
Family Social Security Taxes Compared With Federal Income Taxes, 1979

by Benjamin Bridges, Jr.*

Increases in Social Security taxes during the past decade or so have prompted frequent comparisons of Social Security taxes and Federal personal income taxes. In this article, new evidence is brought to bear on this issue. Two specific questions are addressed: For 1979, what percentage of family units paid more in Social Security tax than in Federal income tax? How did this relationship between Social Security and income tax payments vary with family unit income and other family unit characteristics?

What proportion of 1979 family units paid more in Social Security tax than in Federal income tax? How did this proportion vary with unit income? Findings are that personal Social Security tax (defined as employee tax plus self-employment tax) exceeded Federal personal income tax for 24 percent of those family units that paid some personal Social Security tax and for 18 percent of all family units. As might be expected, this proportion decreased over most of the income scale as unit income increased. The proportion also varied with the age of the head of the family unit, the sex of the unit head, and other characteristics of the family unit.

Methods

This study uses estimates of 1979 Social Security and income tax liabilities produced by applying the Simulated Tax and Transfer System (STATS) model to the March 1980 Current Population Survey (CPS).¹ The STATS model is being developed by the Division of Economic Research in the Office of Research and Statistics, Office of Policy, Social Security Administration.

The model estimates tax payments for each tax for each family unit. In this analysis, a family unit is either a unit with more than one related person (which the Census Bureau would refer to as a "family") or a one-person unit (which the Census Bureau would call an

"unrelated individual").² It was assumed that those interested in this problem are not particularly concerned about the relative Social Security and income tax payments of, say, teen-aged children with only summer employment, but rather they are concerned about relative tax payments for broader units such as family units. Where a family unit contained more than one Social Security (or income) taxpayer, the Social Security (or income) taxes of all the taxpayers were summed to get the family unit's Social Security (or income) tax liability. In this study, Social Security taxes are for the Old-Age and Survivors Insurance, Disability Insurance, and Hospital Insurance programs combined.

There are three types of Social Security tax: An employee tax, a tax on net earnings from self-employment, and an employer tax. Initially, persons pay the Social Security employee and self-employment taxes as well as the personal income tax, whereas firms pay the Social Security employer tax. Economists have analyzed the question of who bears the actual burden of each of these taxes. Evidence concerning the actual burden of the employer tax is the most mixed. Three hypotheses about the burden of the employer tax receive support in economics literature: (1) Full backward shifting—that is, the firm's employees bear the burden through lower wages than would otherwise prevail; (2) full forward shifting—that is, consumers bear most or all of the burden through higher prices; and (3) partial backward shifting accompanied by partial forward shifting. The

* Division of Economic Research, Office of Research and Statistics, Office of Policy, Social Security Administration. The author wishes to acknowledge the research assistance of Bernard Wixon and David Pattison.

¹ The March 1980 CPS contains income data for 1979. The March 1981 CPS data tape was not available when this study was undertaken. Some information about the STATS model is presented in the first section of the technical note on page 16.

² The term "CPS family" refers to a group of two or more persons related by blood, marriage, or adoption and residing together; all such persons are considered as members of the same family. The term "CPS unrelated individuals" refers to persons aged 15 and over who are not living with any relatives. Alternatively, a unit concept could be used that was broader than a person unit but narrower than the family unit concept used in this article.

hypothesis that the employer tax is borne fully or in large part by the owners of firms receives almost no support in economics literature.

Most of the results presented in this study are comparisons of personal Social Security taxes with personal income taxes. These comparisons simply focus on Social Security and income taxes paid "directly" out of money income. Most taxpayers making comparisons between Social Security taxes and income taxes probably have in mind only these personal tax payments. This study, however, also presents a few comparisons of total Social Security tax (employee tax plus self-employment tax plus employer tax) with personal income tax using the assumption that the employer tax was fully shifted backward to employees in proportion to their payments of employee tax.³

Results

In 1979, about 76 percent of the family units paid some personal Social Security tax, while 24 percent paid no personal Social Security tax at all. The first section below focuses on those family units that did pay some personal Social Security tax. The following section then considers all family units including those that paid no personal Social Security tax.

