# Twenty-Third Actuarial Valuation

## of the Assets and Liabilities Under the Railroad Retirement Acts as of December 31, 2004

**U.S. Railroad Retirement Board**
**Bureau of the Actuary**
**Chicago, Illinois**

UNITED STATES OF AMERICA
RAILROAD RETIREMENT BOARD
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# STATEMENT OF THE RAILROAD RETIREMENT BOARD

Section 15(g) of the Railroad Retirement Act of 1974 requires that the Railroad Retirement Board, at intervals not longer than three years, estimate the liabilities created by the Act and include the estimate in its annual report. Section 22 of the Railroad Retirement Act of 1974 requires that the Board submit to the President and the Congress, by July 1 of each year, a report containing a five-year projection of the revenues to and payments from the Railroad Retirement Account. Section 502 of the Railroad Retirement Solvency Act of 1983, Public Law 98-76, requires that the Board submit to the Congress, by July 1 of each year, a report on the actuarial status of the railroad retirement system. The 23rd valuation was prepared by the Board's Chief Actuary and meets these requirements. The Actuarial Advisory Committee reviewed the valuation as to assumptions and methods as required by Section 15(f) of the Railroad Retirement Act.

The Chief Actuary's report describes the results of three valuations, each valuation differing from the others as to the employment assumption on which it is based. Cash flow problems occur only under the most pessimistic employment assumption. Even under that assumption, the cash flow problems do not occur until the year 2042.

Section 502 of the Solvency Act requires recommendations with respect to tax rates and whether any part of the taxes on employers should be diverted to the Railroad Unemployment Insurance Account to aid in the repayment of any debt to the Railroad Retirement Account. The Chief Actuary's report does not recommend a change in the tax rate, nor does it recommend a diversion of taxes from the Railroad Retirement Account to the Railroad Unemployment Insurance Account.

The Board Members believe that the 23rd valuation presents a fair picture of the financial condition of the railroad retirement system, and we support the conclusions reached in the report.

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The Railroad Retirement Board wishes to thank the members of the Actuarial Advisory Committee for their assistance in this important project.

Michael S. Schwartz

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STATEMENT OF THE ACTUARIAL ADVISORY COMMITTEE
May 24, 2006

This statement sets forth the Committee's review of the twenty-third actuarial valuation of the railroad retirement system. This valuation, performed as of December 31, 2004, was completed in the spring of 2006 by Mr. Frank J. Buzzi, Chief Actuary of the Railroad Retirement Board, and his staff. In both the planning and carrying out of the valuation, the Committee has counseled with Mr. Buzzi as to the structure, actuarial methods, actuarial assumptions, and procedures of the valuation and as to the scope and content of his report. In all, the Committee has met with the Chief Actuary on August 2, 2005, January 23, 2006, and May 24, 2006, for the purpose of reviewing and discussing the significant elements of the twenty-third valuation.

The Committee believes that the actuarial assumptions are reasonable and that the valuation results present a fair picture of the financial condition of the railroad retirement system.

Section 502 of the Railroad Retirement Solvency Act requires the Board to report to Congress on the actuarial status of the railroad retirement system each year. The report must include recommendations for any desirable financing changes. The Chief Actuary recommends no change in payroll tax rates under the railroad retirement system.

The Chief Actuary's report indicates that the average cost of the program over the projection period as measured by the excess of present value of tier 2 payroll taxes over the actuarial surplus ranges from 14.19% to 18.63% of payroll, depending on assumed future employment levels. This compares to a range of 17.55% to 22.76% of payroll in the twenty-second valuation.

The Committee acknowledges the valuable help of the Board, the Chief Actuary and his staff in the Committee's review of this valuation.

Respectfully submitted,

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# REPORT OF THE ACTUARY

## I. INTRODUCTION

Section 15 of the Railroad Retirement Act of 1974 requires that the Railroad Retirement Board, at intervals of not more than three years, prepare actuarial valuations of the railroad retirement system.

Section 22 of the Railroad Retirement Act of 1974 requires the Railroad Retirement Board to prepare an annual report containing a five-year projection of revenues to and payments from the Railroad Retirement Account and to submit the report to the President and the Congress by July 1. This report must also contain a five-year projection of the account benefits ratio and average account benefits ratio. If the five-year projection indicates that funds in the Railroad Retirement Account will be insufficient to pay full benefits, (1) representatives of railroad employees, railroad carriers and the President must submit proposals to the Congress to preserve the financial solvency of the Railroad Retirement Account, and (2) the Railroad Retirement Board must issue regulations to reduce annuity levels during any fiscal year in which there would be insufficient funds to make full payments.

Section 502 of the Railroad Retirement Solvency Act of 1983 requires the Railroad Retirement Board to prepare an annual report on the actuarial status of the railroad retirement system and to submit the report to the Congress by July 1. The report must contain recommendations for any financing changes which might be advisable, including (1) changes in the tax rates, and (2) whether any part of the taxes on employers should be diverted to the Railroad Unemployment Insurance Account to aid in the repayment of any debt to the Railroad Retirement Account.

This report, the 23rd actuarial valuation, is intended to meet these three requirements for 2006.

## II. SUMMARY OF RECENT DEVELOPMENTS AND RESULTS

Recent actuarial reports have discussed in detail the importance of the level of railroad employment to the railroad retirement system's financial stability. The payroll tax on railroad employment has been the major source of income to the system since its establishment in the 1930's. It is clear that the fewer railroad workers there are, the less money the retirement account collects in payroll taxes, and the more likely the system is to require additional funds. Declines in railroad employment over a long period, coupled with inflation and subsequent benefit increases, required legislation to strengthen the system's financial condition in 1974, 1981, 1983, and 1987.

The 22nd valuation (2003 actuarial report) projected a surplus of 0.24 percent of tier 2 payroll and an average tier 2 tax rate of 20.07 percent under the intermediate employment assumption. Favorable employment and investment experience have combined to produce higher trust fund balances, which in turn have produced lower projected taxes due to the tier 2 tax rate schedule. The surplus has increased to 0.33 percent of tier 2 payroll, and the average tier 2 tax rate has decreased to 16.52 percent. The combined effect of a 3.55 percent of payroll reduction in projected future tier 2 tax rates and a 0.09 percent of payroll increase in projected surplus results in an overall improvement equal to 3.64 percent of tier 2 payroll.

The 23rd valuation has been prepared under three assumptions as to the future behavior of railroad employment. These employment assumptions are similar to the employment assumptions used in the 22nd valuation. Employment assumptions I and II are based on the stability of employment in passenger service (Amtrak and commuter service) as distinguished from freight service. Employment assumption III follows the structure of assumptions I and II, except that it has declines in passenger employment and steeper declines in freight employment than employment assumptions I and II. Employment assumptions I, II and III are intended to provide an optimistic, moderate and pessimistic outlook, respectively. The specific results of the projections made in this report of the railroad retirement system's financial condition are as follows:

1. Under employment assumption I, the average tier 2 tax rate is 14.52 percent, and an actuarial surplus of 0.33 percent of tier 2 payroll exists as of December 31, 2004. There are no cash flow problems during the 75-year projection period, and the tier 2 payroll tax rate ranges from 8.2% to 18.0%.

2. Under employment assumption II, the average tier 2 tax rate is 16.52 percent, and an actuarial surplus of 0.33 percent of tier 2 payroll exists as of December 31, 2004. There are no cash flow problems during the 75-year projection period, and the tier 2 payroll tax rate ranges from 8.2% to 18.0%.

3. Under employment assumption III, the average tier 2 tax rate is 18.91 percent, and an actuarial surplus of 0.28 percent of tier 2 payroll exists as of December 31, 2004. Cash flow problems arise in 2042 and remain into 2052. There are no cash flow problems from the close of 2052 to the end of the projection period, and the tier 2 payroll tax rate ranges from 8.2% to 27.0%.

The average tier 2 tax rate is calculated by dividing the present value of tier 2 payroll taxes by the present value of tier 2 payroll as of January 1, 2005. The surplus or deficiency figures given above represent the change in the average tier 2 tax rate which would produce a balance of zero in the combined National Railroad Retirement Investment Trust, Railroad Retirement Account and Social Security Equivalent Benefit Account at the end of the 75-year projection period.

The conclusion is that, barring a sudden, unanticipated, large drop in railroad employment or substantial investment losses, the railroad retirement system will experience no cash flow problems during the next 36 years. The long-term stability of the system, however, is not assured. Under the current financing structure, actual levels of railroad employment and investment return over the coming years will determine whether additional corrective action is necessary.

As mentioned earlier, this report is intended to meet the requirements of Section 502 of the 1983 Solvency Act. Section 502 requires recommendations with regard to (1) the tax rates and (2) whether any part of the taxes on employers should be diverted to the Railroad Unemployment Insurance Account to aid in the repayment of its debt to the Railroad Retirement Account.

1. This report recommends no change in the rate of tax imposed on employers and employees.

The tier 2 tax rate schedule maintains a close balance between the present value of future income and expenditures. Although future financing problems are projected to occur under employment assumption III, as discussed above, the absence of projected cash flow problems for at least 36 years under each employment assumption indicates that an immediate change in the tax rate schedule is not required.

2. No diversion of taxes from the Railroad Retirement Account to the Railroad Unemployment Insurance Account is recommended. As of May 24, 2006, there are no loans outstanding from the Railroad Retirement Account to the Railroad Unemployment Insurance Account.

Section V of this report presents details of the valuations under the three employment assumptions.

## III. REGULAR AND SUPPLEMENTAL BENEFITS AND THEIR FINANCING

The Appendix contains a detailed description of the provisions of the current law. Sections III and IV provide a more general summary of the law.

Amounts available for payment of railroad retirement benefits are held in four Accounts: the National Railroad Retirement Investment Trust (NRRIT), the Railroad Retirement (RR) Account, the Social Security Equivalent Benefit (SSEB) Account, and the Dual Benefits Payments Account. Because of their intertwined nature, the NRRIT, RR Account and SSEB Account are discussed together in this section. Dual benefits and the Dual Benefits Payments Account are discussed in a separate section, Section IV.

Amounts held in the NRRIT, RR Account and SSEB Account are mainly used to pay monthly benefits to retired or disabled employees, their spouses, and survivors. The various types of benefits and their eligibility requirements are described in the Appendix. The Accounts also pay out relatively small amounts in lump sums to employees and their survivors in certain cases. The monthly benefits consist of three components, known as tier 1, tier 2 and supplemental annuity.

For all categories of recipients, the gross tier 1 benefit is generally equivalent to the benefit that the social security system would pay if all the employee's earnings (railroad and non-railroad) had been covered under the Social Security Act. Any benefit actually received from social security is subtracted to determine the net tier 1 benefit payable. Section IV explains the logic behind this determination. The cost-of-living increase paid to social security beneficiaries automatically carries over to the tier 1 component of railroad retirement annuities.

There are some differences between social security benefits and tier 1 benefits. The most significant are as follows:

1. An employee may not retire before age 62 under the social security system. Under the railroad retirement system, an employee may retire at age 60 with 30 years of service. A spouse of a 30-year employee may also retire at age 60. If the employee retired after 2001, there is no age reduction in either case.

2. Railroad retirement pays an occupational disability benefit under tier 1 and tier 2. Social security requires total and permanent disability. The same five-month waiting period applies under both systems.

3. Widow(er)s who retire at age 60 or 61 under railroad retirement are deemed age 62 in the computation of the tier 1 benefit, resulting in a smaller age reduction than under social security.

4. From the start of the railroad retirement system through 1984, earnings up to a monthly maximum amount were taxed and credited for benefit computation purposes. Social security has always used an annual earnings limit. The 1983 Solvency Act changed railroad retirement to an annual earnings limit for 1985 and later years, but benefit computations for new beneficiaries will reflect the pre-1985 use of a monthly limit for many years into the future. All benefits awarded before 1985 reflect a monthly limit exclusively.

The formula used to compute the tier 2 component of railroad retirement is comparable to a private pension formula. Under the formula adopted in 1981, the employee tier 2 benefit is equal to 0.7 percent of the employee's average monthly railroad earnings for the 60 months of highest earnings, multiplied by the number of years of railroad service, less 25 percent of any vested dual benefit. Unlike private pensions, tier 2 benefits (1) provide automatic cost-of-living increases, and (2) are paid to spouses and survivors without any reduction in employee benefit for the payment of these auxiliary benefits.

The tier 2 benefit for spouses is equal to 45 percent of the employee's tier 2 benefit. The survivor's tier 2 benefit is a specified percentage of the employee's tier 2 benefit. The Appendix lists the percentages and describes an initial minimum widow(er)’s amount which became payable beginning in calendar year 2002.

The tier 2 cost-of-living increases for employees, spouses and survivors are equal to 32.5 percent of the percentage increase which is used in computing social security increases (and tier 1 increases). The increase is paid at the same time as the tier 1 cost-of-living increase.

The portion of tier 1 benefits which is considered equivalent to social security benefits is subject to Federal income tax under the rules that apply to social security benefits. Tier 2 benefits, the portion of tier 1 benefits in excess of social security benefits, supplemental annuity benefits, and vested dual benefits are subject to Federal income tax under the rules that apply to private pensions.

A railroad retiree may receive a supplemental annuity in addition to his regular annuity if (1) the retiree has a "current connection" with the railroad industry at the time of retirement, and (2) the retiree has attained age 65 with 25 years of railroad service, or attained age 60 with 30 years of railroad service. A current connection is generally defined as at least 12 months of railroad service in the 30 months preceding retirement.

The 1981 amendments added the requirement that an employee must have worked in the railroad industry before October 1, 1981, to receive a supplemental annuity. This provision will result in

phasing out the supplemental annuity over a long period. The first effect will not occur until October 2006. The last supplemental annuity check will probably not be paid until after 2060.

The monthly supplemental annuity benefit is $23, plus $4 for each year of service in excess of 25, with a maximum benefit of $43. No cost-of-living increases are applied. Spouses and survivors do not receive a supplemental annuity.

If the recipient of a supplemental annuity receives a private pension from his railroad employer, the supplemental annuity is reduced by the portion of the private pension that is attributable to the employer's contributions. This reduction is not made if the private pension is reduced for receipt of the supplemental annuity.

Benefits paid from the NRRIT, RR Account and SSEB Account are financed by the following sources of income:

1. Payroll tax. Employees and employers pay a tax at the social security rate on earnings in a year up to the social security, or tier 1, earnings limit. (The Medicare hospital insurance portion of this rate is not subject to an earnings limit.) This tax is called the tier 1 tax. In addition, employers and employees pay a tier 2 tax equal to a percentage of the employee's earnings up to the tier 2 earnings limit. The tier 2 earnings limit is what the social security limit would be if the 1977 social security amendments had not been enacted. The 2006 earnings limits are $94,200 and $69,900 for tier 1 and tier 2, respectively.

   Tier 2 taxes on both employers and employees are based on a 10-year average of the ratio of certain asset balances to the sum of benefits and administrative expenses (the average account benefits ratio). Depending on the average account benefits ratio, the tier 2 tax rate for employers will range between 8.2 percent and 22.1 percent, while the tier 2 tax rate for employees will be between 0 percent and 4.9 percent. This calculation is described in the Appendix.

2. Income tax. The tax on tier 1 benefits up to the social security level is credited to the SSEB Account and then to social security through the financial interchange. Revenue derived from taxing RR Account benefits (tier 2 and the excess of tier 1 over the social security level) is transferred to the RR Account.

3. Investment income.

4. The financial interchange with the social security system. This extremely important arrangement, which will be discussed in detail in Section IV, has resulted in the large annual lump sum transfers of money from social security to railroad retirement shown in Table 11.

