

Railroad Retirement System: Ninth Actuarial Valuation

by A. M. NIESSEN*

Benefits payable under the Railroad Retirement Act largely parallel those payable under the OASDI program, 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 BOARD is required by law to make actuarial valuations for the retirement program under its jurisdiction at least once every 3 years. The most recent valuation, the ninth, was completed in June 1964 and is summarized in the following pages.¹ This valuation is of more than usual interest because it constitutes, among other things, the first full-scale investigation into the effectiveness of the remedial financial measures that were introduced by the 1963 amendments to the Railroad Retirement Act. It also presents the latest Board estimates relating to the financial coordination between the railroad retirement and old-age, survivors, and disability insurance (OASDI) programs.

The ninth valuation of the railroad retirement system found a condition of near actuarial balance between future income and outgo. The study arrived at an actuarial deficiency of 0.41 percent of taxable payroll or \$18 million a year on a level basis. This is a great improvement from the situation existing immediately before the 1963 amendments, when the actuarial deficiency was estimated to be about 1¾ percent of taxable payroll. The current deficiency is relatively small and may be considered to be within the limits of actuarial tolerance.

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¹ See A. M. Niessen, *Ninth Actuarial Valuation of the Assets and Liabilities Under the Railroad Retirement Acts as of December 31, 1962* (Railroad Retirement Board), November 1964.

RECENT DEVELOPMENTS

The eighth actuarial valuation, made as of December 31, 1959, found an actuarial deficiency amounting to 1.69 percent of taxable payroll, or \$73 million a year on a level basis. Late in 1961, President Kennedy requested the Railroad Retirement Board to formulate a plan that would put all programs under its jurisdiction on a reasonably sound actuarial basis. The Board developed a remedial plan that became a subject of negotiation between railroad management and labor, and out of the negotiations a legislative program evolved.

1963 Legislation

The remedial program presented to Congress jointly by railroad management and labor embodied the Board's proposals although it differed from them in certain important details. Congress adopted the draft legislation submitted to it virtually without change, and the President approved it (with some reservations) on October 5, 1963. The ninth valuation relates to the law as amended. The major changes introduced by the 1963 amendments to the Railroad Retirement Act are summarized below.²

The interest rate on special obligations issued to the railroad retirement account was changed from a flat 3 percent to the average market yield on United States securities still having 3 or more years to run. The rate is computed as of the end of the month preceding the date of issue and is rounded to the nearest ⅛ of 1 percentage point; it is subject to a minimum of 3 percent. As a result of the change, about \$2.8 billion in 3-percent special obligations (including accrued interest) was converted on October 5, 1963, into 4-percent

² For a summary of the Railroad Retirement Act as amended in 1963, see the *Bulletin*, January 1964, pages 16-20.

obligations with maturities distributed about evenly over a 15-year period.³

For the retirement program the earnings base for both benefit and tax purposes was increased from \$400 to \$450 per month; for the unemployment insurance program, the \$400 base was left unchanged.

The method of financing military service credits under the Railroad Retirement Act was changed, effective for service rendered after June 1963, from a tax to a cost basis. In addition, special provisions were made to eliminate retroactively the possibility of duplicate payments by the Treasury to the OASDI and railroad retirement funds for certain military service rendered after 1936 and before 1957. A portion of the amount due the railroad retirement account for military service rendered from July 1948 through June 1963 has already been received, and the remainder will be paid with interest in nine annual installments.

The financial structure of the railroad unemployment insurance system was strengthened by raising the maximum contribution rate from 3¾ percent to 4 percent of the first \$400 of monthly earnings and by tightening some of the requirements for benefits.

At first glance, the changes in the unemployment insurance program may seem to have no relevance to the retirement account, but actually they do. Under a 1959 amendment, the unemployment insurance account may borrow (at interest) unlimited sums from the retirement account for the purpose of meeting benefit obligations. By September 1963, it owed the railroad retirement account more than \$320 million. The strengthening of the financial base for the unemployment insurance program is expected to practically eliminate the need for further borrowing from the retirement account and to permit gradual repayment of the existing indebtedness.

