

Age and Tax Filing, 1981

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For 1981, 218 million Americans were represented on individual income tax returns, either as taxpayers, spouses of taxpayers, or dependents. Although there is some double-counting (children who file returns may also appear as dependents on their parents' returns), this means that well over 90 percent of the total population appeared, in some form, on the 95.4 million tax returns filed for that year [1]. Many characteristics of these returns are described in the complete report, Statistics of Income--1981, Individual Income Tax Returns. This article focuses on one aspect of the people filing returns that cannot be analyzed from normal tax return statistics, namely, the age of the primary taxpayer [2, 3].

Ages of taxpayers were derived by matching social security numbers listed on a sample of tax returns with records of the Social Security Administration (see Data Sources and Limitations at the end of this article). This provided information on the last two digits of the year of birth, from which age in 1981 was inferred. The age distributions of the total population and of nearly all tax filers are shown in the first two columns of Figure A. The age of taxpayers is also shown in Figure B.

In 1981, almost one quarter of all U.S. citizens and residents were under the age of 16. Seven percent were 16 to 19, and 10 percent were 20 to 24. Most of these young people did not file tax returns, although they may have been represented on other (their parents') returns. Figures A and B show that only 1 percent of all returns were filed by taxpayers who were under the age of 16. Taxpayers 16 to 19, on the other hand, filed 8 percent of all returns even though they made up only 7 percent of the total population. Older age groups also had "more than their share" of tax returns, reflecting the underrepresentation of the very young.

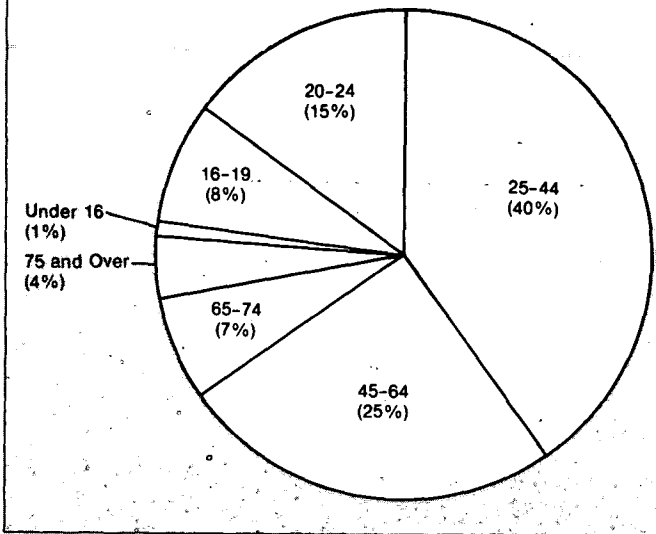
The final column in Figure A shows the percentage of each age group which filed returns (with joint returns counted twice). It shows that very few children under the age of 16 filed returns, while more than 9 out of every 10 people in the prime working years (25-64) were filers. Even counting joint returns twice does not account for everyone represented on tax returns, of course. In particular, most children will not file returns themselves, but will be claimed as dependents on their parents' returns.

Figure A.--Age of Population and Tax Filers, 1981

Age group	Total population (millions)	Total returns (millions)	Taxpayers as a percent of total population ¹
	(1)	(2)	(3)
Number.....	229.9	95.2	
Percent by age group:			
All age groups.....	100%	100%	61%
Under 16.....	24	1	1
16 under 20.....	7	8	48
20 under 25.....	10	15	77
25 under 45.....	28	40	91
45 under 65.....	20	25	91
65 under 75.....	7	7	66
75 and over.....	4	4	45

¹Taxpayers on joint returns were counted as two; both taxpayers were assumed to be in the same age group for this distribution.

Figure B
Age of Taxpayers, 1981



returns were filed by taxpayers below the age of 20, while an additional 25 percent were filed by people in their early 20's. Thus, while returns filed by people under the age of 25 accounted for only 24 percent of all returns, they accounted for 62 percent of returns with AGI under \$5,000.

The third column, for those returns with \$5,000 to \$7,500 of AGI, shows a distribution more like that of total returns; although again, teenagers accounted for somewhat more than their share of all returns (about 14 percent of returns in this income group).