5. Advances from general revenues related to certain features of the financial interchange. Financial interchange transfers are made in a lump sum for a whole fiscal year in the June following the end of that fiscal year. For example, the transfer reflecting transactions which occurred from October 2003 through September 2004 (fiscal year 2004) took place in June 2005. At any time, therefore, there are between 9 and 21 months' worth of financial

interchange transfers that are, in a sense, owed to the railroad retirement system. Railroad retirement receives interest on this money, so this practice does no long-term harm to the financial condition of the railroad retirement system. The lag in the transfers, however, could cause short-term cash flow problems.

In order to avoid the cash flow problems caused by this lag, the 1983 Solvency Act provided for monthly loans to railroad retirement from U.S. Treasury general funds. Each loan is equal to the transfer the Railroad Retirement Board estimates railroad retirement would have received in the preceding month, with interest, if the financial interchange with social security were on an up-to-date basis. Railroad retirement must repay these loans when it receives the transfer from social security against which the money was advanced.

The 1983 Solvency Act created the SSEB Account, effective October 1, 1984. Before that date, all tier 1 benefits, tier 2 benefits, lump sums and administrative expenses had been paid from the RR Account, and all the income described above had been credited to the RR Account. Since then, the SSEB Account has paid the social security level of benefits and the administrative expenses allocable to that level of benefits. The tier 1 portion of the payroll tax, the income taxes on the social security level of benefits, the income from the financial interchange, and the advances from general revenues are credited to the SSEB Account. Repayment of the advances is made from the SSEB Account.

The Railroad Retirement and Survivors' Improvement Act of 2001 created the National Railroad Retirement Investment Trust to manage and invest amounts collected in the RR Account and SSEB Account. The portion of the RR Account that is not needed to pay current administrative expenses and the balance of the SSEB Account not needed to pay current benefits and administrative expenses must be transferred from time to time to the NRRIT in such manner as will maximize investment returns to the Railroad Retirement system.

## IV. DUAL BENEFITS, THEIR FINANCING, AND THE FINANCIAL INTERCHANGE

In the early 1950's, an arrangement known as the financial interchange was established between the railroad retirement and social security systems. The purpose of the financial interchange is to place the social security trust funds in the same financial position they would have been if railroad employment had always been covered under social security. If railroad employment had been covered under social security, social security would have collected taxes on railroad employment, and it would have paid benefits based on railroad employment. Under the financial interchange, the railroad retirement system gives the social security system the taxes social security would have collected, and the social security system gives the railroad retirement system the additional benefits social security would have paid to railroad workers and their families over what it actually pays them.

The word "additional" in the preceding sentence is important, because it is possible for a railroad employee to be covered under both railroad retirement and social security. The social security coverage may be based on earnings from moonlighting while in a railroad job or from coverage under the two systems at different times. Fulfilling the purpose of the financial interchange requires

deducting from social security's fund only the difference between what social security would have paid had it covered railroad employment, and what it actually pays the person based on his non-railroad employment. Under the financial interchange, therefore, social security subtracts an employee's social security benefit from the amount it would otherwise give to the railroad retirement system.

This arrangement gave rise to problems that became acute in the early 1970's. The problems arose from the weighting in the social security formula in favor of low-earning, short-service workers. A railroad employee's non-railroad earnings usually added little to the benefit social security would have paid on combined railroad and non-railroad earnings (called gross tier 1 today). However, the employee might qualify for the minimum social security benefit, receiving much more from social security than his non-railroad earnings added to his gross tier 1 benefit.

The following example of two hypothetical employees may clarify the problem. The size of the benefits is appropriate to the early 1970's. The employees are assumed to have identical dates of birth, dates of retirement, and histories of railroad earnings. One employee, however, is assumed to have had just enough covered employment under social security to qualify for a social security benefit. (The difference in railroad retirement benefits arises from minor reductions in the 1937 Act formula for receipt of a social security benefit.)

| | | Eligible for social security | Not eligible for social security |
|---|---|---|---|
| A. | Railroad retirement benefit | $380 | $400 |
| B. | Social security benefit | 100 | - |
| C. | Total benefit, A + B | 480 | 400 |
| D. | Social security benefit on combined earnings (gross tier 1) | 240 | 220 |
| E. | Financial interchange transfer from social security to railroad retirement, D – B | 140 | 220 |
| F. | Amount to be financed by excess of railroad retirement taxes over social security taxes, A – E | 240 | 180 |

Two conclusions are apparent. First, the employee with benefits under both systems received an advantage over the career railroad worker, which many considered unfair. In the example, the employee who is eligible for social security collects $80 more than the employee who is not eligible (the difference in line C), while, under a completely integrated system, the social security earnings would have added only $20 (the difference in line D). Second, because social security subtracted the social security benefit in calculating the financial interchange transfer, railroad retirement paid most of the cost of these benefits. In the example, this is represented by the $60 difference in line F.

This situation was a major cause of the poor financial condition of the railroad retirement system in the early 1970's. In order to improve the system's financial condition, the Railroad Retirement Act of 1974 provided that the tier 1 component of the railroad retirement annuity be reduced by any

social security benefit. This essentially integrated the two systems and eliminated the advantage of qualifying for benefits under both systems.

However, it was generally considered unfair to eliminate this advantage entirely for those already retired or close to retirement when the 1974 Act became effective. The 1974 Act, therefore, provided for a restoration of social security benefits that were considered vested at the end of 1974. The restored amount is known as the "vested dual benefit." This benefit was available to qualifying spouses and survivors as well as to qualifying employees.

For employees retiring in 1975 or later, the vested dual benefit was to be equal to

(1) a social security benefit based on social security earnings, plus

(2) a social security benefit based on railroad earnings, minus

(3) a social security benefit based on combined railroad and social security earnings.

Social security or railroad earnings after 1974 were not to be included in this calculation. The "social security benefit" referred to in (1), (2) and (3) is the one which would have been calculated at the end of 1974. The resulting amount was to be increased by all the automatic social security cost-of-living adjustments between 1974 and the date the employee retired.

For spouses and survivors, the formulas were different and more complicated than those for employees.

The 1981 amendments made significant changes regarding vested dual benefits. Spouses and survivors were not to be awarded vested dual benefits after August 13, 1981, though they would continue to receive these benefits if they were awarded before that date. Also, vested dual benefits awarded to employees would take into account cost-of-living increases only through 1981, rather than through the date of retirement.

Since October 1981, vested dual benefits have been paid from a segregated Dual Benefits Payments Account, and appropriations have been made to that account. This means that, starting in fiscal year 1982, each annual appropriation is to be sufficient to pay the benefits for that year. If the appropriation for a fiscal year is less than required for full funding, the Railroad Retirement Board must reduce benefits to a level that the amount appropriated will cover.

The appropriation for vested dual benefits in fiscal year 1982 was less than required for full funding, resulting in a cutback in benefits during that year. Full funding was restored for the last two months of fiscal year 1982. The appropriation was less than required in fiscal year 1986, resulting in a cutback during April-September of that year. The appropriation was again less than required in fiscal year 1988, which resulted in a cutback during April-September. Benefits were cut back in January 1996 due to a lapse in government funding and then restored later that same month. For years other than those mentioned, full benefits have been paid.

## V. ASSUMPTIONS, METHODOLOGY, AND VALUATION RESULTS

### A. Assumptions and Methodology

Average railroad employment is assumed to be 233,000 in 2005 under each of the three employment assumptions. This is the estimated average for the year (subject to later adjustment) and exceeded the range projected for 2005 under the employment assumptions contained in the 2005 actuarial report.

Employment assumptions I and II, based on a model developed by the Association of American Railroads, assume that (1) passenger employment will remain at the level of 43,000, and (2) the employment base, excluding passenger employment, will decline at a constant annual rate (1.0 percent for assumption I and 2.5 percent for assumption II) for 25 years, at a reducing rate over the next 25 years, and remain level thereafter.

Employment assumption III differs from employment assumptions I and II by assuming that (1) passenger employment will decline by 500 per year until a level of 35,000 is reached and then remain level, and (2) the employment base, excluding passenger employment, will decline at a constant annual rate of 4.0 percent for 25 years, at a reducing rate over the next 25 years, and remain level thereafter.

The assumed rates of decline in freight employment are 0.5% lower during the first 25 years under each employment assumption than assumed in the 22$^{nd}$ valuation.

Because inflation has been fairly stable at relatively low levels in recent years, only one set of earnings and price inflation assumptions was used in this valuation. The ultimate earnings increase and cost-of-living increase assumptions are the same as those used in the previous valuation. The ultimate interest rate assumption has decreased from 8.0% in the 22$^{nd}$ valuation to 7.5% in the 23$^{rd}$ valuation. Table 1 shows the employment, inflation and interest rate assumptions used in the 23$^{rd}$ valuation. A comparison of historical and projected employment is illustrated in Figure 1.

Only one combination of non-economic assumptions (for example, rates of mortality, disability, retirement, and withdrawal) was used in this valuation. These assumptions, some of which were changed from the previous valuation to reflect recent experience, are discussed in the Technical Supplement to this report.

Projections were made for the various components of income and outgo under each employment assumption for the 75 calendar years 2005-2079. The projections of these components were combined and the investment income calculated to produce the projected balances in the combined NRRIT and RR Account and in the SSEB Account separately for each year. The results are summarized in Table 2. Present values of the various components of NRRIT and RR Account income and outgo were calculated by discounting amounts in each projection year to December 31, 2004, using the interest rate series shown in Table 1. The present values were combined to calculate the NRRIT and RR Account actuarial surplus or deficiency. The derivation of the surplus or deficiency appears in Table 6.

## B. Valuation Results

This section sets forth the results of the valuation in the form of a discussion of the tables in which the results appear. Because it is desirable for the discussion of a table to be reasonably self-contained, there is some repetition between tables and between this section and preceding sections of this report.

Table 2. Progress of the National Railroad Retirement Investment Trust (NRRIT), Railroad Retirement (RR) and Social Security Equivalent Benefit (SSEB) Accounts. Projections were made for the various components of income and outgo under each employment assumption for the 75 calendar years 2005-2079. The projections of these components were combined and the investment income calculated to produce the projected balances in the combined NRRIT and RR Account, and the SSEB Account at the end of each projection year. The results are summarized in Table 2.

Table 2 consists of three tables, one for each of employment assumptions I, II, and III. The tables show, for the SSEB Account and the combined NRRIT and RR Account for each projection year, (1) the various elements of income and outgo, (2) the account balance on December 31, and (3) the account benefits ratio, average account benefits ratio and combined employer and employee tier 2 tax rate.

The balances of the RR Account and NRRIT are combined because amounts not needed to pay current administrative costs are transferred from the RR Account to the NRRIT for investment. The SSEB Account is assumed to maintain a target balance of approximately 1.5 months of benefit payments in order to meet benefit obligations and contingencies, and transfer any excess to the NRRIT.

Table 2 indicates that no cash-flow problems arise under employment assumptions I and II (Tables 2-I and 2-II).

Under employment assumption I, the combined account balance grows through 2015, declines slightly in 2016 and then continues to grow through the end of the projection period. The combined employer and employee tier 2 tax rate decreases to 15% in 2011, increases to 18% in 2020-2028, decreases to 8.2% in 2040-2078 and then increases to 10.0% in 2079.

Under employment assumption II, the combined account balance grows to $31,730 million in 2010, decreases to $29,592 million in 2023, and grows thereafter through the end of the projection period. The combined employer and employee tier 2 tax rate decreases to 15% in 2011, increases to 18% in 2018-2051, and then decreases until reaching the minimum rate of 8.2% in 2064-2079.

Under employment assumption III, the combined account balance grows to $31,260 million in 2010, and then it begins to decline (Table 2-III). The balance becomes negative in 2042. Negative after-transfer balances indicate the amount that would be owed, including interest, if unreduced benefits were paid by borrowing from some unknown source. The combined account deficit grows until 2047, when the balance reaches -$2,232 million. The balance then begins to improve, and it becomes positive in 2052. The combined employer and employee tier 2 tax rate decreases to 16% in 2007-2015, increases to the maximum rate of 27% in 2031-2064 and then decreases until

reaching the minimum rates of 8.2% in 2075-2079. Under this assumption, the tax rate mechanism does not respond quickly enough to avoid cash flow problems.

Table 3. Present value of benefits in millions of dollars. This table shows, for each employment assumption, the present value of tier 2 benefits, supplemental annuity benefits and the portion of tier 1 benefits which exceeds the social security level of benefits. The portion of tier 1 benefits in excess of the social security level is referred to as "tier 1 liability." The most important components of this liability were described in Section III. Supplemental annuity benefits are included with tier 2 benefits in this table. The present values are shown separately by type of beneficiary (employee, spouse, survivor) and by employee status on the valuation date (retired, retired and deceased, active, inactive, future entrants).

Table 4. Present value of benefits as a percentage of the present value of tier 2 payroll. The format for this table is the same as for Table 3. Each number in Table 4 was obtained by dividing the corresponding number in Table 3 by the appropriate present value of one percent of tier 2 payroll. The payroll figures are shown in Table 6.

Table 5. Balance of the Railroad Retirement and Social Security Equivalent Benefit Accounts as of December 31, 2004. This table derives the balance in the accounts as of December 31, 2004. No accrual adjustments are made either for financial interchange amounts due and unpaid on that date or for benefits due on January 3, 2005, because these amounts are included in the projected future cash flows.

Table 6. Actuarial surplus or (deficiency) for National Railroad Retirement Investment Trust and Railroad Retirement Account. The top half of Table 6 expresses the asset and liability components of the actuarial balance as present values in dollars. The bottom half expresses these components as a percentage of tier 2 payroll. The actuarial surplus or deficiency was calculated for the NRRIT and RR Account, but not for the SSEB Account, for the following reason.

The SSEB Account pays the social security level of benefits and administrative expenses allocable to those benefits, and it receives as income the social security level of taxes. If there were no other source of income or outgo during the course of a year, a surplus or deficiency would build up, depending on whether taxes exceeded or were less than benefits. However, the SSEB Account also receives or pays any financial interchange transfers. The financial interchange transfer, subject to qualifications described in the next paragraph, should be enough to offset any surplus or deficit for the year. Furthermore, this would be the case even if the social security level of benefits or taxes are raised or lowered. The SSEB Account can thus be regarded as automatically funded, the financial interchange being the mechanism for correcting any surplus or deficiency. Therefore, the concept of actuarial balance is not meaningful when applied to the SSEB Account.

The qualification mentioned above arises because, in a relatively small number of cases, the railroad retirement system does not pay benefits when social security would pay benefits. In these cases, mainly dependent children of retired railroad employees, the SSEB Account collects an amount through the financial interchange but does not pay a corresponding benefit. This imbalance between outgo and income is transferred from time to time to the NRRIT. The value of these

transfers, or amounts available for transfer, is included as an asset in Table 6 as “Available from SSEB Account.”

Revenue derived from taxing NRRIT and RR Account benefits (tier 2 and the excess of tier 1 over the social security level) is transferred to the RR Account. The present value of these transfers is shown as an asset in Table 6 as “Income taxes on benefits.”

The cost of the system to the railroad industry may be considered as the excess of “Retirement taxes” over “Actuarial surplus or (deficiency).” Table 6 shows that the cost of the system is much more stable when expressed in dollars than when expressed as a percentage of payroll. For example, the cost of the system under employment assumption III is $40,841 million, or 18.63 percent of payroll; whereas the cost under employment assumption I is $45,615 million, or 14.19 percent of payroll. Using employment assumption III as the base, the percentage cost variation in dollars between the two valuations is 11.69 percent. As a percentage of payroll, the percentage cost variation is 23.83 percent.

Table 7. Minimum contribution required under ERISA. The railroad retirement system is specifically exempt from the minimum funding provisions of the Employee Retirement Income Security Act (ERISA). In the past, there has been some interest in what the contribution requirement of the system would be if this were not the case. The following discussion is limited to the regular minimum funding standard for multiemployer plans.

