

# **RRB - SSA - CMS FINANCIAL INTERCHANGE**

**Calculations for Fiscal Year 2021  
With Respect to OASI, DI, and HI Trust Funds**

**Summary and Documentation**

**70th Determination**

---

**Prepared jointly by**

**U.S. RAILROAD RETIREMENT BOARD  
SOCIAL SECURITY ADMINISTRATION  
and  
CENTERS FOR MEDICARE & MEDICAID SERVICES**



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**Compiled by  
U.S. RAILROAD RETIREMENT BOARD  
CHICAGO, ILLINOIS  
2022**



## **INTRODUCTION**

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The financial interchange between the railroad retirement and social security systems is intended to place the Social Security Old-Age and Survivors Insurance (OASI) and Disability Insurance (DI) Trust Funds and the Centers for Medicare and Medicaid Services Hospital Insurance (HI) Trust Fund in the same condition they would have been had railroad employment been covered by the Social Security and Federal Insurance Contributions Acts. Every year estimates are made of the additional benefits and administrative expenses that would have been paid from the Trust Funds as well as the additional payroll taxes and income taxes that would have been received by them, with allowances for interest.

This booklet documents the determination through fiscal year 2021. Included are the official determination and certification documents and a summary of the results of the determination. Exhibit 1 provides details on the benefit, administrative cost, income tax, and interest calculations for the determination. Exhibit 2 covers the payroll calculations.

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**DETERMINATIONS PURSUANT TO SECTION 7(c)(2)  
OF THE RAILROAD RETIREMENT ACT OF 1974, AS AMENDED**

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DETERMINATION PURSUANT TO SECTION 7(c)(2)  
OF THE RAILROAD RETIREMENT ACT OF 1974, AS AMENDED

Pursuant to the provisions of section 7(c)(2) of the Railroad Retirement Act of 1974, as amended, the Acting Commissioner of Social Security and the Railroad Retirement Board have determined that, as of the close of the fiscal year ended September 30, 2021, the subtraction of \$5,258,400,000 from the Federal Old-Age and Survivors Insurance Trust Fund and \$153,900,000 from the Federal Disability Insurance Trust Fund would place such Funds in the same position in which they would have been if service as an employee after December 31, 1936, covered by said Railroad Retirement Act, had been included in the term "employment" as defined in the Social Security Act and in the Federal Insurance Contributions Act.

The amount of \$5,258,400,000 for the Federal Old-Age and Survivors Insurance Trust Fund is based on expenditures of \$7,254,400,000 in benefit payments, \$16,300,000 in administrative expenses, less payroll taxes of \$1,801,100,000 and net income taxes of \$283,000,000, plus net interest of \$71,800,000. The amount of \$153,900,000 for the Federal Disability Insurance Trust Fund is based on expenditures of \$426,900,000 in benefit payments, \$2,500,000 in administrative expenses, less payroll taxes of \$305,900,000 and net income taxes of \$800,000, plus net interest of \$31,200,000.

It is understood by the Acting Commissioner and the Board that the determination of the amounts specified herein is made without prejudice to settlement of any unresolved questions between the Acting Commissioner and the Board, relative to the provisions of section 7(c)(2) of the Railroad Retirement Act, in making any subsequent determinations pursuant to such section.

IN WITNESS WHEREOF the Acting Commissioner of Social Security and the Railroad Retirement Board, by its Secretary to the Board, have hereunto set their respective hands and caused, respectively, the seals of the Social Security Administration and the Railroad Retirement Board to be affixed.

**Social Security Administration**

By *M. Bob Kijakowski*  
Acting Commissioner of Social Security

05/27/22

Date signed

Applying my electronic signature here is the  
Equivalent of my hand-written signature and  
certification of the contents of the reports.

**Railroad Retirement Board**

By STEPHANIE HILLYARD Digitally signed by STEPHANIE HILLYARD  
Date: 2022.05.09 10:00:53 -0500

FOR THE BOARD  
Secretary to the Board  
May 9, 2022

Date signed

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certification of the contents of the reports.

DETERMINATION PURSUANT TO SECTION 7(c)(2)  
OF THE RAILROAD RETIREMENT ACT OF 1974, AS AMENDED

Pursuant to the provisions of section 7(c)(2) of the Railroad Retirement Act of 1974, as amended, the Secretary of Health and Human Services and the Railroad Retirement Board have determined that, as of the close of the fiscal year ended September 30, 2021, the addition of \$510,300,000 to the Federal Hospital Insurance Trust Fund would place such Fund in the same position in which it would have been if service as an employee after December 31, 1936, covered by said Railroad Retirement Act, had been included in the term "employment" as defined in the Social Security Act and in the Federal Insurance Contributions Act.

The amount of \$510,300,000 for the Federal Hospital Insurance Trust Fund is based on payroll taxes of \$505,600,000 and net income taxes of \$1,600,000, less administrative expenses of \$1,900,000, plus net interest of \$5,000,000.

It is understood by the Secretary and the Board that the determination of the amounts specified herein is made without prejudice to settlement of any unresolved questions between the Secretary and the Board, relative to the provisions of section 7(c)(2) of the Railroad Retirement Act, in making any subsequent determinations pursuant to such section.

**IN WITNESS WHEREOF** the Administrator of the Centers for Medicare & Medicaid Services, acting herein by virtue of authority vested in her by the Secretary of Health and Human Services, and the Railroad Retirement Board, by its Secretary to the Board, have hereunto set their respective hands and caused, respectively, the seals of the Department of Health and Human Services and the Railroad Retirement Board to be affixed.

**Secretary of Health and Human Services**

By Chig B. Looe  
Administrator of the Centers for  
Medicare & Medicaid Services

May 25, 2022  
Date signed

Applying my electronic signature here is the  
Equivalent of my hand-written signature and  
certification of the contents of the reports.

**Railroad Retirement Board**

STEPHANIE  
By HILLYARD Digitally signed by STEPHANIE  
HILLYARD  
Date: 2022.05.09 11:33:00 -05'00'

FOR THE BOARD  
Secretary to the Board

May 9, 2022

Date signed

Applying my electronic signature here is the  
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certification of the contents of the reports.

**CERTIFICATIONS PURSUANT TO SECTION 7(c)(2)  
OF THE RAILROAD RETIREMENT ACT OF 1974, AS AMENDED**

---

**CERTIFICATION PURSUANT TO SECTION 7(c)(2)  
OF THE RAILROAD RETIREMENT ACT OF 1974, AS AMENDED**

Pursuant to the provisions of section 7(c)(2) of the Railroad Retirement Act of 1974, as amended, the Acting Commissioner of Social Security and the Railroad Retirement Board have determined that, as of the close of the fiscal year ended September 30, 2021, the amount of \$5,258,400,000 if subtracted from the Federal Old-Age and Survivors Insurance Trust Fund, would place such Fund in the same position in which it would have been if service as an employee after December 31, 1936, covered by said Railroad Retirement Act, had been included in the term "employment" as defined in the Social Security Act and in the Federal Insurance Contributions Act.

The amount of \$5,258,400,000 for the Federal Old-Age and Survivors Insurance Trust Fund is based on expenditures of \$7,254,400,000 in benefit payments, \$16,300,000 in administrative expenses, less payroll taxes of \$1,801,100,000 and net income taxes of \$283,000,000, plus net interest of \$71,800,000.

The Acting Commissioner of Social Security hereby certifies to the Secretary of the Treasury, pursuant to the provisions of such section 7(c)(2), the amount of \$5,315,756,000 including interest of \$57,356,000 for the period October 1, 2021 to the date of certification, for transfer from the Federal Old-Age and Survivors Insurance Trust Fund to the Social Security Equivalent Benefit Account.

Certified as of the 2nd day of June 2022.

**IN WITNESS WHEREOF** the Acting Commissioner of Social Security has hereunto set her hand and caused the seal of the Social Security Administration to be affixed.

**Social Security Administration**

By *Milob Kijakazi*  
Acting Commissioner of Social Security

05/27/22

Date signed

Applying my electronic signature here is the Equivalent of my hand-written signature and certification of the contents of the reports.

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CERTIFICATION PURSUANT TO SECTION 7(c)(2)  
OF THE RAILROAD RETIREMENT ACT OF 1974, AS AMENDED

Pursuant to the provisions of section 7(c)(2) of the Railroad Retirement Act of 1974, as amended, the Acting Commissioner of Social Security and the Railroad Retirement Board have determined that, as of the close of the fiscal year ended September 30, 2021, the amount of \$153,900,000, if subtracted from the Federal Disability Insurance Trust Fund, would place such Fund in the same position in which it would have been in service as an employee after December 31, 1936, covered by said Railroad Retirement Act, had been included in the term "employment" as defined in the Social Security Act and in the Federal Insurance Contributions Act.

The amount of \$153,900,000 for the Federal Disability Insurance Trust Fund is based on expenditures of \$426,900,000 in benefit payments, \$2,500,000 in administrative expenses, less payroll taxes of \$305,900,000 and net income taxes of \$800,000, plus net interest of \$31,200,000.

The Acting Commissioner of Social Security hereby certifies to the Secretary of the Treasury, pursuant to the provisions of such section 7(c)(2), the amount of \$155,579,000, including interest of \$1,679,000 for the period October 1, 2021 to the date of certification, for transfer from the Federal Disability Insurance Trust Fund to the Social Security Equivalent Benefit Account.

Certified as of the 2nd day of June 2022.

**IN WITNESS WHEREOF** the Acting Commissioner of Social Security has hereunto set her hand and caused the seal of the Social Security Administration to be affixed.

**Social Security Administration**

By *M. Lolo Kijakazi*  
Acting Commissioner of Social Security

05/27/22

Date signed

Applying my electronic signature here is the Equivalent of my hand-written signature and certification of the contents of the reports.

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**CERTIFICATION PURSUANT TO SECTION 7(c)(2)  
OF THE RAILROAD RETIREMENT ACT OF 1974, AS AMENDED**

Pursuant to the provisions of section 7(c)(2) of the Railroad Retirement Act of 1974, as amended, the Secretary of Health and Human Services and the Railroad Retirement Board have determined that, as of the close of the fiscal year ended September 30, 2021, the amount of \$510,300,000, if added to the Federal Hospital Insurance Trust Fund, would place such Fund in the same position in which it would have been if service as an employee after December 31, 1936, covered by said Railroad Retirement Act, had been included in the term "employment" as defined in the Social Security Act and in the Federal Insurance Contributions Act.

The amount of \$510,300,000 for the Federal Hospital Insurance Trust Fund is based on payroll taxes of \$505,600,000 and net income taxes of \$1,600,000, less administrative expenses of \$1,900,000, plus net interest of \$5,000,000.

The Railroad Retirement Board hereby certifies to the Secretary of the Treasury, pursuant to the provisions of such section 7(c)(2), the amount of \$515,866,000, comprised of \$505,300,000 in principal, net interest of \$5,000,000 through September 30, 2021, plus \$5,566,000 in interest for the period October 1, 2021 to the date of certification, for transfer from the Social Security Equivalent Benefit Account to the Federal Hospital Insurance Trust Fund.

Certified as of the 2nd day of June 2022.

**IN WITNESS WHEREOF** the Secretary to the Board of the Railroad Retirement Board, acting herein by virtue of authority vested in her by the Railroad Retirement Board, has hereunto set her hand and caused the seal of the Railroad Retirement Board to be affixed.

**Railroad Retirement Board**

By STEPHANIE HILLYARD Digitally signed by STEPHANIE  
HILLYARD  
Date: 2022.05.09 11:32:32 -05'00'

FOR THE BOARD  
Secretary to the Board  
May 9, 2022

Date signed

Applying my electronic signature here is the  
Equivalent of my hand-written signature and  
certification of the contents of the reports.



## RESULTS OF DETERMINATION THROUGH FISCAL YEAR 2021

### RRB-SSA-CMS Financial Interchange Results of Determination through Fiscal Year 2021

As of September 30, 2021, the Social Security Equivalent Benefit Account (Account) was due \$5,258.4 million from the OASI Trust Fund and \$153.9 million from the DI Trust Fund; \$510.3 million was due from the Account to the HI Trust Fund. With the inclusion of interest to June 2, 2022, the anticipated date of transfer, the amounts to be transferred are \$5,315,756,000 from the OASI Trust Fund, \$155,579,000 from the DI Trust Fund and \$515,866,000 to the HI Trust Fund. This will result in a net transfer of \$4,955,469,000 to the Account.

The results of the calculations, including adjustments, for fiscal year 2021 are shown below, separately for each of the trust funds:

<u>OASI Trust Fund</u>	<u>Amount</u> (millions)
Amount due to Social Security Equivalent Benefit Account:	
September 30, 2020.....	\$4,732.9
Plus: Benefit payments.....	7,254.4
Administrative expenses .....	16.3
Interest.....	131.4
Less: Payroll taxes at OASI rates on railroad payroll.....	1,801.1
Income taxes (after Treasury reconciliation).....	283.0
Transferred to Social Security Equivalent Benefit Account on June 2, 2021 (principal of \$4,732.9 million plus interest of \$59.6 million).....	4,792.5
Amount due to Social Security Equivalent Benefit Account:	
September 30, 2021.....	\$5,258.4
June 2, 2022 (including interest at 1.625 percent) .....	\$5,315.8

<u>DI Trust Fund</u>	
Amount due to Social Security Equivalent Benefit Account:	
September 30, 2020.....	\$105.8
Plus: Benefit payments.....	426.9
Administrative expenses .....	2.5
Interest.....	32.5
Less: Payroll taxes at DI rates on railroad payroll.....	305.9
Income taxes (after Treasury reconciliation).....	0.8
Transferred to Social Security Equivalent Benefit Account on June 2, 2021 (principal of \$105.8 million plus interest of \$1.3 million).....	107.1
Amount due to Social Security Equivalent Benefit Account:	
September 30, 2021.....	\$153.9
June 2, 2022 (including interest at 1.625 percent) .....	\$155.6

<u>HI Trust Fund</u>	<u>Amount</u> (millions)
Amount due to HI Trust Fund:	
September 30, 2020.....	\$561.1
Plus: Payroll taxes at HI rates on railroad payroll.....	505.6
Income taxes (after Treasury reconciliation).....	1.6
Interest.....	12.1
Less: Administrative expenses .....	1.9
Transferred to HI Trust Fund on June 2, 2021 (principal of \$561.1 million plus interest of \$7.1 million).....	568.2
Amount due to HI Trust Fund:	
September 30, 2021 .....	\$510.3
June 2, 2022 (including interest at 1.625 percent) .....	\$515.9

The net payment of \$4,955.5 million due the Social Security Equivalent Benefit Account is \$624.0 million more than the previous determination. This increase consists of the following changes: an increase of \$14.2 million in benefit payments, decreases of \$169.8 million in payroll tax revenues and \$1.4 million in income tax revenues, as well as increases of \$0.8 million in administrative expenses and \$33.7 million in total interest, and not including a pre-1957 military service adjustment of \$404.1 million that was in the 69<sup>th</sup> determination.

Presented below is a more detailed comparison between the current and prior determinations.

#### **Pre-1957 Social Security Military Service**

The primary reason for the increase in the transfer amount is the absence of an adjustment for pre-1957 military service credited to Social Security beneficiaries. In the 69<sup>th</sup> determination, a \$409.4 million credit to the OASI Trust Fund and a \$5.3 million charge to the DI Trust Fund were reflected in the June 2021 transfer amount, resulting in a \$404.1 million offset in funds to the SSEB Account. No pre-1957 military service adjustment is included in the 70<sup>th</sup> determination.

#### **Benefit Amounts**

Overall, the additional social security benefits that would have been payable if railroads had been covered by the Social Security Act increased by 0.2 percent, or \$14.2 million, to \$7,681.3 million from the previous determination amount of \$7,667.1 million. Even with a declining number of beneficiaries each year, higher wages for more recent retirees have resulted in larger benefit awards. In addition, a cost-of-living increase of 1.3 percent was in effect for 9 months of fiscal year 2021.

#### **Payroll Taxes**

The combined payroll tax amount creditable to the OASDHI Trust Funds decreased by 6.1 percent, or \$169.8 million, to \$2,612.6 million from the previous determination amount of \$2,782.4 million. This decrease was primarily due to a decline in average employment levels from 201,000 in fiscal year 2020 to 188,000 in fiscal year 2021. The decline in employment more than offset any increase in taxable wage limit.

#### **Income Taxes**

Federal income taxes credited to the OASDHI Trust Funds decreased by 0.5 percent, or \$1.4 million, to \$285.4 million from the previous determination amount of \$286.8 million. The current determination reflects Treasury OASDI and HI reconciliations for calendar years 2015 and 2016.



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**Administrative Expenses**

Administrative expense reimbursements increased by 4.0 percent, or \$0.8 million, to \$20.7 million from the previous determination amount of \$19.9 million. OASI administrative expense reimbursements increased from \$13.9 million to \$16.3 million due primarily to an increase in unit costs that was offset by a decrease in new OASI enrollments. DI administrative expense reimbursements decreased from \$4.0 million to \$2.5 million due to a decrease in new DI employee enrollments that was offset slightly by an increase in the unit costs. HI administrative expense reimbursements decreased from \$2.0 million to \$1.9 million due primarily to a decrease in new DI employee enrollments that was offset by a modest increase in OASI unit costs.

**Interest Charges**

Total interest charges increased by \$33.7 million compared to last year's determination. Although interest rates were slightly lower during calendar year 2021, the OASDHI interest charges increased by \$15.2 million to \$151.8 million from \$136.6 million due to prior year amendments. Interest to transfer date adjustments added another \$18.5 million.

Table 1. -- RRB-SSA Financial Interchange: Change in Balance of OASI Trust Fund at End of Each Calendar Year 1937-2020, and on September 30, 2021  
(Dollar amounts in millions)

Calendar Year	Appropriations (Payroll Taxes) <sup>1</sup>	Income Taxes	Benefit Payments <sup>2</sup>	Administrative Expenses	Military Service Adjustments	Transfers to SSEB Account <sup>3</sup>	Interest factor <sup>4</sup>		Interest Creditable to SSEB Account <sup>5</sup>	Decrease in Trust Fund Balance at End of Year <sup>6</sup>
							First Semi-Annual %	Second Semi-Annual %		
Total	\$74,548.6	\$4,900.4	\$234,135.4	\$1,029.9	\$1,220.0	\$160,011.9			\$10,773.9	
1937	37.2		0.1				0.8819		(0.2)	(\$37.3)
1938	24.7		0.9				2.2607		(1.1)	(62.2)
1939	40.3		1.3				2.3651		(1.9)	(103.1)
1940	44.2		6.0	1.9			2.6680		(3.2)	(142.6)
1941	49.7		14.1	1.9			2.6440		(4.2)	(180.5)
1942	62.3		20.2	2.0			2.4610		(4.9)	(225.5)
1943	74.7		25.7	2.2			2.2530		(5.6)	(277.9)
1944	83.5		32.1	2.5			2.1450		(6.4)	(333.2)
1945	84.7		40.7	2.6			2.1010		(7.4)	(382.0)
1946	87.8		52.5	2.9			2.0470		(8.1)	(422.5)
1947	91.5		61.5	3.2			2.0240		(8.8)	(458.1)
1948	95.4		71.8	3.4			2.1150		(9.8)	(488.1)
1949	87.8		84.6	3.6			2.1620		(10.4)	(498.1)
1950	131.6		112.2	3.7			2.1520		(10.9)	(524.7)
1951	153.6		184.8	3.7			2.1510		(10.7)	(500.5)
1952	154.8		200.9	3.9			2.2050		(10.4)	(460.9)
1953	154.5		241.4	4.0			1.1200	1.1760	(9.4)	(379.4)
1954	179.6		270.6	3.6		(21.1)	1.1700	1.1150	(7.1)	(270.8)
1955	193.5		337.7	5.0		(7.4)	1.0510	1.1330	(3.9)	(118.1)
1956	208.1		371.1	4.4		(5.2)	1.1430	1.2430	(0.5)	54.0
1957	205.6		413.2	4.8		(1.6)	1.2390	1.2400	4.3	272.3
1958	178.8		451.8	5.5		124.4	1.2570	1.2470	9.3	435.7
1959	203.2		516.3	5.8		282.0	1.2740	1.2940	12.3	484.9
1960	259.0		578.6	6.1		318.4	1.2850	1.2940	12.8	505.0
1961	230.0		606.8	6.5		331.7	1.3410	1.3840	14.8	571.4
1962	236.9		640.8	6.3		360.8	1.3850	1.4080	17.2	638.0
1963	268.7		662.9	7.1		422.5	1.4160	1.4750	18.7	635.5
1964	265.6		675.5	7.3		402.6	1.5000	1.5510	20.0	670.1
1965	259.4		732.9	6.9		435.6	1.5490	1.5940	22.1	737.0
1966	330.2		743.4	8.2		443.8	1.6410	1.7820	25.6	740.2

Table 1. -- RRB-SSA Financial Interchange: Change in Balance of OASI Trust Fund at End of Each Calendar Year 1937-2020, and on September 30, 2021 (Continued)  
(Dollar amounts in millions)