The fourth column includes most (two-thirds) of the returns filed, representing two-thirds of all tax, namely, the 67 million with incomes between \$7,500 and \$500,000. Young people provided only a negligible portion of these returns.

The final column shows the distribution of people with very high incomes--\$500,000 or more for 1981. People under the age of 25 provided less than 1 percent of such returns. The elderly (people age 65 or over), on the other hand, though only accounting for 11 percent of the population and 11 percent of all tax returns, made up one-third of these high income returns.

AGE AND INCOME

Figure C divides tax returns into adjusted gross income (AGI) classes and shows age groups as percentages within these AGI classes. (Returns with AGI less than zero are excluded from the comparisons.) The second column shows the age distribution of the 18 million returns which reported AGI between \$1 and \$5,000. One can see that 37 percent of these "low income"

What are the conclusions to be drawn from the information in Figures A through C? The most important one is a cautionary note concerning income distributions based on tax returns. It is customary to consider returns with incomes below \$5,000 (or \$7,500) as representing poor

Figure C.--Age of Taxpayers Within Adjusted Gross Income Classes, 1981

Age group	Total returns ¹	Size of Adjusted Gross Income			
		\$1 under \$5,000 ²	\$5,000 under \$7,500	\$7,500 under \$500,000	\$500,000 or more
	(1)	(2)	(3)	(4)	(5)
Number of returns (millions).....	94.4	17.9	9.1	67.4	(2)
Percent by age groups:					
All age groups.....	100%	100%	100%	100%	100%
Under 16.....	1	4	1	-	-
16 under 20.....	8	33	13	1	-
20 under 25.....	15	25	27	11	-
25 under 45.....	40	21	28	47	16
45 under 65.....	25	9	15	31	50
65 under 75.....	7	5	10	7	18
75 and over.....	4	3	6	3	16

¹Excludes 0.8 million returns with adjusted gross income less than zero, i.e., returns with business or investment losses in excess of income from other sources.

²Less than 0.05 million (20,011 returns).

people, but these data make it clear that this is misleading. In the bottom AGI class, two-fifths of all the returns for 1981 represented taxpayers under the age of 20. While it is true that some of these were young households struggling to make ends meet, it seems likely that the vast majority of them represented young people who should more appropriately have been considered part of some other economic unit. They must have derived their income from summer or part-time jobs and, in the absence of information concerning income of other members of their family or economic unit, it is impossible to tell whether these units were actually "poor" or "rich."

AGE AND TYPE OF RETURN

Figure D shows the distribution of each age group that used the "single taxpayer" tax rate schedule for 1981 [4]. Not surprisingly, almost all of the young age groups filed returns as single taxpayers. The percentage declines for each age group through 64, but then rises again for the elderly; presumably this reflects returns filed by widows and widowers [5].

The last column of Figure D shows the percentage of people filing Form 1040A, the simplified form [6]. It may seem surprising that 60 percent of the very young (under 16) tax filers did not use the 1040A, but rather used the 1040 or "Tong form." It turns out that many of these young taxpayers (44 percent of them) were dependents with "unearned income" of \$1,000 or more, and so were required by law to itemize their deductions and to file a Form 1040 rather than a 1040A. Teenagers overwhelmingly (86 percent) made use of the 1040A (and in more recent years the 1040EZ); its use declined for older taxpayers, with only 7 percent of the oldest taxpayers using it. (People receiving taxable pensions were not eligible to use Form 1040A for 1981.)

AGE AND TYPE OF INCOME

Figure E shows returns by type of income. The second column includes those taxpayers whose only source of income was wages and salaries. Older people (presumably retired) are underrepresented in this group. (A distribution by income class showed no substantial differences.)

The third column shows returns which reported no wages, but only non-wage or capital income (including farm and self-employment income). There were 11.1 million of these and they are distributed as might be expected, with very few of them filed by young people. In fact, the majority tended to be filed by taxpayers 65 or over.

Figure D.--Age, Single Taxpayers and Use of Form 1040A, 1981

Age group	Total returns (millions)	Percent of returns filed --	
		by single taxpayers ¹	on Form 1040A
	(1)	(2)	(3)
All age groups..	95.2	42%	38%
Under 16.....	.8	99	40
16 under 20.....	7.9	96	86
20 under 25.....	14.3	75	75
25 under 45.....	38.4	29	33
45 under 65.....	24.0	21	18
65 under 75.....	6.4	34	10
75 and over.....	3.4	58	7

¹Represents those using the single taxpayer tax rate schedule; unmarried heads of household and surviving spouses are therefore excluded.