Family Units With Personal Social Security Tax

Table 1 presents the percentage distribution of family units by size of personal Social Security tax relative to income tax for given CPS income classes. As shown, Social Security taxes were greater than personal income taxes in 24 percent of those family units that paid some Social Security tax.⁴ For the other 76 percent, Social Security taxes were less than income taxes.⁵ All units with incomes of less than \$4,000 paid more Social Security tax than income tax. The percentage paying more in Social Security tax fell steadily from 97 percent of those with incomes from \$4,000 to \$4,999 to 1 percent for those with incomes of \$50,000 or more. This pattern is

³ For an earlier comparison of personal Social Security tax and income tax, see Daniel B. Radner, *Federal Income Taxes, Social Security Taxes, and the U.S. Distribution of Income, 1972* (Working Paper No. 7), Office of Research and Statistics, Office of Policy, Social Security Administration, 1979. For earlier comparisons of Social Security tax and income tax in which it is assumed that the employee pays the full employer share, see George F. Break and Joseph A. Pechman, *Federal Tax Reform: The Impossible Dream?*, Brookings Institution, 1975, page 107, and Joseph A. Pechman, *Federal Tax Policy* (3rd edition), Brookings Institution, 1977, page 208.

⁴ These 24 percent of family units contained 25 percent of all persons in units with Social Security tax and 21 percent of all Social Security taxpayers.

⁵ All the estimates presented in this study use income tax before subtracting any earned-income credit. Estimates using income tax after subtracting the earned-income credit are very similar to those presented here.

not surprising. Over much of the income scale (excluding the bottom and top two income classes), the Social Security tax was roughly proportional to income. However, very few units with incomes below \$3,000 paid any income tax, and above \$3,000 the income tax exhibited marked progressivity.

Table 2 arrays the results by various demographic and economic characteristics of the family unit.⁶ The table shows that the percentage of units with personal Social Security tax in excess of income tax was:

- (1) Much higher for units headed by aged persons than for those headed by the nonaged—51 percent versus 22 percent;
- (2) much higher for blacks and other minorities than for whites—41 percent versus 22 percent;
- (3) much higher for units headed by women than for units headed by men—37 percent versus 20 percent;
- (4) fairly similar for one-person units ("unrelated individuals") and multiperson units ("families")—26 percent and 23 percent; and
- (5) substantially higher for units with only one Social Security taxpayer than for those with two or more—30 percent versus 16 percent.

The differences resulted from interactions among Social Security tax law provisions, Federal income tax law provisions, and differences between groups in the distribution of various economic and demographic characteristics. It has already been shown that the percentage of units paying more Social Security taxes fell sharply as total money income rose. Furthermore, in each of the five cases listed previously, the group with the higher percentage of units paying more Social Security taxes had a substantially lower median total income. The third section of the technical note presents an analysis of the extent to which the differences in table 2 stemmed from differences in income. It shows that differences in income had very sizable effects on the results for each of the five cases shown in table 2, but that for some of the cases, the combined effects of economic/demographic differences other than income differences were also substantial.

The comparisons discussed thus far in this section have been between personal Social Security taxes and income taxes. If the employer tax is included and full backward shifting is assumed, total Social Security tax was greater than income tax for 51 percent of the family units that paid some Social Security tax.⁷

⁶ Additional detail by age of the family unit head and unit size is presented in the second section of the technical note.

⁷ With the employer tax included, the proportion of units with total Social Security tax in excess of personal income tax was 100 percent for all of the income classes under \$5,000, fell slowly from 98 percent for the \$5,000-\$5,999 class to 92 percent for the \$9,000-\$9,999 class, and then dropped sharply to 14 percent for the \$25,000-\$49,999 class, and then to only 2 percent for the \$50,000 and over class.

All Family Units

As noted, 24 percent of the family units paid no personal Social Security tax. Included were units with no earnings (such as those relying solely on Social Security benefits, public employee pensions, private pensions, interest, dividends, or combinations thereof) and units with noncovered earnings (such as those receiving their wage and salary income from government employment not covered by Social Security). Such units included

relatively more of each of the following than did the group that paid some personal Social Security tax: (1) Family units whose heads were aged, (2) units that were headed by women, (3) one-person units, and (4) units with incomes of less than \$10,000. About 70 percent of these units with no Social Security tax liability also had no income tax liability.

