Social Security Bulletin*, October 1958.

granted for purposes of fiscal policy. Furthermore, adjustments in the tax provisions can be made at any time by legislative action. It is because of these features that the railroad retirement system—like old-age, survivors, and disability insurance—may be considered actuarially sound even without fully funding the accrued or the past-service liabilities.

The present method of financing used by the railroad retirement system (as well as by old-age, survivors, and disability insurance) may be described as a kind of frozen initial liability method accompanied by level-premium financing. With an actuarially adequate tax rate, the income to the system would be sufficient to take care of the normal costs — that is, costs computed as of the original ages of entry—and to pay interest on the unfunded accrued liabilities. The unfunded liabilities would thus never be liquidated but would be prevented from growing. When a system is out of actuarial balance, its unfunded accrued liabilities grow, of course, and the funds eventually become exhausted. A substantial and rather painful adjustment is then needed in the level of tax rates. Stated congressional policy, however, and the appreciation of the necessity for actuarial soundness by both railway management and railway labor make such a situation unlikely in the railroad retirement program. Adjustments would certainly come much before the railroad retirement funds were seriously depleted.

### **Method of Valuation**

The valuations of the railroad retirement system are made according to the "present value" method. This method is substantially different from the "projection" method used for old-age, survivors, and disability insurance actuarial estimates, which in the opinion of many actuaries is not suitable for programs with limited coverage. The projection method has its greatest usefulness for national programs such as old-age, survivors, and disability insurance, where it has been used with great success.

The Railroad Retirement Board uses service tables according to the worker's age at entry into railroad service and the duration of such serv-

ice on the valuation date. Future entrants into the industry are included in the valuations since they have peculiar cost characteristics that strongly influence the overall actuarial results. The Board also prepares projections for future income and outgo, but they are derived from the data underlying the "present value" calculations. The projections are useful in answering a variety of questions—when the fund will begin to go down, for example, and when it will become exhausted, what the maximum and/or ultimate disbursements will be, how different interest rates will affect level costs.

Another point worth mentioning is that the Board does not develop high- and low-cost estimates but only a single set of actuarial figures that are similar in nature to the intermediate estimates prepared from time to time by the Social Security Administration. Here again, the difference in the character and scope of the two programs justifies a difference in the method of presenting cost estimates to the public.

### **Basic Assumptions**

An enumeration of all basic assumptions entering into the seventh valuation of the railroad retirement system is beyond the scope of this article. Except for the assumptions regarding the financial interchange, only the nature of the various assumptions is indicated here.

*Mortality rates.* — All mortality rates for beneficiaries and active employees used in the valuation are based on the Board's experience during recent years. These rates contain a small margin for improvement in mortality but no projection for this contingency. One of the byproducts of the valuation was a new mortality table for disability annuitants.<sup>3</sup>

*Remarriage rates.* — A new remarriage table for widows was prepared on the basis of the Board's experience during 1951–56.

*Retirement rates.* — Because rates of age retirement have increased from those of previous years, it was necessary to adopt higher rates for the seventh valuation. For age 65, for

<sup>3</sup> A. M. Niessen, "Mortality of Railroad Annuitants, 1953–56," *Transactions of the Society of Actuaries*, June 1958.

example, a rate of 40 percent was used; for ages 66-69 the rates were 20-25 percent; and for age 70 the rate was 45 percent. These rates come close to the actual experience during 1954-56 but may prove inadequate if retirements continue to be as heavy as they have been in 1957-58.

**Disability rates.**—Rates of retirement because of permanent disability (total or occupational) have declined in recent years. This trend was recognized by assuming disability rates 6 percent less, on the whole, than those used in the sixth valuation.

**Withdrawal rates.**—Rates of withdrawal in the early years after entry into railroad service are important because of the 10-year service requirement. A substantial decrease in such withdrawal rates would increase the costs of the railroad retirement system and vice versa. Studies covering the years 1953-55 showed that the actual rates of withdrawal were, in general, considerably higher than the rates used in the sixth valuation. Accordingly, the rates of the sixth valuation, some of which are shown below, were retained without change in the seventh valuation.

Calendar years since entry	Rate of withdrawal per 1,000
Less than 1	451
1	365
2	228
3	169
4	129
5	104
6	82
7	69
8	59
9	52
10	46

**Family composition.**—The family composition factors relate to the percentages of insured employees who upon their death leave specified classes of survivors and to the ages of these survivors. The seventh valuation adopted actual Board data for the years 1954-56. A comparison between the Board's experience and that of the Social Security Administration for 1955 is shown in table 1.