The funding goal of the railroad retirement system is to receive enough funds each year to cover benefits and expenses for the year and to maintain a reasonable account balance. In terms of the participants in the system, payroll taxes collected each year from rail employers and employees are used to pay benefits to rail retirees, their spouses and survivors. In contrast, ERISA essentially requires that pension plans be "advance-funded." Under this arrangement, the goal is to receive enough funds each year over the employees' working lifetimes to fully fund their retirement benefits.

ERISA recognizes that when a private pension plan is initiated, it will usually have an "accrued liability." This liability represents the value placed on future benefits and expenses of the plan that is attributable to employee service preceding the date of the plan (often referred to as "past service"). As such, the liability might be measured by the amount that would have been accumulated if contributions to fund each employee's benefits had been made from the time employment began. Since a new plan would have no funds at the time it is initiated, the accrued liability is also the unfunded accrued liability. The unfunded accrued liability is specifically identified by ERISA, because ERISA has separate funding rules for benefits based on past and future service.

In the case of an existing pension plan which becomes subject to ERISA funding standards, as for a new plan, the accrued liability must be determined. This determination is made based on employee service preceding the date the plan becomes subject to ERISA standards, but taking into account projected future levels of employee pay. The unfunded accrued liability for an existing plan is the excess of the accrued liability over the funds on hand.

Table 7 illustrates what the minimum funding requirements would be for the railroad retirement system as of December 31, 2004, using the entry age normal actuarial funding method, if it became subject to ERISA on that date. The unfunded accrued liability of $35,941 million shown in Table 7 may be considered to be the amount needed, in excess of funds on hand and tier 2 payroll taxes at a 6.00 percent rate, to fund combined NRRIT and RR Account benefits and expenses for former and present employees. The 6.00 percent rate (normal cost rate) is the average cost expressed as a percentage of tier 2 payroll that would fund each employee's benefits and expenses over the employee's working lifetime.

Under ERISA requirements, the minimum annual contribution to be made would be equivalent to tier 2 payroll taxes at the rate of 6.00 percent, plus the level annual amount of $2,921 million which would amortize the unfunded accrued liability of $35,941 million over 30 years.

Since the amortization payment is a level dollar amount, and since the taxable payroll would change from year to year, the required contribution expressed as a percentage of payroll would vary during the amortization period. Line 10 of the table shows the level percentage of tier 2 payroll that would be required to fund the unfunded accrued liability and meet a 6.00 percent payroll tax over the 30 year amortization period. Under the ERISA requirements, the minimum annual contribution after 30 years, if all assumptions were realized, would be the 6.00 percent of payroll normal cost.

In summary, the effect of ERISA would be to accelerate funding for the railroad retirement system. Contributions equivalent to an average of 21.50 to 26.18 percent of tier 2 payroll would be required for 30 years with 6.00 percent contributions thereafter.

Table 8. Vested dual benefit amounts and average number of beneficiaries. This table shows a projection of vested dual benefit payments for every fiscal year from 2007 through 2030. After 2030, the amounts become insignificant. The amounts shown assume that the benefits are fully funded. Fiscal years are shown because vested dual benefit appropriations are made on a fiscal year basis. The table also indicates the average number of vested dual beneficiaries in each fiscal year. The table applies to all the employment assumptions discussed in this report.

The revenue derived from taxing pre-October 1988 vested dual benefits was transferred to the RR Account. The revenue derived from taxing vested dual benefits in fiscal years 1989 and later is transferred to the Dual Benefits Payments Account, and it reduces the amount of the appropriation by the same amount. Therefore, the amount available for the payment of vested dual benefits is unaffected by income tax revenues derived from these benefits.

The 1981 amendments removed much of the uncertainty from projections of future vested dual benefit payments. The volatility caused by inflation is gone, since future awards take into account cost-of-living increases from 1975 through 1981, rather than through the date of retirement. Also, awards of these benefits to spouses and widow(er)s ceased after August 13, 1981. Uncertainties which remain in projecting future vested dual benefit payments are when employees will retire, what their benefits will be, and when beneficiaries will die.

The projections of vested dual benefit payments by the Railroad Retirement Board are the basis for the agency's requests for appropriated amounts. Generally, a margin of about 2 percent is added to

projected amounts to determine the appropriated amounts requested. This margin is needed because of the uncertainties in making projections and to ensure that adequate funds are available for the full payment of vested dual benefits. Appropriated amounts remaining in a fiscal year after all benefit payments have been made are returned to the Treasury.

Table 9. Supplemental annuity benefit amounts and average number of beneficiaries. This table shows a projection of supplemental annuity benefits for every calendar year from 2006 through 2045. Since service before October 1, 1981 is required for a supplemental annuity, benefit amounts after 2045 will continue to decline.

Table 10. Average number of railroad retirement annuitants and number of annuitants per full time employee. The left half of Table 10 shows the average number of annuitants under each employment assumption, and the right half shows the average number per full time employee. Under employment assumption I, the average number of annuitants per full time employee remains relatively level through 2019 and then declines. Under employment assumption II, the average number of annuitants per full time employee increases until reaching a maximum of 2.95 in 2021-2022 and then declines. Under employment assumption III, the average number of annuitants per full time employee increases steadily to 3.91 in 2031-2032 and declines thereafter.

## VI. STATEMENT OF ACTUARIAL OPINION

It is my opinion that (1) the techniques and methodology used herein to evaluate the financial and actuarial status of the Railroad Retirement System are generally accepted within the actuarial profession; and (2) the assumptions used and the resulting actuarial estimates are, in the aggregate, reasonable for the purpose of evaluating the financial and actuarial status of the trust funds, taking into consideration the experience and expectations of the program.

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Fellow of the Society of Actuaries
Member of the American Academy of Actuaries
Enrolled Actuary #05-4940

Table 1. Employment, inflation and interest assumptions

| Calendar year | Average employment (thousands) | | | Percentage increase over prior year | | Interest rate |
|---|---|---|---|---|---|---|
| | I | II | III | Earnings | Cost of living | |
| 2005 | 233 | 233 | 233 | 3.7% | 2.7% | 7.3% |
| 2006 | 231 | 228 | 225 | 4.0 | 4.1 | 7.5 |
| 2007 | 229 | 224 | 217 | 4.0 | 2.6 | 7.5 |
| 2008 | 227 | 219 | 210 | 4.0 | 3.0 | 7.5 |
| 2009 | 226 | 215 | 202 | 4.0 | 3.0 | 7.5 |
| 2010 | 224 | 210 | 195 | 4.0 | 3.0 | 7.5 |
| 2011 | 222 | 206 | 189 | 4.0 | 3.0 | 7.5 |
| 2012 | 220 | 202 | 182 | 4.0 | 3.0 | 7.5 |
| 2013 | 218 | 198 | 176 | 4.0 | 3.0 | 7.5 |
| 2014 | 217 | 194 | 170 | 4.0 | 3.0 | 7.5 |
| 2015 | 215 | 191 | 164 | 4.0 | 3.0 | 7.5 |
| 2016 | 213 | 187 | 159 | 4.0 | 3.0 | 7.5 |
| 2017 | 211 | 183 | 153 | 4.0 | 3.0 | 7.5 |
| 2018 | 210 | 180 | 148 | 4.0 | 3.0 | 7.5 |
| 2019 | 208 | 176 | 143 | 4.0 | 3.0 | 7.5 |
| 2020 | 206 | 173 | 139 | 4.0 | 3.0 | 7.5 |
| 2021 | 205 | 170 | 134 | 4.0 | 3.0 | 7.5 |
| 2022 | 203 | 167 | 130 | 4.0 | 3.0 | 7.5 |
| 2023 | 202 | 164 | 126 | 4.0 | 3.0 | 7.5 |
| 2024 | 200 | 161 | 123 | 4.0 | 3.0 | 7.5 |
| 2025 | 198 | 158 | 119 | 4.0 | 3.0 | 7.5 |
| 2026 | 197 | 155 | 116 | 4.0 | 3.0 | 7.5 |
| 2027 | 195 | 152 | 112 | 4.0 | 3.0 | 7.5 |
| 2028 | 194 | 149 | 109 | 4.0 | 3.0 | 7.5 |
| 2029 | 192 | 147 | 106 | 4.0 | 3.0 | 7.5 |
| 2030 | 191 | 144 | 104 | 4.0 | 3.0 | 7.5 |
| 2031 | 189 | 142 | 101 | 4.0 | 3.0 | 7.5 |
| 2032 | 188 | 139 | 98 | 4.0 | 3.0 | 7.5 |
| 2033 | 187 | 137 | 96 | 4.0 | 3.0 | 7.5 |
| 2034 | 186 | 135 | 94 | 4.0 | 3.0 | 7.5 |
| 2035 | 184 | 133 | 92 | 4.0 | 3.0 | 7.5 |
| 2036 | 183 | 132 | 91 | 4.0 | 3.0 | 7.5 |
| 2037 | 182 | 130 | 89 | 4.0 | 3.0 | 7.5 |
| 2038 | 181 | 129 | 87 | 4.0 | 3.0 | 7.5 |
| 2039 | 181 | 127 | 86 | 4.0 | 3.0 | 7.5 |
| 2040 | 180 | 126 | 85 | 4.0 | 3.0 | 7.5 |
| 2041 | 179 | 125 | 84 | 4.0 | 3.0 | 7.5 |
| 2042 | 178 | 124 | 83 | 4.0 | 3.0 | 7.5 |
| 2043 | 178 | 123 | 82 | 4.0 | 3.0 | 7.5 |
| 2044 | 177 | 122 | 81 | 4.0 | 3.0 | 7.5 |
| 2045 | 176 | 121 | 80 | 4.0 | 3.0 | 7.5 |
| 2046 | 176 | 120 | 80 | 4.0 | 3.0 | 7.5 |
| 2047 | 176 | 120 | 79 | 4.0 | 3.0 | 7.5 |
| 2048 | 175 | 119 | 79 | 4.0 | 3.0 | 7.5 |
| 2049 | 175 | 119 | 78 | 4.0 | 3.0 | 7.5 |
| 2050 | 175 | 118 | 78 | 4.0 | 3.0 | 7.5 |
| 2051 | 174 | 118 | 78 | 4.0 | 3.0 | 7.5 |
| 2052 | 174 | 118 | 77 | 4.0 | 3.0 | 7.5 |
| 2053 | 174 | 118 | 77 | 4.0 | 3.0 | 7.5 |
| 2054 | 174 | 118 | 77 | 4.0 | 3.0 | 7.5 |
| 2055-2079 | 174 | 118 | 77 | 4.0 | 3.0 | 7.5 |

**Figure 1. Average Railroad Employment 1937-2079, Historical and Projected**

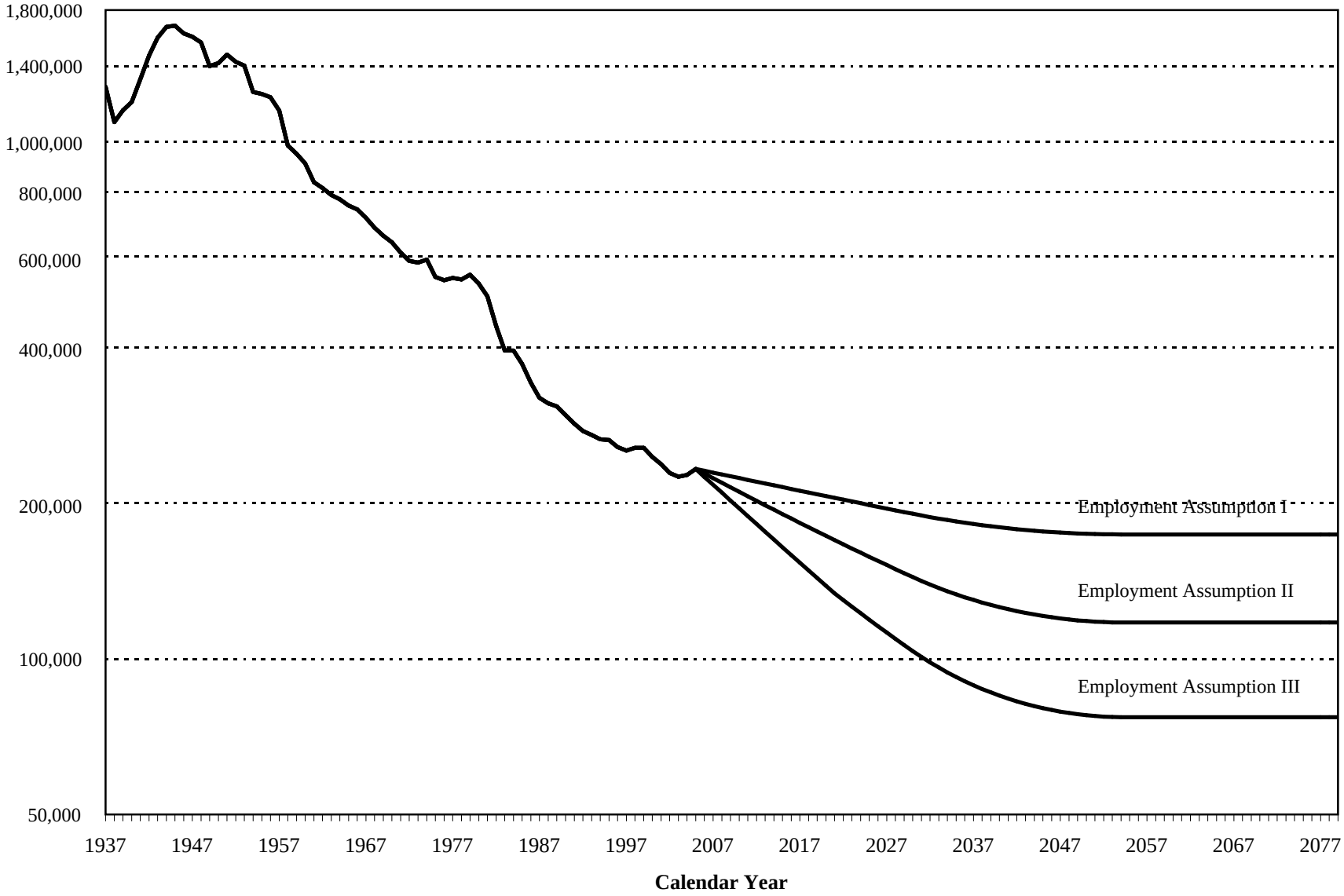

Table 2-I. Progress of the Combined National Railroad Retirement Investment Trust (NRRIT) and Railroad Retirement (RR) Account, and the Social Security Equivalent Benefit (SSEB) Account under Employment Assumption I
(Dollar amounts in millions)

