Technical Paper Series

Macroeconomic Analysis and Tax Analysis Divisions

Congressional Budget Office

Washington, D.C.

EQUIVALENCE SCALES, THE INCOME DISTRIBUTION, AND FEDERAL TAXES

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October 1998

1999-2

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Abstract

Alternative measures of income generate significantly different ordering of families and individuals in the income distribution, and therefore can yield differing conclusions about the distributional effects of government policies. This paper compares six alternative measures of income based on different adjustments for family size, all of the form $(A+cK)^e$, where A is the number of adults, K the number of children, c the weight attached to children, and e a factor measuring economies of scale. Although the various measures rank families and individuals in different orders, the adjustment chosen has little effect on measures of effective tax rates across income categories over the last two decades or on the effects of federal taxes on the distribution of after-tax incomes.

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Equivalence Scales, the Income Distribution, and Federal Taxes

In nearly every year of the last decade, the Congress has considered changes to the federal tax code. Many arguments raised for and against the changes under consideration have revolved around the impact of the changes on taxpayers in different parts of the income distribution. Claims that particular legislation would favor the rich or harm the poor have had considerable force in arguments against tax proposals.

Distributional analysis, however, is hardly as straightforward as its users would lead their audiences to believe. Alternative measures of income may lead to quite different conclusions about a policy's potential effects, as will the time period over which the effects are measured. Alternative analytic methods of ranking families and individuals by income—and thus of showing distributional effects of proposals—can also lead to different conclusions about particular policies. Because no single method is clearly preferred over others, arguments based on a specific measure of income and method of ranking of families are open to question.

This paper compares alternative methods of ranking families and individuals by income to determine the influence of using a particular method to examine policy options. It does not explore the issues of alternative measures of income or the effects of considering different time periods. The first section defines six alternative measures that could be used to rank families and individuals. The second section compares those different measures to determine their effects on rankings of particular

units and thus the potential for choice of measure to lead to varying conclusions about the effect of policy options. The third section demonstrates that while alternative measures yield different income rankings, they have little effect on measures of effective tax rates across income quintiles. Finally, we show that the choice of ranking has little effect on conclusions about changes in the distribution of taxes over the last two decades or the effects of federal taxes on the distribution of after-tax income, although it may matter for the evaluation of certain tax policies.

Vertical Equity and Equivalence Scales

A major concern of tax policy analysts is whether a particular policy is vertically equitable—that is, how the policy distributes tax burdens across tax units with different abilities-to-pay. In particular, vertical equity is generally taken to mean that units with greater ability-to-pay bear a larger share of the tax burden than units that are less well off. Although the concept of vertical equity may generate little controversy in the abstract, its definition leaves unstated just what constitutes an equivalent ability-to-pay. The most frequently used indicator is simply cash income, but other measures rank families and individuals in different orders and may thus lead to conflicting conclusions about the distributional effects of policy alternatives.

A tax unit's ability-to-pay varies because of many factors, such as family size and composition, location, and number of workers. Cash income alone fails to recognize those differences, and may thus fail to capture differences in ability-to-pay across families and individuals. From an analytic perspective, a wide range of alternative methods could adjust for differences among families and individuals to provide more accurate measures of well-being and thus ability-to-pay taxes. It is difficult, however, to correct fully and consistently for all differences among tax units.

Most analyses have focused on family size as the most important and measurable characteristic to use in adjusting income to assess ability-to-pay.

One approach to adjusting incomes for differences in family size involves dividing family incomes by an equivalence factor of the form $(A+cK)^e$, where A is the number of adult family members, K is the number of children in the family, c is the relative weight assigned to children, and e a parameter that determines the relative abilities-to-pay of families of different sizes. More specifically, we define equivalent family income (EFI) to equal family income (FI) divided by the equivalence factor:

$$EFI = FI / (A+cK)^e$$

Both the elasticity of need with respect to family size, e, and the weight attached to children, c, can vary between 0 and 1. For this analysis, we use six alternative equivalence scales based on values of e and c (see Table 1).

- Family Cash Income (FCI): At one extreme, when e is 0, equivalent family income is simply a family's cash income, with no correction for family size. While analysts often use this measure to assess well-being and ability-to-pay, it takes no account of the greater needs of larger families and thus overstates the well-being of larger families relative to smaller ones.
 - Per Capita Income (PCI): At the other extreme, when both e and c equal 1, equivalent family income equals per capita income. This measure assumes that a family's needs are directly proportional to its size, but fails to take account of any economies that come from people living together and sharing costs. Ignoring such scale economies understates the well-being of large families relative to smaller ones.

^{1.} This discussion draws from David M. Cutler and Lawrence F. Katz, "Rising Inequality? Changes in the Distribution of Income and Consumption in the 1980's," *American Economics Association Papers and Proceedings*, May 1992, pp. 546-551 and Frank Sammartino and Roberton Williams, "Family Structure and Federal Tax Burdens," *Proceeding of the Eighty-Fourth Annual Conference of the National Tax Association*, 1992, pp. 257-264.