**Payroll.**—Taxable payrolls were assumed to total \$5.1 billion a year on the average. This amount is \$200 million a year less than the assumption used in the sixth valuation. Although the \$5.1-billion figure is

higher than actual taxable payrolls in recent years, it is believed to be reasonable for future years. It should be noted that the payroll assumption is based on a \$350 limit on taxable monthly compensation. For a \$400 limit (approximately the same as the present \$4,800 annual limit for old-age, survivors, and disability insurance), the corresponding taxable railroad payroll would have been \$5.6 billion a year.

**Interest rate.**—The interest rate used in the valuation was 3 percent a year. This is the minimum rate guaranteed the railroad retirement account by law. The account has on occasion been given the opportunity to earn relatively small amounts of additional interest (through purchase of U.S. marketable bonds at a discount or purchase of U.S. bonds paying more than 3 percent), but these extra earnings were not sufficient to warrant a change in the 3-percent interest assumption.

### The Financial Interchange

The 1951 amendments to the Railroad Retirement Act provided for a financial interchange between the railroad retirement account on the one hand and the old-age, survivors, and disability insurance trust funds on the other.<sup>4</sup> The stated purpose of

<sup>4</sup> Robert J. Myers, "Railroad Retirement Act Amendments of 1951: Financial and Actuarial Aspects," *Social Security Bulletin*, March 1952.

the interchange is to put the two social security funds in the same position they would have been in had railroad employment been covered under the Social Security Act since 1937. The railroad retirement system pays social security taxes on railroad payrolls and in return is reimbursed for additional benefits (and administrative expenses) that would have been payable under the Social Security Act had railroad employment been covered under that act. Except for the first determination, which covered the period January 1, 1937, to June 30, 1952, the determination of credits and debits is made annually for the immediately preceding fiscal year. The responsibility for the determinations rests with the Railroad Retirement Board and the Social Security Administration jointly, but the detailed calculations are made by the Board on the basis of specially selected samples, principally from data in its own records. Policy matters and nonroutine procedural questions are decided by mutual agreement between representatives of the two agencies.

As of June 30, 1952, the railroad retirement account owed the old-age and survivors insurance trust fund approximately \$488 million. Successive determinations rapidly reduced this indebtedness until by June 30, 1957, the balance swung in favor of the railroad retirement account and resulted in a transfer of \$124.4 million

Table 1.—Age distribution and selected family characteristics of deceased male workers insured under the Railroad Retirement Act and the Social Security Act, 1955<sup>1</sup>

Age at death <sup>2</sup>	Percentage distribution of deceased workers		Percent married		Percent married and with children		Percent with children only	
	Railroad Retirement Act	Social Security Act	Railroad Retirement Act	Social Security Act	Railroad Retirement Act	Social Security Act	Railroad Retirement Act	Social Security Act
Under 35	0.3	6.6	69.5	56.3	58.9	45.8	5.3	5.3
35-39	.8	3.3	85.6	73.2	71.6	60.7	3.1	5.8
40-44	1.3	4.6	82.2	76.1	61.8	58.4	4.8	5.8
45-49	2.6	6.6	79.9	76.9	41.2	46.9	3.5	4.3
50-54	5.6	8.3	80.9	74.8	28.3	30.6	2.1	3.0
55-59	9.0	10.5	82.5	77.0	13.9	16.6	1.0	1.3
60-64	13.5	12.5	80.3	77.4	6.0	7.7	.6	.8
65-69	16.9	15.2	76.5	73.1	3.0	1.6	.3	.1
70-74	17.6	14.0	69.9	65.9	1.1	.5	.1	( <sup>3</sup> )
75-79	14.9	10.4	61.6	60.2	.6	.1	( <sup>3</sup> )	( <sup>3</sup> )
80 and over	17.5	8.0	45.1	48.9	.3	( <sup>3</sup> )	.1	( <sup>3</sup> )

<sup>1</sup> Under the Railroad Retirement Act, employees who died in 1955; under the Social Security Act, workers represented in 1955 awards (initial entitlement).

<sup>2</sup> Under the Railroad Retirement Act, age on

last birthday before date of death; under the Social Security Act, age on birthday anniversary in year of death.