| | | | | Combined NRRIT and RR Account | | | | SSEB Account | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Calendar year | Account benefits ratio[a] | Average account benefits ratio[b] | Tier 2 tax rate | Benefits and administration | Tax income[c] | Other income[d] | Balance, end year | Benefits and administration | Tax income[c] | Other income and expense[e] | Balance, end year | Combined balance, end year |
| 2006 | 7.37 | 6.40 | 17.0% | $4,005 | $2,639 | $2,197 | $29,221 | $5,699 | $2,426 | $3,211 | $709 | $29,930 |
| 2007 | 7.20 | 6.60 | 16.0% | 4,193 | 2,606 | 2,215 | 29,849 | 5,838 | 2,525 | 3,330 | 727 | 30,576 |
| 2008 | 6.99 | 6.80 | 16.0% | 4,401 | 2,703 | 2,256 | 30,407 | 6,013 | 2,617 | 3,418 | 748 | 31,155 |
| 2009 | 6.80 | 6.90 | 16.0% | 4,596 | 2,799 | 2,293 | 30,904 | 6,219 | 2,709 | 3,535 | 774 | 31,678 |
| 2010 | 6.62 | 6.90 | 16.0% | 4,786 | 2,895 | 2,328 | 31,340 | 6,449 | 2,802 | 3,676 | 803 | 32,143 |
| 2011 | 6.40 | 7.00 | 15.0% | 4,985 | 2,830 | 2,315 | 31,500 | 6,682 | 2,898 | 3,814 | 832 | 32,332 |
| 2012 | 6.21 | 6.90 | 16.0% | 5,186 | 3,093 | 2,372 | 31,778 | 6,923 | 2,996 | 3,957 | 862 | 32,640 |
| 2013 | 6.03 | 6.90 | 16.0% | 5,375 | 3,196 | 2,392 | 31,991 | 7,181 | 3,100 | 4,113 | 894 | 32,885 |
| 2014 | 5.86 | 6.90 | 16.0% | 5,556 | 3,301 | 2,408 | 32,145 | 7,447 | 3,208 | 4,271 | 927 | 33,072 |
| 2015 | 5.70 | 6.70 | 16.0% | 5,730 | 3,410 | 2,422 | 32,246 | 7,716 | 3,322 | 4,428 | 960 | 33,206 |
| 2016 | 5.54 | 6.60 | 16.0% | 5,881 | 3,521 | 2,324 | 32,209 | 7,995 | 3,441 | 4,555 | 960 | 33,169 |
| 2017 | 5.45 | 6.40 | 17.0% | 6,004 | 3,832 | 2,404 | 32,442 | 8,275 | 3,556 | 4,789 | 1,030 | 33,472 |
| 2018 | 5.41 | 6.20 | 17.0% | 6,105 | 3,955 | 2,466 | 32,758 | 8,544 | 3,676 | 4,902 | 1,063 | 33,821 |
| 2019 | 5.40 | 6.10 | 17.0% | 6,184 | 4,081 | 2,498 | 33,153 | 8,800 | 3,801 | 5,030 | 1,095 | 34,248 |
| 2020 | 5.45 | 5.90 | 18.0% | 6,247 | 4,429 | 2,546 | 33,881 | 9,040 | 3,931 | 5,139 | 1,125 | 35,006 |
| 2021 | 5.52 | 5.80 | 18.0% | 6,295 | 4,569 | 2,486 | 34,643 | 9,264 | 4,065 | 5,227 | 1,152 | 35,795 |
| 2022 | 5.65 | 5.70 | 18.0% | 6,324 | 4,714 | 2,678 | 35,710 | 9,471 | 4,204 | 5,292 | 1,178 | 36,888 |
| 2023 | 5.82 | 5.70 | 18.0% | 6,351 | 4,861 | 2,768 | 36,988 | 9,662 | 4,346 | 5,339 | 1,202 | 38,190 |
| 2024 | 6.02 | 5.60 | 18.0% | 6,383 | 5,012 | 2,874 | 38,490 | 9,842 | 4,490 | 5,374 | 1,224 | 39,714 |
| 2025 | 6.25 | 5.60 | 18.0% | 6,420 | 5,166 | 2,994 | 40,230 | 10,021 | 4,636 | 5,408 | 1,246 | 41,476 |
| 2026 | 6.50 | 5.70 | 18.0% | 6,461 | 5,322 | 3,040 | 42,131 | 10,208 | 4,785 | 5,446 | 1,269 | 43,400 |
| 2027 | 6.79 | 5.80 | 18.0% | 6,507 | 5,485 | 3,282 | 44,392 | 10,398 | 4,938 | 5,484 | 1,293 | 45,685 |
| 2028 | 7.11 | 5.90 | 18.0% | 6,569 | 5,651 | 3,459 | 46,933 | 10,596 | 5,094 | 5,526 | 1,317 | 48,250 |
| 2029 | 7.41 | 6.10 | 17.0% | 6,650 | 5,528 | 3,643 | 49,454 | 10,804 | 5,253 | 5,577 | 1,343 | 50,797 |
| 2030 | 7.72 | 6.30 | 17.0% | 6,742 | 5,695 | 3,837 | 52,244 | 11,030 | 5,416 | 5,641 | 1,371 | 53,615 |
| 2031 | 8.01 | 6.50 | 16.0% | 6,834 | 5,554 | 3,981 | 54,945 | 11,277 | 5,586 | 5,721 | 1,401 | 56,346 |
| 2032 | 8.35 | 6.80 | 16.0% | 6,915 | 5,725 | 4,247 | 58,003 | 11,543 | 5,766 | 5,810 | 1,434 | 59,437 |
| 2033 | 8.69 | 7.00 | 15.0% | 6,994 | 5,569 | 4,470 | 61,048 | 11,829 | 5,954 | 5,911 | 1,470 | 62,518 |
| 2034 | 9.04 | 7.30 | 15.0% | 7,085 | 5,743 | 4,706 | 64,411 | 12,126 | 6,149 | 6,014 | 1,507 | 65,918 |
| 2035 | 9.37 | 7.60 | 14.0% | 7,204 | 5,568 | 4,950 | 67,724 | 12,436 | 6,350 | 6,124 | 1,545 | 69,269 |
| 2036 | 9.69 | 7.90 | 14.0% | 7,330 | 5,744 | 5,175 | 71,314 | 12,775 | 6,558 | 6,259 | 1,587 | 72,901 |
| 2037 | 9.97 | 8.30 | 12.0% | 7,448 | 5,166 | 5,448 | 74,480 | 13,135 | 6,780 | 6,400 | 1,632 | 76,112 |
| 2038 | 10.12 | 8.60 | 10.0% | 7,617 | 4,547 | 5,660 | 77,070 | 13,496 | 7,007 | 6,534 | 1,676 | 78,746 |
| 2039 | 10.18 | 8.90 | 10.0% | 7,852 | 4,697 | 5,858 | 79,773 | 13,856 | 7,236 | 6,665 | 1,721 | 81,494 |
| 2040 | 10.17 | 9.20 | 8.2% | 8,074 | 4,094 | 6,029 | 81,822 | 14,264 | 7,479 | 6,836 | 1,771 | 83,593 |
| 2041 | 10.19 | 9.40 | 8.2% | 8,257 | 4,230 | 6,172 | 83,966 | 14,727 | 7,737 | 7,048 | 1,829 | 85,795 |
| 2042 | 10.24 | 9.60 | 8.2% | 8,437 | 4,372 | 6,348 | 86,249 | 15,201 | 8,012 | 7,248 | 1,887 | 88,136 |
| 2043 | 10.25 | 9.80 | 8.2% | 8,678 | 4,525 | 6,525 | 88,622 | 15,671 | 8,296 | 7,433 | 1,946 | 90,568 |
| 2044 | 10.17 | 10.00 | 8.2% | 9,000 | 4,687 | 6,705 | 91,014 | 16,137 | 8,585 | 7,611 | 2,004 | 93,018 |
| 2045 | 10.08 | 10.10 | 8.2% | 9,319 | 4,856 | 6,881 | 93,431 | 16,655 | 8,889 | 7,830 | 2,068 | 95,499 |
| 2050 | 9.78 | 10.10 | 8.2% | 10,945 | 5,817 | 7,845 | 106,464 | 19,766 | 10,665 | 9,185 | 2,454 | 108,918 |
| 2055 | 9.48 | 9.90 | 8.2% | 12,836 | 7,021 | 8,942 | 121,185 | 23,525 | 12,915 | 10,710 | 2,920 | 124,105 |
| 2060 | 9.31 | 9.60 | 8.2% | 14,957 | 8,496 | 10,243 | 138,692 | 27,891 | 15,702 | 12,304 | 3,462 | 142,154 |
| 2065 | 9.19 | 9.40 | 8.2% | 17,488 | 10,286 | 11,824 | 160,064 | 32,974 | 19,084 | 14,024 | 4,093 | 164,157 |
| 2070 | 9.05 | 9.30 | 8.2% | 20,653 | 12,466 | 13,736 | 185,946 | 39,083 | 23,185 | 16,062 | 4,851 | 190,797 |
| 2075 | 8.82 | 9.10 | 8.2% | 24,679 | 15,129 | 15,993 | 216,398 | 46,627 | 28,169 | 18,663 | 5,788 | 222,186 |
| 2079 | 8.65 | 8.90 | 10.0% | 28,666 | 21,064 | 18,166 | 247,233 | 53,987 | 32,925 | 21,306 | 6,701 | 253,934 |

[a] The fair market value of the assets in the RR Account and NRRIT as of the close of the fiscal year (September 30) divided by the total benefits and administrative expenses paid from the RR Account and NRRIT during the fiscal year.

[b] The average of the account benefits ratios for the 10 most recent fiscal years ending before the calendar year.

[c] Includes payroll taxes and income taxes on benefits.

[d] Includes investment income and transfers from SSEB Account.

[e] Other income includes financial interchange income, advances from general revenues, and interest income. Other expense includes repayment of advances from general revenues and transfers to the NRRIT.

Table 2-II. Progress of the Combined National Railroad Retirement Investment Trust (NRRIT) and Railroad Retirement (RR) Account, and the Social Security Equivalent Benefit (SSEB) Account under Employment Assumption II
(Dollar amounts in millions)

| | | | | Combined NRRIT and RR Account | | | | SSEB Account | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Calendar year | Account benefits ratio[a] | Average account benefits ratio[b] | Tier 2 tax rate | Benefits and administration | Tax income[c] | Other income[d] | Balance, end year | Benefits and administration | Tax income[c] | Other income and expense[e] | Balance, end year | Combined balance, end year |
| 2006 | 7.37 | 6.40 | 17.0% | $4,005 | $2,622 | $2,196 | $29,204 | $5,699 | $2,411 | $3,226 | $709 | $29,913 |
| 2007 | 7.18 | 6.60 | 16.0% | 4,193 | 2,563 | 2,212 | 29,786 | 5,838 | 2,484 | 3,372 | 727 | 30,513 |
| 2008 | 6.97 | 6.80 | 16.0% | 4,401 | 2,633 | 2,248 | 30,266 | 6,013 | 2,547 | 3,487 | 748 | 31,014 |
| 2009 | 6.75 | 6.90 | 16.0% | 4,596 | 2,698 | 2,279 | 30,648 | 6,219 | 2,609 | 3,635 | 774 | 31,422 |
| 2010 | 6.54 | 6.90 | 16.0% | 4,786 | 2,762 | 2,303 | 30,927 | 6,449 | 2,671 | 3,807 | 803 | 31,730 |
| 2011 | 6.29 | 7.00 | 15.0% | 4,984 | 2,674 | 2,278 | 30,895 | 6,682 | 2,732 | 3,979 | 832 | 31,727 |
| 2012 | 6.05 | 6.90 | 16.0% | 5,185 | 2,891 | 2,318 | 30,920 | 6,923 | 2,795 | 4,158 | 861 | 31,781 |
| 2013 | 5.82 | 6.90 | 16.0% | 5,373 | 2,958 | 2,318 | 30,823 | 7,180 | 2,862 | 4,350 | 893 | 31,716 |
| 2014 | 5.60 | 6.80 | 16.0% | 5,553 | 3,025 | 2,310 | 30,604 | 7,445 | 2,931 | 4,546 | 926 | 31,530 |
| 2015 | 5.37 | 6.70 | 16.0% | 5,727 | 3,093 | 2,294 | 30,264 | 7,713 | 3,004 | 4,743 | 960 | 31,224 |
| 2016 | 5.16 | 6.40 | 17.0% | 5,877 | 3,331 | 2,168 | 29,887 | 7,990 | 3,080 | 4,910 | 960 | 30,847 |
| 2017 | 4.99 | 6.20 | 17.0% | 5,998 | 3,404 | 2,213 | 29,506 | 8,266 | 3,150 | 5,185 | 1,029 | 30,535 |
| 2018 | 4.87 | 6.00 | 18.0% | 6,097 | 3,655 | 2,234 | 29,299 | 8,531 | 3,223 | 5,341 | 1,061 | 30,360 |
| 2019 | 4.77 | 5.80 | 18.0% | 6,174 | 3,735 | 2,225 | 29,085 | 8,781 | 3,300 | 5,513 | 1,093 | 30,178 |
| 2020 | 4.69 | 5.60 | 18.0% | 6,234 | 3,816 | 2,217 | 28,884 | 9,014 | 3,378 | 5,665 | 1,121 | 30,005 |
| 2021 | 4.60 | 5.40 | 18.0% | 6,278 | 3,897 | 2,086 | 28,589 | 9,228 | 3,458 | 5,797 | 1,148 | 29,737 |
| 2022 | 4.56 | 5.20 | 18.0% | 6,303 | 3,981 | 2,196 | 28,463 | 9,423 | 3,541 | 5,906 | 1,172 | 29,635 |
| 2023 | 4.53 | 5.10 | 18.0% | 6,324 | 4,065 | 2,194 | 28,398 | 9,600 | 3,625 | 5,998 | 1,194 | 29,592 |
| 2024 | 4.51 | 5.00 | 18.0% | 6,349 | 4,149 | 2,197 | 28,395 | 9,764 | 3,708 | 6,077 | 1,214 | 29,609 |
| 2025 | 4.50 | 4.90 | 18.0% | 6,377 | 4,234 | 2,202 | 28,454 | 9,924 | 3,790 | 6,154 | 1,234 | 29,688 |
| 2026 | 4.48 | 4.80 | 18.0% | 6,408 | 4,319 | 2,119 | 28,485 | 10,088 | 3,873 | 6,235 | 1,254 | 29,739 |
| 2027 | 4.49 | 4.70 | 18.0% | 6,442 | 4,407 | 2,219 | 28,669 | 10,251 | 3,957 | 6,314 | 1,274 | 29,943 |
| 2028 | 4.49 | 4.70 | 18.0% | 6,489 | 4,496 | 2,237 | 28,913 | 10,418 | 4,041 | 6,397 | 1,295 | 30,208 |
| 2029 | 4.50 | 4.60 | 18.0% | 6,552 | 4,586 | 2,259 | 29,206 | 10,590 | 4,126 | 6,485 | 1,316 | 30,522 |
| 2030 | 4.50 | 4.60 | 18.0% | 6,624 | 4,680 | 2,283 | 29,544 | 10,774 | 4,212 | 6,585 | 1,339 | 30,883 |
| 2031 | 4.50 | 4.60 | 18.0% | 6,692 | 4,776 | 2,254 | 29,882 | 10,974 | 4,303 | 6,696 | 1,364 | 31,246 |
| 2032 | 4.53 | 4.60 | 18.0% | 6,746 | 4,880 | 2,341 | 30,356 | 11,186 | 4,400 | 6,812 | 1,390 | 31,746 |
| 2033 | 4.58 | 4.60 | 18.0% | 6,793 | 4,988 | 2,381 | 30,932 | 11,412 | 4,504 | 6,936 | 1,418 | 32,350 |
| 2034 | 4.64 | 4.60 | 18.0% | 6,850 | 5,102 | 2,430 | 31,614 | 11,641 | 4,612 | 7,057 | 1,446 | 33,060 |
| 2035 | 4.70 | 4.60 | 18.0% | 6,931 | 5,222 | 2,486 | 32,392 | 11,876 | 4,724 | 7,181 | 1,475 | 33,867 |
| 2036 | 4.76 | 4.60 | 18.0% | 7,013 | 5,347 | 2,521 | 33,247 | 12,130 | 4,840 | 7,321 | 1,506 | 34,753 |
| 2037 | 4.86 | 4.60 | 18.0% | 7,082 | 5,482 | 2,618 | 34,265 | 12,395 | 4,968 | 7,460 | 1,539 | 35,804 |
| 2038 | 4.94 | 4.70 | 18.0% | 7,196 | 5,625 | 2,702 | 35,395 | 12,651 | 5,098 | 7,584 | 1,571 | 36,966 |
| 2039 | 5.00 | 4.70 | 18.0% | 7,361 | 5,773 | 2,791 | 36,598 | 12,897 | 5,229 | 7,699 | 1,601 | 38,199 |
| 2040 | 5.08 | 4.80 | 18.0% | 7,495 | 5,929 | 2,882 | 37,914 | 13,182 | 5,371 | 7,847 | 1,636 | 39,550 |
| 2041 | 5.20 | 4.80 | 18.0% | 7,590 | 6,094 | 2,976 | 39,394 | 13,506 | 5,525 | 8,021 | 1,676 | 41,070 |
| 2042 | 5.35 | 4.90 | 18.0% | 7,683 | 6,272 | 3,106 | 41,090 | 13,820 | 5,692 | 8,167 | 1,715 | 42,805 |
| 2043 | 5.50 | 5.00 | 18.0% | 7,830 | 6,462 | 3,242 | 42,964 | 14,120 | 5,864 | 8,294 | 1,753 | 44,717 |
| 2044 | 5.61 | 5.10 | 18.0% | 8,041 | 6,660 | 3,389 | 44,971 | 14,408 | 6,038 | 8,406 | 1,788 | 46,759 |
| 2045 | 5.74 | 5.20 | 18.0% | 8,229 | 6,868 | 3,541 | 47,151 | 14,737 | 6,224 | 8,554 | 1,829 | 48,980 |
| 2050 | 6.75 | 5.80 | 18.0% | 9,151 | 8,100 | 4,584 | 61,904 | 16,640 | 7,347 | 9,343 | 2,066 | 63,970 |
| 2055 | 8.08 | 6.70 | 16.0% | 10,193 | 8,725 | 6,073 | 82,639 | 18,845 | 8,826 | 10,077 | 2,339 | 84,978 |
| 2060 | 9.45 | 8.00 | 12.0% | 11,328 | 8,125 | 7,878 | 107,197 | 21,338 | 10,692 | 10,711 | 2,649 | 109,846 |
| 2065 | 10.12 | 9.30 | 8.2% | 12,711 | 7,018 | 9,471 | 128,336 | 24,227 | 12,960 | 11,344 | 3,007 | 131,343 |
| 2070 | 10.38 | 10.10 | 8.2% | 14,556 | 8,466 | 11,094 | 150,833 | 27,797 | 15,711 | 12,183 | 3,450 | 154,283 |
| 2075 | 10.58 | 10.40 | 8.2% | 17,058 | 10,246 | 13,196 | 179,923 | 32,403 | 19,060 | 13,470 | 4,022 | 183,945 |
| 2079 | 10.65 | 10.60 | 8.2% | 19,635 | 11,958 | 15,262 | 208,428 | 37,062 | 22,262 | 14,957 | 4,601 | 213,029 |