Table 3 presents the percentages of units with personal Social Security tax in excess of income tax by money income class. As shown, personal Social Security

Table 1.—Family units¹ with personal Social Security tax: Percentage distributions by size of personal Social Security tax² relative to size of income tax³ for given money income classes, 1979

Money income	Number of family units (in millions)	Total percent	Social Security tax greater than income tax	Social Security tax less than income tax
Total	63.8	100	24	76
Under \$2,000.....	1.0	100	100	0
\$2,000-\$2,999.....	.8	100	100	0
\$3,000-\$3,999.....	1.2	100	100	0
\$4,000-\$4,999.....	1.3	100	97	3
\$5,000-\$5,999.....	1.6	100	84	16
\$6,000-\$6,999.....	1.8	100	60	40
\$7,000-\$7,999.....	2.0	100	54	46
\$8,000-\$8,999.....	2.1	100	54	46
\$9,000-\$9,999.....	1.9	100	49	51
\$10,000-\$11,999.....	4.5	100	41	59
\$12,000-\$14,999.....	6.4	100	26	74
\$15,000-\$19,999.....	10.0	100	11	89
\$20,000-\$24,999.....	8.8	100	4	96
\$25,000-\$49,999.....	17.3	100	2	98
\$50,000 and over.....	3.0	100	1	99

¹ Includes one-person units (unrelated individuals) and multiperson units (primary and secondary families). Includes only units for which the Social Security tax is greater than zero.

² Social Security tax is OASDHI employee tax plus OASDHI self-employ-

ment tax.

³ Income tax is Federal personal income tax before subtracting any earned income credit.

Source: STATS model applied to March 1980 Current Population Survey.

Table 2.—Family units¹ with personal Social Security tax: Percentage distributions by size of personal Social Security tax² relative to size of income tax³ for given unit characteristics, 1979

Family unit characteristic	Number of family units (in millions)	Total percent	Social Security tax greater than income tax	Social Security tax less than income tax
Total	63.8	100	24	76
Age of head:				
15-64.....	59.1	100	22	78
65 and over.....	4.6	100	51	49
Race of head:				
White.....	56.3	100	22	78
Blacks and other minorities.....	7.5	100	41	59
Sex of head:				
Male.....	49.4	100	20	80
Female.....	14.3	100	37	63
Number in unit:				
One.....	14.9	100	26	74
Two or more.....	48.9	100	23	77
Number of members who paid Social Security tax:				
One.....	36.0	100	30	70
Two or more.....	27.8	100	16	84

¹ Includes one-person units (unrelated individuals) and multiperson units (primary and secondary families). Includes only units for which the Social Security tax is greater than zero.

² Social Security tax is OASDHI employee tax plus OASDHI self-employ-

ment tax.

³ Income tax is Federal personal income tax before subtracting any earned income credit.

Source: STATS model applied to March 1980 Current Population Survey.

tax payments were greater than Federal income tax payments for 18 percent⁸ of all family units and were less than income tax payments for 65 percent of all units; 17 percent paid neither tax. Over the lower part of the income scale (below \$9,000), there was no relationship between total income and the fraction of units paying more in Social Security taxes. Over the remainder of the income scale, the fraction paying more in Social Security taxes declined steadily as total income rose. For the lower part of the income scale, the pattern by total unit income shown in table 3 (all family units) was very different from the pattern shown in table 1 (only those units paying at least some Social Security tax). This difference resulted from the fact that the proportion of units with some Social Security tax was only 27 percent for the \$2,000-\$2,999 income class but rose steadily to 69 percent for the \$8,000-\$8,999 class. Above \$9,000, the percentage with Social Security tax rose steadily and reached 94 percent for the \$25,000 and over classes.