Figure E.--Age and Wage or Non-Wage Income, 1981

Age group	Total returns	Returns with --	
		Wage income only	Non-wage income only
	(1)	(2)	(3)
Number of returns (millions).....	95.2	48.9	11.1
Percent by age group:			
All age groups..	100%	100%	100%
Under 16.....	1	1	4
16 under 20.....	8	14	1
20 under 25.....	15	24	2
25 under 45.....	40	45	14
45 under 65.....	25	15	25
65 under 75.....	7	1	30
75 and over.....	4	-	24

Figure F presents the same data in a different way, showing within each age bracket, the percentage of returns which had only wage income and the percentage which had only non-wage income. Looking first at returns with wages only, it can be seen that it was quite common, in fact usual, for people in their late teens and early 20's to be in this category, while it was quite rare for elderly people.

Figure F.--Wage or Non-Wage Income Within Age Groups, 1981

Age group	Total income (million)	Percent of returns with --			
		Any form of income	Wage income only	Non-wage income only	Wage and non-wage income
	(1)	(2)	(3)	(4)	(5)
All age groups.....	95.2	100%	51%	12%	37%
Under 16.....	.8	100	37	57	6
16 under 20.....	7.9	100	86	2	12
20 under 25.....	14.3	100	80	1	19
25 under 45.....	38.4	100	58	4	38
45 under 65.....	24.0	100	31	12	57
65 under 75.....	6.4	100	8	52	40
75 and over.....	3.4	100	7	78	15

It is quite common for very young filers to have only non-wage income. Moreover, dependents with \$1,000 or more of "unearned" (i.e., non-wage) income were required to check a particular box on the return. There were 612,000 such filers for 1981. Fifty-six percent of them were under 16; another 30 percent 16 to 19, and 12 percent were 20 to 24. About 80 percent of them had total AGI under \$5,000 and 90 percent had less than \$7,500. While a majority of filers under 16 had only non-wage income, the rate of occurrence dropped for those 16 or over, and then became more frequent again among the middle-aged. The vast majority of those 75 or over (almost four out of five) reported only non-wage income.

While the two columns are mutually exclusive, they are not exhaustive: over one-third of all filers reported a mix of types of income. Both the very young and the very old tended to have exclusively one kind of income or the other. For those in their prime working years (ages 25 to 64), and in particular in the last half of their working lives, a mixture of income types is more common. (Figure F confirms that.) In particular, for filers aged 45 to 64, a majority have both wage and non-wage income.

1981 COMPARED TO 1970

Tax Year 1970 is the earliest year for which tax returns and social security records were matched. Figures G through K repeat data from the previous figures, then add 1970 information so that changes over the decade can be observed. From 1970 to 1981, the total population of the United States rose by 12 percent, while the number of returns filed went up by 28 percent [7]. Using the same measure (with joint returns counted twice), the population filing returns

rose from 57 percent for 1970 to 61 percent for 1981 (Figure G).

The 1981 population distribution was quite different from that of 1970. The biggest difference resulted from the end of the post-World War II baby boom; children under the age of 16 made up slightly over 30 percent of the population in 1970, but dropped to slightly under 25 percent in 1981. Even though they were a declining part of the population, they continued to file about 1 percent of all tax returns.

The population increase came mostly in what can be called the first half of the prime earning period, 25 to 44 years of age. Anyone born between 1945 and 1956 moved into this bracket between 1970 and 1981, as this age group increased its share of the population from 24 percent to 28 percent and its share of tax returns from 35 percent to 40 percent. Meanwhile, the second half of the prime age group, those 45 to 64, experienced almost no change in their share of the population and their share of tax returns dropped from 31 percent to 25 percent.

Looking at returns as a percent of population (again, counting joint returns twice), the only noticeable changes were a slight decline in filing rates for people in their early 20's and a rise in filing rates for those 75 or over.