[a] The fair market value of the assets in the RR Account and NRRIT as of the close of the fiscal year (September 30) divided by the total benefits and administrative expenses paid from the RR Account and NRRIT during the fiscal year.

[b] The average of the account benefits ratios for the 10 most recent fiscal years ending before the calendar year.

[c] Includes payroll taxes and income taxes on benefits.

[d] Includes investment income and transfers from SSEB Account.

[e] Other income includes financial interchange income, advances from general revenues, and interest income. Other expense includes repayment of advances from general revenues and transfers to the NRRIT.

Table 2-III. Progress of the Combined National Railroad Retirement Investment Trust (NRRIT) and Railroad Retirement (RR) Account, and the Social Security Equivalent Benefit (SSEB) Account under Employment Assumption III
(Dollar amounts in millions)

| | | | | Combined NRRIT and RR Account | | | | SSEB Account | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Calendar year | Account benefits ratio[a] | Average account benefits ratio[b] | Tier 2 tax rate | Benefits and administration | Tax income[c] | Other income[d] | Balance, end year | Benefits and administration | Tax income[c] | Other income and expense[e] | Balance, end year | Combined balance, end year |
| 2006 | 7.36 | 6.40 | 17.0% | $4,005 | $2,603 | $2,196 | $29,184 | $5,699 | $2,394 | $3,243 | $709 | $29,893 |
| 2007 | 7.17 | 6.60 | 16.0% | 4,193 | 2,514 | 2,208 | 29,713 | 5,838 | 2,435 | 3,420 | 727 | 30,440 |
| 2008 | 6.93 | 6.80 | 16.0% | 4,401 | 2,552 | 2,240 | 30,104 | 6,013 | 2,468 | 3,567 | 748 | 30,852 |
| 2009 | 6.69 | 6.90 | 16.0% | 4,595 | 2,584 | 2,262 | 30,354 | 6,219 | 2,496 | 3,748 | 774 | 31,128 |
| 2010 | 6.45 | 6.90 | 16.0% | 4,785 | 2,613 | 2,275 | 30,457 | 6,449 | 2,522 | 3,956 | 803 | 31,260 |
| 2011 | 6.19 | 6.90 | 16.0% | 4,983 | 2,640 | 2,241 | 30,355 | 6,682 | 2,547 | 4,164 | 832 | 31,187 |
| 2012 | 5.91 | 6.90 | 16.0% | 5,184 | 2,668 | 2,269 | 30,109 | 6,922 | 2,572 | 4,380 | 861 | 30,970 |
| 2013 | 5.62 | 6.80 | 16.0% | 5,371 | 2,696 | 2,246 | 29,680 | 7,179 | 2,600 | 4,611 | 893 | 30,573 |
| 2014 | 5.34 | 6.70 | 16.0% | 5,551 | 2,724 | 2,212 | 29,066 | 7,443 | 2,629 | 4,846 | 926 | 29,992 |
| 2015 | 5.04 | 6.60 | 16.0% | 5,723 | 2,752 | 2,165 | 28,259 | 7,709 | 2,660 | 5,083 | 959 | 29,218 |
| 2016 | 4.75 | 6.30 | 17.0% | 5,872 | 2,923 | 2,001 | 27,312 | 7,984 | 2,693 | 5,290 | 959 | 28,271 |
| 2017 | 4.48 | 6.10 | 17.0% | 5,991 | 2,951 | 2,002 | 26,274 | 8,256 | 2,719 | 5,606 | 1,027 | 27,301 |
| 2018 | 4.24 | 5.80 | 18.0% | 6,088 | 3,125 | 1,971 | 25,282 | 8,516 | 2,746 | 5,802 | 1,060 | 26,342 |
| 2019 | 4.01 | 5.50 | 18.0% | 6,162 | 3,153 | 1,901 | 24,174 | 8,760 | 2,775 | 6,015 | 1,090 | 25,264 |
| 2020 | 3.78 | 5.30 | 18.0% | 6,219 | 3,180 | 1,824 | 22,959 | 8,984 | 2,805 | 6,207 | 1,118 | 24,077 |
| 2021 | 3.53 | 5.00 | 18.0% | 6,258 | 3,210 | 1,615 | 21,525 | 9,189 | 2,837 | 6,377 | 1,143 | 22,668 |
| 2022 | 3.30 | 4.70 | 18.0% | 6,277 | 3,243 | 1,638 | 20,129 | 9,371 | 2,873 | 6,520 | 1,166 | 21,295 |
| 2023 | 3.06 | 4.50 | 18.0% | 6,292 | 3,277 | 1,540 | 18,653 | 9,532 | 2,910 | 6,643 | 1,186 | 19,839 |
| 2024 | 2.80 | 4.20 | 18.0% | 6,310 | 3,311 | 1,434 | 17,089 | 9,678 | 2,946 | 6,750 | 1,204 | 18,293 |
| 2025 | 2.56 | 3.90 | 19.0% | 6,329 | 3,504 | 1,327 | 15,591 | 9,818 | 2,981 | 6,854 | 1,221 | 16,812 |
| 2026 | 2.29 | 3.70 | 19.0% | 6,350 | 3,539 | 1,126 | 13,906 | 9,957 | 3,016 | 6,958 | 1,238 | 15,144 |
| 2027 | 2.02 | 3.50 | 19.0% | 6,371 | 3,577 | 1,095 | 12,208 | 10,091 | 3,051 | 7,056 | 1,254 | 13,462 |
| 2028 | 1.75 | 3.20 | 20.0% | 6,403 | 3,778 | 977 | 10,560 | 10,225 | 3,085 | 7,156 | 1,271 | 11,831 |
| 2029 | 1.47 | 3.00 | 20.0% | 6,448 | 3,818 | 856 | 8,785 | 10,359 | 3,119 | 7,257 | 1,287 | 10,072 |
| 2030 | 1.23 | 2.70 | 23.0% | 6,499 | 4,361 | 744 | 7,391 | 10,500 | 3,153 | 7,364 | 1,305 | 8,696 |
| 2031 | 1.07 | 2.40 | 27.0% | 6,543 | 5,088 | 611 | 6,547 | 10,651 | 3,191 | 7,478 | 1,323 | 7,870 |
| 2032 | 0.95 | 2.20 | 27.0% | 6,570 | 5,156 | 609 | 5,741 | 10,806 | 3,235 | 7,590 | 1,342 | 7,083 |
| 2033 | 0.82 | 2.00 | 27.0% | 6,587 | 5,229 | 552 | 4,935 | 10,971 | 3,284 | 7,707 | 1,362 | 6,297 |
| 2034 | 0.70 | 1.70 | 27.0% | 6,611 | 5,311 | 497 | 4,132 | 11,132 | 3,337 | 7,815 | 1,382 | 5,514 |
| 2035 | 0.57 | 1.50 | 27.0% | 6,653 | 5,397 | 442 | 3,318 | 11,291 | 3,391 | 7,920 | 1,402 | 4,720 |
| 2036 | 0.44 | 1.30 | 27.0% | 6,693 | 5,488 | 357 | 2,470 | 11,461 | 3,449 | 8,033 | 1,423 | 3,893 |
| 2037 | 0.32 | 1.20 | 27.0% | 6,714 | 5,593 | 327 | 1,676 | 11,630 | 3,517 | 8,134 | 1,444 | 3,120 |
| 2038 | 0.21 | 1.00 | 27.0% | 6,773 | 5,704 | 275 | 883 | 11,781 | 3,585 | 8,214 | 1,462 | 2,345 |
| 2039 | 0.08 | 0.80 | 27.0% | 6,865 | 5,820 | 221 | 59 | 11,916 | 3,654 | 8,279 | 1,479 | 1,538 |
| 2040 | 0.07 | 0.70 | 27.0% | 6,906 | 5,948 | 899 | - | 12,086 | 3,734 | 7,635 | 762 | 762 |
| 2041 | 0.07 | 0.60 | 27.0% | 6,910 | 6,086 | 824 | - | 12,277 | 3,823 | 7,751 | 60 | 60 |
| 2042 | -0.01 | 0.50 | 27.0% | 6,914 | 6,240 | 145 | (528) | 12,441 | 3,922 | 8,459 | - | (528) |
| 2043 | -0.09 | 0.40 | 27.0% | 6,967 | 6,402 | 47 | (1,045) | 12,583 | 4,022 | 8,561 | - | (1,045) |
| 2044 | -0.15 | 0.30 | 27.0% | 7,066 | 6,572 | 12 | (1,528) | 12,707 | 4,123 | 8,585 | - | (1,528) |
| 2045 | -0.21 | 0.20 | 27.0% | 7,122 | 6,754 | (17) | (1,914) | 12,867 | 4,235 | 8,632 | - | (1,914) |
| 2050 | -0.15 | -0.20 | 27.0% | 7,369 | 7,868 | - | (1,362) | 13,706 | 4,928 | 8,778 | - | (1,362) |
| 2055 | 0.67 | -0.10 | 27.0% | 7,671 | 9,384 | 308 | 5,212 | 14,639 | 5,871 | 8,926 | 561 | 5,773 |
| 2060 | 2.77 | 0.80 | 27.0% | 8,076 | 11,322 | 1,499 | 23,001 | 15,731 | 7,077 | 8,893 | 1,581 | 24,582 |
| 2065 | 6.45 | 2.80 | 23.0% | 8,750 | 11,763 | 4,156 | 57,393 | 17,115 | 8,544 | 8,609 | 2,124 | 59,517 |
| 2070 | 9.30 | 5.90 | 18.0% | 9,819 | 11,310 | 6,648 | 92,153 | 19,033 | 10,330 | 8,758 | 2,363 | 94,516 |
| 2075 | 11.15 | 9.00 | 8.2% | 11,389 | 6,733 | 9,286 | 126,756 | 21,748 | 12,513 | 9,311 | 2,700 | 129,456 |
| 2079 | 11.37 | 10.50 | 8.2% | 13,023 | 7,852 | 10,793 | 147,713 | 24,637 | 14,608 | 10,127 | 3,058 | 150,771 |

[a] The fair market value of the assets in the RR Account and NRRIT as of the close of the fiscal year (September 30) divided by the total benefits and administrative expenses paid from the RR Account and NRRIT during the fiscal year.

[b] The average of the account benefits ratios for the 10 most recent fiscal years ending before the calendar year.

[c] Includes payroll taxes and income taxes on benefits.

[d] Includes investment income and transfers from SSEB Account.

[e] Other income includes financial interchange income, advances from general revenues, and interest income. Other expense includes repayment of advances from general revenues and transfers to the NRRIT.

Table 3. Present value of benefits in millions of dollars

| | Employment assumption I | | | Employment assumption II | | | Employment assumption III | | |
|---|---|---|---|---|---|---|---|---|---|
| | Tier 2[a] | Tier 1 liability | Total | Tier 2[a] | Tier 1 liability | Total | Tier 2[a] | Tier 1 liability | Total |
| Employee annuities | | | | | | | | | |
| Retired | $14,372 | $ 5,417 | $19,789 | $14,372 | $ 5,417 | $19,789 | $14,372 | $ 5,417 | $19,789 |
| Active | 17,281 | 8,589 | 25,869 | 17,281 | 8,589 | 25,869 | 17,281 | 8,589 | 25,869 |
| Inactive | 1,379 | 525 | 1,904 | 1,379 | 525 | 1,904 | 1,379 | 525 | 1,904 |
| Future entrants | 5,557 | 2,041 | 7,598 | 4,174 | 1,537 | 5,711 | 2,934 | 1,082 | 4,015 |
| Total | 38,589 | 16,572 | 55,160 | 37,206 | 16,068 | 53,274 | 35,965 | 15,612 | 51,578 |
| Spouse annuities | | | | | | | | | |
| Retired | 4,041 | 1,402 | 5,443 | 4,041 | 1,402 | 5,443 | 4,041 | 1,402 | 5,443 |
| Active | 4,324 | 2,430 | 6,754 | 4,324 | 2,430 | 6,754 | 4,324 | 2,430 | 6,754 |
| Inactive | 297 | 95 | 392 | 297 | 95 | 392 | 297 | 95 | 392 |
| Future entrants | 1,121 | 358 | 1,479 | 845 | 271 | 1,117 | 595 | 192 | 787 |
| Total | 9,784 | 4,284 | 14,068 | 9,508 | 4,198 | 13,706 | 9,258 | 4,118 | 13,376 |
| Survivor annuities | | | | | | | | | |
| Retired & deceased | 5,094 | 849 | 5,943 | 5,094 | 849 | 5,943 | 5,094 | 849 | 5,943 |
| Active | 2,124 | 263 | 2,388 | 2,124 | 263 | 2,388 | 2,124 | 263 | 2,388 |
| Inactive | 67 | 24 | 91 | 67 | 24 | 91 | 67 | 24 | 91 |
| Future entrants | 761 | 156 | 917 | 577 | 117 | 694 | 408 | 83 | 491 |
| Total | 8,046 | 1,292 | 9,338 | 7,862 | 1,253 | 9,116 | 7,693 | 1,219 | 8,912 |
| All annuities combined | | | | | | | | | |
| Retired & deceased | 23,507 | 7,668 | 31,175 | 23,507 | 7,668 | 31,175 | 23,507 | 7,668 | 31,175 |
| Active | 23,729 | 11,281 | 35,011 | 23,729 | 11,281 | 35,011 | 23,729 | 11,281 | 35,011 |
| Inactive | 1,743 | 644 | 2,387 | 1,743 | 644 | 2,387 | 1,743 | 644 | 2,387 |
| Future entrants | 7,439 | 2,554 | 9,994 | 5,597 | 1,926 | 7,522 | 3,937 | 1,356 | 5,293 |
| Total annuities | $56,419 | $22,147 | $78,567 | $54,576 | $21,519 | $76,095 | $52,916 | $20,949 | $73,865 |
| Lump sum payments | | | 73 | | | 73 | | | 73 |
| Total benefits | | | $78,640 | | | $76,168 | | | $73,939 |

Note: Detail may not add to totals due to rounding.