In addition to these direct changes made by amendments to the Railroad Retirement Act, there were indirect changes in the railroad retirement program brought about by amendments to

³ Although the immediate conversion and the 3-percent minimum rate were criticized as being inconsistent with the treatment accorded certain other trust funds, Congress believed that they were justified because of the special circumstances peculiar to the railroad retirement system.

the Social Security Act. Changes in the OASDI program affect the railroad retirement system because (1) certain benefits are computed according to OASDI rather than railroad retirement formulas and (2) there exists a financial interchange between the two systems that operates exclusively according to the provisions of the social security laws. The effects of all amendments to those laws adopted through 1963 were considered in the ninth valuation.

Operating Experience

Experience between the last valuation date (December 31, 1959) and the date of the current valuation (December 31, 1962) has been, on the whole, unfavorable to the railroad retirement system. The number of employees working in the valuation year dropped 16 percent, but the number of beneficiaries on the rolls rose nearly 12 percent.

In December 1962 the Board paid \$89.3 million in benefits—17 percent more than the amount paid in the same month 3 years earlier. Rates of retirement also increased significantly, and the number of new employees declined. Perhaps the constant rise in the ratio of beneficiaries to active employees has the greatest significance. In December 1956 the ratio was 55 percent, 3 years later it had grown to 82 percent, and by the end of 1962 it was 107 percent. The consequences of this situation, which is without any known parallel in American retirement systems, are obvious; the extremely heavy benefit load in relation to the number of active employees is one of the primary reasons why the railroad retirement system has needed frequent adjustments in its financial structure.

METHOD

The method of financing used by the railroad retirement system is essentially the same as that presently considered applicable to the OASDI program.⁴ The railroad retirement system is supposed to be self-supporting and to derive its in-

⁴ See Railroad Retirement Board, *Method of Financing Used by the Railroad Retirement System*, Actuarial Study No. 7, June 1963.

come solely from payroll taxes, interest on invested funds, and expected gains from the financial interchange with OASDI. Full funding is neither anticipated nor desired, and actuarial soundness is said to exist when there appears to be a near balance between assets and liabilities over the indefinite future. Valuations are made on an open-end basis—that is, full consideration is given to operations with respect not only to former and present employees but to future employees as well. Large unfunded accrued liabilities in the traditional sense are not considered alarming because this measure of actuarial soundness is considered to be inapplicable for a compulsory social insurance plan. This financial policy is in accord with the views of the Social Security Administration in relation to the OASDI program, as expressed by the Administration's Chief Actuary⁵.

The technical procedures followed in the valuations made by the Railroad Retirement Board are materially different from those employed in the cost estimates prepared by the Social Security Administration. The Board uses the present value approach—that is, it discounts all future transactions back to a single date. This method is considered more suitable for programs with limited coverage than the projection method used by the Social Security Administration.

Another difference in methodology is that OASDI cost estimates are usually prepared on a range basis (with cost figures developed separately on the basis of high-cost and low-cost assumptions) and the railroad retirement valuations are made on the basis of a single set of assumptions (with a single set of cost figures developed). These differences are more a matter of form, however, than of substance. The OASDI cost estimates include intermediate data that for all practical purposes are the counterpart of the railroad retirement cost figures, and the Board's valuations include a discussion concerning changes in the net level cost that would result if certain crucial assumptions were modified. The Railroad Retirement Board also prepares projections because of their usefulness in making actuarial information more understandable.

⁵ *Actuarial Cost Estimates for . . . H. R. 11865 . . .* (Report prepared by Robert J. Myers for the Committee on Ways and Means, September 10, 1964).

SCOPE

From 1937 to 1946 the railroad retirement program was in no way coordinated with the program under the Social Security Act.⁶ The first coordination came as a result of the 1946 railroad retirement amendments, which added survivor benefits. These benefits were to be based on railroad and OASDI-covered service combined and were to be paid by one agency only—the agency that had jurisdiction over the case. The 1946 amendments also provided for financial adjustments between the two systems that would equitably distribute the costs of survivor benefits based on combined service.