Calendar Year	Appropriations (Payroll Taxes) <sup>1</sup>	Income Taxes	Benefit Payments <sup>2</sup>	Administrative Expenses	Military Service Adjustments	Transfers to SSEB Account <sup>3</sup>	Interest factor <sup>4</sup>		Interest Creditable to SSEB Account <sup>5</sup>	Decrease in Trust Fund Balance at End of Year <sup>6</sup>
							First Semi-Annual %	Second Semi-Annual %		
1967	\$334.3		\$759.2	\$9.1		\$508.0	1.7750	1.9040	\$24.6	\$690.8
1968	336.6		851.7	9.8		437.6	1.9120	1.9570	27.7	805.8
1969	374.3		878.7	10.2		491.5	2.0510	2.2440	34.5	863.4
1970	366.5		1,012.7	10.6		578.8	2.3520	2.5400	43.1	984.5
1971	403.4		1,119.0	11.1		613.0	2.5140	2.5740	51.7	1,149.9
1972	441.9		1,189.7	10.8		724.3	2.5840	2.6340	58.6	1,242.8
1973	544.8		1,461.4	10.6		783.0	2.7080	2.8740	68.5	1,455.5
1974	647.3		1,581.6	11.8		908.6	2.9100	3.1530	83.5	1,576.5
1975	640.6		1,708.8	13.2		981.8	3.1670	3.2940	103.5	1,779.6
1976	707.6		1,838.2	13.1	\$47.0	1,212.3	3.2720	3.3460	112.4	1,776.4
1977	760.8		1,945.5	13.6	2.6	1,207.8	3.3650	3.4570	118.4	1,882.7
1978	795.9		2,069.1	14.0		1,588.7	3.5070	3.5370	117.2	1,698.4
1979	990.4		2,261.4	16.2		1,447.5	3.6270	3.6850	114.6	1,652.7
1980	1,089.7		2,526.5	15.0		1,442.0	4.1560	4.1810	134.6	1,797.1
1981	1,173.6		2,863.0	17.5		1,584.9	4.7750	4.9190	175.7	2,094.8
1982	1,106.9		3,167.6	19.9		1,793.3	5.0270	5.8080	238.6	2,620.7
1983	1,146.0		3,252.1	21.0		2,250.8	5.3020	5.2950	270.7	2,767.7
1984	1,303.7	\$57.0	3,370.4	21.8		2,404.0	5.1510	6.1970	284.5	2,679.7
1985	1,261.7	65.0	3,506.7	23.3		2,310.2	5.7970	5.2900	290.2	2,863.0
1986	1,235.3	68.3	3,619.0	21.4		2,585.1	5.5630	5.4800	299.1	2,913.8
1987	1,236.7	(12.0)	3,686.1	20.4		2,557.3	5.1190	4.7940	283.4	3,121.7
1988	1,289.4	4.2	3,832.6	23.2		2,790.0	4.7850	4.7740	283.3	3,177.2
1989	1,271.7	14.0	3,992.3	19.3		2,845.3	4.7436	4.6028	286.9	3,344.7
1990	1,270.5	30.5	4,182.5	18.6		2,969.3	4.5631	4.5323	298.4	3,573.9
1991	1,299.1	47.2	4,391.1	18.6		3,374.6	4.4871	4.3982	300.2	3,562.9
1992	1,329.6	53.9	4,522.8	19.1		3,148.4	4.3350	4.2187	302.3	3,875.2
1993	1,355.6	58.7	4,644.5	18.4		3,352.5	4.1602	3.9913	306.2	4,077.5
1994	1,249.5	49.4	4,693.0	17.6		3,419.6	3.9462	3.9283	317.5	4,387.1
1995	1,253.4	40.0	4,723.5	16.0	51.2	4,052.3	3.9134	3.8165	307.0	4,036.7
1996	1,285.4	55.9	4,759.8	16.8		3,554.1	3.7763	3.7618	295.6	4,213.5

Table 1. -- RRB-SSA Financial Interchange: Change in Balance of OASI Trust Fund at End of Each Calendar Year 1937-2020, and on September 30, 2021 (Continued)  
(Dollar amounts in millions)

Calendar Year	Appropriations (Payroll Taxes) <sup>1</sup>	Income Taxes	Benefit Payments <sup>2</sup>	Administrative Expenses	Military Service Adjustments	Transfers to SSEB Account <sup>3</sup>	Interest factor <sup>4</sup>		Interest Creditable to SSEB Account <sup>5</sup>	Decrease in Trust Fund Balance at End of Year <sup>6</sup>
							First Semi-Annual %	Second Semi-Annual %		
1997	\$1,338.2	\$55.5	\$4,814.8	\$16.2		\$3,688.1	3.7287	3.6895	\$298.5	\$4,261.2
1998	1,407.9	72.1	4,825.1	14.1		3,662.2	3.6343	3.5192	288.6	4,246.8
1999	1,427.1	103.4	4,796.0	14.4		3,681.4	3.4594	3.4101	272.1	4,117.4
2000	1,413.3	124.5	4,815.2	13.2	\$326.1	3,538.2	3.4051	3.3607	259.2	3,802.9
2001	1,401.4	89.5	4,858.7	14.0		3,273.1	3.3149	3.2369	248.7	4,160.3
2002	1,388.3	106.7	4,857.4	14.6		3,493.3	3.2021	3.1118	253.6	4,297.6
2003	1,405.3	108.6	4,879.8	15.4		3,580.0	3.0557	2.8726	242.5	4,341.4
2004	1,468.8	107.3	4,863.8	14.5		3,628.1	2.8360	2.7672	227.2	4,242.7
2005	1,543.2	111.5	4,921.7	21.4		3,579.3	2.7386	2.6368	212.3	4,164.1
2006	1,592.8	124.5	5,076.6	18.1		3,458.0	2.6274	2.6119	207.3	4,290.8
2007	1,654.5	128.2	5,196.4	19.1		3,574.6	2.6010	2.5769	210.2	4,359.2
2008	1,715.4	104.2	5,289.6	18.1		3,632.3	2.5465	2.4784	206.6	4,421.6
2009	1,622.8	128.5	5,644.6	19.1		3,689.7	2.4377	2.3513	207.2	4,851.5
2010	1,634.8	151.4	5,683.7	22.1		3,929.7	2.3340	2.2338	212.4	5,053.8
2011	1,755.5	170.0	5,759.8	19.0		4,109.5	2.2167	2.1109	203.1	5,000.7
2012	1,837.0	273.8	6,046.8	18.7	154.8	4,139.2	2.0820	1.9380	185.5	4,846.9
2013	1,882.7	238.7	6,194.1	20.4		3,948.4	1.9143	1.8135	174.2	5,165.8
2014	2,036.0	243.9	6,360.1	20.3		4,257.1	1.8017	1.7191	169.2	5,178.4
2015	2,117.8	291.5	6,538.6	17.3		4,258.0	1.7046	1.6139	159.0	5,226.0
2016	1,835.2	295.3	6,616.7	20.8	228.9	4,286.9	1.6037	1.5197	154.9	5,372.1
2017	1,854.9	287.5	6,711.6	18.3		4,315.8	1.5130	1.4498	153.5	5,797.3
2018	1,971.3	288.5	6,916.3	16.9		4,768.9	1.4470	1.4274	155.1	5,856.9
2019	2,031.8	263.8	7,121.0	15.2		4,880.4	1.4182	1.3640	152.1	5,969.2
2020	1,848.9	287.7	7,282.3	15.8	409.4	4,844.0	1.3479	1.2630	147.7	6,025.0
2021 (9 month estimate)	1,384.6	211.7	5,501.8	11.9		4,792.5	1.2501	1.1785	108.5	5,258.4

<sup>1</sup> Appropriations are net of payroll tax refunds for the calendar year.

<sup>2</sup> Uncollectible benefits overpayments are included in annual benefit payments.

<sup>3</sup> Figures in parentheses represent amounts creditable or transferred to trust fund.

<sup>4</sup> Represents rate derived from average interest rate earned by trust fund in indicated six month period (calendar year for 1937-1952). Interest factors applied to balance at beginning of period plus weighted net income in period.

<sup>5</sup> The Social Security Equivalent Benefit (SSEB) Account replaced the Railroad Retirement Account (RRA) as the Financial Interchange depository beginning in 1984.

<sup>6</sup> Figures in parentheses represent increases in trust fund balances at end of year.

NOTE - Detail may not add to totals shown because of rounding.

Table 2. -- RRB-SSA Financial Interchange: Change in Balance of DI Trust Fund at End of Each Calendar Year 1957-2020, and on September 30, 2021  
(Dollar amounts in millions)

Calendar Year	Appropriations (Payroll Taxes) <sup>1</sup>	Income Taxes	Benefit Payments <sup>2</sup>	Administrative Expenses	Military Service Adjustments	Transfers to SSEB Account <sup>3</sup>	Interest factor <sup>4</sup>		Interest Creditable to SSEB Account <sup>5</sup>	Decrease in Trust Fund Balance at End of Year <sup>6</sup>
							First Semi-Annual %	Second Semi-Annual %		
Total	\$11,280.2	\$126.3	\$18,848.5	\$244.1	\$139.6	\$8,258.4			\$865.4	
1957	23.2		2.6	0.4			1.0830	1.1680	(0.2)	(\$20.4)
1958	22.6		19.4	0.7			1.1900	1.2240	(0.5)	(23.4)
1959	22.7		26.0	0.9		(22.0)	1.2310	1.2560	(0.2)	2.6
1960	23.8		31.8	1.1		(4.9)	1.2880	1.3160	0.3	16.9
1961	20.9		34.3	1.2		5.1	1.3840	1.4460	0.6	27.0
1962	20.7		36.5	1.3		11.0	1.4280	1.4720	0.9	34.0
1963	19.9		38.1	1.6		19.6	1.4730	1.5060	1.0	35.2
1964	19.7		39.3	2.0		19.1	1.5320	1.6030	1.2	38.9
1965	19.2		48.1	1.7		23.6	1.5930	1.7350	1.4	47.3
1966	33.0		52.1	2.0		25.0	1.8360	1.8570	1.7	45.1
1967	33.0		53.2	2.3		30.6	1.9810	2.1040	1.6	38.6
1968	48.0		59.0	2.0		20.4	1.9860	2.3090	1.5	32.7
1969	48.0		59.5	1.7		21.3	2.4080	2.6100	1.4	26.0
1970	55.1		67.8	2.6		10.4	2.7940	2.9450	1.6	32.5
1971	54.8		71.0	3.5		13.2	2.9450	2.9580	2.0	41.0
1972	60.0		75.2	2.8		24.2	2.9500	2.9520	2.0	36.8
1973	69.7		91.7	4.2		19.5	2.9960	3.0870	2.3	45.8
1974	85.1		103.4	1.9		22.3	3.1260	3.2700	2.7	46.4
1975	84.2		112.5	2.2		28.5	3.2890	3.3320	3.1	51.5
1976	93.0		123.1	2.5	28.4	26.4	3.3040	3.3450	2.7	32.0
1977	100.0		137.2	2.2	3.8	(0.3)	3.4430	3.5700	3.7	71.6
1978	143.6		146.3	2.8		29.8	3.5990	3.7240	4.3	51.6
1979	171.7		151.9	2.7		29.9	3.8690	3.9280	2.1	6.7
1980	136.1		165.0	2.5		(12.1)	4.3330	4.2770	2.7	52.9
1981	161.9		190.2	4.4		29.4	4.8340	5.0380	5.5	61.7
1982	198.0		195.7	4.4		26.4	5.5220	5.9770	6.3	43.7
1983	152.0		188.4	3.8		27.8	5.1070	5.0260	5.4	61.5
1984	126.7	1.8	186.8	2.3		21.6	5.1510	5.2820	8.9	109.4
1985	121.3	2.0	183.4	1.4		42.7	5.3420	4.9420	12.6	140.8
1986	118.8	2.1	182.5	2.3		67.7	4.9890	4.8360	14.0	151.0
1987	118.9	(1.8)	179.6	3.3		56.9	4.8620	4.5870	15.1	175.0
1988	123.6	(0.7)	187.3	3.3		61.3	4.6890	4.7030	17.0	198.4
1989	121.9	0.2	197.1	3.4		88.2	4.7092	4.6612	18.3	206.9
1990	135.7	0.3	193.8	3.8		79.9	4.6134	4.5708	18.6	207.2
1991	139.2	0.6	217.0	2.8		82.1	4.5373	4.4280	18.7	223.8

Table 2. -- RRB-SSA Financial Interchange: Change in Balance of DI Trust Fund at End of Each Calendar Year 1957-2020, and on September 30, 2021 (Continued)  
(Dollar amounts in millions)

Calendar Year	Appropriations (Payroll Taxes) <sup>1</sup>	Income Taxes	Benefit Payments <sup>2</sup>	Administrative Expenses	Military Service Adjustments	Transfers to SSEB Account <sup>3</sup>	Interest factor <sup>4</sup>		Interest Creditable to SSEB Account <sup>5</sup>	Decrease in Trust Fund Balance at End of Year <sup>6</sup>
							First Semi-Annual %	Second Semi-Annual %		
1992	\$142.4	\$0.8	\$236.1	\$3.1		\$58.0	4.3697	4.3236	\$21.8	\$283.6
1993	145.2	1.2	247.2	3.1		82.8	4.2213	4.1717	24.9	329.6
1994	223.4	1.1	248.7	3.8		106.0	4.0431	3.9940	23.8	275.4
1995	224.0	1.0	261.7	3.6	\$41.5	67.8	3.9499	3.3458	18.6	225.0
1996	229.7	1.2	273.2	4.9		2.2	3.3242	3.4263	17.3	287.3
1997	212.6	1.5	302.0	4.5		59.1	3.4160	3.4207	21.1	341.7
1998	223.7	1.8	314.7	6.4		156.8	3.3774	3.2997	20.7	301.2
1999	226.7	2.6	338.3	6.2		134.6	3.2486	3.2498	18.8	300.6
2000	240.0	3.5	369.7	4.4	145.0	159.4	3.2600	3.2483	16.2	143.0
2001	237.9	2.9	396.5	5.6		9.7	3.2049	3.1466	14.2	308.8
2002	235.7	3.8	441.4	4.2		153.5	3.1153	3.0480	20.4	381.8
2003	238.7	4.5	525.5	5.3		167.4	2.9995	2.8445	25.4	527.4
2004	249.4	4.9	567.8	6.5		215.4	2.8170	2.2766	29.5	661.5
2005	262.1	5.0	587.8	10.4		337.9	2.7455	2.6705	35.0	689.7
2006	270.5	5.8	630.3	9.3		388.3	2.6628	2.6440	35.0	699.7
2007	280.9	6.5	678.3	8.1		445.2	2.6336	2.6097	34.5	688.0
2008	291.2	5.4	691.4	5.4		417.6	2.5890	2.5282	34.1	704.7
2009	275.6	7.6	728.7	7.1		447.6	2.4937	2.4602	34.0	743.7
2010	277.6	7.6	739.2	6.1		461.9	2.4392	2.4164	35.3	777.2
2011	298.1	6.7	735.8	7.9		464.7	2.3802	2.3650	35.4	786.8
2012	311.9	4.4	743.2	6.7	(74.5)	511.8	2.3306	2.2930	34.5	817.6
2013	319.7	4.5	719.4	5.2		550.6	2.2281	2.2010	31.9	699.3
2014	345.7	8.0	700.1	4.4		443.7	2.2198	2.2442	28.3	634.7
2015	359.6	6.2	668.9	6.2		418.6	2.2479	2.2560	25.3	550.7
2016	433.9	6.1	625.5	4.1	0.7	375.7	1.9036	1.6935	16.0	379.9
2017	438.3	7.1	543.6	4.5		206.7	1.6224	1.5138	10.2	286.1
2018	465.8	1.3	512.8	4.3		173.5	1.5216	1.5720	6.5	169.1
2019	344.8	4.9	474.7	4.4		66.0	1.5628	1.5167	6.2	238.7
2020	314.0	4.7	418.3	2.5	(5.3)	143.8	1.4966	1.4163	6.2	208.5
2021 (9 month estimate)	235.1	(0.8)	280.9	1.9		107.1	1.4099	1.3302	4.0	153.9

<sup>1</sup> Appropriations are net of payroll tax refunds for the calendar year.

<sup>2</sup> Uncollectible benefits overpayments are included in annual benefit payments.

<sup>3</sup> Figures in parentheses represent amounts creditable or transferred to trust fund.

<sup>4</sup> Represents rate derived from average interest rate earned by trust fund in indicated six month period. Interest factors applied to balance at beginning of period plus weighted net income in period.

<sup>5</sup> The Social Security Equivalent Benefit (SSEB) Account replaced the Railroad Retirement Account (RRA) as the Financial Interchange depository beginning in 1984.

<sup>6</sup> Figures in parentheses represent increases in trust fund balances at end of year.

NOTE - Detail may not add to totals shown because of rounding.

Table 3. -- RRB-CMS Financial Interchange: Change in Balance of HI Trust Fund at End of Each Calendar Year 1966-2020, and on September 30, 2021  
(Dollar amounts in millions)

Calendar Year	Appropriations (Payroll Taxes) <sup>1</sup>	Income Taxes	Administrative Expenses	Transfers to HI Trust Fund		Interest Factor <sup>2</sup>		Interest Creditable to HI Trust Fund <sup>3</sup>	Tax Refunds	Increase in Trust Fund Balance at End of Year
				HI Trust Fund	Semi-Annual %	First Semi-Annual %	Second Semi-Annual %			
Total	\$19,464.7	\$13.9	\$115.5	\$20,286.6			\$1,423.4	\$18.5		
1966	33.1		0.4	16.3	2.1800	2.4200	0.5			\$16.9
1967	47.2		0.1	44.0	2.1400	2.3800	1.4		0.1	21.4
1968	60.7		0.1	54.2	2.4200	2.5200	1.7		0.4	29.5
1969	60.7		0.1	63.5	2.7100	2.8000	2.2		1.1	28.8
1970	60.3		0.1	65.9	3.0900	3.1700	2.5		0.8	25.6
1971	59.8		0.1	66.1	3.2900	3.2600	2.3		0.6	21.5
1972	65.5		0.1	63.2	3.2800	3.1600	2.4		0.8	26.1
1973	126.3		0.1	99.2	3.1800	3.2300	4.1		0.7	57.2
1974	133.2		0.1	132.5	3.3800	3.5000	6.2		1.2	64.0
1975	131.7		0.1	137.7	3.5500	3.5100	7.0		0.8	64.9
1976	145.6		0.8	142.9	3.5700	3.6000	7.6		0.6	74.4
1977	156.5		1.0	0.0	3.6200	3.7200	11.6		0.7	241.5
1978	185.8		1.2	213.7	3.5900	3.7200	16.0		0.5	228.4
1979	240.1		1.7	191.1	3.8200	3.8900	19.0		1.5	294.7
1980	253.4		1.5	244.3	4.1000	4.1700	23.7		0.9	326.0
1981	323.2		1.9	276.5	4.4900	4.8800	31.4		0.7	402.2
1982	314.3		2.5	351.4	5.0700	5.4200	38.3		0.7	400.9
1983	312.5		2.3	357.7	5.4800	5.6000	40.0		0.6	393.4
1984	326.7		2.0	350.6	5.7800	5.9300	43.3		0.5	410.8
1985	327.2		2.1	371.4	5.8900	5.6600	43.7		0.8	408.2
1986	343.8		2.1	364.4	5.1500	4.9800	38.6		0.8	424.1
1987	344.9		2.2	368.0	4.8800	4.8400	38.5		0.5	437.3
1988	338.8		2.6	363.8	4.8500	4.8200	39.6		0.9	449.3
1989	333.5		2.7	378.8	4.8200	4.7200	39.2		0.9	440.5
1990	329.1		2.5	367.4	4.7100	4.6700	38.2		0.7	437.9
1991	347.3		2.4	352.2	4.6300	4.5400	38.0		0.5	468.6
1992	363.7		2.7	374.5	4.5200	4.4200	39.3			494.4
1993	375.3		2.7	400.5	4.3900	4.2700	40.2			506.7
1994*	362.6	0.0	2.7	412.9	4.2600	4.2100	38.5		0.2	492.2
1995	367.8	0.2	2.4	396.1	4.2200	4.1100	38.2			499.9

**Table 3. -- RRB-CMS Financial Interchange: Change in Balance of HI Trust Fund at End of Each Calendar Year 1966-2020, and on September 30, 2021 (Continued)**  
(Dollar amounts in millions)

Calendar Year	Appropriations (Payroll Taxes) <sup>1</sup>	Income Taxes	Administrative Expenses	Transfers to HI Trust Fund	Interest Factor <sup>2</sup>		Interest Creditable to HI Trust Fund <sup>3</sup>	ACA Adjustments	Increase in Trust Fund Balance at End of Year
					First Semi-Annual %	Second Semi-Annual %			
1996	\$375.1	\$0.0	\$3.2	\$401.3	4.0900	4.0600	\$37.9		\$508.4
1997	382.2	(0.1)	3.0	419.1	4.0100	4.0100	37.2		505.6
1998	411.7	0.0	3.0	419.4	3.9800	3.9200	37.9		532.8
1999	416.4	0.0	2.8	429.9	3.8800	3.7200	38.1		554.6
2000	407.4	0.0	2.1	465.3	3.6800	3.6200	36.4		531.0
2001	397.6	(0.2)	2.4	469.7	3.5200	3.4100	32.7		489.0
2002	393.3	(0.3)	2.2	424.7	3.3400	3.2300	29.6		484.7
2003	402.8	0.1	2.4	426.3	3.1800	2.9200	27.4		486.3
2004	423.8	0.3	2.6	418.6	2.9500	2.9200	27.2		516.4
2005	447.2	0.0	3.5	444.9	2.8100	2.7000	27.0		542.2
2006	469.0	(0.4)	3.4	471.5	2.7000	2.6500	27.7		563.6
2007	488.5	(0.2)	3.5	483.3	2.6500	2.6200	28.6		593.7
2008	519.5	(0.2)	3.3	525.7	2.5900	2.5100	28.8		612.8
2009	470.9	0.0	3.3	524.3	2.4800	2.4200	27.4		583.5
2010	472.0	0.0	3.9	535.1	2.4000	2.3800	24.5		541.0
2011	517.8	0.3	3.7	477.2	2.3500	2.3700	25.1		603.3
2012	566.1	0.6	3.5	510.9	2.2900	2.2900	27.7		683.3
2013	548.1	0.7	2.5	576.6	2.2300	2.2200	28.4		681.4
2014	608.0	1.0	2.5	611.6	2.1900	2.1800	28.2		704.5
2015	625.0	1.4	2.6	594.7	2.1700	2.0900	29.6		764.4
2016	571.3	1.8	2.9	656.8	2.0300	1.8800	27.0	\$1.4	706.2
2017	577.0	1.8	2.3	637.4	1.8500	1.8100	23.6	1.7	670.6
2018	603.3	1.6	2.2	596.5	1.8200	1.7800	23.2	1.8	701.8
2019	589.5	1.4	2.2	570.3	1.7400	1.5900	23.0	2.4	745.6
2020	524.6	1.8	1.8	606.4	1.4400	0.9300	16.6	1.8	682.2
2021 (9 month estimate)	386.0	2.3	1.4	568.2	0.9700	1.0100	9.4	1.8	510.3

<sup>1</sup> Appropriations are net of payroll tax refunds for the calendar year.