[a] Includes supplemental annuity benefits.

Table 4. Present value of benefits as a percentage of the present value of tier 2 payroll

| | Employment assumption I | | | Employment assumption II | | | Employment assumption III | | |
|---|---|---|---|---|---|---|---|---|---|
| | Tier 2[a] | Tier 1 liability | Total | Tier 2[a] | Tier 1 liability | Total | Tier 2[a] | Tier 1 liability | Total |
| Employee annuities | | | | | | | | | |
| Retired | 4.47% | 1.68% | 6.16% | 5.39% | 2.03% | 7.43% | 6.56% | 2.47% | 9.03% |
| Active | 5.37 | 2.67 | 8.05 | 6.48 | 3.22 | 9.71 | 7.88 | 3.92 | 11.80 |
| Inactive | 0.43 | 0.16 | 0.59 | 0.52 | 0.20 | 0.71 | 0.63 | 0.24 | 0.87 |
| Future entrants | 1.73 | 0.63 | 2.36 | 1.57 | 0.58 | 2.14 | 1.34 | 0.49 | 1.83 |
| Total | 12.00 | 5.15 | 17.16 | 13.96 | 6.03 | 19.99 | 16.41 | 7.12 | 23.53 |
| Spouse annuities | | | | | | | | | |
| Retired | 1.26 | 0.44 | 1.69 | 1.52 | 0.53 | 2.04 | 1.84 | 0.64 | 2.48 |
| Active | 1.34 | 0.76 | 2.10 | 1.62 | 0.91 | 2.53 | 1.97 | 1.11 | 3.08 |
| Inactive | 0.09 | 0.03 | 0.12 | 0.11 | 0.04 | 0.15 | 0.14 | 0.04 | 0.18 |
| Future entrants | 0.35 | 0.11 | 0.46 | 0.32 | 0.10 | 0.42 | 0.27 | 0.09 | 0.36 |
| Total | 3.04 | 1.33 | 4.38 | 3.57 | 1.58 | 5.14 | 4.22 | 1.88 | 6.10 |
| Survivor annuities | | | | | | | | | |
| Retired & deceased | 1.58 | 0.26 | 1.85 | 1.91 | 0.32 | 2.23 | 2.32 | 0.39 | 2.71 |
| Active | 0.66 | 0.08 | 0.74 | 0.80 | 0.10 | 0.90 | 0.97 | 0.12 | 1.09 |
| Inactive | 0.02 | 0.01 | 0.03 | 0.03 | 0.01 | 0.03 | 0.03 | 0.01 | 0.04 |
| Future entrants | 0.24 | 0.05 | 0.29 | 0.22 | 0.04 | 0.26 | 0.19 | 0.04 | 0.22 |
| Total | 2.50 | 0.40 | 2.90 | 2.95 | 0.47 | 3.42 | 3.51 | 0.56 | 4.07 |
| All annuities combined | | | | | | | | | |
| Retired & deceased | 7.31 | 2.38 | 9.70 | 8.82 | 2.88 | 11.70 | 10.73 | 3.50 | 14.22 |
| Active | 7.38 | 3.51 | 10.89 | 8.90 | 4.23 | 13.14 | 10.83 | 5.15 | 15.97 |
| Inactive | 0.54 | 0.20 | 0.74 | 0.65 | 0.24 | 0.90 | 0.80 | 0.29 | 1.09 |
| Future entrants | 2.31 | 0.79 | 3.11 | 2.10 | 0.72 | 2.82 | 1.80 | 0.62 | 2.41 |
| Total annuities | 17.55% | 6.89% | 24.44% | 20.48% | 8.07% | 28.55% | 24.14% | 9.56% | 33.70% |
| Lump sum payments | | | 0.02 | | | 0.03 | | | 0.03 |
| Total benefits | | | 24.46% | | | 28.58% | | | 33.73% |

Note: Detail may not add to totals due to rounding.

[a] Includes supplemental annuity benefits.

Table 5. Balance of the Combined National Railroad Retirement Investment Trust (NRRIT) and Railroad Retirement (RR) Account, and the Social Security Equivalent Benefit (SSEB) Account as of December 31, 2004
(Dollar amounts in millions)

| | Combined NRRIT and RR Account | SSEB Account |
|---|---|---|
| Securities: | | |
| Market value of NRRIT investments | $ 27,008 | $ - |
| Par value specials[a] (including accrued interest) | 334 | 738 |
| Cash accounts | 8 | 12 |
| Balance | $ 27,350 | $ 750 |

[a] Par value specials are securities issued by the Treasury directly to the Railroad Retirement and Social Security Equivalent Benefit Accounts, maturing on the first business day of the month following the month of issue. Their yield rate each month is the average yield rate, computed as of the last day of the previous month, of marketable Treasury notes with maturity dates not less than three years away.

Table 6. Actuarial surplus or (deficiency) for National Railroad Retirement Investment Trust and Railroad Retirement Account

| | Employment assumption | | |
|---|---|---|---|
| | I | II | III |
| | Present values in millions of dollars | | |
| Funds on hand, 12/31/2004 | $ 27,350 | $ 27,350 | $ 27,350 |
| Retirement taxes | 46,687 | 44,021 | 41,456 |
| Income taxes on benefits | 6,432 | 6,228 | 6,044 |
| Available from SSEB Account | 1,788 | 1,742 | 1,700 |
| Total, present and prospective assets | 82,257 | 79,341 | 76,550 |
| Benefit payments | 78,640 | 76,168 | 73,939 |
| Administrative expenses | 2,545 | 2,281 | 1,996 |
| Total liabilities | 81,185 | 78,449 | 75,935 |
| Actuarial surplus or (deficiency) | 1,072 | 892 | 615 |
| One percent of tier 2 payroll | $ 3,215 | $ 2,665 | $ 2,192 |
| | Present values as a percentage of tier 2 payroll | | |
| Funds on hand, 12/31/2004 | 8.51% | 10.26% | 12.48% |
| Retirement taxes | 14.52 | 16.52 | 18.91 |
| Income taxes on benefits | 2.00 | 2.34 | 2.76 |
| Available from SSEB Account | 0.56 | 0.65 | 0.78 |
| Total, present and prospective assets | 25.58 | 29.77 | 34.93 |
| Benefit payments | 24.46 | 28.58 | 33.73 |
| Administrative expenses | 0.79 | 0.86 | 0.91 |
| Total liabilities | 25.25 | 29.44 | 34.65 |
| Actuarial surplus or (deficiency) | 0.33 | 0.33 | 0.28 |

Table 7. Minimum contribution required under ERISA
(Dollar amounts in millions)

| | | Amount or rate | | |
|---|---|---|---|---|
| 1. | Present value of benefits for former and present employees | $ 68,646 | | |
| 2. | Present value of administrative expenses for former and present employees | 2,056 | | |
| 3. | Present value of tier 2 payroll for present employees | 111,016 | | |
| 4. | Normal cost as a percentage of tier 2 payroll | 6.00% | | |
| 5. | Present value of future service costs for present employees = (3) x (4) | 6,661 | | |
| 6. | Accrued liability = (1) + (2) - (5) | 64,041 | | |
| 7. | Funds on hand, 12/31/2004[a] | 28,100 | | |
| 8. | Unfunded accrued liability = (6) - (7) | 35,941 | | |
| 9. | Level amount to fund unfunded accrued liability in 30 years | 2,921 | | |
| | | Employment Assumption | | |
| | | I | II | III |
| 10. | Level tax rate to fund unfunded accrued liability and meet normal costs for next 30 years | 21.50% | 23.55% | 26.18% |
| 11. | Tax rate after 30 years (normal cost rate) | 6.00% | 6.00% | 6.00% |

[a] The amount shown is the sum of the NRRIT, RR Account and SSEB Account balances shown in Table 5.

Table 8. Vested dual benefit amounts and average number of beneficiaries

| Fiscal year | Vested dual benefit amounts[a] (Millions) | Average number of beneficiaries |
|---|---|---|
| 2007 | $88 | 47,000 |
| 2008 | 79 | 41,000 |
| 2009 | 70 | 37,000 |
| 2010 | 62 | 32,000 |
| 2011 | 55 | 28,000 |
| 2012 | 48 | 25,000 |
| 2013 | 42 | 21,000 |
| 2014 | 36 | 18,000 |
| 2015 | 31 | 16,000 |
| 2016 | 26 | 13,000 |
| 2017 | 22 | 11,000 |
| 2018 | 19 | 10,000 |
| 2019 | 16 | 8,000 |
| 2020 | 13 | 7,000 |
| 2021 | 11 | 5,000 |
| 2022 | 9 | 4,000 |
| 2023 | 7 | 4,000 |
| 2024 | 6 | 3,000 |
| 2025 | 4 | 2,000 |
| 2026 | 3 | 2,000 |
| 2027 | 3 | 1,000 |
| 2028 | 2 | 1,000 |
| 2029 | 2 | 1,000 |
| 2030 | 1 | 1,000 |

[a] When projected amounts are used to determine the appropriation needed for benefit payments, a margin must be added to ensure payment of full benefits.

Table 9. Supplemental annuity benefit amounts and average number of beneficiaries

| Calendar year | Supplemental benefit amounts (Millions) | Average number of beneficiaries[a] |
|---|---|---|
| 2006 | $61 | 122,000 |
| 2007 | 61 | 121,000 |
| 2008 | 60 | 121,000 |
| 2009 | 60 | 120,000 |
| 2010 | 60 | 120,000 |
| 2011 | 60 | 120,000 |
| 2012 | 60 | 120,000 |
| 2013 | 60 | 119,000 |
| 2014 | 59 | 119,000 |
| 2015 | 59 | 118,000 |
| 2016 | 58 | 117,000 |
| 2017 | 58 | 115,000 |
| 2018 | 56 | 113,000 |
| 2019 | 55 | 110,000 |
| 2020 | 53 | 106,000 |
| 2021 | 51 | 102,000 |
| 2022 | 49 | 98,000 |
| 2023 | 46 | 93,000 |
| 2024 | 44 | 88,000 |
| 2025 | 42 | 83,000 |
| 2026 | 39 | 78,000 |
| 2027 | 37 | 73,000 |
| 2028 | 34 | 68,000 |
| 2029 | 32 | 64,000 |
| 2030 | 29 | 59,000 |
| 2031 | 27 | 54,000 |
| 2032 | 25 | 50,000 |
| 2033 | 23 | 45,000 |
| 2034 | 21 | 41,000 |
| 2035 | 19 | 37,000 |
| 2036 | 17 | 33,000 |
| 2037 | 15 | 30,000 |
| 2038 | 13 | 26,000 |
| 2039 | 12 | 23,000 |
| 2040 | 10 | 20,000 |
| 2041 | 9 | 17,000 |
| 2042 | 7 | 15,000 |
| 2043 | 6 | 13,000 |
| 2044 | 5 | 10,000 |
| 2045 | 4 | 9,000 |

[a] Average number in a year. Excludes cases where the supplemental annuity is totally eliminated because of a private pension. On January 1, 2005, there were about 32,000 of these cases.

Table 10. Average number of railroad retirement annuitants and number of annuitants per full time employee

| Calendar year | Average number of annuitants under each employment assumption | | | Average number of annuitants per full time employee | | |
|---|---|---|---|---|---|---|
| | I | II | III | I | II | III |
| 2006 | 588,600 | 588,600 | 588,600 | 2.55 | 2.58 | 2.62 |
| 2007 | 579,300 | 579,300 | 579,300 | 2.53 | 2.59 | 2.67 |
| 2008 | 571,500 | 571,500 | 571,500 | 2.51 | 2.61 | 2.73 |
| 2009 | 564,600 | 564,600 | 564,600 | 2.50 | 2.63 | 2.79 |
| 2010 | 559,100 | 559,100 | 559,100 | 2.50 | 2.66 | 2.86 |
| 2011 | 554,100 | 554,000 | 554,000 | 2.50 | 2.69 | 2.93 |
| 2012 | 549,700 | 549,700 | 549,700 | 2.50 | 2.72 | 3.01 |
| 2013 | 545,700 | 545,700 | 545,600 | 2.50 | 2.75 | 3.10 |
| 2014 | 541,900 | 541,800 | 541,600 | 2.50 | 2.79 | 3.18 |
| 2015 | 538,100 | 537,900 | 537,700 | 2.50 | 2.82 | 3.27 |
| 2016 | 534,100 | 533,800 | 533,400 | 2.51 | 2.86 | 3.36 |
| 2017 | 529,400 | 528,900 | 528,400 | 2.50 | 2.89 | 3.44 |
| 2018 | 523,800 | 523,100 | 522,400 | 2.50 | 2.91 | 3.52 |
| 2019 | 517,300 | 516,400 | 515,400 | 2.49 | 2.93 | 3.60 |
| 2020 | 509,900 | 508,700 | 507,400 | 2.47 | 2.94 | 3.66 |
| 2021 | 501,800 | 500,300 | 498,500 | 2.45 | 2.95 | 3.72 |
| 2022 | 492,800 | 490,900 | 488,700 | 2.42 | 2.95 | 3.76 |
| 2023 | 483,400 | 481,000 | 478,300 | 2.40 | 2.94 | 3.79 |
| 2024 | 473,700 | 470,700 | 467,500 | 2.37 | 2.93 | 3.82 |
| 2025 | 464,100 | 460,500 | 456,700 | 2.34 | 2.92 | 3.84 |
| 2026 | 454,700 | 450,500 | 445,800 | 2.31 | 2.91 | 3.85 |
| 2027 | 445,400 | 440,400 | 435,000 | 2.28 | 2.90 | 3.87 |
| 2028 | 436,600 | 430,700 | 424,300 | 2.25 | 2.89 | 3.88 |
| 2029 | 428,100 | 421,300 | 414,000 | 2.23 | 2.88 | 3.89 |
| 2030 | 420,300 | 412,400 | 404,000 | 2.20 | 2.87 | 3.90 |
| 2031 | 412,900 | 403,900 | 394,300 | 2.18 | 2.85 | 3.91 |
| 2032 | 405,800 | 395,500 | 384,500 | 2.16 | 2.84 | 3.91 |
| 2033 | 398,900 | 387,200 | 374,900 | 2.14 | 2.82 | 3.90 |
| 2034 | 392,400 | 379,300 | 365,500 | 2.11 | 2.81 | 3.88 |
| 2035 | 386,400 | 371,800 | 356,500 | 2.09 | 2.79 | 3.86 |
| 2036 | 381,000 | 364,800 | 347,900 | 2.08 | 2.77 | 3.84 |
| 2037 | 375,800 | 357,800 | 339,100 | 2.06 | 2.75 | 3.81 |
| 2038 | 371,100 | 351,100 | 330,600 | 2.05 | 2.73 | 3.78 |
| 2039 | 367,000 | 344,900 | 322,400 | 2.03 | 2.71 | 3.74 |
| 2040 | 363,300 | 339,000 | 314,400 | 2.02 | 2.69 | 3.70 |
| 2041 | 359,800 | 333,300 | 306,400 | 2.01 | 2.67 | 3.66 |
| 2042 | 356,400 | 327,400 | 298,200 | 2.00 | 2.65 | 3.60 |
| 2043 | 353,300 | 321,800 | 290,400 | 1.99 | 2.62 | 3.55 |
| 2044 | 350,700 | 316,700 | 283,000 | 1.98 | 2.60 | 3.49 |
| 2045 | 348,600 | 311,900 | 275,700 | 1.98 | 2.58 | 3.43 |
| 2050 | 340,300 | 289,800 | 241,700 | 1.95 | 2.45 | 3.11 |
| 2055 | 333,300 | 269,900 | 212,100 | 1.91 | 2.30 | 2.75 |
| 2060 | 324,800 | 250,700 | 186,500 | 1.87 | 2.13 | 2.42 |
| 2065 | 315,000 | 233,100 | 165,600 | 1.81 | 1.98 | 2.15 |
| 2070 | 306,000 | 218,700 | 150,300 | 1.76 | 1.86 | 1.95 |
| 2075 | 299,300 | 208,500 | 140,300 | 1.72 | 1.77 | 1.82 |
| 2079 | 295,800 | 203,400 | 135,400 | 1.70 | 1.73 | 1.76 |