Subsequent railroad retirement amendments expanded the area of coordination to include (1) reductions in railroad retirement benefits on account of certain OASDI benefits, (2) the introduction of a social security minimum on railroad retirement benefits, (3) the establishment of a financial interchange between the two systems, retroactive to January 1, 1937, (4) making tax rates after 1964 partly dependent upon OASDI rates in effect at the time, and (5) the transfer to the OASDI system of credits for employees who leave the industry with less than 10 years of railroad service.

Because of the coordination features railroad retirement valuations have become complex and cumbersome. In order to include the effects of the financial interchange, the valuations are done in three parts: (1) an estimate of liabilities for future benefits payable in accordance with the provisions of the Railroad Retirement Act, including adjustments for the social security minimum and certain other special provisions; (2) an estimate of future benefits that the OASDI trust funds would have had to pay to railroad retirement beneficiaries on the basis of railroad and OASDI service combined; and (3) an estimate of OASDI benefits that the Social Security Administration will pay directly to railroad retirement beneficiaries on the basis of OASDI coverage alone.

The net benefit liabilities of the system are then

⁶ The original 1937 Railroad Retirement Act included a provision regarding a social security minimum on benefits and a mandate to estimate the effect of railroad retirement operations on the social security fund. Because of certain legal technicalities, these provisions never became operative.

derived as the first item minus the difference between the second and third items. These two items pertain to the financial interchange, and the difference between them constitutes the net amount of benefit reimbursements that the railroad retirement account can expect to receive from the OASDI trust funds. To obtain the overall results of the financial interchange, the net benefit reimbursements are reduced by the payroll taxes that are due the OASDI trust funds. An estimate of the latter item can easily be obtained from the OASDI tax schedule and from the assumption with respect to future levels of railroad payrolls.

TABLE 1.—Summary of actuarial valuation of the railroad retirement system as of Dec. 31, 1962¹

Item	Percent of taxable payroll	Amount (in millions)
Actuarial balance sheet:		
Liabilities, total.....	25.99	
Railroad Retirement Act benefits.....	25.69	
Administrative expenses.....	.30	
Assets, total.....	25.58	
Prospective payroll taxes.....	17.83	
Interest on existing fund.....	3.83	
Gain from financial interchange with OASDI.....	3.92	
Actuarial deficiency as of:		
Dec. 31, 1962.....	.41	
June 30, 1964.....	.43	
Selected auxiliary data:		
Net level cost (25.99 minus 3.83 minus 3.92).....	18.24	
Future taxable payrolls:		
Annual amount.....		\$4,300
Present value of 1 percent for:		
All employees.....		1,208
New entrants.....		812
Gross cost of Railroad Retirement Act benefits.....	25.69	
Present value for present and former employees.....		25,165
Normal rate for new entrants.....	7.213	
Gains from financial interchange with OASDI, net.....	3.75	
Benefit reimbursements from OASDI.....	12.25	
Present value for present and former employees.....		12,755
Normal rate for new entrants.....	2.513	
Payroll taxes to OASDI.....	8.50	
Present value for present employees.....		3,190
Normal rate for new entrants.....	8.709	

¹ For the program as amended through Oct. 5, 1963; based on data in table 2.

For the purposes of that part of the valuation that deals with benefits payable under the Railroad Retirement Act, it would be sufficient to have the usual assumptions—separation rates, mortality and remarriage rates, service patterns, salary scales, family compositions, and the like. For the parts dealing with the financial interchange, however, special additional assumptions are needed. Thus, for the part dealing with imputed OASDI benefits based on combined railroad and OASDI-covered service, it is necessary to formulate assumptions regarding patterns of employment covered by the Social Security Act

before entry into railroad service or after withdrawal from such service. For the estimate relating to dual benefits (OASDI benefits that will be paid to railroad retirement beneficiaries on the basis of OASDI service alone), assumptions must be formulated regarding the incidence of such benefits and their average amounts. This is a most difficult area because experience is not a reliable guide. Some indication of the incidence of dual benefits in the future is provided, however, by studies of dual coverage of railroad employees.

It is clear that the part of the valuation dealing with the financial interchange has significance for the Social Security Administration. In fact, cost estimates for OASDI include projections for the transaction under the financial interchange. In the past there have been some differences in the estimates of the two agencies regarding the future progress of the interchange, but in more recent years the estimates have been much alike.