<sup>2</sup> Represents rate derived from average interest earned by trust fund in indicated six month period. Interest factor applied to balance at beginning of period plus weighted net income in period.

<sup>3</sup> Figures adjusted to allow for interest on cash transfers to trust fund, at rates shown in table, from date of transfer to end of year.

<sup>4</sup> Tax refunds ceased after 1994.

NOTE - Detail may not add to totals shown because of rounding.



## **EXHIBIT 1 – BENEFIT, ADMINISTRATION COST, INCOME TAX, INTEREST CHARGES CALCULATIONS AND CORRESPONDENCE**

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### **Part I.** Summary of Benefit, Administrative Cost, Income Tax, and Interest Charges Calculations

#### **Benefit Calculations**

The benefit calculations for each determination include estimating, from one-percent sample data, the additional benefit amounts payable on the basis of railroad employment for the calendar year ending in the fiscal year covered by the determination. A preliminary estimate is also made of the benefit amounts for the last nine months of the fiscal year. In addition, adjustments in benefit calculations for prior years are made to reflect new information or to correct processing errors.

The railroad beneficiary universe for the calendar year, to which sample amounts are inflated, consists of all accounts on which a monthly benefit was in force (payable or withheld) under the Railroad Retirement Act (RRA) for at least one month of the year and on which a monthly benefit might have been payable under Social Security Administration (SSA) eligibility conditions. Also included are those on which an SSA lump sum based on death in the year would have been payable. The corresponding one-percent sample consists of cases carried over from earlier determinations and new cases in the universe with employee SSA account number ending in the digits "30."

The sample also includes cases with employee SSA number ending in "30" of non-retired employees full retirement age and over, employees (and their auxiliaries) eligible for RRA benefits but only paid benefits by SSA, and of widows ages 60 and over not on the RRB rolls (due to election of residual payment) where SSA benefits would have been payable in the year. The universe numbers for these railroad non-beneficiaries are assumed to be 100 times the sample numbers.

For each railroad employee beneficiary in the sample, a gross benefit amount was calculated on the basis of the employee's combined railroad and social security earnings record. Appropriate reductions for benefits payable on other earnings records and for earnings received during the year were then applied. Auxiliary benefits are either computed or estimated. Beginning with the 60<sup>th</sup> determination for calendar year 2010, auxiliary benefits are only computed when there is a spouse under full retirement age whose annuity is not reduced for early retirement. For all other cases, auxiliary benefits are estimated by applying factors based on SSA experience by gender (Tables 1 and 2) to the employee's benefit amounts. The gross amounts were reduced by the amounts of actual SSA payments, to obtain net additional amounts that would be paid on the basis of railroad employment. Separate OASI and DI amounts were developed for employee disability beneficiaries who were paid actual old-age benefits by SSA.

Separate OASI life and survivor amounts were developed in cases where the employee annuitant died during the year. For all survivor cases, the gross amount is computed based on the employee's combined earnings, with reduction when needed for beneficiary earnings in the year. Survivor gross amounts are reduced for actual SSA payments based on other earnings records (in most cases the beneficiary's) to obtain the net additional OASI amounts based on railroad service.

For employees who retired after 1956 and for non-retired employees who died after 1956, actual earnings under social security annual limits have been obtained from railroad employers. For cases on the rolls before 1957, however, annual benefits before reduction for SSA payments were increased by fixed ratios according to year of accrual. (Development of the ratios is described in the Financial Interchange Summary and Documentation for Fiscal Year 1957-58, pages 135-142.) The distribution of OASI and DI sample amounts by type of benefit is shown in Table 3.

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The sample and universe are stratified to improve the accuracy of the benefit estimates. The retirement beneficiary stratification is based on the employee's age in the determination year, the year their RRA annuity began and whether an RRA spouse annuity was payable. Monthly survivor beneficiary records are stratified on the basis of number of beneficiaries, type of benefit, beneficiary's age, and year of employee's death, or, if applicable, year retired employee had attained age 66. There is a single stratum for lump-sum death benefits and one for the railroad non-beneficiary group. Employee disability benefit strata are based entirely on employee's age. The composition of the 2020 strata is shown in Table 4.

Universe and sample counts were obtained for each stratum and the sample benefit payment amounts were tabulated by stratum (Tables 5 and 5a). These sample benefit payment amounts were then inflated by multiplying each stratum total by the ratio of the universe number to the sample number.

On an accrual basis, the uninflated additional OASI benefits for 2020 totaled \$73,389,257 and the inflated amount was \$7,294,586,424. The standard error of the OASI inflated amount was \$54,482,568 and the 95-percent confidence interval for the amount of OASI benefits was \$7,187,800,590 to \$7,401,372,258.

The uninflated amount of additional DI benefits accrued in 2020 was \$3,798,388. The inflated amount was \$413,901,325. The standard error of the DI inflated amount was \$12,386,179 and the 95-percent confidence interval for the amount of DI benefits was \$389,624,415 to \$438,178,235.

The preliminary estimates of additional benefit payments in January-September 2021 were made largely on the basis of the net sample amounts in current-payment status at the end of 2020. Allowances were made for lump-sum payments and the effect of family composition factors. The estimated cash amounts payable in the 9-month period were \$5,490 million in OASI and \$275 million in DI benefits. These figures will be superseded in the next determination by a calendar year 2021 estimate based on the one-percent sample.

Adjustments were made to the benefit calculations for years prior to 2020. These adjustments primarily involved the late receipt of data on benefit payments or earnings from RRB or SSA and the correction of processing errors. OASI adjustments decreased benefits by \$86,041,000 for calendar years 2009-2019 and DI adjustments increased benefits by \$42,094,000 for calendar years 1989-2019.

The inflated adjustments and adjusted benefit amounts are shown by Trust Fund in Tables 6 and 6a.

The adjusted benefit payments for a year are the latest estimates of the amounts that would have been payable for that period on an accrual basis. Beginning with the 39<sup>th</sup> determination, second-degree curves are fit to annual accrued benefit amounts to estimate accrued benefit payments by month. The payments are then converted from an accrual to a cash basis by adding the estimated amount accrued in the preceding year but paid in the current year to the estimated amount both accrued and paid in the current year. These amounts are estimated from the number of lag months, i.e., the average length of time from date of accrual to payment, under SSA experience.

Beginning with the 46<sup>th</sup> determination (see Financial Interchange Summary and Documentation for Fiscal Year 1997, pages 42-46), the calculation of the float period reflects cycled benefit payments initiated by SSA. The float is the average number of days between the beginning of the month and the day on which Treasury clears funds for benefit payments. Effective June 1997, SSA began paying monthly benefits on staggered Wednesdays in the month (cycles 2 through 4) in addition to the third of the month (cycle 1). Almost all the SSA benefits paid in cycles 2 through 4 payments are to new beneficiaries, and the formula assumes all cycle 2 through 4 payments are by electronic funds transfer

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(EFT). The methodology to calculate a cycled float utilizes RRB experience on the percentage of annuitants receiving payments by EFT and SSA experience on the proportion of payments made in cycle 1 versus cycles 2 through 4. Table 7 displays the calculation of the float.

Beginning with the 53<sup>rd</sup> determination (see Financial Interchange Summary and Documentation for Fiscal Year 2004, pages 36-48), benefit overpayments written off as uncollectible are included in the calculations. Table 8 displays the calculation of the uncollectible overpayment amounts included in the benefit calculations for calendar years 1999-2020.

The Financial Interchange is liable under Public Law 88-133 for crediting SSA with benefits they have paid that are associated with pre-1957 military service covered under both the RRA and SSA. These benefits paid during 1952-1972, 1973-1974, 1975-1979, 1980-1991, 1992-1997, 1998-2005, and 2006-2018 were reimbursed in the 25<sup>th</sup>, 26<sup>th</sup>, 44<sup>th</sup>, 49<sup>th</sup>, 61<sup>st</sup>, 65<sup>th</sup>, and 69<sup>th</sup> determinations, respectively. No pre-1957 military service adjustment is included in the 70<sup>th</sup> determination.

### **Administrative Costs Calculations**

The additional administrative expenses that would have been paid by the OASDHI Trust Funds with respect to coverage of railroad employment were estimated to total \$20.1 million for 2020 (Tables 9 and 9a). Expenses are based on unit cost factors supplied by SSA (see Correspondence) and workload estimates developed from the financial interchange one-percent sample of beneficiaries, the gross earnings one-percent sample of active railroad employees and actual RRB wage reports processing.

Beginning with the 38<sup>th</sup> determination, administrative expense calculations reflect an agreement on the treatment of dually entitled annuitants (discussed in the Financial Interchange Summary and Documentation for Fiscal Year 1986 (pages 76-95), Fiscal Year 1987 (pages 49-59) and Fiscal Year 1988 (pages 70-77)). The following discussion is a simplified explanation of how cases receiving SSA benefits are treated under the agreement.

The estimated net additional number of OASI cases for which there would have been a determination of insured status and computation of the primary insurance amount (PIA) is based on the financial interchange sample. It is 100 times the difference between (1) the number of new awards to employees and survivors where no previous FI or SSA award had been based on the account and (2) the number of accounts on the FI employee and survivor rolls on which SSA awarded benefits in the determination year.

Additional DI cases requiring determination of insured status and computation of PIA are based on the inflated number of disability freeze decisions reached in the determination year, less the number where SSA made the first freeze determination.

The number of additional cases that would have required adjudication of OASI auxiliary benefits was estimated from financial interchange sample data. It is the difference (inflated) between (1) the number of new OASI awards to spouses and children not receiving SSA benefits or to survivors who were not receiving life benefits in the month prior to the employee's death and (2) the number of aged widows (not on the RRA rolls), spouses, and children on the FI rolls who were awarded SSA benefits in the determination year.

The approximate increase in administrative costs due to the maintenance of benefit rolls is based on the number of benefits in the financial interchange sample. It is the average of the inflated number of financial interchange benefits (excluding those to individuals receiving SSA benefits) payable at the end

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of the determination year and at the end of the preceding determination year.

The number of compensation reports that would have been received by SSA from railroad employers was estimated from RRB experience during the year. Included are allowances for compensation adjustments and additional reports for employees with more than one railroad employer. The cost is apportioned between the OASI, DI, and HI Trust Funds. A portion of the costs for both OASI and DI awards is charged to the HI Trust Fund as it pays the hospital insurance benefits that are charged to these accounts. This portion of the OASI and DI costs is supplied by SSA in the form of unit cost factors. The 2020 HI administrative cost calculation is shown in Table 9a.

Estimates of the OASDI and HI administrative expenses for 2015, 2016, 2017, and 2019 were revised to reflect revisions to the workload estimates for disability enrollments. These results are shown in Table 9b through 9i.

### **Income Tax Calculations**

At the beginning of each quarter, Treasury transfers the estimated increase in tax liability to the OASI and DI Trust Funds and the Social Security Equivalent Benefit Account for benefit payments to be received during such quarters. Proper adjustments to the transfers are made whenever the actual increase in tax liability is determined.

Income tax transfers in the financial interchange are calculated as a proportion of railroad retirement Tier 1 to social security equivalent benefit income taxes. Children of life annuitants are excluded from the calculations because it can be assumed that they would have negligible tax liability. All other non-RRB annuitants (primarily widow(er)s and spouses) are assumed to have proportionate tax liability.

Beginning with the 36<sup>th</sup> determination, income tax calculations reflect prior year income tax reconciliations. Financial interchange income tax adjustments are made in the year of the Treasury reconciliation.

The Omnibus Budget Reconciliation Act of 1993 legislation raised the level of taxes imposed on Social Security beneficiaries beginning in 1994. The increased tax revenues resulting from this legislation are payable to the HI Trust Fund. The manner of financial interchange tax liability calculations and Treasury payments to the HI Trust Fund are similar to that for OASDI. Beginning with the 43<sup>rd</sup> determination, annual adjustments are calculated to equate Treasury's quarterly and adjustment payments to what they would have been had they been calculated under the financial interchange methodology.

Table 10 shows the results of the OASDI calculations for calendar years 1984-2020 and January-September 2021. Table 10a shows the results of the HI calculations for calendar years 1994-2020 and January-September 2021.

### **Interest Charges Calculations**

Interest charges on income taxes, administrative expense, payroll taxes (including refunds), and benefits (including prior year amendments) accrue at interest rates earned by the OASI and DI Trust Funds on a semi-annual basis. The effective interest rates for the first and second halves of 2021 are 1.25012% and 1.17851% for the OASI Trust Fund, and 1.40992% and 1.33021% for the DI Trust Fund. The interest charges for the current determination reflect a cumulative interest accrual on \$42.1 million in DI prior year benefit charges from 1989 through 2019, offset by \$86.0 million in OASI prior year benefit credits from 2009 through 2019.

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**Communications**

The Correspondence and Memoranda section in Part V contains letters and memoranda sent between the RRB and SSA and the RRB and CMS on financial interchange related matters.

**Part II.**

## Tables Pertaining to Benefit Calculations

**Table 1. -- Computation of Family Composition Factors and Factors for Child's Benefits for Calendar Year 2020 Applied to Male Old-Age Employees**

Age Last Birthday of Old-Age Beneficiary	Social Security Data		
	(A)	(B)	(C)
	Child Factors	Family Composition Factors I	Family Composition Factors II
	$\frac{(1)-(7)+(3)-(9)}{(1)-(7)}$	$\frac{(5)+(6)}{(5)}$	$\frac{(2)-(5)+(3)+(10)-(6)}{(2)-(5)}$
62	1.0253	.....	.....
63	1.0261	.....	.....
64	1.0237	.....	.....
65	1.0194	1.0150	1.0183
66	1.0160	1.0133	1.0168
67	1.0152	1.0115	1.0161
68	1.0140	1.0110	1.0149
69	1.0127	1.0101	1.0134
70	1.0110	1.0094	1.0119
71	1.0104	1.0096	1.0111
72	1.0098	1.0103	1.0102
73	1.0090	1.0109	1.0092
74	1.0088	1.0113	1.0087
75	1.0083	1.0125	1.0081
76	1.0080	1.0131	1.0076
77	1.0074	1.0139	1.0070
78	1.0072	1.0155	1.0066
79	1.0068	1.0168	1.0063
80-84	1.0061	1.0193	1.0054
85 and over	1.0046	1.0148	1.0041

NOTE - Numbers in above column formulae correspond to the columns in Table 1a, which is supplied annually by SSA.

Column (A) - Factors to be applied to amounts of male old-age benefits in area of actual life benefits.

Column (B) - Factors to be applied to amounts of male old-age benefits in area of presumptive life benefits with a spouse on the rolls.

Column (C) - Factors to be applied to amounts of male old-age benefits in area of presumptive life benefits with no spouse on the rolls.

Table 1a. — Selected benefit estimates relating to male old-age (primary) beneficiary families in current-payment status on 12/31/2020

Age	All old-age families		Beneficiary families consisting of a male old-age beneficiary with an aged wife receiving a full benefit whether or not children are present		Beneficiary families consisting of a male old-age beneficiary with a wife whose entitlement is based on having an eligible child in her care and is receiving a full benefit					
	(1) Old-age benefits	(2) Monthly rate of PIA	(3) Child benefits	(4) Old-age benefits	(5) Monthly rate of PIA	(6) Child benefits	(7) Old-age benefits	(8) Monthly rate of PIA	(9) Child benefits	(10) Wife benefits
62	\$360,677,136	\$498,850,612	\$9,962,276	\$1,269,071	\$1,756,084	\$16,391	\$1,562,347	\$2,161,847	\$886,531	\$705,026
63	560,469,010	756,309,908	15,958,940	2,622,957	3,542,947	50,882	2,539,122	3,442,337	1,403,678	1,136,621
64	696,506,923	911,133,443	18,047,624	4,105,749	5,342,356	94,824	3,015,165	3,968,148	1,617,449	1,289,979
65	967,618,386	1,200,607,918	20,492,883	8,289,677	10,049,221	150,366	3,489,207	4,386,955	1,788,025	1,444,440
66	2,283,688,551	2,508,233,014	39,418,332	34,314,650	36,508,169	483,920	6,725,410	7,508,339	3,075,221	2,489,160
67	2,324,513,861	2,529,455,493	38,178,712	63,753,172	66,220,147	760,368	6,356,178	6,954,346	2,843,637	2,330,065
68	2,397,927,460	2,597,586,648	36,101,173	101,915,204	104,406,289	1,152,417	5,993,000	6,476,163	2,626,237	2,176,453
69	2,354,001,510	2,542,298,326	31,936,518	123,141,862	124,510,446	1,255,958	4,579,069	4,933,927	2,012,954	1,663,974
70	2,522,121,878	2,628,610,848	29,458,701	155,903,813	146,956,293	1,385,776	4,075,250	4,298,444	1,769,138	1,438,843
71	2,501,864,671	2,623,535,254	27,595,162	161,767,350	149,653,852	1,434,571	3,857,606	4,003,900	1,646,640	1,349,608
72	2,448,080,974	2,594,382,820	25,343,826	145,329,405	135,495,753	1,400,095	3,081,284	3,218,045	1,314,433	1,088,100
73	2,452,257,478	2,623,274,876	23,334,003	131,483,076	123,787,278	1,352,151	2,718,512	2,849,428	1,180,173	966,836
74	2,153,133,923	2,320,595,923	19,811,347	107,049,803	102,057,546	1,149,976	2,035,437	2,159,144	890,437	723,524
75	1,684,469,453	1,823,666,563	14,629,806	73,673,340	70,874,030	887,552	1,411,118	1,498,027	623,308	504,913
76	1,613,828,853	1,759,630,131	13,324,783	62,749,637	61,193,595	801,884	1,106,883	1,181,201	481,653	402,146
77	1,600,555,005	1,757,854,653	12,303,441	56,185,345	55,386,679	769,531	1,036,497	1,105,017	456,867	374,089
78	1,483,928,542	1,634,500,346	10,987,671	45,631,630	45,753,456	708,634	769,722	817,235	336,367	277,139
79	1,260,659,842	1,390,890,609	8,915,493	35,782,715	36,180,177	606,404	637,191	692,448	287,452	237,050
80	1,107,346,280	1,221,510,377	7,505,575	29,231,252	29,836,615	544,900	426,247	460,727	192,933	156,551
81	968,002,920	1,066,061,495	6,309,271	23,516,979	24,088,575	474,488	320,230	349,377	142,418	120,002
82	888,753,506	977,450,578	5,404,795	20,765,652	21,346,532	444,892	231,975	248,311	101,122	87,536
83	766,967,018	839,820,291	4,408,148	17,583,619	18,059,906	346,701	174,862	186,804	78,556	62,058
84	644,672,260	705,759,506	3,525,814	14,288,400	14,705,732	278,887	121,719	128,017	51,593	45,216
85	563,687,237	616,472,066	2,962,569	12,652,735	13,022,646	243,298	77,321	83,029	33,038	27,389
86	486,547,493	529,107,080	2,499,140	12,117,799	12,289,917	226,397	72,448	75,517	30,977	27,142
87	409,025,709	441,462,665	2,024,123	11,169,495	11,075,913	174,263	45,361	47,139	18,844	16,916
88	371,093,785	399,301,803	1,748,127	10,852,050	10,569,705	157,438	51,317	54,160	21,559	19,397
89	310,948,494	331,647,927	1,432,131	9,625,940	9,151,937	118,446	29,910	31,527	12,050	11,152
90	264,917,521	281,827,613	1,168,835	8,233,140	7,751,666	103,699	25,463	25,889	10,745	9,289
91	207,888,729	220,235,543	924,993	6,354,853	5,922,079	64,042	14,075	14,460	5,903	4,858
92	169,362,853	179,862,931	706,151	4,907,432	4,634,471	61,801	13,037	14,115	5,207	5,208
93	133,865,768	141,689,075	530,119	3,478,644	3,264,114	24,217	8,821	9,343	3,885	3,318
94	97,415,539	103,264,972	371,267	2,323,475	2,206,236	22,197	8,499	8,508	3,692	3,185
95	71,901,281	75,987,018	274,774	1,656,393	1,570,563	21,191	4,634	5,002	2,512	1,350
96	50,297,332	53,113,800	177,134	1,149,766	1,089,952	11,430	5,612	5,651	2,408	1,637
97	33,822,853	35,429,015	110,870	683,571	650,935	4,969	2,805	2,757	1,107	1,107
98	21,856,024	22,792,836	80,157	413,658	389,082	6,458	476	465	184	46
99	14,219,587	14,779,663	43,309	222,748	210,243	1,120	0	0	0	0
100	8,074,857	8,331,952	33,747	110,733	104,682	2,437	0	0	0	0
101+	10,314,733	10,643,682	32,065	139,067	134,626	2,206	0	0	0	0
Total	39,267,285,232	42,977,969,272	438,073,801	1,506,445,858	1,471,750,444	17,797,180	56,623,809	63,405,748	25,958,928	21,201,318

**Table 2. -- Computation of Family Composition Factors and Factors for Child's Benefits for Calendar Year 2020  
Applied to Female Old-Age Employees**

Social Security Data			
Age Last Birthday of Old-Age Beneficiary	(A)	(B)	(C)
	Child Factors	Family Composition Factors I	Family Composition Factors II
	<u>(1)-(7)+(3)-(9)</u> (1)-(7)	<u>(5)+(6)</u> (5)	<u>(2)-(5)+(3)+(10)-(6)</u> (2)-(5)
62	1.0060	.....	.....
63	1.0063	.....	.....
64	1.0055	.....	.....
65	1.0045	1.0030	1.0039
66	1.0039	1.0021	1.0037
67	1.0039	1.0025	1.0038
68	1.0035	1.0028	1.0034
69	1.0032	1.0027	1.0031
70	1.0027	1.0030	1.0027
71	1.0024	1.0022	1.0025
72	1.0022	1.0031	1.0023
73	1.0020	1.0025	1.0020
74	1.0020	1.0022	1.0020
75	1.0017	1.0021	1.0018
76	1.0016	1.0012	1.0017
77	1.0014	1.0017	1.0015
78	1.0013	1.0017	1.0014
79	1.0013	1.0050	1.0014
80-84	1.0010	1.0023	1.0011
85 and over	1.0004	1.0009	1.0006

NOTE - Numbers in above column formulae correspond to the columns in Table 2a, which is supplied annually by SSA.