Table 11. Transfers to railroad retirement system under financial interchange with social security system, 1937-2006[a]
(Millions of dollars)

| Determination number | Fiscal years covered | Benefit credits to railroad retirement[b] | Tax credits to social security | Cash transfers to[c] railroad retirement | |
|---|---|---|---|---|---|
| | | | | Amount | Year of transfer |
| 1-20 | 1937-71 d | 12,981.3 | 6,572.3 | 6,636.9 d | 1953-72 d |
| 21 | 1972 | 1,217.1 | 470.9 | 802.5 | 1973 |
| 22 | 1973 | 1,412.8 | 556.4 | 930.9 | 1974 |
| 23 | 1974 | 1,575.6 | 653.5 | 1,010.3 | 1975 |
| 24 | 1975 | 1,853.3 | 718.7 | 1,238.7 | 1976 |
| 25 | 1976 | 1,872.2 f | 772.0 | 1,207.5 | 1977 |
| 26 | 1977 e | 2,556.6 f | 1,060.8 | 1,618.5 | 1978 |
| 27 | 1978 | 2,230.3 | 902.6 | 1,477.4 | 1979 |
| 28 | 1979 | 2,389.5 | 1,089.9 | 1,429.9 | 1980 |
| 29 | 1980 | 2,683.4 | 1,204.8 | 1,614.4 | 1981 |
| 30 | 1981 | 2,973.7 | 1,322.5 | 1,819.6 | 1982 |
| 31 | 1982 | 3,321.9 | 1,296.0 | 2,278.6 | 1983 |
| 32 | 1983 | 3,471.8 | 1,287.9 | 2,425.6 | 1984 |
| 33 | 1984 | 3,524.1 | 1,472.8 | 2,352.9 | 1985 |
| 34 | 1985 | 3,658.5 | 1,443.1 | 2,652.8 | 1986 |
| 35 | 1986 | 3,744.8 | 1,398.7 | 2,614.2 | 1987 |
| 36 | 1987 | 3,864.4 | 1,305.0 | 2,851.3 | 1988 |
| 37 | 1988 | 4,028.8 | 1,427.3 | 2,933.5 | 1989 |
| 38 | 1989 | 4,149.5 | 1,418.9 | 3,049.1 | 1990 |
| 39 | 1990 | 4,415.3 | 1,451.1 | 3,456.7 | 1991 |
| 40 | 1991 | 4,434.7 | 1,476.5 | 3,206.4 | 1992 |
| 41 | 1992 | 4,720.1 | 1,523.1 | 3,435.4 | 1993 |
| 42 | 1993 | 4,796.5 | 1,583.3 | 3,525.5 | 1994 |
| 43 | 1994 | 5,199.6 | 1,515.5 | 4,120.1 | 1995 |
| 44 | 1995 | 4,836.2 f | 1,545.1 | 3,556.3 | 1996 |
| 45 | 1996 | 5,008.0 | 1,566.8 | 3,747.2 | 1997 |
| 46 | 1997 | 5,114.1 | 1,615.4 | 3,819.1 | 1998 |
| 47 | 1998 | 5,173.5 | 1,641.9 | 3,816.0 | 1999 |
| 48 | 1999 | 5,195.6 | 1,767.5 | 3,697.6 | 2000 |
| 49 | 2000 | 4,767.8 f | 1,750.9 | 3,282.8 | 2001 |
| 50 | 2001 | 5,180.5 | 1,756.9 | 3,646.8 | 2002 |
| 51 | 2002 | 5,217.5 | 1,748.2 | 3,747.3 | 2003 |
| 52 | 2003 | 5,350.6 | 1,731.1 | 3,843.5 | 2004 |
| 53 | 2004 | 5,480.8 | 1,820.0 | 3,917.3 | 2005 |
| 54 | 2005 | 5,527.6 | 1,906.1 | 3,946.3 | 2006 |
| Total | 1937-2005 | 143,928.1 | 52,773.6 | 99,708.7 | |

[a] Financial interchange transactions with the Hospital Insurance Trust Fund are not included. These involve mainly a transfer of collected taxes to the Centers for Medicare and Medicaid Services, with some adjustments for difference in earnings bases under the two systems.

[b] Benefit amounts were credited to RR Account for covered years 1983 and earlier and to SSEB Account for covered years 1984 and later. Amounts include allowances for administrative expenses and adjustments to previous determinations.

[c] Cash transfers were made to RR Account in 1984 and earlier and to SSEB Account in 1985 and later. Transfers include interest, which is not shown in table.

[d] First determination covered period January 1937-June 1952. Initial balance of $488.2 million was never transferred to social security; only interest was paid until debt was liquidated by subsequent offsets in favor of railroad retirement.

[e] 1977 figure covered 15 months (July 1976 - September 1977) because of change in definition of fiscal year.

[f] Includes adjustment for pre-1957 military service.

# A P P E N D I X

## Outline of the benefit and financing provisions of the railroad retirement system as amended through December 31, 2005

## EMPLOYEE BENEFITS

1. Normal age annuity

Requirement of 10 years of service or 5 years of service after 1995 for retirement at social security retirement age (see definition at end of outline). Employees with less than 10 years of service must meet Social Security Act eligibility requirements to receive a tier 1 benefit.

2. Prenormal age annuity

A. Eligible for unreduced benefit upon later of (1) attainment of age 60 and (2) completion of 30 years of service (60/30 eligibility).

B. Eligible for reduced benefit with less than 30 years of service upon later of (1) attainment of age 62 and (2) completion of 10 years of service or 5 years of service after 1995. The benefit is reduced by 1/180 for each of the first 36 months and by 1/240 for each additional month the employee is under social security retirement age. (Reduction for age in excess of 36 months applies only to tier 1 benefit if employee had any service before 8-12-1983.)

3. Total and permanent disability annuity

10-year service requirement or 5 years of service after 1995. Benefit may not begin earlier than the later of (1) the first day of the sixth month following date disability begins and (2) the first day of the twelfth month before the month in which the application is filed. Employees with less than 10 years of service and at least 5 years of service after 1995 who meet Social Security eligibility requirements may qualify for a tier 1 benefit only (an age reduced tier 2 benefit would be payable at age 62).

4. Occupational disability annuity

Requirement of 20 years of service or attainment of age 60 with 10 years of service; current connection (see definition at end of outline) required. Benefit may not begin earlier than the later of (1) the first day of the sixth month following date disability begins and (2) the first day of the twelfth month before the month in which the application is filed.

5. Supplemental annuity

Requirement of attainment of age 60 with 30 years of service if retired on or after 7-1-1974, or age 65 with 25 years of service. Must have service before 10-1-1981. Current connection required.

6. Vested dual benefit

A. Requirement of fully insured (see definition at end of outline) status under Social Security Act effective 12-31-1974 and either (1) 25 years of railroad service before 1975 or (2) 10 years of railroad service before 1975, with some railroad work in 1974 or a current connection on 12-31-1974 or at the time the annuity begins, or

B. Requirement of fully insured status under Social Security Act as of last year of railroad work before 1975 and 10 years of railroad service before 1975.

7. Work restrictions

Suspension of annuity for any month annuitant is employed by a railroad. For disabilities, loss of one month's annuity for each $400 in excess of $4,800 earned in a year with the last $200 of such excess treated as $400 (no annuity is lost for any month with earnings below $400). In addition, the tier 1 portion of a regular annuity based on railroad earnings (see definition at end of outline) after 1974 and all social security earnings (see definition at end of outline) is subject to social security work restrictions, unless a social security benefit is also being paid. If annuitant is employed by last non-railroad employer preceding retirement, the tier 2 portion and the supplemental annuity are also affected, being reduced one dollar for each two dollars of earnings, subject to a maximum reduction of 50 percent. All vested dual benefits are subject to social security work restrictions.

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8. Creditable service (continuity not required)

All service after December 31, 1936. Service before 1937 may be used if annuitant had employment relation on August 29, 1935 or 6 months of service after August 29, 1935 and before 1946. No limit on service except 30-year maximum if pre-1937 service used. Additional service months may be deemed, for years after 1984, where employee does not work in every month of year, but railroad earnings exceed monthly prorations of annual tier 2 maximum earnings creditable.

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9. Creditable and taxable railroad earnings

From 1966 through 1978, the maximum monthly earnings were one-twelfth of the annual social security maximum. The 1977 social security amendments introduced a difference between the maximum monthly earnings creditable for tier 1 and tier 2 benefits starting in 1979.

| | | | Tier 1 | Tier 2 |
|---|---|---|---|---|
| before July 1, 1954 | $ 300 | | | |
| July 1, 1954 - May 31, 1959 | 350 | 1979 | $1,908.33 | $1,575 |
| June 1, 1959 – Oct. 31, 1963 | 400 | 1980 | 2,158.33 | 1,700 |
| Nov. 1, 1963 – Dec. 31, 1965 | 450 | 1981 | 2,475 | 1,850 |
| 1966-67 | 550 | 1982 | 2,700 | 2,025 |
| 1968-71 | 650 | 1983 | 2,975 | 2,225 |
| 1972 | 750 | 1984 | 3,150 | 2,350 |
| 1973 | 900 | | | |
| 1974 | 1,100 | | | |
| 1975 | 1,175 | | | |
| 1976 | 1,275 | | | |
| 1977 | 1,375 | | | |
| 1978 | 1,475 | | | |

Starting in 1985, earnings are credited on an annual rather than a monthly basis. The annual maximums are:

| | Tier 1 | Tier 2 | | Tier 1 | Tier 2 |
|---|---|---|---|---|---|
| 1985 | $39,600 | $29,700 | 1996 | $62,700 | $46,500 |
| 1986 | 42,000 | 31,500 | 1997 | 65,400 | 48,600 |
| 1987 | 43,800 | 32,700 | 1998 | 68,400 | 50,700 |
| 1988 | 45,000 | 33,600 | 1999 | 72,600 | 53,700 |
| 1989 | 48,000 | 35,700 | 2000 | 76,200 | 56,700 |
| 1990 | 51,300 | 38,100 | 2001 | 80,400 | 59,700 |
| 1991 | 53,400 | 39,600 | 2002 | 84,900 | 63,000 |
| 1992 | 55,500 | 41,400 | 2003 | 87,000 | 64,500 |
| 1993 | 57,600 | 42,900 | 2004 | 87,900 | 65,100 |
| 1994 | 60,600 | 45,000 | 2005 | 90,000 | 66,900 |
| 1995 | 61,200 | 45,300 | 2006 | 94,200 | 69,900 |

---

10. Creditable military service and earnings

Military service is creditable in war and national emergency periods, and in some cases between June 15, 1948 and December 15, 1950, if preceded by railroad service in the year of entry into military service or the preceding year.

Earnings: $160 before 1968
$260 after 1967 but before 1975
For each calendar year after 1974, earnings are the same as that credited under social security.

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11. Basic monthly annuity computation

Tier 1: Social security benefit based on combined railroad and social security earnings, less social security benefit actually payable (based on social security earnings only). See item 2 for computation of tier 1 benefit for employees with 60/30 eligibility.

Tier 2: 0.7% of the average monthly compensation (AMC) multiplied by the number of years of service. This amount is then reduced by 25% of the employee's gross vested dual benefit. The AMC is the average of an individual's highest 60 months of railroad earnings up to the tier 2 maximum. For each month of service in a year for which the Railroad Retirement Board's records do not show earnings on a monthly basis, the total earnings for the year divided by the months of service in that year will be considered the monthly earnings for each month of service in the year.

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12. Vested dual benefit computation

A. For employees satisfying requirements in item 6.A., benefit is social security benefit based on railroad earnings through 1974, plus social security benefit based on social security earnings through 1974, less social security benefit based on combined railroad and social security earnings through 1974.

B. For employees satisfying requirements of item 6.B., benefit is the same as in A., except for the exclusion of all earnings after last pre-1975 year employee had railroad employment.

In both cases, benefit might be proportionally reduced so that the total amount paid out in vested dual benefits in any fiscal year does not exceed the total amount appropriated for that year (see item 40).

---

13. Supplemental annuity computation

For employees who were entitled to supplemental annuities or who would have been entitled, but for last person service, prior to 1975, the monthly benefit is a minimum of $45 increased by $5 for each year of service over 25, with a maximum benefit of $70. These employees have a reduction in their regular railroad retirement annuity because of the supplemental annuity. For employees first entitled or potentially entitled after 1974, the monthly benefit is a minimum of $23 increased by $4 for each year of service over 25, with a maximum benefit of $43. These employees have no reduction in their regular railroad retirement annuity. Supplemental annuity will be reduced if employee receives a private pension from railroad employer based on employer contributions.

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14. Cost-of-living increases (annually, effective with January 1 payments)

Tier 1: Same as social security increases.

Tier 2: 32.5% of social security increases.

Vested dual benefits: Frozen at the 1974 level, except that social security cost-of-living increases effective between 12-31-1974 and the earlier of January 1, 1982 and the annuity beginning date are included in the benefit computation.

Supplemental annuity: None.

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15. Tax rebate lump sum

Employee who has at least 10 years of railroad service and is not eligible for the vested dual benefit will receive a lump sum at retirement computed by summing for each year from 1951 through 1974 the product of the social security tax rate for the year times the excess of the employee's combined railroad and social security earnings for the year over (approximately) the maximum creditable for the year under the 1937 Act. Survivors of employee may receive refund if employee dies before receiving it.

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16. Separation/severance lump sum

Lump sum, equal to tier 2 payroll taxes deducted from separation or severance payments, will be paid at retirement to employees with at least 10 years of service or 5 years of service after 1995 to the extent that separation or severance payments did not yield additional tier 2 service credits.

## SPOUSE BENEFITS

17. Eligibility

A. Unreduced annuity:

1. Spouse retiring at age 60 (or any age with a child in care), if (a) employee attained 60/30 eligibility before 7-1-1984 and retired at age 60 or later, (b) employee attained 60/30 eligibility after 6-30-1984 and retired at age 62 or later, (c) employee has 30 or more years of service and retired after 12-31-2001 at age 60 or later, or (d) spouse retired after 12-31-2001, and employee retired from disability, has 30 or more years of service and is age 60 or over.

2. Spouse retiring at social security normal retirement age (or any age with a child in care), if (a) employee retired before 1-1-1975 and is age 65 or over, (b) employee retired after 12-31-1974 and is age 62 or over, or (c) employee retired after 6-30-1974, has 30 or more years of service and is age 60 or over.

B. Reduced annuity:

1. Spouse retiring at age 60 if employee attained 60/30 eligibility after 6-30-1984 and retired with an age annuity before 1-1-2002 before attaining age 62.