FINDINGS

The gross liabilities of the railroad retirement system were estimated at 25.99 percent of taxable payroll—25.69 percent for future benefits and 0.30 percent for administrative expenses (table 1). To meet these liabilities, the system had existing and potential assets amounting to 25.58 percent of payroll, leaving an actuarial deficiency of 0.41 percent or \$18 million a year on a level basis. In relation to the gross level cost of almost 26 percent of payroll, the deficiency of 0.41 percent is rather small. Accordingly, it was concluded that, as of the valuation date, the system appeared to be in a reasonably sound actuarial condition.

A summary of the basic cost figures is presented in table 1. Table 2 gives a summary of cost calculations—in dollar amounts for former and present employees and as a percent of their own payroll for future entrants.

The distribution of benefit costs by type of benefits, given in table 3, shows that dependents' benefits available under the Railroad Retirement Act account for 34.0 percent of all benefit costs, a figure substantially higher than the OASDI figure of 27.5 percent derived from cost estimates

for the 1961 act.⁷ Though most railroad employees are male—a fact that gives rise to relatively more dependents' benefits—the benefit for the retired worker is and will be much higher in relation to dependents' benefits under the railroad retirement system than under OASDI. Because of these divergent influences, it was not possible to tell from a *a priori* considerations how the proportion of the cost attributable to dependents' benefits under the Railroad Retirement Act will compare with that estimated for the OASDI program.

Financial Interchange

The financial interchange between the railroad retirement and OASDI systems may be viewed as an arrangement whereby a part of the railroad retirement liabilities is reinsured with the OASDI system. More specifically, the OASDI trust funds are receiving from the railroad retirement account (but not directly from the employees or employers) taxes on railroad earnings. In return, they are required to turn over to the railroad account the savings in benefit payments resulting from the fact that railroad service is not covered under the Social Security Act.

⁷ Social Security Administration, Division of the Actuary, *Long-Range Cost Estimates for Old-Age, Survivors, and Disability Insurance System, 1963* (Actuarial Study No. 58), November 1963.

In practice, the benefit reimbursements consist of the difference between the OASDI benefits that would have been available on the basis of combined credits under the Railroad Retirement Act and the Social Security Act and the benefits actually paid on the basis of OASDI credits alone. The legal criterion is that the financial interchange should put the OASDI trust funds in the same position they would have been in if railroad service had been considered employment within the meaning of the Social Security Act since January 1, 1937.⁸

The estimated future operations under the financial interchange are traced in some detail in table 2. To obtain the net gain (or loss) to the railroad retirement system with respect to a particular group of employees, it is necessary to consider together the benefits OASDI would have paid on the basis of social security and railroad retirement credits combined, the benefits OASDI is actually paying on the basis of social security credits alone, and the payroll taxes due the OASDI funds under the interchange. The second of these items is of particular interest because it indicates the expected effects of dual benefits—that is, benefits payable directly under the Social Security Act to railroad retirement beneficiaries. Thus, for beneficiaries on the rolls, the dual bene-

⁸ Robert J. Myers, "Railroad Retirement Act Amendments of 1951: Financial and Actuarial Aspects," *Social Security Bulletin*, March 1952.

TABLE 2.—Actuarial balance sheet for the railroad retirement system as of Dec. 31, 1962¹

[Dollar amounts are present values in millions]

Item	Former and present railroad employees				Future entrants (percent of taxable payroll) ²
	Total	Benefits in force	Potential benefits		
			Retired and deceased employees	Active and inactive employees	
Assets	\$24,131	\$4,754	\$1,406	\$13,345	20.711
Funds on hand (accrual basis).....	4,626				
Prospective railroad retirement taxes.....	6,750			6,750	18.198
Net benefit reimbursements under financial interchange with OASDI, total.....	12,755	4,754	1,406	6,595	2.513
Benefit credits before reduction for future dual benefits ⁴	17,451	5,866	1,793	9,792	4.089
Deductions for future dual benefits ⁴	4,696	1,112	387	3,197	1.576
Liabilities	28,355	7,513	1,959	18,883	15.922
Benefits payable under Railroad Retirement Act, total.....	25,165	7,513	1,959	15,693	7.213
Retirement benefits.....	18,561	5,653	188	12,720	5.521
Survivor benefits.....	6,604	1,860	1,771	2,973	1.692
Payroll taxes to OASDI under financial interchange ³	3,190			3,190	8.709
Excess of liabilities over assets	\$ 4,224	2,759	553	5,538	-4.789

¹ For the program as amended through Oct. 5, 1963.