Column (A) - Factors to be applied to amounts of female old-age benefits in area of actual life benefits.

Column (B) - Factors to be applied to amounts of female old-age benefits in area of presumptive life benefits with a spouse on the rolls.

Column (C) - Factors to be applied to amounts of female old-age benefits in area of presumptive life benefits with no spouse on the rolls.



Table 2a. — Selected benefit estimates relating to female old-age (primary) beneficiary families in current-payment status on 12/31/2020

Age	All old-age families			Beneficiary families consisting of a female old-age beneficiary with an aged husband receiving a full benefit whether or not children are present			Beneficiary families consisting of a female old-age beneficiary with a husband whose entitlement is based on having an eligible child in his care and is receiving a full benefit			
	(1) Old-age benefits	(2) Monthly rate of PIA	(3) Child benefits	(4) Old-age benefits	(5) Monthly rate of PIA	(6) Child benefits	(7) Old-age benefits	(8) Monthly rate of PIA	(9) Child benefits	(10) Husband benefits
62	\$318,761,424	\$427,806,176	\$1,926,170	\$1,541,550	\$2,132,571	\$6,479	\$21,657	\$30,028	\$11,553	\$10,746
63	497,053,779	644,948,205	3,150,854	3,660,994	4,947,686	19,557	26,873	36,107	16,004	11,201
64	621,424,974	776,711,099	3,396,275	6,224,446	8,051,622	31,090	14,405	19,331	7,801	7,071
65	865,537,812	1,022,187,407	3,941,344	10,436,746	12,576,509	37,919	24,790	31,339	11,847	11,847
66	1,827,134,698	1,925,300,515	7,156,934	26,022,375	28,002,048	59,316	26,846	30,270	11,234	11,234
67	1,772,506,270	1,845,159,550	6,960,221	32,405,288	33,914,299	83,147	29,561	31,358	11,482	11,920
68	1,792,075,508	1,881,580,492	6,402,512	32,706,765	33,567,254	93,637	25,961	27,952	10,785	9,785
69	1,953,953,161	1,832,327,517	5,749,650	25,778,823	26,075,387	71,188	12,052	13,617	5,184	3,881
70	1,912,979,339	1,913,785,387	5,217,547	20,714,213	19,520,237	58,734	9,215	9,894	3,437	4,130
71	1,955,731,491	1,911,030,296	4,731,873	15,862,872	14,748,197	32,811	4,721	5,268	2,319	2,278
72	1,912,979,339	1,872,686,596	4,298,569	11,815,749	11,175,283	34,284	4,564	4,674	2,031	1,584
73	1,905,777,909	1,847,873,536	3,738,244	8,735,487	8,516,500	21,546	3,084	3,725	1,556	1,556
74	1,671,069,708	1,615,712,349	3,271,243	6,428,176	6,348,978	13,684	3,580	4,364	1,918	1,398
75	1,312,249,892	1,249,388,878	2,259,489	4,184,305	4,196,933	8,870	1,763	2,351	882	882
76	1,271,625,162	1,199,135,240	1,997,996	3,549,140	3,571,312	4,195	2,585	2,585	1,292	511
77	1,269,824,290	1,185,853,180	1,769,726	2,839,791	2,914,318	4,827	0	0	0	0
78	1,178,493,008	1,089,398,493	1,557,350	2,537,887	2,603,431	4,319	0	0	0	0
79	1,013,031,732	928,659,360	1,336,582	1,850,807	1,899,481	9,577	0	0	0	0
80	901,236,944	814,473,071	993,662	1,483,071	1,525,821	4,446	0	0	0	0
81	806,789,715	713,675,552	840,551	1,279,096	1,314,678	2,006	0	0	0	0
82	752,433,428	653,473,066	712,533	1,041,305	1,041,816	2,594	0	0	0	0
83	664,460,804	563,175,596	623,216	781,155	795,500	262	0	0	0	0
84	584,230,302	478,168,667	446,096	558,031	565,210	3,028	0	0	0	0
85	527,984,674	420,179,727	340,841	461,627	455,050	547	0	0	0	0
86	470,254,608	365,675,832	264,535	343,656	342,944	224	0	0	0	0
87	406,208,137	311,061,742	212,394	251,168	244,271	511	0	0	0	0
88	380,058,192	289,000,288	164,209	203,871	198,168	207	0	0	0	0
89	331,552,125	242,840,940	143,845	155,694	152,217	0	0	0	0	0
90	295,059,224	210,457,731	116,393	114,655	106,142	140	0	0	0	0
91	248,275,328	172,904,312	81,810	77,207	74,016	0	0	0	0	0
92	215,758,634	150,768,758	61,205	51,994	46,885	0	0	0	0	0
93	181,550,621	126,581,038	58,160	38,973	36,565	0	0	0	0	0
94	143,936,907	98,674,146	42,157	31,227	28,385	0	0	0	0	0
95	114,552,560	79,193,105	33,016	22,895	20,863	0	0	0	0	0
96	86,985,408	58,995,710	20,049	11,532	10,603	0	0	0	0	0
97	63,162,898	42,283,740	14,028	5,486	5,198	0	0	0	0	0
98	44,737,576	29,545,605	11,042	1,755	1,519	0	0	0	0	0
99	32,578,970	21,277,856	9,163	0	0	0	0	0	0	0
100	21,255,720	13,662,920	5,166	0	0	0	0	0	0	0
101+	32,958,529	23,298,348	7,637	0	0	0	0	0	0	0
Total	32,266,681,782	31,048,912,024	74,064,283	224,203,509	231,740,895	609,139	211,653	252,862	99,324	90,020

**Table 3. -- Analysis of Net Benefit Amounts (Uninflated) for 2020, By Type of Benefit (Accrual Basis)**  
(in thousands)

Type of Benefit	Total			OASI			DI		
	Net Chargeable	Combined <sup>1</sup> Earnings	Actual SSA Offsets	Net Chargeable	Combined <sup>1</sup> Earnings	Actual SSA Offsets	Net Chargeable	Combined Earnings	Actual SSA Offsets
Total	\$77,188	\$85,246	\$8,058	\$73,389	\$81,368	\$7,979	\$3,798	\$3,877	\$79
Retired Employees, Total	52,003	55,790	3,787	48,443	52,159	3,716	3,561	3,631	71
Full Rate	15,091	17,007	1,916	11,552	13,398	1,846	3,539	3,610	71
Reduced Rate	36,912	38,783	1,870	36,891	38,761	1,870	22	22	-
Non-Retired Employees, Total	9	47	38	9	47	38	-	-	-
Presumptives <sup>2</sup>	-	-	-	-	-	-	-	-	-
Regular <sup>3</sup>	9	47	38	9	47	38	-	-	-
Auxiliaries of Retired Employees, Total	10,355	10,414	59	10,117	10,168	51	238	246	9
Spouses, Full Rate, Full Retirement Age and Over	642	660	18	641	659	18	1	1	-
Spouses, Reduced Rate	9,498	9,530	33	9,343	9,376	33	154	154	-
Spouses, Full Rate, Under Full Retirement Age	78	78	-	71	71	-	7	7	-
Children <sup>4</sup>	137	146	9	61	61	-	76	85	9
Auxiliaries of Non-Retired Employees, Total	1	10	9	1	10	9	-	-	-
Survivors, Total	14,820	18,985	4,165	14,820	18,985	4,165	-	-	-
Aged Widow(er)s, Full Rate	2,722	3,654	932	2,722	3,654	932	-	-	-
Aged Widow(er)s, Reduced Rate	10,629	13,625	2,996	10,629	13,625	2,996	-	-	-
Disabled Widow(er)s	515	650	135	515	650	135	-	-	-
Widowed Mothers/Fathers	78	78	-	78	78	-	-	-	-
Children and Parents	857	945	89	857	945	89	-	-	-
Widow(er)s Not on RRB Rolls	1	15	14	1	15	14	-	-	-
Lump Sum	18	18	-	18	18	-	-	-	-

<sup>1</sup> Includes amounts due to child and family composition factors.

<sup>2</sup> Benefits for period between earliest retroactivity of application and date of first payment by RRB or SSA.

<sup>3</sup> Benefits paid by SSA, but not RRB.

<sup>4</sup> Actual SSA offsets under OASI were below \$500, and thus were rounded down to \$0.

NOTE: For retired employees and auxiliaries, combined earnings are after reduction for receipt of SSA benefits based on other than retired employee's earnings. SSA offsets for retired employees and auxiliaries include only payments based on retired employee's earnings. For survivors, SSA offsets are payments based on other than the employee's earnings. Detail may not add to totals shown because of rounding.

Table 4. -- Stratification of Universe of RRB Beneficiaries, Calendar Year 2020

Stratum Number	Type of RRA Benefit Payable	Age of Beneficiary on Birthday in 2020	RRA Spouse Annuity Payable in 2020	Criterion Year <sup>1</sup>	Number in Survivor Family
<u>OLD-AGE AND SURVIVORS INSURANCE TRUST FUND<sup>2</sup></u>					
1	Employee	62-65	---	Before 2021	-
2	Employee	66 or older	Yes	Before 1992	-
3	Employee	66 or older	Yes	1992-1997	-
4	Employee	66 or older	Yes	1998-2003	-
5	Employee	66 or older	Yes	2004-2011	-
6	Employee	66 or older	Yes	2012-2020	-
7	Employee	66 or older	No	Before 1992	-
8	Employee	66 or older	No	1992-1997	-
9	Employee	66 or older	No	1998-2003	-
10	Employee	66 or older	No	2004-2011	-
11	Employee	66 or older	No	2012-2020	-
12	Aged Widow(er)	60-61	---	Before 2021	1
13	Aged Widow(er), Parent	62 or older	---	Before 1979	1
14	Aged Widow(er), Parent	62 or older	---	1979-1986	1
15	Aged Widow(er), Parent	62 or older	---	1987-1996	1
16	Aged Widow(er), Parent	62 or older	---	1997-2001	1
17	Aged Widow(er), Parent	62 or older	---	2001-2006	1
18	Aged Widow(er), Parent	62 or older	---	2007-2011	1
19	Aged Widow(er), Parent	62 or older	---	2012-2020	1
20	Child	---	---	Before 2021	1
21	Disabled Widow(er)	---	---	Before 2021	1
22	Monthly Survivor	---	---	Before 2021	1
23	Monthly Survivor, Lump Sum	---	---	Before 2021	2 or more
24	None <sup>4</sup>	---	---	2020 <sup>3</sup>	-
<u>DISABILITY INSURANCE TRUST FUND</u>					
1	Employee Disability	64-FRA <sup>5</sup>	---	---	-
2	Employee Disability	60-63	---	---	-
3	Employee Disability	55-59	---	---	-
4	Employee Disability	Under 55	---	---	-

<sup>1</sup> For employee benefits, employee annuity accrual year; for monthly survivor benefits, year employee attained age 65, where employee had retired and died at age 65 or older; in all other cases year of employee death.

<sup>2</sup> Excludes all interim widow(er) benefits, survivor-option annuities, and other survivor benefits based on deaths before April 1938.

<sup>3</sup> Employee death in 2020, the determination year, without regard to employee's age or annuity accrual date.

<sup>4</sup> Non-retired employees at full retirement age and older, employees (and their auxiliaries) with 10 or more years of railroad service (or 5 or more years of railroad service after 1995) paid benefits by SSA but not RRB, and widow(er)s age 60 and older who are not on the rolls.

<sup>5</sup> Full retirement age gradually increases from age 65 to age 67, for those born between 1937 and 1960. It is age 65 for those born before 1938 and age 67 for those born after 1959.

**Table 5. -- Basic Data Used to Compute Inflated Amount of OASI Benefits and Sampling Error, 2020**

Stratum Number <sup>1</sup> <i>i</i>	Universe Number <i>N<sub>i</sub></i>	Sample Number <i>n<sub>i</sub></i>	Sum of Net Benefit Amounts $\sum_{j=1}^{n_i} X_{ij}$	Sum of Squares of Net Benefit Amounts $\sum_{j=1}^{n_i} X_{ij}^2$
Total <sup>2</sup>	358,942	3,617	\$73,389,257	\$1,967,586,959,862
1	25,265	266	5,920,932	155,213,069,834
2	7,670	79	1,538,097	35,055,668,524
3	14,809	143	3,330,858	86,684,045,031
4	27,378	267	7,202,374	222,318,605,286
5	52,924	553	15,700,686	511,460,309,119
6	34,469	358	10,728,713	364,035,105,196
7	10,791	102	1,357,531	23,700,768,386
8	12,309	122	1,896,325	35,562,494,302
9	14,945	138	2,604,642	56,317,831,410
10	23,863	228	4,316,295	95,103,291,811
11	21,322	209	3,963,110	91,454,171,058
12	897	8	132,933	2,513,248,837
13	3,770	39	278,459	3,259,021,263
14	9,647	107	1,279,328	20,857,527,020
15	32,118	330	4,114,841	71,264,270,989
16	14,918	148	1,973,154	37,573,719,460
17	12,183	126	1,985,016	39,548,196,620
18	10,197	93	1,325,651	28,871,636,485
19	8,979	98	1,605,314	36,380,277,968
20	4,917	50	552,427	7,643,063,137
21	3,621	42	529,000	8,800,002,352
22	5,459	38	1,024,784	33,933,908,052
23	6,091	69	17,595	---
24	400	4	11,193	36,727,722

<sup>1</sup> For description of strata, see Table 4.

<sup>2</sup> Universe and sample numbers exclude 3,766 and 41 retirement annuities, respectively, from a group that consists almost entirely of non-disabled annuitants under age 62.

NOTE: The inflated amount,  $A$ , of the benefits and the sample error,  $S_a$ , of the inflated amount are computed from the following formulas:

$$A = \sum_{i=1}^{24} \frac{N_i}{n_i} * \sum_{j=1}^{n_i} x_{ij}$$

$$S_a^2 = \sum_{i=1}^{24} \frac{N_i(N_i - n_i)}{n_i^2(n_i - 1)} \left[ n_i \sum_{j=1}^{n_i} x_{ij}^2 - \left( \sum_{j=1}^{n_i} x_{ij} \right)^2 \right]$$

where  $x_{ij}$  is the benefit amount for the  $j$ th individual in the  $i$ th stratum and the remaining symbols are defined by the table caption headings. Detail may not add to totals shown because of rounding.

**Table 5a. -- Basic Data Used to Compute Inflated Amount of DI Benefits and Sampling Error, 2020**

Stratum Number <sup>1</sup> <i>i</i>	Universe Number <i>N<sub>i</sub></i>	Sample Number <i>n<sub>i</sub></i>	Sum of Net Benefit Amounts $\sum_{j=1}^{n_i} X_{ij}$	Sum of Squares of Net Benefit Amounts $\sum_{j=1}^{n_i} X_{ij}^2$
Total <sup>2</sup>	16,927	155	\$3,798,388	\$106,120,629,954
1	6,737	65	1,576,035	45,272,554,673
2	5,178	48	1,268,876	35,524,932,882
3	2,452	20	436,353	11,058,601,767
4	2,560	22	517,124	14,264,540,632

<sup>1</sup>. For description of strata, see Table 4.

<sup>2</sup>. Universe and sample exclude 7,638 and 86 disability annuities, respectively, composed largely of annuitants denied a disability freeze. Of these, 4,095 and 55, respectively, were annuitants ages 62 to 66 who were included in the OASI strata.

NOTE: The inflated amount,  $A$ , of the benefits and the sample error,  $s_a$ , of the inflated amount are computed from the following formulas:

$$A = \sum_{i=1}^4 \frac{N_i}{n_i} * \sum_{j=1}^{n_i} x_{ij}$$

$$s_a^2 = \sum_{i=1}^4 \frac{N_i(N_i - n_i)}{n_i^2(n_i - 1)} \left[ n_i \sum_{j=1}^{n_i} x_{ij}^2 - \left( \sum_{j=1}^{n_i} x_{ij} \right)^2 \right]$$

where  $x_{ij}$  is the benefit amount for the  $j$ th individual in the  $i$ th stratum and the remaining symbols are defined by the table caption headings. Detail may not add to totals shown because of rounding.

Table 6. -- OASI Benefit Payments, 1937-2020, Including Adjustments, on an Accrual Basis

Year	Benefit Payments		Adjusted Benefit Payments	
	Before Adjustments (Accrual Basis)	Adjustments <sup>1</sup>		
	Total	\$229,315,780,223	(\$86,040,663)	\$229,229,739,560
1937-1970 <sup>2</sup>		11,739,327,167	---	11,739,327,167
1971		1,128,570,194	---	1,128,570,194
1972		1,210,965,811	---	1,210,965,811
1973		1,471,457,246	---	1,471,457,246
1974		1,590,141,425	---	1,590,141,425
1975		1,724,239,005	---	1,724,239,005
1976		1,845,392,953	---	1,845,392,953
1977		1,955,837,142	---	1,955,837,142
1978		2,079,934,396	---	2,079,934,396
1979		2,281,435,049	---	2,281,435,049
1980		2,552,252,439	---	2,552,252,439
1981		2,892,694,764	---	2,892,694,764
1982		3,187,533,843	---	3,187,533,843
1983		3,257,653,071	---	3,257,653,071
1984		3,383,732,525	---	3,383,732,525
1985		3,515,602,903	---	3,515,602,903
1986		3,623,833,354	---	3,623,833,354
1987		3,700,591,036	---	3,700,591,036
1988		3,843,574,962	---	3,843,574,962
1989		4,009,931,952	---	4,009,931,952
1990		4,199,908,201	---	4,199,908,201
1991		4,402,929,123	---	4,402,929,123
1992		4,531,315,765	---	4,531,315,765
1993		4,653,171,768	---	4,653,171,768
1994		4,694,292,958	---	4,694,292,958
1995		4,726,567,302	---	4,726,567,302
1996		4,764,123,499	---	4,764,123,499
1997		4,816,342,931	---	4,816,342,931
1998		4,822,260,567	---	4,822,260,567
1999		4,796,837,227	---	4,796,837,227
2000		4,819,396,869	---	4,819,396,869
2001		4,849,956,379	---	4,849,956,379
2002		4,855,267,294	---	4,855,267,294
2003		4,884,810,004	---	4,884,810,004
2004		4,860,606,010	---	4,860,606,010
2005		4,937,109,169	---	4,937,109,169
2006		5,083,984,802	---	5,083,984,802
2007		5,203,800,832	---	5,203,800,832
2008		5,313,538,200	---	5,313,538,200
2009		5,651,820,930	(1,086,413)	5,650,734,517
2010		5,688,343,147	(3,613,556)	5,684,729,591
2011		5,790,429,823	(4,407,717)	5,786,022,106
2012		6,063,438,444	(4,483,768)	6,058,954,676
2013		6,210,057,569	(4,429,048)	6,205,628,521
2014		6,379,558,067	(3,820,277)	6,375,737,790
2015		6,547,453,882	(4,596,792)	6,542,857,090
2016		6,631,864,083	(6,555,084)	6,625,308,999
2017		6,736,186,230	(8,298,629)	6,727,887,601
2018		6,954,340,326	(17,246,598)	6,937,093,728
2019		7,156,781,161	(27,502,781)	7,129,278,380
2020		7,294,586,424	---	7,294,586,424

<sup>1</sup> Includes revision of work deduction amounts and adjustments based on information received subsequent to the previous determination.

<sup>2</sup> Data for years 1937-1970 are not shown separately as they are not adjusted in this determination.

**Table 6a. -- DI Benefit Payments, 1957-2020, Including Adjustments, on an Accrual Basis**

Year	Benefit Payments			
	Before Adjustments (Accrual Basis)	Adjustments <sup>1</sup>	Adjusted Benefit Payments	
	Total	\$18,547,368,103	\$42,094,174	\$18,589,462,277
1957-1988 <sup>2</sup>	3,259,212,386	---	3,259,212,386	
1989	197,740,405	68,008	197,808,413	
1990	193,105,261	443,838	193,549,099	
1991	220,337,476	622,106	220,959,582	
1992	235,789,575	639,130	236,428,705	
1993	248,045,289	666,155	248,711,444	
1994	247,567,099	674,122	248,241,221	
1995	263,632,596	621,084	264,253,680	
1996	273,373,545	587,070	273,960,615	
1997	305,386,677	602,110	305,988,787	
1998	313,779,875	577,034	314,356,909	
1999	341,164,897	565,411	341,730,308	
2000	370,410,146	600,868	371,011,014	
2001	398,061,910	605,604	398,667,514	
2002	446,311,624	596,586	446,908,210	
2003	533,554,116	697,695	534,251,811	
2004	566,071,157	694,794	566,765,951	
2005	590,583,660	655,981	591,239,641	
2006	632,599,398	739,530	633,338,928	
2007	680,728,391	792,999	681,521,390	
2008	690,356,895	816,290	691,173,185	
2009	729,250,540	826,991	730,077,531	
2010	737,328,916	830,967	738,159,883	
2011	735,230,598	773,597	736,004,195	
2012	740,333,334	804,466	741,137,800	
2013	714,910,587	866,608	715,777,195	
2014	696,828,090	873,103	697,701,193	
2015	662,578,637	10,895	662,589,532	
2016	618,406,953	2,077,156	620,484,109	
2017	528,836,353	5,116,037	533,952,390	
2018	508,237,326	5,272,130	513,509,456	
2019	453,713,065	12,375,809	466,088,874	
2020	413,901,325	---	413,901,325	

<sup>1</sup> Includes revision of work deduction amounts and adjustments based on information received subsequent to the previous determination.

<sup>2</sup> Data for years 1957-1988 are not shown separately as they are not adjusted in this determination.