Figure H shows the distribution across age groups of low income returns for 1970 and 1981. In interpreting these figures, there is a problem in that the value of the dollar changed considerably over this period [8]. Prices as measured by the Consumer Price Index increased by 134 percent from 1970 to 1981 [9]. For

Figure G.--Age of Population and Tax Filers, 1970 and 1981

Age group	Total population (millions)		Total returns (millions)		Taxpayers as a percent of total population ¹	
	1970	1981	1970	1981	1970	1981
	(1)	(2)	(3)	(4)	(5)	(6)
Number.....	205.1	229.9	74.1	95.2	57%	61%
Percent by age group:						
All age groups.....	100%	100%	100%	100%	100%	100%
Under 16.....	30	24	1	1	1	1
16 under 20.....	8	7	10	8	49	48
20 under 25.....	8	10	14	15	81	77
25 under 45.....	24	28	35	40	92	91
45 under 65.....	21	20	31	25	93	91
65 under 75.....	6	7	7	7	67	66
75 and over.....	4	4	3	4	37	45

¹Taxpayers on joint returns were counted as two; both taxpayers were assumed to be in the same age group for this percentage distribution.

1970, 37 percent of all returns reported an AGI under \$5,000; for 1981, only 19 percent had such a low income. However, an AGI of \$5,000 for 1970 was the equivalent of an AGI in excess of \$11,000 for 1981. For Figure H, the incomes have not all been deflated for this change in the value of the dollar. Instead, for 1981, all of the size classes for AGI under \$10,000 have been combined. These people enjoyed real incomes that were about the same (a trifle lower) as those who had AGI's below \$5,000 for 1970. As can be seen from Figure H, the young made up the same percentage of this bottom income group in both years, about 2 percent. The big changes occurred in the groups making up the first half of the prime earning ages. In these groups there was an increase of from 17 percent to 26 percent, offset by a decline in the second half of the prime earning ages, which dropped from 19 percent to 13 percent.

Examining single filers as a percentage of total filers (Figure I), it can be seen that those filing as single taxpayers became more common in almost all age groups between 1970 and 1981, rising from 35 percent to 42 percent of all returns. Those 20 to 24 years of age, already high at 61 percent, rose to 75 percent for 1981. Those 25 to 44 had an even more spectacular increase, from 18 percent to 29 percent.

If the sex of the single filers is considered, Figure I shows that the overall female percentage was about the same at 47 percent. For the very young, this percentage rose sharply, from 31 percent to 45 percent. It

also rose somewhat for the young earners, did not change for the first half of the prime age earners, and declined for the older earners. Among the retired, the percentage of females rose even higher than it had been before. The relative frequency of the female returns was U-shaped in both years, that is, higher for the very young and the very old, but both the youngest and the oldest increased even more between 1970 and 1981 [10].

The last two columns in Figure I show how common it was for females to file as single taxpayers. The percentage increased between 1970 and 1981 from 12 percent to 16 percent. There was no change in the miniscule proportion of those filing who were under 16. The highest share of female filers occurred in the 16-24 year old age group. Above the age of 24, the percentage dropped sharply in both years as women disappeared behind the primary social security number of their spouses (when joint returns were filed). Even though the level is low, there was a noticeable increase between 1970 and 1981 for women under the age of 45. Above 64, the percentage of single females who filed their own returns began increasing; this was particularly true for 1981.

Figures J and K show the distribution of returns for people with exclusively wage or exclusively non-wage income. The shares of different age groups in wages-only income paralleled the changes in total returns, except for older teenagers who made up a larger percentage of all returns, but a smaller percentage of wages-only returns. Returns with only

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Figure H.--Age of Taxpayers Within Adjusted Gross Income Classes, 1970 and 1981¹

Age groups	Total returns		Size of adjusted gross income	
			\$1 under \$5,000	\$1 under \$10,000
	1970	1981	1970	1981
	(1)	(2)	(3)	(4)
Number of returns (millions)....	73.6	94.4	27.7	35.5
Taxpayers on joint returns (millions) ²	115.7	139.6	34.4	42.1
Percent by age group:				
All age groups.....	100%	100%	100%	100%
Under 16.....	1	1	2	2
16 under 20.....	10	8	25	21
20 under 25.....	14	15	23	26
25 under 45.....	35	40	17	26
45 under 65.....	31	25	19	13
65 under 75.....	7	7	10	8
75 and over.....	3	4	4	4

¹Excludes 0.4 million returns for 1970 and 0.8 million returns for 1981 with adjusted gross income less than zero, i.e., returns with business or investment losses in excess of income from other sources.