<sup>3</sup> Less than 0.1 percent.

to that account. The last figure is in contrast to the approximately \$35 million that the railroad retirement account had previously paid the old-age and survivors insurance trust fund in the form of interest. (Under the law the Railroad Retirement Board was not required to pay the initial indebtedness to the old-age and survivors insurance trust fund but had to pay only the interest on it or on the remainder of the indebtedness as determined by later offsets.) For the fiscal year 1957-58, the Railroad Retirement Board expects to receive a net transfer of about \$210 million, with even larger amounts for the next few years until the contribution rate increases provided by the Social Security Amendments of 1958 take full effect.

As far as actuarial estimates of the long-range effects of the financial interchange are concerned, there exists a substantial disagreement between the actuaries of the two agencies involved. The Chief Actuary of the Social Security Administration is of the opinion that, when considered on a level basis, the financial interchange may result in a slight gain to the old-age, survivors, and disability insurance program;<sup>5</sup> the Actuary of the Railroad Retirement Board expects net gains to the railroad retirement account equivalent to 1.24 percent of railroad taxable payrolls, or \$63 million a year on a level basis.

The disagreement is attributable to differing appraisals of the future extent of dual benefits to employees and to their dependents and survivors. With respect to retirement benefits, payment of the separate old-age insurance benefit greatly reduces the benefit reimbursement under the financial interchange because the social security formula is heavily weighted in favor of low average wages and short-term coverage and thus takes up a disproportionate part of the gross benefit computed on the basis of railroad retirement and social security earnings combined. With respect to dependents' and survivors' benefits, the existence of an old-age insurance benefit in the beneficiary's own right either nullifies or greatly

reduces the reimbursable benefit that would otherwise have been payable. The dual benefits are allowed in full under the financial interchange because what is essentially reimbursable is the difference between the old-age, survivors, and disability insurance gross benefits computed on the basis of railroad retirement and social security earnings combined and the benefits the Social Security Administration is actually paying to the railroad retirement beneficiaries in question.

For employees retiring under the Railroad Retirement Act (only those with 10 or more years of railroad service were considered in the benefit calculations) the Board assumed that substantial proportions of short-service present employees and future entrants (about 55-96 percent) will be entitled to a separate old-age benefit under the Social Security Act. For long-service present employees only, particularly those who entered railroad service before 1937, much smaller percentages have been assumed. The actuaries of the Board are of the opinion that the allowances are sufficient, while the actuaries of the Social Security Administration believe that still greater allowances should have been made. Different assumptions regarding the incidence of dual benefits and their amount could bridge the gap between the two estimates for the long-range effects of the financial interchange.

A difference of opinion exists also with respect to dual benefits to wives and widows who are receiving old-age benefits under the Social Security Act in their own right. Here again, the Board made what it believes to be substantial allowances (ranging from a few percentage points' reduction for beneficiaries on the rolls to 22½ percent for wives and widows of future entrants) but the Social Security Administration does not consider these allowances sufficient. Though the dual benefit assumptions for dependents and survivors are less important than those for employees, they contribute materially to the difference between the financial interchange estimates made by the two agencies involved.

The actuarial estimates for the financial interchange involve long-

**Table 2.—Summary of level-cost calculations for the railroad retirement system as of December 31, 1956<sup>1</sup>**

[Cost figures relate to a level annual taxable payroll of \$5.1 billion]

Item	Percent of payroll
Benefits under the Railroad Retirement Act:	
Retirement:	
Age annuities, pensions, and annuities under joint and survivor options	10.15
Disability annuities payable before age 65	1.27
Disability annuities payable after age 65	1.86
Spouses' annuities	1.23
Survivor:	
Aged widows' annuities	3.58
Widowed mothers' annuities	.13
Children's annuities	.32
Parents' and disabled children's annuities	.10
Insurance lump sums	.19
Residual payments	.40
Total	19.23
Administrative expenses	.16
Funds on hand	2.15
Gain from financial interchange	1.49
Net level cost as of Dec. 31, 1956	15.75
Tax rate	12.50
Actuarial deficiency as of Dec. 31, 1956	13.25

<sup>1</sup> 4.18 percent as of Dec. 31, 1958.

range considerations that cannot be precisely ascertained on the basis of past experience. As more experience becomes available, the estimates made by both agencies will be modified accordingly. It is hoped that these modifications will be in the direction of bringing the two estimates closer together rather than separating them further. In any event, the magnitude of the discrepancy, though considerable in terms of taxable railroad payrolls, is practically negligible from the viewpoint of old-age, survivors, and disability insurance since it amounts only to about 0.03 percent of the equivalent level taxable payroll of that system.