Table 7. -- Summary of Float Days for Financial Interchange, 1997-2021  
Cycle 1-4 Payments

Year	First Half										Second Half																										
	RRB EFT PCT					Cycle 1					Cycles 2-4					Percentage					Cycle 1					Cycles 2-4					Combined Float						
	OASI	DI	EFT	Float	Check	OASI	DI	EFT	Float	Check	OASI	DI	Float	Check	DI	OASI	DI	EFT	Float	Check	OASI	DI	EFT	Float	Check	OASI	DI	EFT	Float	Check	OASI	DI	Float	Check	OASI	DI	Float
1997	63.60%	100.00%	63.60%	63.60%	2.8333	7.6333	2.8333	2.8333	7.6333	4.5805	4.5805	66.30%	66.30%	66.12%	99.29%	99.47%	66.06%	66.12%	2.6667	8.1000	17.4339	4.6025	4.5760														
1998	68.90%	97.38%	68.06%	68.04%	2.5000	7.8333	2.5000	2.5000	7.8333	4.5718	4.5828	71.50%	71.50%	69.81%	95.35%	94.39%	70.11%	69.81%	2.6667	8.1333	17.4339	4.9114	5.0531														
1999	74.20%	93.34%	72.36%	71.76%	2.3333	7.7667	2.3333	2.3333	7.7667	4.8067	5.1246	75.20%	75.20%	72.79%	88.11%	88.11%	72.79%	71.85%	2.5000	8.3000	17.7673	5.2904	5.7536														
2000	76.20%	88.87%	85.00%	73.22%	2.8333	7.7667	2.8333	2.8333	7.7667	5.6883	6.2728	77.00%	77.00%	73.12%	85.57%	82.20%	73.12%	72.02%	2.3333	8.1000	18.1006	5.9350	6.4663														
2001	77.70%	83.21%	79.38%	73.20%	2.3333	7.8000	2.3333	2.3333	7.8000	6.3404	6.9760	78.80%	78.80%	73.85%	81.06%	76.97%	73.85%	72.46%	2.3333	8.1000	18.2673	6.5735	7.2252														
2002	80.90%	78.82%	74.33%	75.77%	2.3333	7.6000	2.3333	2.3333	7.6000	6.6432	7.3440	81.70%	81.70%	76.12%	76.64%	72.06%	76.12%	74.60%	2.5000	8.0000	18.3768	7.2153	7.9428														
2003	82.20%	74.55%	70.21%	76.12%	2.8333	7.6333	2.8333	2.8333	7.6333	7.5731	8.2365	82.90%	82.90%	76.39%	72.43%	68.26%	76.39%	74.95%	2.6667	8.1000	17.4339	7.6666	8.2822														
2004	83.60%	70.28%	66.68%	76.67%	2.6667	7.8000	2.6667	2.6667	7.8000	8.2932	8.8730	84.10%	84.10%	76.72%	68.29%	65.52%	76.72%	75.73%	2.5000	8.3000	17.7673	8.2635	8.6864														
2005	84.80%	66.05%	64.35%	76.99%	2.6667	7.8000	2.6667	2.6667	7.8000	8.4597	8.7120	85.30%	85.30%	77.08%	64.13%	63.29%	77.08%	76.77%	2.3333	7.9333	19.1006	9.1709	9.3114														
2006	85.90%	62.05%	62.39%	77.28%	2.8333	7.9667	2.8333	2.8333	7.9667	9.1610	9.1114	86.40%	86.40%	77.43%	60.27%	62.11%	77.43%	78.10%	2.3333	8.1000	18.1006	9.3820	9.0922														
2007	87.00%	58.30%	61.26%	77.70%	2.3333	7.8000	2.3333	2.3333	7.8000	9.9660	9.4751	87.50%	87.50%	79.61%	56.61%	61.31%	77.92%	79.61%	2.3333	8.1000	18.2673	9.9672	9.2190														
2008	87.90%	54.72%	60.44%	77.89%	2.5000	7.6333	2.5000	2.5000	7.6333	10.3358	9.4242	88.40%	88.40%	80.66%	52.90%	59.97%	78.07%	80.66%	2.6667	8.1000	17.4339	10.2529	9.2087														
2009	89.00%	51.00%	59.58%	78.43%	2.5000	7.8333	2.5000	2.5000	7.8333	10.8124	9.4597	89.60%	89.60%	82.39%	49.05%	59.05%	78.80%	82.39%	2.6667	8.1333	17.5459	10.8169	9.3290														
2010	90.10%	47.24%	58.37%	79.04%	2.3333	7.7667	2.3333	2.3333	7.7667	11.3665	9.5746	90.60%	90.60%	83.56%	45.47%	57.17%	79.33%	83.56%	2.5000	8.3000	17.7673	11.3703	9.5838														
2011	91.30%	43.85%	56.85%	80.16%	2.6667	7.8000	2.6667	2.6667	7.8000	11.4052	9.4851	93.00%	93.00%	87.64%	42.36%	56.61%	83.47%	87.64%	2.3333	7.9333	19.1006	12.3904	10.0003														
2012	94.70%	40.85%	56.41%	87.02%	2.5000	7.8333	2.5000	2.5000	7.8333	12.0112	9.5834	96.00%	96.00%	92.90%	39.44%	56.30%	89.86%	92.90%	2.3333	8.1000	18.2673	12.2142	9.5266														
2013	98.00%	37.93%	56.36%	94.73%	2.3333	7.6000	2.3333	2.3333	7.6000	12.1215	9.2469	98.90%	98.90%	96.99%	36.60%	56.43%	96.99%	98.05%	2.5000	8.0000	18.3768	12.6268	9.4773														
2014	99.00%	35.33%	56.54%	97.17%	2.8333	7.6333	2.8333	2.8333	7.6333	12.7545	9.5168	99.10%	99.10%	98.41%	34.15%	56.70%	97.36%	98.41%	2.6667	8.1000	17.4339	12.4395	9.1098														
2015	99.20%	32.97%	56.79%	97.57%	2.5000	7.8333	2.5000	2.5000	7.8333	13.1118	9.3554	99.20%	99.20%	98.59%	31.86%	56.90%	97.49%	98.59%	2.6667	8.1333	17.5459	12.8489	9.1235														
2016	99.20%	30.82%	56.94%	97.40%	2.1667	7.8000	2.1667	2.1667	7.8000	13.0042	8.9298	99.20%	99.20%	98.60%	29.86%	56.97%	97.32%	98.60%	2.3333	7.9333	19.1006	14.1393	9.5925														
2017	99.20%	28.84%	57.06%	97.23%	2.8333	7.9667	2.8333	2.8333	7.9667	13.3834	9.2158	99.20%	99.20%	97.14%	27.93%	57.10%	97.14%	98.60%	2.3333	8.1000	18.1006	13.7424	9.1436														
2018	99.30%	26.97%	57.25%	97.40%	2.3333	7.8000	2.3333	2.3333	7.8000	14.4947	9.4690	99.30%	99.30%	98.78%	26.14%	57.25%	97.32%	98.78%	2.3333	8.4667	18.2673	14.1454	9.1887														
2019	99.30%	25.28%	57.21%	97.23%	2.3333	7.6000	2.3333	2.3333	7.6000	14.0267	9.0464	99.30%	99.30%	98.77%	24.52%	57.11%	97.15%	98.77%	2.5000	8.0000	18.3196	14.4790	9.3239														
2020	99.30%	23.77%	57.19%	97.05%	2.6667	7.8000	2.6667	2.6667	7.8000	13.9602	9.0248	99.30%	99.30%	98.78%	23.03%	57.41%	96.96%	98.78%	2.6667	8.1333	17.5459	14.1577	9.0417														
2021	99.40%	22.27%	57.38%	97.31%	2.3333	7.7667	2.3333	2.3333	7.7667	14.8811	9.2280	99.40%	99.40%	98.95%	21.67%	57.41%	97.23%	98.95%	2.5000	8.3000	17.7673	14.4940	9.0372														



Table 8. -- Summary of Uncollectible Benefit Overpayment Calculations

Year	SSA Equivalent Uncollectible Overpayments	Sample SSEB Percentage <sup>1</sup>	Overpayment Amount Charged	DI Trust Fund Proportion <sup>2</sup>	Amount Charged		Ratio of Overpayments to FI Benefits <sup>3</sup>
					By Trust Fund	DI	
1999	\$3,503,422	66.21%	\$2,319,615	0.54302	\$1,060,023	\$1,259,593	0.0452%
2000	2,781,767	66.21%	1,841,808	0.57745	778,261	1,063,547	0.0355%
2001	1,770,787	66.21%	1,172,438	0.58243	489,578	682,860	0.0223%
2002	1,867,458	66.21%	1,236,444	0.61244	479,193	757,251	0.0233%
2003	1,867,671	66.21%	1,236,585	0.64262	441,932	794,653	0.0229%
2004	3,292,057	69.08%	2,274,153	0.64758	801,446	1,472,707	0.0419%
2005	2,304,781	69.08%	1,592,143	0.65361	551,502	1,040,641	0.0289%
2006	2,373,485	69.08%	1,639,603	0.68173	521,830	1,117,774	0.0287%
2007	2,262,935	69.08%	1,563,235	0.68982	484,889	1,078,347	0.0266%
2008	3,612,941	69.08%	2,495,820	0.64597	883,593	1,612,226	0.0417%
2009	2,979,389	60.85%	1,812,958	0.61609	696,018	1,116,941	0.0285%
2010	3,205,170	60.85%	1,950,346	0.62470	731,956	1,218,390	0.0304%
2011	2,246,004	60.85%	1,366,693	0.62418	513,625	853,069	0.0210%
2012	1,826,605	60.85%	1,111,489	0.63407	406,726	704,763	0.0164%
2013	1,503,658	60.85%	914,976	0.61164	355,341	559,635	0.0132%
2014	2,162,281	62.78%	1,357,480	0.59298	552,524	804,956	0.0192%
2015	2,633,041	62.78%	1,653,023	0.53863	762,662	890,362	0.0229%
2016	1,225,186	62.78%	769,172	0.48890	393,123	376,048	0.0106%
2017	924,273	62.78%	580,259	0.45844	314,247	266,012	0.0080%
2018	817,161	62.78%	513,013	0.41104	302,146	210,868	0.0069%
2019	804,726	65.26%	525,164	0.48370	271,142	254,022	0.0069%
2020	692,212	65.26%	451,738	0.67015	149,007	302,731	0.0059%

<sup>1</sup> Percentage of SSA equivalent uncollectible overpayments attributable to the SSEB portion of the Tier 1 benefit. Percentages are recalculated every 5 years based on a sample of railroad annuity overpayments written off as uncollectible in the first year of the 5 year grouping.

<sup>2</sup> OASI/DI allocation is based on overall SSA OASI/DI overpayment experience for the calendar year.

<sup>3</sup> The uncollectible overpayment amount, when expressed as a fraction of total benefit payments for the calendar year, is limited to the corresponding ratio of uncollectible overpayments to total benefits experienced by SSA.

**Part III.**

## Tables Pertaining to Administrative Cost Calculations

**Table 9. -- Calculation of OASDI Administrative Expenses - 2020**

Source	Total cost (thousands)	Number of Items		Unit cost
		Total	Chargeable	
<b>OASI Trust Fund</b>				
Total.....	<u>\$15,760</u>			
Determination of eligibility and benefit computations, OASI.....	7,866	100	16,300	
Retired employees.....	3,502	100	7,600	\$460.73
Dependents of retired employees.....	2,759	-	5,500	501.70
Non-retired employees.....	-	-	-	460.73
Widow(er)s not on RRB rolls.....	-	-	-	501.70
Survivor monthly beneficiaries.....	1,605	-	3,200	501.70
Maintenance of benefit rolls.....	7,797	-	407,800	\$19.12
Handling compensation reports.....	97	-	285,800	0.34
<b>DI Trust Fund</b>				
Total.....	<u>\$2,459</u>			
Determination of eligibility and benefit computations, DI.....	1,602	-	800	
Retired employees.....	1,177	-	600	\$1,961.84
Dependents of retired employees.....	425	-	200	2,124.60
Maintenance of benefit rolls.....	843	-	16,200	52.04
Handling compensation reports.....	14	-	285,800	0.05

Table 9a. -- Calculation of HI Administrative Expenses - 2020

Source	Total cost (thousands)	Number of Items		Unit cost
		Total	Chargeable	
<b>HI Trust Fund</b>				
Total.....	<u>\$1,841</u>			
Initial enrollment, OASI.....	1,130	100	16,300	
Retired employees.....	503	100	7,600	\$66.17
Dependents of retired employees.....	396	-	5,500	72.06
Non-retired employees.....	-	-	-	66.17
Widow(er)s not on RRB rolls.....	-	-	-	72.06
Survivor monthly beneficiaries.....	231	-	3,200	72.06
Initial enrollment, DI.....	439	-	800	
Retired employees.....	323	-	600	\$537.71
Dependents of retired employees.....	116	-	200	582.32
Maintenance of benefit rolls, OASI.....	176	-	407,800	0.43
Maintenance of benefit rolls, DI.....	59	-	16,200	3.66
Handling compensation reports.....	37	-	285,800	0.13

Table 9b. -- Calculation of OASDI Administrative Expenses - 2019 (Revised)

Source	Total cost (thousands)	Number of Items		Unit cost
		Total	Chargeable	
<b>OASI Trust Fund</b>				
Total.....	<u>\$15,231</u>			
Determination of eligibility and benefit computations, OASDI.....	7,838	18,200	100	18,100
Retired employees.....	3,824	8,600	100	\$449.89
Dependents of retired employees.....	2,927	7,000	-	418.13
Non-retired employees.....	-	-	-	449.89
Widow(er)s not on RRB rolls.....	-	-	-	418.13
Survivor monthly beneficiaries.....	1,087	2,600	-	418.13
Maintenance of benefit rolls.....	7,275	411,800	-	\$17.67
Handling compensation reports.....	118	309,200	-	0.38
Total.....	<u>\$4,418</u>			
<b>DI Trust Fund</b>				
Determination of eligibility and benefit computations, DI.....	3,503	2,000	-	2,000
Retired employees.....	1,595	900	-	\$1,772.49
Dependents of retired employees.....	1,908	1,100	-	1,734.55
Maintenance of benefit rolls.....	898	17,800	-	50.44
Handling compensation reports.....	17	309,200	-	0.05

Table 9c. -- Calculation of HI Administrative Expenses - 2019 (Revised)

Source	Total cost (thousands)	Number of Items		Unit cost
		Total	Chargeable	
<b>HI Trust Fund</b>				
Total.....	<u>\$2,231</u>			
Initial enrollment, OASI.....	1,050	100	18,100	
Retired employees.....	512	100	8,500	\$60.29
Dependents of retired employees.....	392	-	7,000	56.03
Non-retired employees.....	-	-	-	60.29
Widow(er)s not on RRB rolls.....	-	-	-	56.03
Survivor monthly beneficiaries.....	146	-	2,600	56.03
Initial enrollment, DI.....	916	-	2,000	
Retired employees.....	417	-	900	\$463.85
Dependents of retired employees.....	499	-	1,100	453.92
Maintenance of benefit rolls, OASI.....	146	-	411,800	0.35
Maintenance of benefit rolls, DI.....	80	-	17,800	4.51
Handling compensation reports.....	39	-	309,200	0.13

**Table 9d. -- Calculation of OASDI Administrative Expenses - 2017 (Revised)**

Source	Total cost (thousands)	Number of Items		Unit cost
		Total	Chargeable	
<b>OASI Trust Fund</b>				
Total.....	<u>\$18,322</u>			
Determination of eligibility and benefit computations, OASI.....	9,744	21,300	600	20,700
Retired employees.....	4,931	11,000	500	\$469.64
Dependents of retired employees.....	3,633	7,800	100	471.81
Non-retired employees.....	-	-	-	469.64
Widow(ers) not on RRB rolls.....	-	-	-	471.81
Survivor monthly beneficiaries.....	1,180	2,500	-	471.81
Maintenance of benefit rolls.....	8,459	414,200	-	\$20.42
Handling compensation reports.....	119	325,600	-	0.37
<b>DI Trust Fund</b>				
Total.....	<u>\$4,529</u>			
Determination of eligibility and benefit computations, DI.....	3,361	2,000	100	1,900
Retired employees.....	1,966	1,200	100	\$1,787.14
Dependents of retired employees.....	1,395	800	-	1,743.70
Maintenance of benefit rolls.....	1,150	22,100	-	52.03
Handling compensation reports.....	18	325,600	-	0.06

Table 9e. -- Calculation of HI Administrative Expenses - 2017 (Revised)

Source	Total cost (thousands)	Number of Items		Unit cost
		Total	Chargeable	
<b>HI Trust Fund</b>				
Total.....	<u>\$2,262</u>			
Initial enrollment, OASI.....	1,073	21,300	600	20,700
Retired employees.....	543	11,000	500	\$51.75
Dependents of retired employees.....	400	7,800	100	51.98
Non-retired employees.....	-	-	-	51.75
Widow(er)s not on RRB rolls.....	-	-	-	51.98
Survivor monthly beneficiaries.....	130	2,500	-	51.98
Initial enrollment, DI.....	857	2,000	100	1,900
Retired employees.....	501	1,200	100	\$455.79
Dependents of retired employees.....	356	800	-	444.71
Maintenance of benefit rolls, OASI.....	178	414,200	-	0.43
Maintenance of benefit rolls, DI.....	112	22,100	-	5.05
Handling compensation reports.....	42	325,600	-	0.13

Table 9f. -- Calculation of OASDI Administrative Expenses - 2016 (Revised)

Source	Total cost (thousands)	Number of Items		Unit cost
		Total	Chargeable	
<b>OASI Trust Fund</b>				
Total.....	<u>\$20,823</u>			
Determination of eligibility and benefit computations, OASI.....	12,290	400	25,800	
Retired employees.....	5,716	300	12,800	\$446.57
Dependents of retired employees.....	4,804	100	9,500	505.69
Non-retired employees.....	-	-	-	446.57
Widow(er)s not on RRB rolls.....	-	-	-	505.69
Survivor monthly beneficiaries.....	1,770	-	3,500	505.69
Maintenance of benefit rolls.....	8,420	-	412,500	\$20.41
Handling compensation reports.....	113	-	335,000	0.34
<b>DI Trust Fund</b>				
Total.....	<u>\$4,092</u>			
Determination of eligibility and benefit computations, DI.....	2,810	-	1,600	
Retired employees.....	1,595	-	900	\$1,771.92
Dependents of retired employees.....	1,215	-	700	1,736.05
Maintenance of benefit rolls.....	1,263	-	25,100	50.32
Handling compensation reports.....	19	-	335,000	0.06



Table 9g. -- Calculation of HI Administrative Expenses - 2016 (Revised)

Source	Total cost (thousands)	Number of Items		Unit cost
		Total	Chargeable	
<b>HI Trust Fund</b>				
Total.....	<u>\$2,852</u>			
Initial enrollment, OASI.....	1,875	26,200	400	25,800
Retired employees.....	872	13,100	300	\$68.13
Dependents of retired employees.....	733	9,600	100	77.15
Non-retired employees.....	-	-	-	68.13
Widow(er)s not on RRB rolls.....	-	-	-	77.15
Survivor monthly beneficiaries.....	270	3,500	-	77.15
Initial enrollment, DI.....	677	1,600	-	1,600
Retired employees.....	384	900	-	\$427.16
Dependents of retired employees.....	293	700	-	418.52
Maintenance of benefit rolls, OASI.....	157	412,500	-	0.38
Maintenance of benefit rolls, DI.....	103	25,100	-	4.12
Handling compensation reports.....	40	335,000	-	0.12

Table 9h. -- Calculation of OASDI Administrative Expenses - 2015 (Revised)

Source	Total cost (thousands)	Number of Items		Unit cost
		Total	Chargeable	
<b>OASI Trust Fund</b>				
Total.....	<u>\$17,349</u>			
Determination of eligibility and benefit computations, OASI.....	10,183	800	20,200	
Retired employees.....	4,389	800	9,900	\$443.36
Dependents of retired employees.....	4,163	-	7,400	562.55
Non-retired employees.....	-	-	-	443.36
Widow(er)s not on RRB rolls.....	-	-	-	562.55
Survivor monthly beneficiaries.....	1,631	-	2,900	562.55
Maintenance of benefit rolls.....	7,050	-	412,800	\$17.08
Handling compensation reports.....	116	-	351,800	0.33
<b>DI Trust Fund</b>				
Total.....	<u>\$6,208</u>			
Determination of eligibility and benefit computations, DI.....	4,924	-	2,800	
Retired employees.....	2,883	-	1,600	\$1,801.95
Dependents of retired employees.....	2,041	-	1,200	1,701.19
Maintenance of benefit rolls.....	1,263	-	27,000	46.79
Handling compensation reports.....	21	-	351,800	0.06

Table 9i. -- Calculation of HI Administrative Expenses - 2015 (Revised)

Source	Total cost (thousands)	Number of Items		Unit cost
		Total	Chargeable	
<b>HI Trust Fund</b>				
Total.....	<u>\$2,643</u>			
Initial enrollment, OASI.....	1,324	21,000	800	20,200
Retired employees.....	571	10,700	800	\$57.66
Dependents of retired employees.....	541	7,400	-	73.16
Non-retired employees.....	-	-	-	57.66
Widow(er)s not on RRB rolls.....	-	-	-	73.16
Survivor monthly beneficiaries.....	212	2,900	-	73.16
Initial enrollment, DI.....	1,009	2,800	-	2,800
Retired employees.....	591	1,600	-	\$369.21
Dependents of retired employees.....	418	1,200	-	348.57
Maintenance of benefit rolls, OASI.....	176	412,800	-	0.43
Maintenance of benefit rolls, DI.....	95	27,000	-	3.54
Handling compensation reports.....	39	351,800	-	0.11

**Part IV.****Summary of Income Tax Calculations****Table 10. -- Financial Interchange OASDI Income Tax Transfers, Calendar Years 1984-2020 and January-September 2021**

Year	(in millions)						
	Original Treasury Transfers		Adjusted Accrual Basis		Final FI Adjusted Taxes Due		
	Amount	FI Adjusted <sup>1</sup>	Taxes Due <sup>2</sup>		Cash Basis <sup>3</sup>		
	Amount	FI Adjusted	Amount	FI Adjusted	Total	OASI <sup>4, 5</sup>	DI <sup>4, 5</sup>
1984	\$68.0	\$58.8	\$36.0	\$31.1	\$58.8	\$57.0	\$1.8
1985	77.0	67.0	33.4	29.1	67.0	65.0	2.0
1986	69.0	70.4	29.3	29.9	70.4	68.3	2.1
1987	48.0	49.2	30.4	31.2	(13.8)	(12.0)	(1.8)
1988	41.0	42.0	32.4	33.2	3.5	4.2	(0.7)
1989	36.0	36.8	39.0	39.9	14.2	14.0	0.2
1990	39.0	39.6	45.0	45.7	30.8	30.5	0.3
1991	44.0	44.7	47.0	47.7	47.8	47.2	0.6
1992	48.0	48.6	46.0	46.6	54.7	53.9	0.8
1993	56.0	56.9	47.0	47.8	59.9	58.7	1.2
1994	52.0	52.5	48.0	48.5	50.5	49.4	1.1
1995	50.0	50.1	59.0	59.2	41.0	40.0	1.0
1996	57.0	57.1	75.0	75.1	57.1	55.9	1.2
1997	61.0	61.0	86.0	86.0	57.0	55.5	1.5
1998	74.0	73.9	88.0	87.9	73.9	72.1	1.8
1999	79.0	78.9	94.0	93.9	106.0	103.4	2.6
2000	102.0	102.0	105.0	105.0	128.0	124.5	3.5
2001	94.0	93.4	100.0	99.3	92.4	89.5	2.9
2002	97.0	96.5	93.0	92.5	110.5	106.7	3.8
2003	97.0	98.1	85.0	86.0	113.1	108.6	4.5
2004	109.0	109.2	91.0	91.2	112.2	107.3	4.9
2005	117.0	116.5	125.0	124.4	116.5	111.5	5.0
2006	125.0	124.4	149.0	148.2	130.3	124.5	5.8
2007	135.0	134.7	170.0	169.7	134.7	128.2	6.5
2008	144.0	143.7	168.0	167.6	109.6	104.2	5.4
2009	144.0	144.1	164.0	164.1	136.1	128.5	7.6
2010	159.0	159.0	182.0	182.0	159.0	151.4	7.6
2011	160.0	160.8	192.0	193.0	176.7	170.0	6.7
2012	194.0	195.5	211.0	212.7	278.2	273.8	4.4
2013	199.0	200.2	230.0	231.4	243.2	238.7	4.5
2014	250.0	251.9	251.0	252.9	251.9	243.9	8.0
2015	263.0	265.5	258.0	260.5	297.7	291.5	6.2
2016	281.0	284.2	265.0	268.0	301.4	295.3	6.1
2017	292.0	294.6			294.6	287.5	7.1
2018	255.0	257.6			289.8	288.5	1.3
2019	267.0	268.7			268.7	263.8	4.9
2020	289.0	292.4			292.4	287.7	4.7
1/2021-9/2021	229.0	232.1			210.9	211.7	(0.8)

<sup>1</sup> Total amount of quarterly transfers from Treasury originally received for the calendar year.