² Normal costs in terms of percents of their own taxable payroll.

³ Exceeds (in terms of absolute value) sum of horizontal dollar figures by the amount of funds on hand not distributed by class of employee.

⁴ Dual benefits refer to benefits payable directly to railroad retirement

beneficiaries by OASDI and deductible from the gross financial interchange credits computed on combined railroad and OASDI earnings.

⁵ Represents 94.5 percent of the applicable OASDI rates to allow for the difference between a \$4,800 annual limit on taxable compensation and a monthly limit of \$450.

TABLE 3.—Cost of benefits payable under the Railroad Retirement Act, by type of benefit, as of Dec. 31, 1962¹

Type of benefit	Percent of taxable payroll	Percent of total cost	Percent of cost for major category
All benefits.....	25.69	100.0	-----
Retirement benefits.....	19.08	74.3	100.0
Age annuities.....	15.38	59.9	80.6
Disability annuities ²	1.58	6.1	8.3
Spouses' annuities.....	2.12	8.3	11.1
Survivor benefits.....	6.61	25.7	100.0
Aged widows' annuities.....	5.23	20.4	79.1
Widowed mothers' annuities.....	.16	.6	2.4
Children's annuities.....	.57	2.2	8.6
Parents' annuities.....	.03	.1	.5
Insurance lump sums.....	.22	.9	3.3
Residual payments.....	.40	1.5	6.1

¹ For the program as amended through Oct. 5, 1963; excludes administrative expenses.

² Includes only the part of disability annuities payable before age 65; all other employee benefits included in "age annuities."

fit offset is about 19 percent of the gross benefit credits. For active and inactive employees—that is, employees alive and not retired on the valuation date—the proportion rises to 33 percent, and for future entrants who will complete 10 years of railroad service the ratio climbs to nearly 39 percent.

The overall results of the financial interchange also vary greatly among the several groups. For beneficiaries on the rolls, there should be a net future income to the system of \$4,754 million on a present-value basis. With respect to active and inactive employees, the system expects to realize a net gain of \$3,405 million (\$6,595 million minus \$3,190 million).

For future entrants, a loss equivalent to 6.20 percent of their taxable payrolls (8.71 percent minus 2.51 percent) is anticipated. There are three reasons for the loss with respect to future entrants: (1) Their dual benefits will be so extensive that they will cut down the benefit reimbursements; (2) taxes will be paid for all future entrants, but benefit credits will be received only for those who will have completed 10 or more years of railroad service;⁹ and (3) the taxes credited to OASDI will be higher for them than for present

⁹ The railroad retirement system does not pay benefits with respect to employees with less than 10 years of railroad service; the railroad credits are transferred to OASDI and used in the computation of benefits under that program. As a result, there are no benefit reimbursements for these employees. A similar situation holds for survivor benefits that are paid under the Social Security Act because the deceased employee lacked a current connection with the railroad industry at the time of his death.

employees because of the higher tax rates scheduled for the future. When the results for the several groups are combined, an overall gain of 3.92 percent of taxable payroll is obtained. This figure relates to an assumed taxable railroad payroll of \$4.3 billion a year. In terms of future taxable OASDI payrolls (under the 1961 act), this would be only 0.04–0.05 percent. Cost estimates for the Social Security Act as amended in 1961 give a cost figure of 0.04 percent of taxable payroll for the financial interchange with the railroad retirement system.