### Results of the Valuation

The seventh valuation of the railroad retirement system was completed before the enactment of the 1958 social security amendments. The level costs are shown for the various items in table 2. It will be noted that no attempt was made to revise the individual cost figures to allow for the effect of the Social Security Amendments of 1958 and for the change in the valuation date from December 31,

(Continued on page 32)

<sup>5</sup> Robert J. Myers, op. cit., *Social Security Bulletin*, October 1958.

Table 8.—Amount of vendor payments for medical care for recipients of public assistance, by program and State, February 1959<sup>1</sup>

State	Old-age assistance	Aid to dependent children	Aid to the blind	Aid to the permanently and totally disabled	General assistance
Total.....	\$19,423,433	\$4,594,565	\$502,632	\$3,080,439	<sup>2</sup> \$7,915,000
Alabama.....	<i>1,679</i>	<i>966</i>		<i>176</i>	<i>98</i>
Alaska.....				( <sup>3</sup> )	<i>38,297</i>
Arkansas.....	279,682	24,504	8,440	40,687	
California.....	1,583,238	935,697	84,270		73,624
Colorado.....	755,957	40,600	2,386	5,863	84,551
Connecticut.....	271,944	148,407	6,300	89,124	( <sup>4</sup> )
Delaware.....			908		
District of Columbia.....	1,362	1,472	105	1,388	1,009
Florida.....	177,076		3,658	23,624	
Hawaii.....	8,334	34,107	616	6,078	
Illinois.....	1,994,685	439,165	62,132	410,191	<i>570,897</i>
Indiana.....	474,232	123,942	24,363	( <sup>3</sup> )	<i>306,671</i>
Iowa.....				( <sup>3</sup> )	<i>229,303</i>
Kansas.....	336,651	74,320	6,800	55,738	62,246
Louisiana.....	219,069	7,598	3,579	46,697	3,477
Maine.....	108,207	16,350	4,600	20,088	69,605
Maryland.....	29,946	59,746	1,158	23,246	
Massachusetts.....	3,067,943	158,779	4,374	520,553	196,264
Michigan.....	431,931	79,894	8,334	24,409	214,857
Minnesota.....	1,426,545	189,893	34,607	8,395	238,773
Montana.....	1,116	172	566	239	<i>191,368</i>
Nebraska.....	320,553	11,310	25,330	27,107	<i>23,535</i>
Nevada.....	15,798		972	( <sup>3</sup> )	( <sup>5</sup> )
New Hampshire.....	79,473	16,231	2,813	11,618	( <sup>5</sup> )
New Jersey.....	567,876	26,409	36	132,780	212,434
New Mexico.....	100,890	56,242	2,634	21,681	14,452
New York.....	2,198,944	1,076,487	79,295	937,557	170,830
North Carolina.....	94,726	47,597	3,774	49,953	<i>240,784</i>
North Dakota.....	205,524	24,499	1,035	33,905	<i>26,145</i>
Ohio.....	756,398	<i>112,743</i>	21,205	50,407	<i>1,294,721</i>
Oklahoma.....	964,792		19,719	93,124	( <sup>5</sup> )
Oregon.....	345,221	31,533	2,403	85,579	43,348
Pennsylvania.....	164,265	257,921	35,062	67,504	2,143
Rhode Island.....	84,876	71,667	792	36,596	<i>54,641</i>
South Carolina.....					<i>10,670</i>
South Dakota.....					<i>139,291</i>
Tennessee.....	130,571	40,683	4,910	16,557	
Utah.....	42,081	30,682	848	10,246	1,459
Virgin Islands.....	309	134	5	52	119
Virginia.....	<i>45,332</i>		<i>2,299</i>	<i>13,234</i>	<i>11,905</i>
Washington.....	669,430	204,882	10,127	90,216	144,234
West Virginia.....	67,466	63,099	1,348	9,830	8,461
Wisconsin.....	1,365,592	179,317	30,426	111,255	264,538
Wyoming.....	33,724	7,512	403	4,742	30,537

<sup>1</sup> For the special types of public assistance figures in italics represent payments made without Federal participation. For State programs not shown, no vendor payments were made during the month or such payments were not reported.  
<sup>2</sup> Includes an estimated amount for States making vendor payments for medical care from general assistance funds and from special medical funds and re-

porting these data semiannually but not on a monthly basis.  
<sup>3</sup> No program for aid to the permanently and totally disabled.  
<sup>4</sup> Includes payments made in behalf of recipients of the special types of public assistance.  
<sup>5</sup> Data not available.