<sup>2</sup> The FI Amount is the total original Treasury transfers multiplied by a ratio of  $\left(\frac{FI\ Benefits}{SSEB\ Benefits}\right)$  for the appropriate year.

<sup>3</sup> Revised Total Amount and FI Amount based on subsequent reconciliations.

<sup>4</sup> Sum of FI Amount original transfers and any adjustments made in the year for prior calendar years. Amount for 9-month estimate year is calculated separately based on projected SSEB and FI Benefits for that period.

<sup>5</sup> OASI/DI allocation is based on overall SSA OASI/DI income tax allocation experience for the calendar year, which can result in OASI/DI cash basis amounts being negative in some years.

**Table 10a. -- Financial Interchange HI Income Tax Transfers, Calendar Years 1994-2020 and  
January-September 2021**  
(in millions)

Year	Original Treasury Transfers		Treasury Adjustment		Final FI
	Amount	FI Adjusted <sup>1</sup>	Accrual Basis <sup>2</sup>		Adjusted Total <sup>3, 4</sup>
			Amount	FI Adjusted	
1994	\$14.0	\$14.0	\$1.0	\$0.9	\$0.0
1995	30.0	30.2	29.0	29.2	0.2
1996	30.0	30.0	35.0	35.0	0.0
1997	30.0	30.0	39.0	39.0	(0.1)
1998	31.0	31.0	27.0	27.0	0.0
1999	55.0	55.0	60.0	60.0	0.0
2000	50.0	50.0	52.0	52.0	0.0
2001	57.0	56.8	52.0	51.8	(0.2)
2002	58.0	57.7	53.0	52.7	(0.3)
2003	55.0	55.1	42.0	42.0	0.1
2004	53.0	53.3	46.0	46.3	0.3
2005	54.0	54.0	61.0	60.9	0.0
2006	64.0	63.6	81.0	80.5	(0.4)
2007	67.0	66.8	91.0	90.8	(0.2)
2008	76.0	75.9	97.0	96.9	(0.2)
2009	78.0	78.0	84.0	84.0	0.0
2010	86.0	86.0	89.0	89.0	0.0
2011	101.0	101.3	107.0	107.3	0.3
2012	121.0	121.8	129.0	129.9	0.6
2013	111.0	111.7	112.0	112.7	0.7
2014	153.0	154.0	159.0	160.0	1.0
2015	155.0	156.4	146.0	147.3	1.4
2016	177.0	178.7	165.0	166.6	1.8
2017	180.0	181.8			1.8
2018	176.0	177.6			1.6
2019	165.0	166.4			1.4
2020	194.0	195.8			1.8
1/2021-9/2021	197.0	199.5			2.3

<sup>1</sup> Total amount of quarterly transfers from Treasury directly to the HI trust fund for the calendar year.

<sup>2</sup> The FI Amount is the total original Treasury transfers multiplied by a ratio of  $\left(\frac{FI\ Benefits}{SSEB\ Benefits}\right)$  for the appropriate year.

<sup>3</sup> Revised Total Amount and FI Amount based on subsequent reconciliations.

<sup>4</sup> Since the original Treasury transfers and subsequent reconciliations are made directly to the HI trust fund, the final FI amount results only from the difference between FI Benefits and SSEB Benefits.

**Part V.**

## Correspondence and Memoranda



March 18, 2022

Mr. Keith T. Sartain  
 Chief Actuary  
 Railroad Retirement Board  
 844 North Rush Street  
 Chicago, Illinois 60611-2092

Dear Mr. Sartain:

This letter provides certain items you requested for use in the 70<sup>th</sup> financial interchange determination.

Below we present the effective interest rates earned by the OASI and DI Trust Funds in calendar year 2021 on a semiannual and annual basis.

Period	OASI	DI
January-June 2021	1.25012%	1.40992%
July-December 2021	1.17851%	1.33021%
Calendar year 2021	2.44394%	2.75923%

Attachment A provides a memorandum from Stephen Hull, Director of SSA's Office of Finance within the Office of Financial Policy and Operations (OFPO). The memorandum provides final workload unit cost factors for calendar year 2020 and preliminary factors for 2021. The final factors for 2020 are identical to the preliminary factors we provided in our most recent prior letter dated March 24, 2021.

Attachment B provides a table summarizing the operations of the OASI and DI Trust Funds for December 2021 and calendar year 2021, based on data from the Department of the Treasury and OFPO. The format of the table is consistent with the table for calendar year 2020, which we sent in our letter dated March 24, 2021. In calendar year 2021, the general fund reimbursed the trust funds to compensate the trust funds for payroll tax contributions that were not paid by employees and self-employed workers due to Public Laws 111-312, 112-78, and 112-96.<sup>1</sup> These amounts are included with the line labeled "Reimbursements due to P.L. 111-312, 112-78, and 112-96". The total calendar year 2021 estimate of the net transfer amount at this time is approximately \$1 million transferred in total to the OASI and DI Trust Funds, and includes any adjustments made in 2021 for 2011 and 2012 transfers.

In September 2021, the trust funds transferred amounts to the general fund for estimated refunds of taxes paid by employees whose combined wages from more than one employer exceeded the 2020 taxable maximum. The entire amount of these refunds is included on the line labeled "Multi-employer tax

<sup>1</sup> Public Law 111-312, the Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010, reduced the combined OASI and DI payroll tax rate for 2011 by two percentage points for employees and self-employed workers. Public Laws 112-78 and 112-96 continued the reduction in the payroll tax rate through calendar year 2012. These laws required that the General Fund of the Treasury reimburse the OASI and DI Trust Funds for these temporary reductions in payroll tax revenue.

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refunds” in the attached table showing the operations of the trust funds (Attachment B). There were no such refunds in any other months of calendar year 2021.

Calendar year 2021 data on cyclical payments by payment method are available on the internet at <https://www.ssa.gov/oact/progdata/payment.html>. For consistency with our treatment of accelerated benefit payments in our trust fund accounting, this cyclical payment data reflects benefit payments based on the normally scheduled payment date.

The requested annual ratios of uncollectible overpayments to total benefits are in Attachment C. Such ratios are to be used as limits on the amount of estimated uncollectible overpayments to be added to benefit payments chargeable to the Social Security trust funds through the financial interchange, as described in the August 2, 2004, letter from Stephen C. Goss to Frank Buzzi. Similar to such data for calendar year 2020, the amount of uncollectible overpayments in 2021 is significantly higher than in years prior to 2020. Based on previous discussion with OFPO, this is due to a special initiative undertaken by SSA during 2020. If you require further information about this, please let us know.

Sincerely,



Michael Stephens, A.S.A.  
Supervisory Actuary

Attachments: A-C

cc: Stephen C. Goss  
Karen P. Glenn



## SOCIAL SECURITY

### MEMORANDUM

**Date:** March 14, 2022 **Refer To:** S1NN1

**To:** Supervisory Actuary  
Office of the Chief Actuary

**From:** Director  
Office of Finance

**Subject:** Workload Unit Cost Factors for the SSA-Railroad Retirement Board (RRB) Financial Interchange (Your Memo, 01/24/22)—INFORMATION

This memorandum transmits and documents the final calendar year (CY) 2020 and preliminary CY 2021 unit cost factors for use in the SSA-RRB financial interchange. The CY 2020 calculations have not changed from those transmitted last year. The CY 2021 calculations will be revised only if necessitated by any future recalculations of the fiscal year 2021 administrative costs.

The unit costs are as follows:

<u>Workload</u>	CY 2020 <u>Final</u>	CY 2021 <u>Preliminary</u>
OASI Maintenance of Earnings Accounts	\$ 0.339171	\$ 0.369927
DI Maintenance of Earnings Accounts	\$ 0.049306	\$ 0.052543
HI Maintenance of Earnings Accounts	\$ 0.128734	\$ 0.121834
OASI Initial Enrollment – Wage Earners	\$ 460.729914	\$ 533.269364
DI Initial Enrollment – Wage Earners	\$ 1,961.843956	\$ 2,099.848810
HI (OASI Related) Initial Enrollment – Wage Earners	\$ 66.174442	\$ 74.966372
HI (DI Related) Initial Enrollment – Wage Earners	\$ 537.708227	\$ 561.961462
OASI Initial Enrollment – Auxiliaries	\$ 501.698630	\$ 483.324599
DI Initial Enrollment – Auxiliaries	\$ 2,124.598534	\$ 3,067.152966
HI (OASI related) Initial Enrollment – Auxiliaries	\$ 72.058761	\$ 67.945197
HI (DI related) Initial Enrollment – Auxiliaries	\$ 582.316503	\$ 820.831364



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<u>Workload</u>	CY 2020 <u>Final</u>	CY 2021 <u>Preliminary</u>
OASI Maintenance of the Rolls	\$ 19.119700	\$ 19.183311
DI Maintenance of the Rolls	\$ 52.042838	\$ 54.256193
HI (OASI Related) Maintenance of the Rolls	\$ 0.432056	\$ 0.370365
HI (DI Related) Maintenance of the Rolls	\$ 3.664304	\$ 4.227535

Copies of the worksheets and backup materials used to calculate these unit costs are available upon request. Should your staff or the staff of RRB wish to discuss these computations, they should contact Nicole Wartman at (410) 966-9452.

**Stephen Hull** Digitally signed by Stephen Hull  
Date: 2022.03.14 15:57:43 -04'00'

Stephen Hull

## Financial Operations of the OASI and DI Trust Funds, December 2021

Old-Age and Survivors Insurance Trust Fund			
	Current month	Fiscal year to date	Calendar year to date
<b>Total income</b>	\$107,117,293,928.99	\$249,447,794,567.10	\$942,856,354,029.68
Payroll tax contributions	74,982,147,507.64	204,540,147,507.64	841,383,494,330.10
Multi-employer tax refund	0.00	0.00	-3,148,411,150.00
Net payroll tax contributions	74,982,147,507.64	204,540,147,507.64	838,235,083,180.10
Reimbursement income tax credits	724.13	724.13	5,384.72
Reimbursement due to P.L. 111-312, 112-78, and 112-96	-206,973.23	-206,973.23	507,941.88
General Fund reimbursement subtotal	-206,249.10	-206,249.10	513,326.60
Income from benefit taxation	20,438,904.70	12,584,741,765.60	37,151,145,800.00
Interest on investments	32,114,874,734.29	32,322,874,871.68	67,468,660,105.61
Interest on reimbursements	3,673.46	186,313.28	861,182.37
Interest subtotal	32,114,878,407.75	32,323,061,184.96	67,469,521,287.98
Gifts & miscellaneous income	35,358.00	50,358.00	90,435.00
<b>Total cost</b>	84,152,178,019.44	252,610,827,720.40	1,001,936,215,241.52
Benefit payments	83,720,867,483.18	251,590,313,276.92	993,167,492,835.75
Reimbursements (uncashed checks & misc.)	-3,918,591.67	-11,437,437.60	-49,164,255.93
Vocational rehabilitation payments	714,711.23	2,184,395.97	14,268,719.38
Benefits subtotal	83,717,663,602.74	251,581,060,235.29	993,132,597,299.20
SSA-RRB Financial Interchange	0.00	0.00	4,792,466,000.00
Treasury administrative expenses	164,885,035.14	173,931,364.27	697,268,133.85
SSA salaries & expenses	266,336,370.00	843,714,348.00	3,245,820,515.97
Construction	4,488,165.00	13,992,515.00	74,664,968.00
Offsetting miscellaneous income	-366,374.12	-512,237.17	-2,020,780.63
Pension reform reimbursement	0.00	-529,725.67	-2,395,484.56
Reimbursement for SSA expenses	-828,779.32	-828,779.32	-2,185,410.31
Administrative expenses subtotal	434,514,416.70	1,029,767,485.11	4,011,151,942.32
<b>Net increase in asset reserves</b>	22,965,115,909.55	-3,163,033,153.30	-59,079,861,211.84
Undisbursed balance	-52,565,917.12	-52,565,917.12	-52,565,917.12
Invested asset reserves (book value)	2,752,688,355,000.00	2,752,688,355,000.00	2,752,688,355,000.00
<b>Asset reserves at end of month</b>	2,752,635,789,082.88	2,752,635,789,082.88	2,752,635,789,082.88

Disability Insurance Trust Fund			
	Current month	Fiscal year to date	Calendar year to date
<b>Total income</b>	\$13,987,206,735.66	\$36,419,678,201.88	\$145,469,816,938.84
Payroll tax contributions	12,753,123,337.33	34,754,123,337.33	142,900,048,110.01
Multi-employer tax refund	0.00	0.00	-532,838,850.00
Net payroll tax contributions	12,753,123,337.33	34,754,123,337.33	142,367,209,260.01
Reimbursement income tax credits	69.71	69.71	517.40
Reimbursement due to P.L. 111-312, 112-78, and 112-96	-35,146.45	-35,146.45	86,254.45
General Fund reimbursement subtotal	-35,076.74	-35,076.74	86,771.85
Income from benefit taxation	276,911.90	405,873,991.30	458,650,566.40
Interest on investments	1,233,838,802.65	1,259,599,577.35	2,641,783,742.38
Interest on reimbursements	2,760.52	116,372.64	2,086,598.20
Interest subtotal	1,233,841,563.17	1,259,715,949.99	2,643,870,340.58
<b>Total cost</b>	11,670,961,721.35	35,088,235,271.55	142,646,034,800.49
Benefit payments	11,437,284,852.78	34,403,376,637.00	139,996,245,327.90
Reimbursements (uncashed checks & misc.)	-2,212,830.59	-6,708,560.08	-27,048,160.31
Vocational rehabilitation payments	3,735,304.84	13,347,652.69	89,058,175.45
Benefits subtotal	11,438,807,327.03	34,410,015,729.61	140,058,255,343.04
SSA-RRB Financial Interchange	0.00	0.00	107,132,000.00
Treasury administrative expenses	27,328,200.80	28,886,410.18	122,074,904.61
SSA salaries & expenses	201,211,547.00	637,055,115.00	2,295,581,453.75
Construction	3,372,750.00	10,515,041.00	53,115,476.00
Reimbursement for SSA expenses	-622,807.88	-622,807.88	-1,642,283.69
Demonstration projects	864,704.40	2,385,783.64	11,517,906.78
Administrative expenses subtotal	232,154,394.32	678,219,541.94	2,480,647,457.45
<b>Net increase in asset reserves</b>	2,316,245,014.31	1,331,442,930.33	2,823,782,138.35
Undisbursed balance	-43,640,130.55	-43,640,130.55	-43,640,130.55
Invested asset reserves (book value)	99,437,781,000.00	99,437,781,000.00	99,437,781,000.00
<b>Asset reserves at end of month</b>	99,394,140,869.45	99,394,140,869.45	99,394,140,869.45

## Notes:

- Fiscal year is the 12-month period ending September 30. See summary of [fiscal year data](#).
- Temporary tax credits were established by the 1983 Amendments (see footnote to our [tax rate table](#) for applicable years). The OASI and DI Trust Funds are reimbursed from the general fund of the Treasury for these tax credits.
- Income from taxation of benefits was established by the 1983 Amendments. A relatively small amount of this income is from taxation of benefits paid to non-resident aliens (deducted from monthly benefits). The remainder is transferred to the trust funds at the beginning of each calendar quarter on an estimated basis, with subsequent adjustment for actual income tax data. For further information, see [Taxation of Social Security benefits](#).
- The "SSA-RRB Financial Interchange" is an annual transfer among the Social Security Trust Funds and the Railroad Retirement program's *Social Security Equivalent Benefit Account*. The transfers, computed by the Railroad Retirement Board, are designed to put the Social Security Trust Funds in the same financial position that they would have been if railroad employment had always been covered by Social Security.
- Offsetting miscellaneous income is composed of miscellaneous income due to the Trust Funds, which can include refunds, penalties, fees, and other income due to the Trust Funds.
- The Employee Retirement Income Security Act of 1974 requires that SSA furnish information on deferred vested benefits to pension plan participants. The general fund of the Treasury reimburses the OASI Trust Fund for the costs incurred by furnishing such information.
- Net increase in asset reserves is calculated as total income less total cost.
- When a trust fund holds marketable securities, the book value differs from the face value of such securities. The OASI Trust Fund redeemed its marketable securities in November 1982; DI redeemed its last in February 2005. For special issues, book value is the same as face value.

**Ratio of uncollectible overpayments to total benefit payments**

[Dollar amounts in thousands]

Calendar year	OASI Trust Fund			DI Trust Fund		
	Uncollectible overpayments	Total benefit payments <sup>a</sup>	Ratio	Uncollectible overpayments	Total benefit payments <sup>a</sup>	Ratio
1999	\$90,533	\$334,383,416	0.0271%	\$234,852	\$51,313,271	0.4577%
2000	95,287	352,651,519	0.0270%	264,862	54,920,576	0.4823%
2001	95,898	372,312,043	0.0258%	262,639	59,558,650	0.4410%
2002	116,271	388,118,781	0.0300%	342,519	65,627,224	0.5219%
2003	114,015	399,842,083	0.0285%	337,982	70,885,971	0.4768%
2004	115,636	415,031,484	0.0279%	343,713	78,180,163	0.4396%
2005	118,455	435,325,384	0.0272%	367,617	85,373,479	0.4306%
2006	143,851	460,404,994	0.0312%	498,697	92,357,903	0.5400%
2007	135,954	485,819,057	0.0280%	473,033	99,057,104	0.4775%
2008	190,680	508,994,214	0.0375%	556,943	106,271,269	0.5241%
2009	169,630	557,101,116	0.0304%	448,360	118,298,745	0.3790%
2010	168,014	577,390,879	0.0291%	463,123	124,162,037	0.3730%
2011	168,088	596,153,634	0.0282%	473,100	128,904,536	0.3670%
2012	148,672	637,892,767	0.0233%	450,078	136,849,591	0.3289%
2013	136,349	672,126,128	0.0203%	385,530	140,046,294	0.2753%
2014	120,188	706,777,966	0.0170%	319,036	141,600,507	0.2253%
2015	93,543	742,905,710	0.0126%	206,111	143,263,174	0.1439%
2016	101,550	768,598,740	0.0132%	190,877	142,684,346	0.1338%
2017	180,098	798,686,160	0.0225%	336,532	142,720,079	0.2358%
2018	194,288	844,887,862	0.0230%	311,010	143,637,104	0.2165%
2019	171,646	902,796,624	0.0190%	387,767	145,029,039	0.2674%
2020	477,569	952,348,936	0.0501%	2,546,309	143,466,468	1.7748%
2021	518,071	993,118,329	0.0522%	2,413,116	139,969,197	1.7240%

<sup>a</sup> Payments are reduced for unnegotiated checks.

Sources: 1. Uncollectible overpayment amounts are from SSA's Office of Financial Policy and Operations (OFPO).  
2. Total benefit payments are computed based on input from OFPO and the Bureau of the Fiscal Service in the U.S. Department of the Treasury.

Social Security Administration  
Office of the Chief Actuary  
March 18, 2022

DEPARTMENT OF HEALTH & HUMAN SERVICES  
Centers for Medicare & Medicaid Services  
7500 Security Boulevard, Mail Stop 00-00-00  
Baltimore, Maryland 21244-1850



March 4, 2022

Mr. Carl May  
Bureau of the Actuary  
Railroad Retirement Board  
844 N. Rush Street  
Chicago, Illinois 60611-2092

Dear Mr. May:

The effective semi-annual rates of interest earned by the HI Trust Fund during the six months ending June 30, 2021 and December 31, 2021, were 0.97 percent and 1.01 percent, respectively.