A few other facts from the actuarial balance sheet and its supporting data merit a closer look:

1. The net level cost, 18.24 percent of payroll, is 70 percent of the gross cost figure of 25.99. The 30-percent reduction is the result of funds on hand and expected gains from the financial interchange.
2. The cost of benefits to future entrants (analogous to an entry-age-normal cost figure for a private pension plan) is estimated at approximately 7.21 percent of their payroll. To the system, however, the cost for this group is 13.41 percent of their payroll because there will be a loss of 6.20 percentage points under the financial interchange. For future entrants who will complete 10 years of railroad service, the benefit cost will be 10.82 percent of their own payroll.
3. The deficit for present and former employees is estimated at \$4,224 million. This figure may be looked upon as an adjusted unfunded accrued liability, where the adjustment consists of (1) taking credit for future taxes according to the rates scheduled by law rather than at the entry-age-normal rate and (2) allowing for the expected gains from financial interchange. Without these two adjustments, the unfunded accrued liability figure would have been approximately \$17.7 billion. Since an unfunded accrued liability figure computed according to the traditional method is without practical relevance to a compulsory social insurance system, the \$17.7 billion figure is at best of theoretical interest only.

ASSUMPTIONS

It is generally recognized that an actuarial valuation is only as good as the assumptions used in its preparation. The problem of selecting proper assumptions acquires added importance in the case of the railroad retirement valuations because they are concerned not only with former and present employees but with future employees as well. Still more complexity is added by the financial interchange, which requires a set of special and rather unusual assumptions. Although a complete discussion of the assumptions under-

lying the ninth valuation is beyond the scope of this article, some of them should be noted.

Interest Rate

In all past valuations of the railroad retirement program, an interest rate of 3 percent was used because all special obligations issued to the account were subject to a 3-percent interest rate by statute. In the ninth valuation, however, the interest assumption had to be changed because of the investment policy introduced by the 1963 amendments. After study, it was decided to use a rate of 3 $\frac{5}{8}$ percent—a rate generally in line with the 3 $\frac{1}{2}$ percent used in the recent OASDI estimates for intermediate cost figures.

At the present time, all special obligations held by the railroad retirement account bear an interest rate of not less than 4 percent, and the fund as a whole is now averaging slightly more than 4 percent. For this reason and because of the lack of evidence that interest rates on Government securities are about to drop, the 3 $\frac{5}{8}$ -percent assumption may be considered conservative.

Future Payrolls

For the eighth valuation, a taxable payroll of \$4.3 billion a year was assumed. The limit on taxable earnings was then \$400 a month. For a \$450 limit on monthly compensation, the taxable payroll would have been \$4.7 billion. Because of the continuing shrinkage in railroad employment, it was necessary for the current valuation to adjust the payroll assumption downward. A taxable payroll of \$4.3 billion a year was assumed, approximately 10 percent less than the \$4.7 billion. The new assumption is based on an average employment figure of 800,000 persons.

The payroll assumption for the ninth valuation cannot be viewed as conservative; in fact, there are indications that it may be somewhat too optimistic. It is believed, however, that the interest assumption has enough margin to offset the lack of conservatism in the payroll assumption. Because of the financial interchange, moreover, a reduction in taxable payroll has less severe effects on net future costs than would otherwise have

been the case. The main reason for this rather curious phenomenon is that lower future payrolls imply fewer new entrants. A drop in the number of entrants, in turn, reduces the losses to the system with respect to future employees under the financial interchange. An increase in the gain from the financial interchange will obviously result in cutting down the addition to the net level cost that would be caused by the decrease in the payroll.

Retirement Rates

The rates of retirement at age 65 and over have been running considerably higher than the rates used in the eighth valuation. Accordingly, higher rates of normal retirement were introduced in the ninth valuation. It was also found necessary to increase slightly the rates of disability retirement for employees under age 60 with less than 20 years of service. An example of the retirement rates (per 1,000 eligible employees) used in the ninth valuation is given below.

Age	Disability retirement, years of service		Age retirement
	10-19	20 and over	
40.....	1.0	1.6	-----
50.....	4.2	7.2	-----
55.....	7.8	13.9	-----
60.....	31.5	31.5	-----
62.....	31.5	31.5	18
65.....	-----	-----	625
67.....	-----	-----	275
70.....	-----	-----	580

Dual Benefits

The assumptions relating to the incidence of dual benefits were the same as in the preceding valuation. The amounts of such benefits, however, were changed in some instances. The dual benefit rates are graded by age and duration of railroad service on the valuation date. The benefit amounts are also graded according to these characteristics. For present employees who will retire directly from railroad service, the rates of incidence of dual benefits range from 15 percent to 90 percent, and for future entrants the range is from 25 percent to 100 percent. The incidence rates of dual benefits are even higher for disability retirements.