As shown in table 4, the percentage of all units with personal Social Security tax greater than income tax was:

- (1) Somewhat lower for units with aged heads than for those with nonaged heads—14 percent versus 19 percent;
- (2) substantially higher for blacks and other minorities than for whites—29 percent versus 17 percent;
- (3) somewhat higher for units headed by women than for units headed by men—22 percent versus 17 percent; and

⁸ These 18 percent of family units contained 21 percent of all persons.

- (4) somewhat lower for one-person units than for multiperson units—15 percent versus 19 percent.⁹

The aged/nonaged pattern shown in table 4 for all units (14 percent/19 percent) is very different from that shown in table 2 for units with Social Security tax (51 percent/22 percent). This sharp change of pattern resulted because only 28 percent of units with aged family heads paid Social Security tax, while 87 percent of units headed by nonaged persons did so. The race group patterns for all units and for units with Social Security tax were rather similar because similar percentages of blacks and other minorities and whites paid Social Security tax. The difference between sex groups for all units (22 percent versus 17 percent) was considerably smaller than the corresponding difference for units with Social Security tax (37 percent versus 20 percent); only 58 percent of the units headed by women paid Social Security tax, while 83 percent of the units headed by men did so. The unit-size pattern for all units (15 percent for one-member units and 19 percent for units of two or more members) was rather different from that for units with Social Security tax (26 percent and 23 percent, respectively). Only 58 percent of one-person units paid Social Security tax, while 83 percent of multiperson units did so.

The comparisons discussed in this section have been between personal Social Security taxes and income taxes. If the employer tax is included in the comparisons and full backward shifting is assumed, total Social Se-

⁹ Additional detail by age of head of the family unit and unit size is presented in the second section of the technical note.

Table 3.—All family units:¹ Percentage distributions by size of personal Social Security tax² relative to size of income tax³ for given money income classes, 1979

Money income	Number of family units (in millions)	Total percent	Social Security tax greater than income tax	Social Security tax less than income tax	Paid neither tax
Total.....	84.4	100	18	65	17
Under \$2,000.....	3.0	100	35	0	65
\$2,000-\$2,999.....	2.9	100	27	0	73
\$3,000-\$3,999.....	3.6	100	34	1	65
\$4,000-\$4,999.....	3.5	100	37	3	60
\$5,000-\$5,999.....	3.1	100	44	11	45
\$6,000-\$6,999.....	3.1	100	35	27	38
\$7,000-\$7,999.....	3.1	100	36	37	28
\$8,000-\$8,999.....	3.0	100	37	40	22
\$9,000-\$9,999.....	2.7	100	34	48	18
\$10,000-\$11,999.....	6.0	100	31	56	13
\$12,000-\$14,999.....	7.8	100	21	73	6
\$15,000-\$19,999.....	11.4	100	9	89	1
\$20,000-\$24,999.....	9.7	100	4	96	0
\$25,000-\$49,999.....	18.4	100	2	98	0
\$50,000 and over.....	3.1	100	1	99	0

¹ Includes one-person units (unrelated individuals) and multiperson units (primary and secondary families).

² Social Security tax is OASDHI employee tax plus OASDHI self-employment tax.

³ Income tax is Federal personal income tax before subtracting any earned income credit.

Source: STATS model applied to March 1980 Current Population Survey.

curity tax was greater than income tax for 38 percent of all family units and was less than income tax for 45 percent of these units.¹⁰

Summary

In 1979, personal Social Security tax exceeded Federal personal income tax for an estimated 24 percent of those family units that paid some personal Social Security tax. For the other 76 percent, Social Security taxes were less than income taxes.

Personal Social Security tax payments were greater than income tax payments for 18 percent of all family units. They were less than income tax payments for 65 percent of all units, and 17 percent paid neither tax.

If the employer tax is included in the comparisons and full backward shifting to employees in proportion to their payments of employee tax is assumed, the following results are attained. Total Social Security tax (employee tax plus self-employment tax plus employer tax) was greater than personal income tax for 51 percent of the family units that paid some Social Security tax. Total Social Security tax was greater than personal income tax for 38 percent of all family units and was less than income tax for 45 percent of all units.