RAILROAD RETIREMENT

(Continued from page 8)

1956, to December 31, 1958. Only the overall adjustments have been included in the table.

As of the original valuation date of December 31, 1956, the net level cost of the railroad retirement program came to 15.75 percent of taxable payroll, which allowed for a gain of 1.49 percent of payroll stemming from the financial interchange. Since the statutory tax rate was only 12.5 percent of payroll, the valuation indicated an actuarial deficiency of 3.25 percent.

The valuation was then adjusted as shown below.

	Percent of payroll
Actuarial deficiency on Dec. 31, 1956.....	3.25
Additional benefit amounts due to Social Security Amendments of 1958.....	.48
Reduction in gains from financial interchange due to Social Security Amendments of 1958.....	.25
Addition for deficiency in income during 1957-58.....	.20
Actuarial deficiency on Dec. 31, 1958.....	4.18

The estimated gain from the finan-

cial interchange was reduced by 0.25 percent of payroll, which was to be expected in view of the fact that the 1958 amendments to the Social Security Act provide more additional taxes than was necessary to finance the additional benefit amounts. Then, because of the social security minimum guarantee and the higher maximum on spouses' annuities, the direct benefit costs were increased by an estimated 0.48 percent of payroll — also as a result of the 1958 social security amendments. Additional costs resulting from these amendments

Table 9.—Average payments including vendor payments for medical care, average amount of money payments, and average amount of vendor payments for assistance cases, by program and State, February 1959<sup>1</sup>

State	Old-age assistance			Aid to dependent children (per recipient)			Aid to the blind			Aid to the permanently and totally disabled		
	All assistance <sup>2</sup>	Money payments to recipients <sup>3</sup>	Vendor payments for medical care <sup>4</sup>	All assistance <sup>2</sup>	Money payments to recipients <sup>3</sup>	Vendor payments for medical care <sup>4</sup>	All assistance <sup>2</sup>	Money payments to recipients <sup>3</sup>	Vendor payments for medical care <sup>4</sup>	All assistance <sup>2</sup>	Money payments to recipients <sup>3</sup>	Vendor payments for medical care <sup>4</sup>
Total, 53 States <sup>4</sup>	\$64.22	\$56.65	\$7.97	\$28.50	\$26.96	\$1.58	\$68.22	\$63.82	\$4.59	\$63.26	\$54.42	\$9.33
Alabama	43.85	43.84	.02	7.03	7.02	.01	53.10	48.95	4.15	32.86	32.85	.01
Arkansas	48.19	43.26	4.97	15.68	14.81	.78	103.21	97.41	6.00	36.80	30.56	5.77
California	83.30	77.40	6.00	45.79	42.16	3.78	76.32	68.81	7.50	63.45	62.39	1.06
Colorado	98.27	83.73	14.55	32.16	30.69	1.48	100.70	80.70	20.00	128.75	86.75	42.00
Connecticut	105.76	87.76	18.00	47.96	41.56	6.40	69.06	65.93	3.38			
Delaware							69.84	69.40	.44	71.89	71.33	.56
District of Columbia	59.85	59.41	.44	33.48	33.39	.09	58.36	57.02	1.43	58.53	55.92	3.14
Florida	53.24	50.87	2.53				67.90	60.68	6.62	71.10	65.46	5.64
Hawaii	57.69	52.15	5.54	34.68	31.36	3.33	78.19	59.72	19.56	80.91	59.48	22.64
Illinois	68.78	45.72	25.34	38.49	35.29	3.21						
Indiana	57.41	42.60	15.75	27.81	25.18	3.00	70.25	58.96	12.56	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )
Kansas	76.83	66.33	11.17	35.63	32.49	3.43	82.32	72.14	10.88	79.85	67.90	12.97
Louisiana	66.08	64.37	1.76	22.13	22.06	.08	76.26	74.90	1.39	58.86	50.80	3.11
Maine	63.64	54.65	9.00	27.46	26.61	.86	69.49	59.49	10.00	71.35	59.35	12.00
Maryland	56.69	53.60	3.09	27.72	25.96	1.76	61.86	59.31	2.55	64.66	60.33	4.33
Massachusetts	99.70	63.36	36.77	46.26	43.12	3.34	112.39	110.67	2.09	117.75	68.73	52.03
Michigan	70.45	63.95	6.56	38.11	37.27	.84	76.36	71.79	4.57	85.64	79.50	6.14
Minnesota	84.33	54.88	29.78	44.52	38.58	5.96	99.00	68.29	31.01	61.30	57.72	4.02
Montana	63.44	63.29	.15	32.83	32.81	.02	71.61	70.12	1.49	70.49	70.33	.16
Nebraska	67.71	48.11	20.06	28.31	27.29	1.06	81.43	55.20	26.64	69.17	51.87	17.57
Nevada	67.63	61.59	6.03				98.13	92.35	5.79	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )
New Hampshire	70.43	55.15	15.30	40.75	36.87	3.91	73.65	62.26	11.39	87.15	56.65	30.40
New Jersey	89.27	65.34	29.60	44.37	43.84	.77	83.01	83.15	.04	96.60	75.62	23.28
New Mexico	62.40	52.75	9.65	31.18	29.12	2.06	63.90	57.02	6.88	68.73	56.81	9.92
New York	99.34	77.19	25.17	41.86	37.95	4.11	104.77	87.63	19.56	98.02	76.52	24.16
North Carolina	39.79	37.91	1.88	19.00	18.54	.46	51.95	50.72	1.23	46.29	43.39	2.90
North Dakota	91.82	66.42	27.61	39.92	36.57	3.75	78.44	67.31	11.13	87.03	67.45	32.63
Ohio	65.53	58.21	8.36	27.96	26.74	1.22	63.26	57.57	5.70	64.20	59.29	4.90
Oklahoma	76.75	66.27	10.48				94.44	83.93	10.51	86.12	75.58	10.54
Oregon	77.72	60.12	19.04	39.17	38.45	1.46	81.90	75.14	8.31	84.40	71.21	16.97
Pennsylvania	67.90	64.58	3.32	31.08	29.61	1.46	62.78	60.79	1.99	58.96	54.59	4.38
Rhode Island	74.14	62.19	12.00	35.23	30.84	4.39	71.98	65.98	6.00	80.34	66.39	14.00
Tennessee	43.44	41.14	2.30	19.12	18.61	.51	47.64	45.94	1.70	44.72	42.42	2.30
Utah	66.17	61.17	5.00	37.11	34.60	2.50	69.90	65.94	3.96	72.33	67.42	4.92
Virgin Islands	23.42	23.02	.62	12.23	12.07	.17	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	25.53	25.08	.50
Virginia	40.55	37.63	2.97				45.46	43.58	1.88	48.94	44.77	4.22
Washington	83.08	75.79	12.46	45.43	40.66	4.81	101.05	87.62	13.43	102.56	87.97	14.89
West Virginia	35.94	32.73	3.21	23.54	22.74	.80	38.61	37.36	1.26	37.37	36.06	1.31
Wisconsin	76.85	43.66	36.44	45.22	40.55	5.49	82.49	54.81	29.83	120.17	39.22	85.12
Wyoming	70.89	61.40	9.49	37.33	34.55	2.78	70.71	64.87	5.84	72.59	63.79	8.80