With respect to retirements after withdrawal from railroad service, a 100-percent eligibility for dual benefits was assumed throughout. These high incidence rates account for the large dual benefit offset under the financial interchange, shown in table 2.

Mortality and Remarriage

All mortality and remarriage tables used in the ninth valuation are based on the Board's own experience. For men, the mortality standards are the same as those used in the preceding valuation. For women, a new mortality table and a new remarriage table were constructed.

The mortality tables are "without projection"—that is, they do not allow for future reductions in death rates. A form of projection is introduced, however, by using for younger present employees and all future entrants a 1-year rateback in age—

that is, they are considered to be 1 year younger than their actual age. For the older groups of employees and for employees already retired, the basic mortality table is used without adjustment.

CONCLUSIONS

The ninth valuation of the railroad system gives a reasonably accurate appraisal of the actuarial condition of the system as it is now constituted. If there are no material changes either in the body of law or in experience patterns, the system should be able to meet its obligations for a long time to come without significant adjustments in its financial structure. Changes of one kind or another are to be expected, but the inherent flexibility of the railroad retirement system gives assurance that proper adjustments in its financing will be made if and when they are needed.

Recent Publications*

SOCIAL SECURITY ADMINISTRATION

DIVISION OF RESEARCH AND STATISTICS. *Social Security Programs in the United States*. Washington: U. S. Govt. Print. Off., 1964. 61 pp.

Describes the basic public programs—old-age, survivors, and disability insurance, unemployment insurance, workmen's compensation, temporary disability insurance, and public assistance—as well as programs for special groups and voluntary insurance and private health and pension plans.

GENERAL

FUTTERMAN, J. S. "Registration and Maintenance of Accounts in the U. S. Social Security Scheme." *Bulletin of the International Social Security Association*, vol. 17, Mar.-Apr. 1964, pp. 92-100. 60 cents.

HUMPHREY, HUBERT H. *War on Poverty*. New York: McGraw-Hill Book Company, 1964. 206 pp. \$4.95.

What we can and must do to eliminate poverty.

INTERNATIONAL LABOR CONFERENCE. (49th Session, 1965.) *The Employment of Women with Family Responsibilities*. Geneva: International Labor Office, 1964. 36 pp. (Report V(1).)

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JACOBSON, PAUL H. "Increase in Survivorship Since 1840." *Metropolitan Life Insurance Company Statistical Bulletin*, vol. 45, Aug. 1964, pp. 1-3.

LYKOVA, LYDIA. "Social Security in the USSR: Present and Future." *USSR*, No. 19(97), Oct. 1964, p. 56. 35 cents.

Summary prepared in connection with the Fifteenth General Assembly of the International Social Security Association.

PRASIL, VLADIMIR. "Training Courses in Social Security Administration in Czechoslovakia." *Bulletin of the International Social Security Association*, vol. 17, Mar.-Apr. 1964, pp. 101-106. 60 cents.

NETTER, FRANCIS. "Problems of Decision-Making in Social Security Administration." *Bulletin of the International Social Security Association*, vol. 17, Mar.-Apr. 1964, pp. 71-79. 60 cents.

Focuses chiefly on problems in family allowance programs.

SOMMERS, ALBERT T. "The Economic Environment of the Middle Sixties." *Conference Board Record* (National Industrial Conference Board), vol. 1, Sept. 1964, entire issue.

Considers (1) the dying boom, (2) the counterattack on stagnation, and (3) the wave of the future.

"Twelve Principles of Social Security." *World Medical Journal*, vol. 2, Sept. 1964, pp. 288-289. \$1.50.

Role of the doctor in social security systems.

U. S. DEPARTMENT OF LABOR. BUREAU OF LABOR STATISTICS. *Labor Mobility and Private Pension Plans: A*

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