For the \$9,000 and over income range, the percentage of family units with personal Social Security tax in excess of income tax fell steadily as income rose both for

¹⁰ With the employer tax included, the proportion of units with total Social Security taxes in excess of personal income taxes rose steadily from 27 percent for the \$2,000-\$2,999 income class, to 65 percent for the \$8,000-\$9,999 class, and then fell to only 2 percent for the \$50,000 and over class.

units with Social Security tax and for all units. For the under \$9,000 income classes, the pattern of such percentages for all units was very different from that for units with Social Security tax.

Technical Note

STATS Model

This study's estimates are made by applying the STATS model to the March 1980 CPS. For a description of the CPS and a discussion of its limitations (especially income reporting problems), see the report cited below.¹¹

Payroll tax for each person was estimated based on CPS characteristics, Social Security tax law, and Social Security Administration program data. An earlier version of the payroll tax estimating method is carefully described and evaluated in a study cited below.¹² A more up to date description of this method is available from the author upon request. Income tax for each income tax filing unit was estimated based on CPS characteristics, income tax law, and Internal Revenue Service program data. (Such income tax filing units had to be constructed by the model.) A description of the income tax estimating method is also available from the author upon request.

¹¹ Bureau of the Census, "Money Income in 1979 of Families and Persons in the United States," **Current Population Reports** (Series P-60, No. 127), 1981.

¹² Benjamin Bridges, Jr. and Mary P. Johnston, **Estimation of Social Security Taxes on the March Current Population Survey** (Studies in Income Distribution No. 4), Office of Research and Statistics, Social Security Administration, 1976.

Table 4.—All family units: ¹ Percentage distributions by size of personal Social Security tax ² relative to size of income tax ³ for given unit characteristics, 1979

Family unit characteristic	Number of family units (in millions)	Total percent	Social Security tax greater than income tax	Social Security tax less than income tax	Paid neither tax
Total.....	84.4	100	18	65	17
Age of head:					
15-64.....	67.9	100	19	74	7
65 and over.....	16.5	100	14	27	58
Race of head:					
White.....	73.8	100	17	67	16
Blacks and other minorities.....	10.6	100	29	47	24
Sex of head:					
Male.....	59.8	100	17	73	11
Female.....	24.6	100	22	46	32
Number in unit:					
One.....	25.6	100	15	54	31
Two or more.....	58.8	100	19	69	11
Number of members who paid Social Security tax: ⁴					
One.....	36.0	100	30	70	0
Two or more.....	27.8	100	16	84	0

¹ Includes one-person units (unrelated individuals) and multiperson units (primary and secondary families).

² Social Security tax is OASDHI employee tax plus OASDHI self-employment tax.

³ Income tax is Federal personal income tax before subtracting any earned in-

come credit.

⁴ There were 20.6 million family units with no members who paid Social Security tax.

Source: STATS model applied to March 1980 Current Population Survey.

Age of Head and Unit Size

For family units with personal Social Security tax, table I shows that the percentage of units with personal Social Security tax in excess of income tax was—

- (1) about the same for the four groups in the 25-64 age range, and

- (2) much higher for six or more person families than for families with five or fewer persons.

For all family units, table II shows that the percentage of units with personal Social Security tax in excess of income tax—

- (1) generally decreased as the age of the head of the family unit increased, and
- (2) generally increased as unit size increased.

Table I.—Family units¹ with personal Social Security tax: Percentage distributions by size of personal Social Security tax² relative to size of income tax³ for given age of head classes and for given unit size classes, 1979

Family unit characteristic	Number of family units (in millions)	Total percent	Social Security tax greater than income tax	Social Security tax less than income tax
Total	63.8	100	24	76
Age of head:				
15-24	7.4	100	35	65
25-34	17.5	100	21	79
35-44	13.1	100	20	80
45-54	11.6	100	19	81
55-64	9.6	100	19	81
65 and over	4.6	100	51	49
Number in unit:				
One	14.9	100	26	74
Two	16.2	100	21	79
Three	12.0	100	22	78
Four	11.3	100	21	79
Five	5.5	100	26	74
Six	2.2	100	36	64
Seven or more	1.6	100	48	52

¹ Includes one-person units (unrelated individuals) and multiperson units (primary and secondary families). Includes only units for which the Social Security tax is greater than zero.