<sup>1</sup> Averages for general assistance not computed because of difference among States in policy or practice regarding use of general assistance funds to pay medical bills for recipients of the special types of public assistance. Figures in italics represent payments made without Federal participation. For State programs not shown, no vendor payments were made during the month or such payments were not reported.

<sup>2</sup> Averages based on cases receiving money payments, vendor payments for medical care, or both.

<sup>3</sup> May also include small amounts for assistance in kind and vendor payment for other than medical care. Averages based on number of cases receiving payments. See tables 10-13 for average payments for State programs under which no vendor payments for medical care were made.

<sup>4</sup> For aid to the permanently and totally disabled represents data for the 48 States with programs in operation.

<sup>5</sup> No program for aid to the permanently and totally disabled.

<sup>6</sup> Average payment not computed on base of less than 50 recipients.

thus total 0.73 percent of payroll. Furthermore, it was necessary to add 0.20 percent of payroll as the equivalent of the actuarial deficiency of 3.25 percent of payroll for the 2 years 1957 and 1958. All in all, the net level cost of the railroad retirement program as of December 31, 1958, is estimated at 16.68 percent of payroll derived as

shown in the following tabulation:

	Percent of payroll
Benefits and administration	20.07
Interest on existing fund	2.15
Gains from financial interchange	1.24
Net level cost	16.68

Since the actual rate of tax is only

12.50 percent, the revised seventh valuation indicates an actuarial deficiency of 4.18 percent of payroll, or \$213 million a year on a level basis. There is a good basis for belief, however, that measures to correct this serious situation will soon be undertaken and that a reasonable measure of actuarial balance will be restored.