²Two taxpayers per return.

Figure I.--Total Female and Single Taxpayers Within Age Groups, 1970 and 1981

Age groups	Number of returns (millions)		Percent filing as single taxpayers ¹				Returns filed by female single taxpayers as a percent of total population	
			Total		Females		1970	1981
	1970	1981	1970	1981	1970	1981		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
All age groups.....	74.1	95.2	35%	42%	47%	47%	12%	16%
Under 16.....	.5	.8	100	99	31	45	1	1
16 under 20.....	7.3	7.9	93	96	41	43	37	40
20 under 25.....	10.6	14.3	61	75	38	41	48	41
25 under 45.....	25.8	38.4	18	29	37	37	7	13
45 under 65.....	22.8	24.0	20	21	67	61	14	13
65 under 75.....	5.1	6.4	33	34	68	76	17	18
75 and over.....	2.0	3.4	55	28	67	74	16	22

¹Represents those using the single taxpayer tax rate schedule; unmarried heads of household and surviving spouses are therefore excluded.

non-wage income showed very little change between 1970 and 1981.

Within age brackets the trends were mixed, as shown in Figure J. People who had wage income

only were generally more common, but showed a sharp drop for the youngest age group from 1970 to 1981. People with exclusively non-wage income either showed no change or, for the very young and the very old, showed increases.

Figure J.--Age and Wage or Non-Wage Income, 1970 and 1981

Age group	Total returns		Returns with --			
			Wage income only		Non-wage income only	
	1970	1981	1970	1981	1970	1981
	(1)	(2)	(3)	(4)	(5)	(6)
Number of returns (millions).....	74.1	95.2	34.1	48.9	7.4	11.1
Percent by age group:						
All age groups.....	100%	100%	100%	100%	100%	100%
Under 16.....	1	1	1	1	2	4
16 under 20.....	10	8	17	14	1	1
20 under 25.....	14	15	23	24	2	2
25 under 45.....	35	40	37	45	14	14
45 under 65.....	31	25	19	15	33	25
65 under 75.....	7	7	2	1	30	30
75 and over.....	3	4	-	-	20	24

Figure K.--Wage and Non-Wage Income Within Age Groups, 1970 and 1981

Age groups	Total returns (millions)		Percent of returns with --							
			Any form of income		Wage income only		Non-wage income only		Wage and non-wage income	
	1970	1981	1970	1981	1970	1981	1970	1981	1970	1981
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
All age groups.....	74.1	95.2	100%		46%	51%	10%	12%	44%	37%
Under 16.....	.5	.8	100		57	37	23	57	20	6
16 under 20.....	7.3	7.9	100		82	86	1	2	17	12
20 under 25.....	10.6	14.3	100		76	80	1	1	23	19
25 under 45.....	25.8	38.4	100		49	58	4	4	47	38
45 under 65.....	22.8	24.0	100		28	31	11	12	61	57
65 under 75.....	5.1	6.4	100		12	8	43	52	45	40
75 and over.....	2.0	3.4	100		5	7	73	78	22	15

CONCLUSIONS

What conclusions can be drawn from this brief overview of age and tax return data? The most striking thing is the clear evidence of a life cycle in income--at least in reported income. Almost one-fifth of all returns had AGI of less than \$5,000, clearly below the "poverty level" by any definition. Yet nearly two-thirds of these returns were filed by people under 25, and two-fifths of them by teenagers and those younger.

At the other end of the income distribution, when returns with \$500,000 or more in AGI are examined, it is clear that they represent older people. Only 16 percent of all such filers were as young as 44, and one-third of them were 65 or older. Tax burden calculations, especially those concerned with differential impacts on consumption and savings, must take account of these highly skewed age distributions.

The unit of tax filing (whether joint or single) is a clearly U-shaped function of age. Single filing is almost universal among the young, declines through middle age and then rises sharply among the elderly. Three-quarters of the elderly filers were women, many of whom had apparently not filled out tax forms for 30 or 40 years of marriage.