2. Spouse retiring at age 62, if employee has less than 30 years of service, is retired, and has attained age 62. Age reduction is 1/144 for each of the first 36 months spouse is under social security retirement age and 1/240 for each month in excess of 36 that spouse is under retirement age. (Reduction for age in excess of 36 months applies to tier 1, but not tier 2, if employee had any service before 8-12-1983.)

18. Work restrictions

Same as employee; in addition, spouse is not paid for any month employee annuity is not payable by virtue of work restrictions, and spouse is reduced $1 for each $2 of employee's earnings for last non-railroad employer preceding employee's retirement (see item 7).

19. Annuity computation

Tier 1: One-half of social security benefit based on employee's combined railroad and social security earnings. See item 17 for computation of spouse tier 1 in cases where employee is receiving a reduced 60/30 benefit. If spouse is entitled to a social security benefit, tier 1 is reduced by the amount of the benefit, but not below 0. If spouse is entitled to employee annuity or a public service pension, certain additional restrictions apply.

Tier 2: 45% of employee's tier 2 benefit. Spouse receives additional benefit if spouse is also an employee annuitant and either the employee or spouse has railroad service prior to 1975.

20. Vested dual benefit

A spouse receiving a vested dual benefit on August 13, 1981 will continue to receive a benefit (adjusted as described in item 12). No vested dual benefits will be awarded after that date.

21. Divorced spouse

Entitled to a tier 1 benefit only. Employee must be age 62 and retired. Divorced spouse must be social security retirement age (or age 62 for reduced benefit), unmarried, and have been married for at least 10 consecutive years to employee.

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22. Cost-of-living increases for spouses

Each tier is subject to same percentage increase as corresponding tier of employee benefit.

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## SURVIVOR AND DEATH BENEFITS

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23. Residual lump sum death benefit

Payable when it appears no further benefits will derive from deceased employee except possibly to a widow, widower or parent at a future date. In this case, survivor must waive the right to all future benefits based on the deceased employee's railroad service. The amount payable is the sum of 4% of taxable railroad earnings from 1-1-1937 to 12-31-1946, 7% from 1-1-1947 to 12-31-1958, 7-1/2% from 1-1-1959 to 12-31-1961, 8% from 1-1-1962 to 12-31-1965, 8.1% from 1-1-1966 to 12-31-1966, 8.65% from 1-1-1967 to 12-31-1967, 8.8% from 1-1-1968 to 12-31-1968, 9.45% from 1-1-1969 to 12-31-1970, 9.85% from 1-1-1971 to 12-31-1972, 10.1% from 1-1-1973 to 9-30-1973, 5.35% from 10-1-1973 to 12-31-1973, and 5.45% from 1-1-1974 to 12-31-1974. Railroad earnings after 1974 are not taken into account. The amount actually paid is reduced by the amount of benefits paid deriving from the deceased employee.

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24. Employee requirement for survivor benefits

All benefits except residual lump sum require deceased employee to have 10 years of railroad service or 5 years of service after 1995 and a current connection. If employee does not meet above conditions, his earnings record is transferred to social security, which pays any survivor benefits.

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25. Aged widow's and widower's eligibility

A widow or widower must be age 60 and unremarried. Those age 60-61 are deemed age 62 in computing the benefit. For those born before 1940, the benefit reduction is 19/40% for each month of age under 65 when benefits begin. For those born after 1939, the age reduction depends on the age at retirement and the social security retirement age. In this case, the monthly reduction factor is that percentage which would cause retirement at age 60 to result in a 28.5 percent reduction.

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26. Disabled widow's and widower's eligibility

A widow or widower must be at least age 50 and under age 60, unremarried, and totally and permanently disabled if disability occurs within 7 years of employee's death or within 7 years after widowed mother's or father's status terminated. Age reduction is 28.5%. Benefit may not begin earlier than the later of (1) the first day of the sixth month following the date disability begins and (2) the first day of the twelfth month before the month in which the application is filed.

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27. Widowed mother's and father's eligibility

Unremarried surviving spouse of a deceased employee who is under social security retirement age and who at the time of filing an application has in his or her care a minor or disabled child of the deceased employee.

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28. Divorced widow(er)'s and remarried widow(er)'s eligibility

The following are eligible for a tier 1 benefit only.

A. Divorced widow(er) - must (1) have been married to employee at least 10 years, be unmarried or remarried after age 60 (after age 50 and disability onset if disabled), and have attained age 60 or age 50 if disabled, or (2) be unmarried at any age with a child of the employee in care.

B. Remarried widow(er) - must have remarried after age 60 (after age 50 and disability onset if disabled), or the remarriage must have ended. Widow(er) must have attained age 60, be between 50 and 59 and disabled or be any age with a child in care.

Benefits for divorced aged widow(er)s and remarried aged widow(er)s are reduced for the full number of months under social security retirement age.

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29. Child's eligibility

A child of a deceased employee must be under 18 or under 19 and a full-time elementary or secondary school student. Unmarried children continuously disabled since before age 22 are also eligible, regardless of age.

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30. Parent's eligibility

A parent of a deceased employee who has attained age 60 and received at least one-half of his or her support from the employee will be eligible for an annuity. If the employee died leaving a widow, widower or child who is or might become eligible in the future, the parent will be eligible for a tier 1 benefit only. In certain instances, a remarried parent of a deceased employee will be eligible for a tier 1 benefit.

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31. Work restrictions

Annuity not payable for any month in which survivor engages in railroad employment. Entire benefit subject to social security work restrictions.

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32. Annuity computation

Tier 1: Amount payable to survivor under Social Security Act, based on the deceased employee's combined railroad and social security earnings after 12-31-1936, less the amount of any social security benefit received. Additional restrictions exist for a widow or widower who also receives an annuity as a railroad employee or who receives a public service pension.

Tier 2: Widow or widower - 50% of employee tier 2 benefit
Parent - 35% of employee tier 2 benefit
Children - 15% of employee tier 2 benefit for each child
The total family tier 2 benefit has a minimum of 35% and a maximum of 80% of the employee's tier 2 benefit (a maximum of 130% is used for the purpose of calculating the widow(er) intitial minimum amount).

For a widow or widower an “initial minimum amount” based on the two-tier annuity amount that would have been payable to the railroad employee at the time the widow(er)’s annuity is awarded is computed with a widow(er)’s tier 2 amount equal to 100 percent of the employee’s tier 2 amount. Widow(er)s’ annuities computed on the basis of the initial minimum amount are not adjusted for annual cost-of-living increases until the total annuity amount is exceeded by the annuity amount the widow(er) would have been paid under prior law (tier 2 amount equal to 50 percent of the employee’s tier 2 amount), with all interim cost-of-living increases otherwise payable.

For an aged widow or widower, the total benefit exclusive of any vested dual benefit may not be less than amount received as spouse in month before employee's death.

All percentages are before deductions for work or entitlement to social security benefit or railroad retirement employee annuity.

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33. Vested dual benefit for widow or widower

A widow or widower receiving a vested dual benefit on August 13, 1981 will continue to receive a benefit (adjusted as described in item 12). No vested dual benefits will be awarded after that date.

---

34. Insurance lump sum

Payable if employee leaves no survivor eligible for monthly benefits in the month of his death.

A. If employee had 10 years of service before 1-1-1975, the benefit is 10 times the basic amount. The basic amount is 52.4% of the first $75 of average monthly remuneration (AMR), plus 12.8% of the remainder, increased by 1% for each year before 1975 with earnings of $200 or more. The AMR is combined railroad and social security earnings before 1975 divided by the number of months after 1936 or age 22 and up to retirement or death.

B. If employee had less than 10 years of service as of 12-31-1974, the amount will be the amount social security would have paid (currently $255). This amount will only be paid to a widow or widower living with the employee at the time of the employee's death.

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35. Cost-of-living increases for survivors

Each tier is subject to same percentage increase as corresponding tier of employee benefit.

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## FINANCING, INVESTMENTS AND TAXATION OF BENEFITS

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36. Employee and employer payroll taxes

Employees and employers contribute at the prevailing social security rate up to the tier 1 earnings limit. In addition, employees and employers pay a tier 2 tax up to the tier 2 earnings limit. Tier 2 taxes on both employers and employees are based on the ratio of certain asset balances to the sum of benefits and administrative expenses (the average account benefits ratio).

At the end of each fiscal year (September 30), an Account Benefits Ratio (ABR) is calculated by dividing the fair market value of the assets in the RR Account and the NRRIT (and for years before 2002, the SSEB Account) as of the close of such fiscal year by the total benefits and administrative expenses paid from the RR Account and the NRRIT during such fiscal year. The Average Account Benefits Ratio (AABR), with respect to any calendar year, is then calculated as the average of the account benefits ratios for the 10 most recent fiscal years ending before such calendar year. If the AABR is not a multiple of 0.1, it is increased to the next highest multiple of 0.1. The tier 2 tax rate is determined from a tax rate table based on the AABR.

| AABR | | Tier 2 tax rate | |
|---|---|---|---|
| At least | But less than | Employer | Employee |
| | 2.5 | 22.1 | 4.9 |
| 2.5 | 3.0 | 18.1 | 4.9 |
| 3.0 | 3.5 | 15.1 | 4.9 |
| 3.5 | 4.0 | 14.1 | 4.9 |
| 4.0 | 6.1 | 13.1 | 4.9 |
| 6.1 | 6.5 | 12.6 | 4.4 |
| 6.5 | 7.0 | 12.1 | 3.9 |
| 7.0 | 7.5 | 11.6 | 3.4 |
| 7.5 | 8.0 | 11.1 | 2.9 |
| 8.0 | 8.5 | 10.1 | 1.9 |
| 8.5 | 9.0 | 9.1 | 0.9 |
| 9.0 | | 8.2 | 0.0 |

Contributions to 401(k) deferred compensation plans and the value of employer-paid premiums for group term life insurance coverage in excess of $50,000 are included in railroad earnings for payroll tax purposes.

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37. Supplemental annuity tax

As of 1-1-2002, the supplemental annuity work-hour tax has been repealed.

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38. Financial interchange

Railroad retirement system pays to social security system the taxes social security would have collected and receives the additional amount of benefits and administrative expenses social security would have paid if railroad employment had been covered under social security. The net difference (including interest) is transferred in the June after the fiscal year for which the transfer is made.

The Railroad Retirement Board estimates the amount and direction of the financial interchange transfer that would be made for each month if transfers were on a current monthly basis. If this estimate favors the railroad retirement system, Treasury advances the amount with interest to the Railroad Retirement Account, as a loan from the general fund, by the middle of the succeeding month. Within 10 days after receipt of the annual financial interchange for a fiscal year, the RRB must repay the amount, with interest, advanced during the fiscal year.

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39. Investments

Amounts in the Railroad Retirement Account not needed to pay current administrative expenses and amounts in the Social Security Equivalent Benefit Account not needed to pay current benefits and administrative expenses are transferred to the National Railroad Retirement Investment Trust whose Board of seven trustees is empowered to invest Trust assets in non-governmental assets, such as equities and debt, as well as in governmental securities.

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40. Financing of vested dual benefits

General revenue appropriations finance all vested dual benefit payments since September 1981. Beginning October 1, 1981, each annual appropriation is placed in the Dual Benefits Payments Account. Total benefits paid in any fiscal year (starting with 1982) may not exceed the total available in the account. The account may borrow at the end of a fiscal year the amount that the Railroad Retirement Board estimates will be necessary to pay vested dual benefits for the first month of the next fiscal year.

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41. Taxability of benefits

The portion of tier 1 benefits equivalent to social security benefits is taxed under the same rules as are social security benefits. Tier 1 benefits in excess of social security equivalent benefits, tier 2 benefits, vested dual benefits, and supplemental annuities are taxed under the rules by which private pensions are taxed.

Revenues from taxes on social security equivalent benefits are transferred to the social security system through the financial interchange. Revenues from taxes on tier 1 benefits in excess of social security equivalent benefits and tier 2 benefits are transferred to the Railroad Retirement Account. Revenues from taxes on vested dual benefits are transferred to the Dual Benefits Payments Account.

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## MISCELLANEOUS PROVISIONS

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42. Benefit preservation

Each year the Railroad Retirement Board must report to the President and Congress the results of a five-year projection of anticipated revenues to and payments from the railroad retirement account. If the results show that the funds in the account will be insufficient to pay full benefits at any time during the five-year period, the report must indicate (1) the first fiscal year in which benefits would have to be reduced because of insufficient funds in the absence of any changes, and (2) the amount of adjustments necessary to preserve financial solvency. Within 180 days after publication of this report, representatives of railroad labor and management are obligated to submit proposals designed to preserve the fund's solvency. The Railroad Retirement Board will publish regulations necessary to provide a constant level of benefits at the maximum level possible and to insure that no individual receives less than what he would have had all his earnings been covered under social security. The Railroad Retirement Board's regulations will take effect beginning with the first year in which benefit reductions will be necessary and continue until legislative action supersedes them.

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43. Minimum annuity

The overall minimum guaranty for employees and dependents is 100% of the amount, or the additional amount, the family would receive under the Social Security Act if the employee's railroad earnings after 1936 were credited as social security earnings.

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44. Automatic benefit eligibility adjustments

Liberalizations in social security eligibility requirements will automatically be reflected in railroad retirement eligibility requirements, but reductions in social security requirements for categories not entitled to railroad retirement annuities under the 1937 act will not confer railroad retirement eligibility. If the Social Security Act is amended to provide benefits to a class not previously entitled under social security, the new class will also be provided railroad retirement benefits. The amount will be the social security benefit based on the employee's combined railroad and social security earnings.

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45. Transfer of credits

Transfer of railroad retirement credits is made to social security if an employee had less than 10 years of railroad service and less than 5 years of service after 1995 or, in the case of a survivor, if the employee lacked a current connection.

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## DEFINITIONS

The meanings of terms used in the outline are defined below:

Railroad earnings - earnings derived from covered railroad employment, up to the maximums specified in item 9.

Social security earnings - earnings derived from employment covered under the Social Security Act (excludes railroad earnings), up to the maximums allowed.

Current connection - generally defined as having at least 12 months of railroad service in the 30 months preceding death or retirement. An employee whose last 12 months of railroad service occurred prior to the 30 months before retirement or death may maintain a current connection if the employee did not perform any regular employment between the end of the 30 month period containing the last 12 months of railroad service and the month of retirement or death. For purposes of the supplemental annuity or survivors' benefits, an employee who was terminated involuntarily and without fault on or after October 1, 1975, after 25 years of service and did not thereafter decline an offer of employment in the same class or craft in the railroad industry is deemed to have a current connection.

Fully insured - insured for retirement at age 62 under social security; does not necessarily imply an insured status for disability benefits or for survivor benefits for death before age 62.

Social security benefit - when used in describing the computation of the vested dual benefit, the term "social security benefit" means a primary insurance amount computed by using the social security formula in effect in 1974 and the specified earnings; it does not imply an actual benefit.

Social security retirement age - the age at which an individual may receive an unreduced benefit at retirement under the Social Security Act, as follows:

| Year of attainment of early retirement age (62 for employees and spouses, 60 for widows and widowers) | Retirement age (age for unreduced benefit) |
|---|---|
| 1999 or earlier | 65 years, 0 months |
| 2000 | 65 years, 2 months |
| 2001 | 65 years, 4 months |
| 2002 | 65 years, 6 months |
| 2003 | 65 years, 8 months |
| 2004 | 65 years, 10 months |
| 2005-2016 | 66 years, 0 months |
| 2017 | 66 years, 2 months |
| 2018 | 66 years, 4 months |
| 2019 | 66 years, 6 months |
| 2020 | 66 years, 8 months |
| 2021 | 66 years, 10 months |
| 2022 or later | 67 years, 0 months |