If you have any questions, please contact me at (410)786-6392.

Sincerely,

  
Jennifer Lee  
CMS/OACT



November 19, 2021

Mr. Keith Sartain  
Chief Actuary  
Railroad Retirement Board  
844 North Rush Street  
Chicago, Illinois 60611-2092

Dear Mr. Sartain:

The attached tables provide estimated benefits in current-payment status as of December 31, 2020. Table 1 relates to male retired worker beneficiaries and their beneficiary dependents. Table 2 presents the corresponding estimates for female retired worker beneficiaries. We first provided table 2 in our letter dated January 19, 2012, per agreement between our offices in August 2011 to revise the application of child and family composition factors.<sup>1</sup> Please note that the attached data were derived from 100-percent sample data.

Sincerely,

Michael Stephens, A.S.A.  
Supervisory Actuary

/S/  
Craig Feinstein  
Actuary

Attachments: Tables 1-2

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<sup>1</sup> See letter from Stephen C. Goss, dated August 19, 2011.

Table 1 — Selected benefit estimates relating to male old-age (primary) beneficiary families in current-payment status on 12/31/2020

Age	All old-age families			Beneficiary families consisting of a male old-age beneficiary with an aged wife receiving a full benefit whether or not children are present			Beneficiary families consisting of a male old-age beneficiary with a wife whose entitlement is based on having an eligible child in her care and is receiving a full benefit			
	Old-age benefits	Monthly rate of PIA	Child benefits	Old-age benefits	Monthly rate of PIA	Child benefits	Old-age benefits	Monthly rate of PIA	Child benefits	Wife benefits
62	\$360,677,136	\$498,850,612	\$9,962,276	\$1,269,071	\$1,756,084	\$16,391	\$1,562,347	\$2,161,847	\$886,531	\$705,026
63	560,469,010	756,309,908	15,958,940	2,622,957	3,542,947	50,882	2,539,122	3,442,337	1,403,678	1,136,621
64	696,506,923	911,133,443	18,047,624	4,105,749	5,342,356	94,824	3,015,165	3,968,148	1,617,449	1,289,979
65	967,618,386	1,200,607,918	20,492,883	8,289,677	10,049,221	150,366	3,489,207	4,386,955	1,788,025	1,444,440
66	2,283,688,551	2,508,233,014	39,418,332	34,314,650	36,508,169	483,920	6,725,410	7,508,339	3,075,221	2,489,160
68	2,397,927,460	2,597,586,648	36,101,173	101,915,204	104,406,289	1,152,417	5,993,000	6,476,163	2,626,237	2,176,453
69	2,354,001,510	2,542,298,326	31,936,518	123,141,862	124,510,446	1,255,958	4,579,069	4,933,927	2,012,954	1,663,974
70	2,522,121,878	2,628,610,848	29,458,701	155,903,813	146,956,293	1,385,776	4,075,250	4,298,444	1,769,138	1,438,843
71	2,501,864,671	2,623,535,254	27,595,162	161,767,350	149,653,852	1,434,571	3,857,606	4,003,900	1,646,640	1,349,608
72	2,448,080,974	2,594,382,820	25,343,826	145,329,405	135,495,753	1,400,095	3,081,284	3,218,045	1,314,433	1,068,100
73	2,452,257,478	2,623,274,876	23,334,003	131,483,076	123,787,278	1,352,151	2,718,512	2,849,428	1,180,173	966,836
74	2,153,133,923	2,320,595,923	19,811,347	107,049,803	102,057,546	1,149,976	2,035,437	2,159,144	890,437	723,524
75	1,684,469,453	1,823,666,563	14,629,806	73,673,340	70,874,030	887,552	1,411,118	1,498,027	623,308	504,913
76	1,613,828,853	1,759,630,131	13,324,783	62,749,637	61,193,595	801,884	1,106,883	1,181,201	481,653	402,146
77	1,600,555,005	1,757,854,653	12,303,441	56,185,345	55,386,679	769,531	1,036,497	1,105,017	456,867	374,089
78	1,483,928,542	1,634,500,346	10,987,671	45,631,630	45,753,456	708,643	769,722	817,235	336,367	277,139
79	1,260,659,842	1,390,890,609	8,915,493	35,782,715	36,180,177	606,404	637,191	692,448	287,452	237,050
80	1,107,346,280	1,221,510,377	7,505,575	29,231,252	29,836,615	544,900	426,247	460,727	192,933	156,551
81	968,002,920	1,066,061,495	6,309,271	23,516,979	24,088,575	474,488	320,230	349,377	142,418	120,002
82	888,753,506	977,450,578	5,404,795	20,765,652	21,346,532	444,892	231,975	248,311	101,122	87,536
83	766,967,018	839,820,291	4,408,148	17,583,619	18,059,906	346,701	174,862	186,804	78,556	62,058
84	644,672,260	705,759,506	3,525,814	14,288,400	14,705,732	278,887	121,719	128,017	51,593	45,216
85	563,687,237	616,472,066	2,962,569	12,652,735	13,022,646	243,298	77,321	83,029	33,038	27,389
86	486,547,493	529,107,080	2,499,140	12,117,799	12,289,917	226,397	72,448	75,517	30,977	27,142
87	409,025,709	441,462,665	2,024,123	11,169,495	11,075,913	174,263	45,361	47,139	18,844	16,916
88	371,093,785	399,301,803	1,748,127	10,852,050	10,569,705	157,438	51,317	54,160	21,559	19,397
89	310,948,494	331,647,927	1,432,131	9,625,940	9,151,937	118,446	29,910	31,527	12,050	11,152
90	264,917,521	281,827,613	1,168,835	8,233,140	7,751,666	103,699	25,463	25,889	10,745	9,289
91	207,888,729	220,235,543	924,993	6,354,853	5,922,079	64,042	14,460	14,460	5,903	4,858
92	169,362,853	179,862,931	706,151	4,907,432	4,634,471	61,801	13,037	14,115	5,207	5,208
93	133,865,768	141,689,075	530,119	3,478,644	3,264,114	24,217	8,821	9,343	3,885	3,318
94	97,415,539	103,264,972	371,267	2,323,475	2,206,236	22,197	8,499	8,508	3,692	3,185
95	71,901,281	75,987,018	274,774	1,656,393	1,570,563	21,191	4,634	5,002	2,512	1,350
96	50,297,332	53,113,800	177,134	1,149,766	1,089,952	11,450	5,612	5,651	2,408	1,637
97	33,822,853	35,429,015	110,870	683,571	650,935	4,969	2,805	2,757	1,107	1,107
98	21,856,024	22,792,836	80,157	413,658	389,082	6,458	476	465	184	46
99	14,219,587	14,779,663	43,309	222,748	210,243	2,437	0	0	0	0
100	8,074,857	8,331,952	33,747	110,733	104,682	2,437	0	0	0	0
101+	10,314,733	10,643,682	32,065	139,067	134,626	2,206	0	0	0	0
Total	39,267,283,232	42,977,969,272	438,073,801	1,506,445,858	1,471,750,444	17,797,180	56,623,809	63,405,748	25,958,928	21,201,318

Table 2 — Selected benefit estimates relating to female old-age (primary) beneficiary families in current-payment status on 12/31/2020

Age	All old-age families			Beneficiary families consisting of a female old-age beneficiary with an aged husband receiving a full benefit whether or not children are present			Beneficiary families consisting of a female old-age beneficiary with a husband whose entitlement is based on having an eligible child in his care and is receiving a full benefit			Beneficiary families consisting of a female old-age beneficiary with a husband whose entitlement is based on having an eligible child in his care and is receiving a full benefit		
	Old-age benefits	Monthly rate of PIA	Child benefits	Old-age benefits	Monthly rate of PIA	Child benefits	Old-age benefits	Monthly rate of PIA	Child benefits	Old-age benefits	Monthly rate of PIA	Child benefits
62	\$318,761,424	\$427,806,176	\$1,926,170	\$1,541,550	\$2,132,571	\$6,479	\$21,657	\$30,028	\$11,553	\$10,746		
63	497,053,779	644,948,205	3,150,854	3,660,994	4,947,686	19,557	26,873	36,107	16,004	11,201		
64	621,424,974	776,711,099	3,396,275	6,224,446	8,051,622	31,090	14,405	19,331	7,801	7,071		
65	865,537,812	1,022,187,407	3,941,344	10,436,746	12,576,509	37,919	24,790	31,339	11,847	11,847		
66	1,827,134,698	1,925,300,515	7,156,934	26,022,375	28,002,048	59,316	26,846	30,270	11,234	11,234		
67	1,772,506,270	1,845,159,550	6,960,221	32,405,288	33,914,299	83,147	29,561	31,358	11,482	11,482		
68	1,821,430,524	1,881,580,492	6,402,512	32,706,765	33,567,254	93,637	25,961	27,952	10,785	9,785		
69	1,792,075,508	1,832,327,517	5,749,650	25,778,823	26,075,387	71,188	12,052	13,617	5,184	3,881		
70	1,953,953,161	1,913,785,387	5,217,547	20,714,213	19,520,237	58,734	9,215	9,894	3,437	4,130		
71	1,955,731,491	1,911,030,296	4,731,873	15,862,872	14,748,197	32,811	4,721	5,268	2,319	2,278		
72	1,912,979,339	1,872,686,596	4,298,569	11,815,749	11,175,283	34,284	4,564	4,674	2,031	1,584		
73	1,905,777,909	1,847,873,536	3,738,244	8,735,487	8,516,500	21,546	3,084	3,725	1,556	1,556		
74	1,671,069,708	1,615,712,349	3,271,243	6,421,876	6,348,978	13,684	3,580	4,364	1,918	1,398		
75	1,312,249,892	1,249,388,878	2,259,489	4,184,305	4,196,933	8,870	1,763	2,351	882	882		
76	1,271,625,162	1,199,135,240	1,997,996	3,549,140	3,571,312	4,195	2,585	2,585	1,292	511		
77	1,269,824,290	1,185,853,180	1,769,726	2,839,791	2,914,318	4,827	0	0	0	0		
78	1,178,493,008	1,089,398,493	1,557,350	2,537,887	2,603,431	4,319	0	0	0	0		
79	1,013,031,732	928,659,360	1,336,582	1,850,807	1,899,481	9,577	0	0	0	0		
80	901,236,944	814,473,071	993,662	1,483,071	1,525,821	4,446	0	0	0	0		
81	806,789,715	713,675,552	840,551	1,279,096	1,314,678	2,006	0	0	0	0		
82	752,433,428	653,473,066	712,533	1,041,305	1,054,816	2,594	0	0	0	0		
83	664,460,804	563,175,596	623,216	781,155	795,500	262	0	0	0	0		
84	584,230,302	478,168,667	446,096	558,031	565,210	3,028	0	0	0	0		
85	527,984,674	420,179,727	340,841	461,627	455,050	547	0	0	0	0		
86	470,254,608	365,675,832	264,535	343,656	342,944	224	0	0	0	0		
87	406,208,137	311,061,742	212,394	251,168	244,271	511	0	0	0	0		
88	380,058,192	289,000,288	164,209	203,871	198,168	207	0	0	0	0		
89	331,552,125	242,840,940	143,845	155,694	152,217	140	0	0	0	0		
90	295,059,224	210,457,731	116,393	114,655	106,142	0	0	0	0	0		
91	248,275,328	172,904,312	81,810	77,207	74,016	0	0	0	0	0		
92	215,758,634	150,768,758	61,205	51,994	46,885	0	0	0	0	0		
93	181,550,621	126,581,038	58,160	38,973	36,565	0	0	0	0	0		
94	143,936,907	98,674,146	42,157	31,227	28,385	0	0	0	0	0		
95	114,552,560	79,193,105	33,016	22,895	20,863	0	0	0	0	0		
96	86,985,408	58,995,710	20,049	11,532	10,603	0	0	0	0	0		
97	63,162,898	42,283,740	14,028	5,486	5,198	0	0	0	0	0		
98	44,737,576	29,545,605	11,042	1,755	1,519	0	0	0	0	0		
99	32,578,970	21,277,856	9,163	0	0	0	0	0	0	0		
100	21,255,720	13,662,920	5,166	0	0	0	0	0	0	0		
101+	32,958,329	23,298,348	7,637	0	0	0	0	0	0	0		
Total	32,266,681,782	31,048,912,024	74,064,283	224,203,509	231,740,895	609,139	211,653	252,862	99,324	90,020		





## **EXHIBIT 2 – PAYROLL CALCULATIONS AND GROSS EARNINGS SAMPLE**

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### **Part I.**

#### Payroll Calculations Summary and Tables

#### **Accrued Taxable Payroll**

Accrued taxable payroll, as developed for financial interchange purposes, is the amount of railroad compensation to which combined employee and employer tax rates are applied to obtain additional accrued gross taxes (including overpayments of employee taxes) that would have been paid into the Old-Age and Survivors Insurance (OASI), Disability Insurance (DI) or Hospital Insurance (HI) Trust Funds if railroad employment were covered by the Federal Insurance Contributions Act (FICA).

Table 1 shows the maximum taxable earnings bases under the Railroad Retirement Act (RRA) and FICA. Tables 2 and 3 summarize the various components that determine accrued taxable payroll for calendar years 1937-1965 and 1966-2020, respectively.

The general methodology and assumptions governing the development of the OASDHI taxable payroll for financial interchange purposes are covered individually below.

#### **RRA Creditable Payroll**

The RRA creditable payroll for 2020, including sickness payments and miscellaneous compensation, was \$17,461.8 million. This amount is based on reports submitted by the railroads and third party payors to the Railroad Retirement Board (RRB). Beginning in 1985, RRA compensation is creditable up to an annual limit rather than a monthly limit. This limit, \$137,700 in 2020, is the same as FICA.

Prior year adjustments of \$3.25 million were subtracted from the RRA creditable payrolls for 1994-2019. No prior year adjustments for years before 1982 were made in this determination, and the 1981 prior year adjustment amount remains unchanged.

#### **Inflation Factor for HI Payroll**

Inflation factors are developed from the sample gross earnings data, as described in Part II. Prior to 1985, inflation factors were the ratio of compensation under the annual FICA limit to compensation under the monthly RRA limit. Beginning in 1985, the RRA creditable limit became annual and equal to the FICA limit, so inflation factors were unnecessary for calendar years 1985-1990. Beginning in 1991, a higher taxable limit applied to payroll under the HI portion of the FICA contribution rate. Consequently, inflation factors were reinstated for HI payroll calculations. Beginning in 1994, the HI limit was removed entirely and all wages are subject to HI payroll taxes.

The amount of earnings that would have been subject to the HI portion of the FICA tax rate was estimated from a sample of accounts for which records of gross earnings (including sickness payments and miscellaneous compensation) were obtained from railroad employers. From these records, annual earnings data were gathered that indicated the RRA creditable compensation and total HI earnings for each sample record.

For 2020, the total sample amounts subject to HI and RRA taxes were, respectively, \$177,700,936 and \$172,488,684. Therefore, the 2020 ratio for inflating OASDI and HI taxable payroll is 1.0302. HI payroll calculations are elaborated upon further in Part II.

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### **RRA Payroll up to FICA Limit**

Prior to 1985, various adjustments and factors have been applied to RRA payroll to inflate it to OASDI levels. A summary of such adjustments and factors is included in the 41<sup>st</sup> Financial Interchange Summary and Documentation for Fiscal Year 1992, pages 62-63, with accompanying tables. Since 1985, OASDI payroll has been equal to RRA creditable payroll plus other adjustments. HI payroll equaled OASDI payroll through 1990. Since 1991, HI payroll equals the OASDI payroll times the inflation factor.

### **Multiple Railroads Employment and Miscellaneous Compensation Adjustment**

Beginning in 1985, the employer RRA tax applies to the taxable compensation up to the annual limit earned by each employee, as has been the case under FICA. Under both systems, the employee's overall tax is limited by the annual maximum, even if the employee works for more than one employer. Thus, when an employee works with multiple employers and earns more than the FICA limit over the course of a year, the employee excess taxes are refundable, but the employer excess is not.

This is complicated somewhat by the inclusion of miscellaneous compensation, primarily sick pay, which became taxable and creditable in 1982. Third party miscellaneous compensation payors such as insurance companies and the RRB automatically withhold FICA taxes from the employee's payment. Consequently, such withholdings that exceed the maximum taxable amount are refundable to the employee.

The situation for railroad employers, however, is different. Insurance companies and the RRB notify them of the amount of benefits paid, and they in turn remit to the Internal Revenue Service (IRS) only that amount payable up to the annual limit for the employee. Consequently, employers generally do not pay excess FICA taxes on miscellaneous compensation.

Thus, it is necessary to determine both the amount and the source of payroll amounts in excess of annual FICA limits. Excess tax amounts resulting from multiple employment are paid for by both employers and employees, but refundable only to employees. Excess amounts resulting from miscellaneous compensation are paid only by employees and are fully refundable.

Full records of employer and miscellaneous payroll have been kept since 1989. Since records for 1982-1988 are not available, experience for these years was extrapolated from 1989-1991 experience.

The following equations are used to determine the miscellaneous pay/multiple railroad employment adjustment since 1989. They employ the following definitions relating to data for employee  $i$  and railroad employer  $j$ :

- $C_{ij}$  = Compensation for employee  $i$  from railroad  $j$
- $B_i$  = Railroad Retirement Board sickness payments for employee  $i$
- $I_i$  = Insurance company sickness payments for employee  $i$
- $L$  = Annual FICA payroll limit
- $R$  = Number of annual railroad employers
- $N$  = Number of employees

The total excess payroll,  $A$ , for a given year is calculated as follows:

$$A = \sum_{i=1}^N \text{Max} \left\{ \left( \sum_{j=1}^R C_{ij} \right) + B_i + I_i - L, 0 \right\}$$

That portion of total excess payroll due to multiple railroads employment,  $B$ , is:

$$B = \sum_{i=1}^N \text{Max} \left\{ \left( \sum_{j=1}^R C_{ij} \right) - L, 0 \right\}$$

Therefore, the amount of excess payroll due to multiple railroads employment is given by  $B$ , and the excess payroll attributable to miscellaneous compensation is given by  $(A - B)$ . These formulas are problematic in certain cases where there is a combination of multiple employment and miscellaneous compensation within a year. Experience indicates, however, that these instances are very rare.

### **Dual Coverage Wage Adjustment and Sampling Error**

Dual coverage is the estimate of the amount of Social Security wages earned and taxed that would have exceeded FICA limits had all railroad compensation been subject to FICA. For 2020, the amounts involved for an affected employee would be combined earnings under both systems in excess of \$137,700 but not in excess of \$137,700 under either system separately.

We estimate this adjustment using data received from SSA that contains OASDI wages for the Gross Earnings (see Part II) sample individuals. Combined earnings over the OASDI limit that are subject to the OASDI limits under either system are inflated to yield an estimate of the universe amount of employee refunds that would have been payable from this source.

The dual coverage wage adjustment estimate of \$63.1 million for 2020 was obtained using the formula:

$$A = \frac{N}{n} \sum_{i=1}^n X_i$$

- where  $A$  = estimated dual coverage adjustment for the universe
- $X_i$  = dual coverage amount in excess of the Social Security wage base for sample account  $i$
- $N$  = universe number
- $n$  = sample number

The standard error of \$21.3 million for 2020 was computed for these estimates from the formula:

$$S_A^2 = \frac{N(N-n)}{n(n-1)} \left\{ \sum_{i=1}^n X_i^2 - \frac{1}{n} \left( \sum_{i=1}^n X_i \right)^2 \right\}$$

Using the standard error, the 95 percent confidence interval was \$21.4 million to \$104.8 million for 2020.

Only the employee tax rates apply to dual coverage refunds. For 2020, the OASI inflated tax refund amount was \$3.34 million and the 95 percent confidence interval was \$1.14 million to \$5.55 million, while the DI inflated tax refund amount was \$0.57 million and the 95 percent confidence interval was \$0.19 million to \$0.94 million.

### **Final FICA Accrued Payroll**

The final annual FICA accrued payroll, as shown in Tables 2 and 3, is the amount of railroad compensation to which combined employee and employer tax rates may be applied to obtain additional gross taxes (including overpayments of employee taxes) that would have been paid into the OASI, DI or HI Trust Funds if railroad employment were covered by FICA.

For years 1937-1965, the final accrued payroll is calculated as the net of (1) RRA payroll not in excess of the FICA limit, plus (2) compensation over the RRA monthly limit but not over the FICA limit, plus (3) the multiple railroad employment adjustment, less (4) 75 percent of dual coverage self-employment adjustment.

For years 1966-1987, the final accrued payroll is calculated as the net of (1) RRA creditable payroll inflated to under the annual FICA limit, plus (2) the multiple railroad employment adjustment, less (3) 50 percent of tips, less (4) sickness payments, less (5) the self-employment adjustment.

For years 1988 and later, the final accrued payroll is obtained by adding to the RRA creditable payroll up to the FICA limit the multiple railroad employment/miscellaneous compensation adjustment.

The OASDI accrued payroll for 2020 is \$17,470.8 million. The HI accrued payroll for 2020 is \$17,989.5 million.

### **Accrued Payroll under the Affordable Care Act**

Beginning in calendar year 2013, the Affordable Care Act (ACA) imposes an additional employee Medicare tax of 0.9 percent on earnings above \$200,000 (for those who file an individual return) or \$250,000 (for those who file a joint return). The 0.9 percent tax is withheld from earnings above \$200,000 regardless of filing status. Because the taxable thresholds are applied separately to FICA earnings and railroad compensation, households with both FICA earnings and railroad compensation whose combined earnings are in excess of the taxable limits pay less tax than if all of their earnings were covered under FICA. An adjustment to the total accrued amount over \$200,000, the HI ACA payroll, is therefore required for the resulting shortfall of additional taxes that would have been collected if railroad employment was covered under FICA.

The \$317.9 million HI ACA payroll for 2020 was derived from gross earnings data reported by employers. A shortfall adjustment of \$1.8 million for 2018 was made in December 2020. Table 4 summarizes the various components that determine the HI ACA payroll and the shortfall adjustment.