² Social Security tax is OASDHI employee tax plus OASDHI self-employment tax.

ment tax.

³ Income tax is Federal personal income tax before subtracting any earned income credit.

Source: STATS model applied to March 1980 Current Population Survey.

Table II.—All family units:¹ Percentage distributions by size of personal Social Security tax² relative to size of income tax³ for given age of head classes and for given unit size classes, 1979

Family unit characteristic	Number of family units (in millions)	Total percent	Social Security tax greater than income tax	Social Security tax less than income tax	Paid neither tax
Total	84.4	100	18	65	17
Age of head:					
15-24	8.4	100	31	60	9
25-34	19.5	100	19	76	5
35-44	14.4	100	18	77	4
45-54	13.1	100	17	77	6
55-64	12.5	100	14	72	14
65 and over	16.5	100	14	27	58
Number in unit:					
One	25.6	100	15	54	31
Two	23.1	100	15	65	21
Three	13.4	100	19	74	6
Four	12.2	100	19	77	4
Five	5.9	100	25	71	4
Six	2.4	100	33	61	6
Seven or more	1.7	100	44	48	7

¹ Includes one-person units (unrelated individuals) and multiperson units (primary and secondary families).

² Social Security tax is OASDHI employee tax plus OASDHI self-employment tax.

³ Income tax is Federal personal income tax before subtracting any earned income credit.

Source: STATS model applied to March 1980 Current Population Survey.

Income-Standardized Percentages

This section presents some further discussion of the data given in table 2. To separate the effects of income distribution differences from the combined effects of all other economic/demographic differences, income-standardized percentages were computed for each group of family units (such as the aged). These income-standardized percentages show what fraction of each group would have paid more Social Security tax than income tax if the distribution of income within each group had been the same as the distribution for the total population of family units with Social Security tax. For each group, its standardized percentage is a weighted average of the group's income-class specific percentages. For each income class, the group's percentage of units with Social Security tax in excess of income tax was weighted by the proportion of the total population in that income class. The standardized percentages are shown in table III.

In some cases, the characteristic used to differentiate among family units had direct effects on the results. For example, the age of the family unit head had such a direct effect because there were various age-specific income tax law provisions (exemptions for the aged, credit for the elderly, and so forth). On the other hand, there are no race-specific provisions in either the income tax law or the Social Security tax law.

With the effects of income distribution differences removed by standardization, table III shows that the percentage of units with Social Security tax in excess of income tax:

- (1) Remained higher for the aged than for the non-aged, but the group difference became considerably smaller;
- (2) remained higher for blacks and other minorities than for whites, but the difference became much smaller;
- (3) became somewhat *lower* for units headed by women than for units headed by men;
- (4) became much *lower* for one-person units than for multiperson units; and

Table III.—Family units¹ with personal Social Security tax: Actual and income standardized percentages of units with personal Social Security tax² greater than income tax³ by unit characteristics, 1979

Family unit characteristic	Actual percentage	Income-standardized percentage
Age of head:		
15-64	22	22
65 and over	51	38
Race of head:		
White	22	23
Blacks and other minorities	41	28
Sex of head:		
Male	20	26
Female	37	20
Number in unit:		
One	26	11
Two or more	23	32
Number of members who paid Social Security tax:		
One	30	21
Two or more	16	33

¹ Includes one-person units (unrelated individuals) and multiperson units (primary and secondary families). Includes only units for which the Social Security tax is greater than zero.

² Social Security tax is OASDHI employee tax plus OASDHI self-employment tax.

³ Income tax is Federal personal income tax before subtracting any earned income credit.

Source: STATS model applied to March 1980 Current Population Survey.

- (5) became substantially *lower* for units with only one Social Security taxpayer than for those with two or more such taxpayers.

With the effects of income-distribution differences removed, the percentage point differences for the age-of-family-unit-head case, for the unit-size case, and for the number-of-Social-Security-taxpayers case were substantial. Thus, in these three cases it is clear that the combined effects of economic/demographic differences other than income distribution differences upon the between-group percentage point differences were sizable.¹³

¹³ These combined effects include any effects of the characteristics used to divide family units into groups.