Diversity of income sources is an inverted U-shaped function of age. The very young tended to have only one kind of income--wages--and the elderly also had only one kind of income--capital or self-employed income.

Changes in the age patterns of tax return filing during the decade of the 70's tended to mirror underlying demographic and social changes. There were fewer children, people got married later, women outlived their husbands, and more women (especially younger ones) entered the labor force. Although there was some increase in the percentage of the total population which filed tax returns, the major picture that emerged was one of stability of filing patterns.

DATA SOURCES AND LIMITATIONS

A computer tape file was created containing the social security numbers (SSN's) from the 144,392 tax returns included in the regular Statistics of Income (SOI) sample for 1981 [11]. In the case of joint returns, both SSN's were included. This tape was then run against social security records, and where a match was found, information on the year of birth (last two digits) and sex was copied onto the tape. For joint returns, if the age of the primary taxpayer could not be determined, the age of the spouse was used instead. The tape with the social security data was then returned to the Department of the Treasury, Office of Tax Analysis, where the information was integrated

into the SOI data base which is used solely for tax policy research purposes. All but 198 of the SSN's were successfully matched in this operation. The unmatched sample returns, which represented 174,000 returns out of the 95.4 million filed, are excluded from the statistics by age group presented in this article. They are also excluded from the 1970 historical data that are used for comparison purposes. When a similar study was conducted for 1970, there were 217,000 returns out of the 74.3 million total shown in SOI for which age information could not be obtained [12].

NOTES AND REFERENCES

- [1] Alvey, Wendy and Scheuren, Fritz, "Background for an Administrative Record Census," 1982 Proceedings of the American Statistical Association, Social Statistics Section, pp. 137-146.
- [2] The only information related to age of taxpayers reported on individual income tax returns that is regularly published in Statistics of Income is the additional exemption allowed for those age 65 or over. In this connection, see Holik, Dan, and Kozielc, John, "Taxpayers Age 65 or Over, 1977-1981," Statistics of Income Bulletin, Summer 1984.
- [3] The "primary" taxpayer is the first person whose name is listed on a joint tax return; in most cases, the husband. For all other tax returns, primary taxpayer and taxpayer are synonymous. See also, Data Sources and Limitations at the end of this article.
- [4] For a brief summary of the characteristics of returns filed for 1981-1984, see Riley, Dorothea, "Individual Income Tax Returns: Selected Characteristics from the 1984 Taxpayer Usage Study," Statistics of Income Bulletin, Summer 1985.
- [5] See also, Grayson, Paul, "The Life Cycle of Individual Income Tax Returns," Statistics of Income Bulletin, Spring 1984.
- [6] The simplest form, 1040EZ, was not introduced until 1982.
- [7] For both 1970 and 1981, age could not be determined for about 0.2 million primary taxpayers. Therefore, the total number of returns for purposes of this analysis, 74.1 million for 1970 and 95.2 million for 1981, represent the number for which age of primary taxpayer could be obtained. The grand totals, regard-

less of age, as reported in Statistics of Income--Individual Income Tax Returns, are 74.3 million returns for 1970 and 95.4 million returns for 1981. For additional information about returns for which age could not be determined, see Data Sources and Limitations at the end of this article.

- [8] Another problem is the revised tax return filing requirements that occurred during this period which increased the income floors above which individuals in the various marital status groups had to submit returns.
- [9] See Monthly Labor Review and Handbook of Labor Statistics, U.S. Department of Labor, Bureau of Labor Statistics, annual.
- [10] For another analysis, see Crabbe, Patricia A., and Gross, Elizabeth L.,

"Taxpayers Classified by Sex," Statistics of Income Bulletin, Spring 1985.

- [11] For a more detailed description of this sample and of the sampling error associated with it, see Statistics of Income--1981, Individual Income Tax Returns, U.S. Treasury Department, Internal Revenue Service, 1983.
- [12] For a description of a different match, see "1973 Current Population Survey -- Administrative Record Exact Match File Codebook, Part II -- Companion Datasets and Other Supplementary Information," Studies from Interagency Data Linkages, Report No. 9, U.S. Department of Health, Education and Welfare, Social Security Administration, November 1979. This report also includes a useful description of the basic physical and legal safeguards surrounding the matching operation.