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**FICA Payroll Taxes on Cash Basis**

The financial interchange requires that both the amount and pattern of FICA taxes that would have been collected from the final accrued OASDHI payroll be determined. To determine the pattern, a quarterly payroll distribution was estimated using the Gross Earnings study (see Part II). Quarterly pay for sample employees was accumulated over each quarter, up to the \$137,700 annual limit for 2020 for each employee. The resulting sample quarterly distribution was then applied to the overall population. Beginning with the 39<sup>th</sup> determination, the pattern of payment was further refined by applying second-degree curves to the quarterly payrolls to determine hypothetical monthly distributions (see Financial Interchange Summary and Documentation: 35th determination, pages 60-70; 36th determination, pages 41-43; 39th determination, pages 73-77). Finally, for calendar years before 1993, the monthly payroll results were further adjusted to reflect the measurable lag period between payroll disbursement and actual collection of FICA taxes thereon. This was discontinued beginning with calendar year 1993.

The table below shows the quarterly dollar and percentage distributions of the sample OASDI accrued payroll for 2020 and the resulting distribution of the accrued OASDI payroll. For the purpose of these tables, the sample amounts were limited to those employees for whom monthly or quarterly data were reported.

---

	Sample Amount <sup>1</sup>	Percentage Distribution	OASDI Payroll (millions)
Total .....	\$135,447,804	100.00	\$17,470.8
1st Quarter .....	39,657,193	29.28	5,115.5
2nd Quarter .....	32,059,406	23.67	4,135.3
3rd Quarter .....	31,809,057	23.48	4,102.1
4th Quarter .....	31,922,149	23.57	4,117.9

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<sup>1</sup> Numbers may not add up due to rounding.

Similar calculations were performed for HI payroll, with the exception of the application of any annual covered earnings limit.

	Sample Amount <sup>1</sup>	Percentage Distribution	OASDI Payroll (millions)
Total .....	\$139,419,117	100.00	\$17,989.5
1st Quarter .....	40,151,456	28.80	5,181.0
2nd Quarter .....	32,581,735	23.37	4,204.1
3rd Quarter .....	32,542,863	23.34	4,198.7
4th Quarter .....	34,143,063	24.49	4,405.7

<sup>1</sup> Numbers may not add up due to rounding.

The table below shows the quarterly dollar and percentage distribution of the sample HI ACA accrued payroll for 2020 and the resulting distribution of the HI ACA accrued payroll.

	Sample Amount <sup>1</sup>	Percentage Distribution	OASDI Payroll (millions)
Total .....	\$1,323,654	100.00	\$317.9
1st Quarter .....	163,046	12.32	39.2
2nd Quarter .....	341,824	25.82	82.1
3rd Quarter .....	312,137	23.58	75.0
4th Quarter .....	506,648	38.28	121.6

<sup>1</sup> Numbers may not add up due to rounding.

Preliminary estimates were made of the quarterly accrued payroll for the first nine months of 2021 based on presumed employment levels and wage increases. Under the OASDI annual limit of \$142,800 for 2021, estimated accrued payroll for January-September 2021 was \$13,097.8 million. The total HI estimated accrued payroll for January-September 2021 was \$13,272.3 million of which \$124.9 million was subject to the 0.9 percent additional Medicare tax.

**Table 1. -- Annual Maximum Taxable Earnings Under the RRA and FICA**

Year	RRA Limit <sup>1</sup>	FICA Limits	
		OASDI	HI
1937-1950	\$300	\$3,000	---
1951	300	3,600	---
1952	300	3,600	---
1953	300	3,600	---
1954	300/350 <sup>2</sup>	3,600	---
1955	350	4,200	---
1956	350	4,200	---
1957	350	4,200	---
1958	350	4,200	---
1959	350/400 <sup>3</sup>	4,800	---
1960	400	4,800	---
1961	400	4,800	---
1962	400	4,800	---
1963	400/450 <sup>4</sup>	4,800	---
1964	450	4,800	---
1965	450	4,800	---
1966	550	6,600	\$6,600
1967	550	6,600	6,600
1968	650	7,800	7,800
1969	650	7,800	7,800
1970	650	7,800	7,800
1971	650	7,800	7,800
1972	750	9,000	9,000
1973	900	10,800	10,800
1974	1,100	13,200	13,200
1975	1,175	14,100	14,100
1976	1,275	15,300	15,300
1977	1,375	16,500	16,500
1978	1,475	17,700	17,700
1979	1,908	22,900	22,900
1980	2,158	25,900	25,900
1981	2,475	29,700	29,700
1982	2,700	32,400	32,400
1983	2,975	35,700	35,700
1984	3,150	37,800	37,800

See footnotes at the end of table.

**Table 1. -- Annual Maximum Taxable Earnings Under the RRA and FICA (Continued)**

Year	RRA Limit <sup>1</sup>	FICA Limits	
		OASDI	HI
1985	\$39,600	\$39,600	\$39,600
1986	42,000	42,000	42,000
1987	43,800	43,800	43,800
1988	45,000	45,000	45,000
1989	48,000	48,000	48,000
1990	51,300	51,300	51,300
1991	53,400	53,400	125,000
1992	55,500	55,500	130,200
1993	57,600	57,600	135,000
1994	60,600	60,600	No Limit
1995	61,200	61,200	No Limit
1996	62,700	62,700	No Limit
1997	65,400	65,400	No Limit
1998	68,400	68,400	No Limit
1999	72,600	72,600	No Limit
2000	76,200	76,200	No Limit
2001	80,400	80,400	No Limit
2002	84,900	84,900	No Limit
2003	87,000	87,000	No Limit
2004	87,900	87,900	No Limit
2005	90,000	90,000	No Limit
2006	94,200	94,200	No Limit
2007	97,500	97,500	No Limit
2008	102,000	102,000	No Limit
2009	106,800	106,800	No Limit
2010	106,800	106,800	No Limit
2011	106,800	106,800	No Limit
2012	110,100	110,100	No Limit
2013	113,700	113,700	No Limit
2014	117,000	117,000	No Limit
2015	118,500	118,500	No Limit
2016	118,500	118,500	No Limit
2017	127,200	127,200	No Limit
2018	128,400	128,400	No Limit
2019	132,900	132,900	No Limit
2020	137,700	137,700	No Limit
2021	142,800	142,800	No Limit

<sup>1</sup> Earnings bases are monthly through 1984 and annual thereafter.

<sup>2</sup> The RRA limit was \$300 for the first six months of 1954, raised to \$350 for the last six months of the year.

<sup>3</sup> The RRA limit was \$350 for the first six months of 1959, raised to \$400 for the last six months of the year.

<sup>4</sup> The RRA limit was \$400 for the first six months of 1963, raised to \$450 for the last six months of the year.



Table 2. -- Summary of Accrued Taxable Payroll Calculations, 1937-1965

(in millions)

Year	RRA Creditable Payroll	RRA Payroll Up to FICA Limit <sup>1</sup>	FICA Level Payroll Exceeding RRA Monthly Limit	Multiple RR Employment Adjustment	Dual Coverage Self Employment	Final FICA Accrued Payroll
1937	\$2,264.3	\$2,136.2	\$4.0	\$0.5		\$2,140.7
1938	2,007.5	1,912.1	4.0	0.5		1,916.6
1939	2,145.3	2,118.1	4.0	0.5		2,122.6
1940	2,248.2	2,217.6	3.9	0.6		2,222.1
1941	2,656.9	2,616.8	4.8	0.8		2,622.4
1942	3,301.7	3,228.5	8.3	1.4		3,238.2
1943	3,944.4	3,825.8	13.0	2.3		3,841.1
1944	4,301.4	4,134.2	15.0	3.3		4,152.5
1945	4,340.0	4,181.3	16.4	3.1		4,200.8
1946	4,639.5	4,423.9	22.5	4.3		4,450.7
1947	4,750.3	4,486.8	20.8	5.2		4,512.8
1948	4,951.5	4,592.5	24.8	7.1		4,624.4
1949	4,609.3	4,262.7	26.0	6.8		4,295.5
1950	4,704.3	4,334.1	29.6	7.3		4,371.0
1951	5,111.4	5,111.4	111.9	5.7	\$1.6	5,227.8
1952	5,046.2	5,046.2	118.4	6.5	2.5	5,169.2
1953	4,989.3	4,989.3	106.3	7.9	1.2	5,102.6
1954	4,706.7	4,527.0	55.7	8.4	2.2	4,589.5
1955	4,924.6	4,924.6	116.7	7.0	10.3	5,040.6
1956	5,059.7	5,059.7	126.5	13.1	14.8	5,188.2
1957	4,859.5	4,859.5	127.8	16.7	6.6	4,999.1
1958	4,246.4	4,246.4	149.9	18.4	8.5	4,408.3
1959	4,377.1	4,377.1	321.4	22.7	9.7	4,713.9
1960	4,403.8	4,403.8	137.8	16.8	10.6	4,550.5
1961	4,076.5	4,076.5	127.6	14.7	10.1	4,211.2
1962	3,990.8	3,990.8	129.3	15.3	9.8	4,128.1
1963	3,954.8	3,906.7	113.7	18.1	15.7	4,026.7
1964	4,210.9	3,890.4	75.9	17.4	20.1	3,968.6
1965	4,139.5	3,794.1	63.5	16.2	23.1	3,856.5

<sup>1</sup> Taxable payroll for employees age 65 and over is excluded in 1937-1938.

**Table 3. -- Summary of Accrued Taxable Payroll Calculations, 1966-2020**  
(Dollar amounts in millions)

Year	RRA Creditable Payroll	Prior Year <sup>1</sup> & Coverage Adjustments	RRA Payroll Up to FICA Limit	Multiple Railroad & Miscellaneous Comp Adjustment	1/2 Tips	Miscellaneous Adjustments <sup>2</sup>	Final OASDI Accrued Payroll	HI Payroll Inflation Factor	Final HI Accrued Payroll <sup>3</sup>	Final HI ACA Accrued Payroll <sup>4</sup>
1966	\$4,717.0	\$1.8	\$4,834.4	\$11.4	\$0.5	\$20.9	\$4,824.5			
1967	4,611.6	1.4	4,747.4	11.7	0.3		4,758.9			
1968	4,994.8	5.1	5,126.1	8.8	0.2		5,134.7			
1969	4,960.3	6.1	5,122.5	8.8	0.1		5,131.2			
1970	4,893.6	2.1	5,062.2	10.9	0.1		5,073.1			
1971	4,824.4	5.5	5,023.2	12.6	0.0	1.2	5,034.5			
1972	5,346.5	3.1	5,526.3	8.8	0.0	2.4	5,532.7			
1973	6,262.1	2.6	6,471.2	9.2	0.0	3.6	6,476.9			
1974	7,268.0	2.8	7,458.0	11.3	0.0	3.6	7,465.7			
1975	7,105.8	6.3	7,361.0	9.6	0.0	5.1	7,365.5			
1976	7,833.1	15.0	8,115.7	15.2	0.0	5.6	8,125.3			
1977	8,468.3	14.9	8,725.6	4.7	0.0	1.2	8,729.2			
1978	8,991.1	10.6	9,383.4	8.8	0.0	0.3	9,392.0			
1979	11,132.3	36.6	11,557.3	13.5	0.0	0.2	11,570.6			
1980	11,828.3	42.9	12,163.2	9.7	0.0		12,172.8			
1981	12,333.3	(64.4)	12,572.5	6.3	0.0		12,578.8			
1982	11,785.5	(14.8)	12,152.7	6.8	0.0		12,159.5			
1983	11,711.6	(7.0)	11,964.4	13.4	0.0		11,977.8			
1984	12,332.0	(2.1)	12,570.0	5.6	0.0		12,575.6			
1985	12,113.9	(1.8)	12,112.1	14.2	0.2		12,126.1			
1986	11,968.9	(1.4)	11,967.6	14.2	0.0		11,981.8			
1987	11,878.0	(1.9)	11,876.1	35.3	0.0		11,911.4			
1988	11,661.2	(13.2)	11,648.1	20.5			11,668.5			
1989	11,517.8	(5.0)	11,512.8	12.2			11,525.0			
1990	11,390.4	(7.3)	11,383.1	9.9			11,393.0			
1991	11,575.3	(11.4)	11,563.9	12.4			11,576.4	1.0415	\$12,044.0	
1992	11,901.4	(4.9)	11,896.5	15.7			11,912.3	1.0581	12,588.2	
1993	11,719.8	(3.0)	11,716.8	12.3			11,729.1	1.0612	12,434.4	
1994	11,888.5	2.7	11,891.2	9.8			11,901.0	1.0522	12,511.6	
1995	11,918.0	(3.1)	11,914.9	13.5			11,928.3	1.0644	12,682.2	
1996	12,224.1	(3.4)	12,220.7	14.2			12,234.9	1.0585	12,935.7	
1997	12,508.5	(1.7)	12,506.8	17.2			12,524.0	1.0538	13,179.2	
1998	13,166.0	(3.3)	13,162.7	19.6			13,182.3	1.0785	14,195.7	
1999	13,325.6	(3.8)	13,321.8	38.8			13,360.6	1.0777	14,357.4	
2000	13,362.1	(3.8)	13,358.3	9.5			13,367.8	1.0516	14,047.1	

See footnotes at the end of table.

**Table 3. -- Summary of Accrued Taxable Payroll Calculations, 1966-2020 (Continued)**  
**(Dollar amounts in millions)**

Year	RRA Creditable Payroll	Prior Year <sup>1</sup> & Coverage Adjustments	RRA Payroll Up to FICA Limit	Multiple Railroad & Miscellaneous Comp Adjustment	1/2 Tips	Miscellaneous Adjustments <sup>2</sup>	Final OASDI Accrued Payroll	HI Payroll Inflation Factor	Final HI Accrued Payroll <sup>3</sup>	Final HI ACA Accrued Payroll <sup>4</sup>
2001	\$13,247.1	(\$3.3)	\$13,243.7	\$8.2			\$13,251.9	1.0352	\$13,710.4	
2002	13,113.2	(3.5)	13,109.7	8.0			13,117.6	1.0345	13,562.2	
2003	13,262.5	(1.5)	13,261.0	9.7			13,270.8	1.0474	13,889.1	
2004	13,870.9	(0.8)	13,870.1	7.8			13,878.0	1.0535	14,612.3	
2005	14,564.7	(0.9)	14,563.7	8.6			14,572.4	1.0588	15,420.3	
2006	15,033.1	(0.4)	15,032.8	9.5			15,042.3	1.0759	16,173.6	
2007	15,619.0	(0.7)	15,618.3	10.7			15,629.0	1.0785	16,844.4	
2008	16,202.4	(0.5)	16,202.0	11.0			16,213.0	1.1057	17,915.0	
2009	15,341.7	(0.5)	15,341.3	7.6			15,348.8	1.0585	16,238.7	
2010	15,439.6	(0.4)	15,439.2	7.7			15,446.9	1.0541	16,274.7	
2011	16,572.3	(0.4)	16,571.9	10.3			16,582.2	1.0775	17,856.1	
2012	17,350.1	(0.3)	17,349.8	11.4			17,361.1	1.1252	19,521.8	
2013	17,771.6	(0.4)	17,771.1	12.7			17,783.8	1.0532	18,716.6	\$593.1
2014	19,216.4	(0.5)	19,215.8	16.9			19,232.8	1.0772	20,698.7	851.6
2015	19,992.3	(0.6)	19,991.7	13.2			20,005.0	1.0684	21,358.2	624.1
2016	18,318.3	(0.1)	18,318.2	9.8			18,328.0	1.0648	19,504.6	629.1
2017	18,511.7		18,511.7	12.7			18,524.4	1.0637	19,691.5	656.8
2018	19,663.4		19,663.4	13.2			19,676.7	1.0517	20,679.9	403.6
2019	19,184.5		19,184.5	11.0			19,195.5	1.0523	20,188.0	444.0
2020	17,461.8		17,461.8	9.0			17,470.8	1.0302	17,989.5	317.9

<sup>1</sup> Prior year adjustments for 1966-1981. Beginning with 1982, prior year adjustments are reflected in the RRA creditable payroll column.

<sup>2</sup> Self-employment income in 1966, sickness payments in 1971-1979.

<sup>3</sup> RRA payroll up to FICA limit times HI inflation factor. After 1993, HI limit on taxable pay was removed and all compensation is taxable.

<sup>4</sup> RRA payroll above \$200,000 per individual subject to additional 0.9 percent HI tax under ACA.

**Table 4. -- Summary of Accrued Taxable Payroll Calculations Under ACA, 2013-2020**  
(in millions)<sup>1</sup>

Year	Additional Medicare Tax		Final HI ACA	Shortfall <sup>2</sup> Amount	Shortfall
	Compensation		Accrued		Adjustment
	Regular	Miscellaneous	Payroll		Date <sup>3</sup>
2013	\$592.1	\$1.1	\$593.1	\$1.2	Dec 2015
2014	839.5	12.1	851.6	1.4	Dec 2016
2015	624.1	0.0	624.1	1.7	Dec 2017
2016	628.4	0.7	629.1	1.8	Dec 2018
2017	655.6	1.2	656.8	2.4	Dec 2019
2018	403.6	0.0	403.6	1.8	Dec 2020
2019	444.0	0.0	444.0		
2020	317.7	0.3	317.9		

<sup>1</sup> Numbers may not add up due to rounding.

<sup>2</sup> Difference between payroll taxes actually collected and the amount that would have been collected under FICA.

<sup>3</sup> Adjustments are scheduled for December of the second year after the year for which the tax is collected.

**Part II.**2020 Gross Earnings Sample for Financial  
Interchange Payroll Calculations**Design of the Sample**

All railroad employers were asked to report the 2020 gross earnings of a one-percent sample of their employees. Sample employees were those with social security account numbers ending in "30". Employers with 5,000 or more employees were asked to supply monthly or quarterly gross earnings data for the sample employees. Smaller employers could supply monthly, quarterly or annual gross earnings figures. The full 2020 gross earnings one-percent sample consisted of 2,207 records.

The gross earnings sample is used to determine the dual coverage payroll adjustment, the inflation factor for calculating the HI payroll, and the quarterly payroll distribution estimate.

A comparison of the average RRA creditable compensation (exclusive of miscellaneous compensation) and average service months for all employees based on the tabulation of all 2020 creditable earnings records and the gross earnings sample is as follows:

	Number of Employees	Average Compensation	Average Months of Service
All employees .....	225,901	\$ 76,563	10.42
Gross earnings sample .....	2,207	\$ 77,345	10.51

In addition, the representation of the universe by the sample was checked by means of Chi-square tests applied to distributions of employees by service months and by compensation (excluding miscellaneous compensation) creditable under the RRA. The Chi-square statistics of the gross earnings sample versus the expected numbers based on 100-percent data were tested at a 95-percent credibility level.

Results are shown in the following table.

Service months	Gross earnings sample	Expected number	Taxable compensation	Gross earnings sample	Expected number
Total	2,207	2,207		2,207	2,207
0	91	88	Under \$5,000	100	98
1	35	35	\$5,000-\$9,999	39	42
2	26	31	\$10,000-\$14,999	30	33
3	25	29	\$15,000-\$19,999	23	29
4	22	31	\$20,000-\$24,999	24	28
5	28	34	\$25,000-\$29,999	25	29
6	40	38	\$30,000-\$34,999	29	33
7	33	43	\$35,000-\$39,999	32	36
8	41	39	\$40,000-\$44,999	44	45
9	54	51	\$45,000-\$49,999	44	53
10	76	75	\$50,000-\$54,999	63	67
11	75	91	\$55,000-\$59,999	75	87
12	1,661	1,622	\$60,000-\$64,999	126	119
			\$65,000-\$69,999	192	174
			\$70,000-\$74,999	186	166
			\$75,000-\$79,999	151	146
			\$80,000-\$84,999	119	132
			\$85,000-\$89,999	131	122
			\$90,000-\$94,999	119	113
			\$95,000-\$99,999	105	104
			\$100,000-\$104,999	84	92
			\$105,000-\$109,999	77	81
			\$110,000-\$114,999	78	68
			\$115,000-\$119,999	63	54
			\$120,000-\$124,999	48	45
			\$125,000-\$129,999	39	36
			\$130,000-\$134,999	23	30
			\$135,000-\$137,699	15	20
			\$137,700	123	125
Degrees of freedom		12			28
Chi-square		11.606			21.622
95% Threshold		21.026			41.337

The above Chi-square values are below the acceptable limit defined by the 95-percent credibility level. From this, and the comparison of averages, it may be concluded that the 2020 gross earnings sample adequately represents the universe of employee data and should produce valid estimates.

### Sampling Errors in Financial Interchange HI Tax Calculation

It is estimated that accrued HI taxes (excluding ACA amounts) on railroad payrolls in calendar year 2020, had railroad employment been covered under HI, would have amounted to \$521.7 million. The estimate was obtained by applying the HI tax rate to the RRA taxable payroll after it was adjusted to include compensation in excess of the OASDI limit. The estimated 95-percent confidence interval for this adjustment was +/- \$4.6 million. Since the RRA total taxable payroll is available on a 100-percent basis, this is the only error inherent in the estimate. Thus, the 95-percent confidence interval for 2020 HI taxes was \$517.1 million to \$526.3 million.

The adjustment calculation uses the following definitions:

- A = estimated difference between payroll under the RRA annual creditable limit and total HI taxable payroll
- $X_i$  = HI taxable payroll for sample account i
- $Y_i$  = RRA creditable payroll for sample account i
- N = universe number
- n = sample number
- B = Universe amount of RRA creditable payroll

The formula for the adjustment amount, A, is:

$$A = \left[ \frac{\sum_{i=1}^n X_i}{\sum_{i=1}^n Y_i} - 1 \right] B$$

This calculation gave A = \$527.7 million.

The standard error  $S_A$  associated with this estimate is computed from the formula:

$$S_A^2 = \frac{N(N-n)}{n(n-1)} \left\{ \sum_{i=1}^n X_i^2 + R^2 \sum_{i=1}^n Y_i^2 - 2R \sum_{i=1}^n X_i Y_i \right\}$$

where

$$R = \frac{\sum_{i=1}^n X_i}{\sum_{i=1}^n Y_i}$$

The standard error computed by the formula was \$81.6 million. The 95-percent confidence interval was \$367.8 million to \$687.5 million.