- Per Adult Income (PAI): An alternative approach entirely ignores the presence of children by setting c equal to 0. The value of e is set to 1, so that PAI equals cash income per adult. This measure derives from the view that families choose to have children and therefore the presence of children must make them better off, even if children reduce the average resources available per person. The measure takes no account of scale economies in household production (e = 1), but does recognize that families with more adults need additional income to reach a given level of well-being.
- Weighted Per Capita Income (WPCI): This measure falls between per capita income and per adult income by setting c to one-half. Again, e is set to 1. This alternative acknowledges that children require additional resources, but not the same amount as adults. Again, with e equal to 1, the measure ignores any economies deriving from shared household consumption.
- Adjusted Family Income (AFI): Setting e equal to 0.5 and c to 1 provides a measure intermediate to family cash income and per capita income. This measure recognizes both the greater needs of larger families and their scale economies of sharing costs. As indicated in Table 1, it roughly approximates the equivalence scale implicit in the official poverty thresholds used by the Bureau of the Census to assess the poverty status of families and individuals.
- Weighted Adjusted Family Income (WAFI): The final measure sets both e and c to 0.5. Like AFI, this measure takes account of the larger families' greater needs and economies of scale. Setting c to one-half acknowledges the smaller consumption requirements of children relative to adults.

An important question is whether equivalence scales should vary across income levels. Although a poor family of four might require twice the income of a single person to be equally well (or poorly) off, higher-income families might require larger or smaller multiples of income to attain equivalence as family size increases. For example, wealthy families whose members all get their own bedrooms may not be able to capture the same level of scale economies in housing that poor families can get in more crowded units. The various adjustments examined in this paper remain constant across income classes, and thus may fail to represent accurately the relative needs of families at all income levels.

Other factors that may affect the income needs of families are also absent from the analysis.

Families with otherwise equal incomes but who face different prices for the goods they consume will not have the same abilities to pay taxes. In the same way, families that require two workers to earn a given level of cash income will be less well off than otherwise similar families with only one worker. In spite of the potential importance of these issues, this paper ignores all factors that may influence well-being other than family composition.

Distribution of Families and Individuals Under Alternative Equivalence Scales

The alternative equivalence scales generate different distributions of families across income percentiles in exactly the ways that would be anticipated. Measures that ignore or downplay the presence of children rank families with children higher in the distribution than do measures that count children like adults. At the same time, because they have fewer members on average, elderly families rank higher when the equivalence scale used takes greater account of family size. Units that have neither elderly nor child members also rise in the distribution when equivalence scales incorporate family size.

The percentile distributions in this paper generally show counts or percentages of families, but each percentile category is defined on the basis of the distribution of people. Thus, although each quintile contains one-fifth of all people, quintiles may include more or less than one-fifth of families because of differences in family size.² In particular, quintiles that contain larger families will have

^{2.} The term "families" as used in this paper includes both families as defined by the Bureau of the Census—two or more related people living together—and individuals not living with relatives, who are counted as "one-person families." Under this definition, the term "families" is simply shorthand terminology for what the Census would call "families and unrelated individuals."

fewer families than those that contain smaller families.

Under the traditional Family Cash Income (FCI) ranking, the lower income quintiles contain more families than the upper quintiles, particularly for elderly and childless families (see Table 2 for the distribution of families in 1995, the most recent year for which we have actual data).³ Because smaller units tend to have lower income than larger units, they are ranked lower in the distribution, and it thus takes more families to comprise a given percentage of the population in the lower quintiles. As a result, using the cash measure, 26.5 percent of families were in the lowest quintile in 1995 and only 15.5 percent were in the top quintile.

A reverse pattern holds when people are ranked by Per Capita Income (PCI). Under this measure, the higher incomes of larger families are more than offset by their increased size, and they thus fall lower in the income distribution than do smaller families. Consequently, fewer families make up the lower quintiles and more are in the upper percentiles: 16.5 percent of all families were in the lowest quintile in 1995 under the per capita measure, compared with 25.8 percent in the top quintile. That pattern is stronger for elderly families, which tend to be smaller: in 1995, only 8.5 percent of elderly units were in the lowest quintile defined for per capita income, while 24.4 percent were in the top quintile. In contrast, the larger average size of families with children causes them to be disproportionately represented in the lower quintiles. Nearly 27 percent of families with children were in the bottom quintile in 1995 and only about 10 percent were in the top quintile.

^{3.} For comparison purposes, Table A-1 in the appendix shows the distribution of people—rather than families—under alternative equivalence scales. Both Table 2 and Table A-1 are for 1995, but other years show similar patterns.

The other equivalence scales—Adjusted Family Income (AFI), Weighted AFI (WAFI), Per Adult Income (PAI), Weighted Per Capita Income (WPCI), and Weighted Adjusted Family Income (WAFI)—fall between the two extremes of cash and per capita incomes. Both PAI and WPCI discount children in adjusting incomes for family size, and thus have smaller effects than the per capita measure. AFI counts all family members equally, but adjusts income less for differences in family size than the per capita measure by dividing income by the square root of family size rather than by family size itself. WAFI both discounts children and adjusts income less for family size than per capita measures. Again, Table 2 shows the effects of the alternative measures on the distribution of families.

Except for AFI and WAFI, the equivalence scales exhibit consistent patterns of ranking families that derive from their counting differences in family size successively more heavily in adjusting incomes. With no adjustment for family size, the cash measure falls at one extreme, followed by PAI counting only adult family members, WPCI counting children at half the weight of adults, and PCI counting all family members equally. AFI and WAFI fall between the two extremes, but follow no clear pattern with respect to the other two measures.

Tables showing how families move among income quintiles under the various measures provide another look at the effects of different equivalence measures on the distribution of families.

Table 3a shows the movement of all families among quintiles when the equivalence scale shifts

between cash and each of the other five measures.⁴ Again, shifting from cash to AFI or WAFI generally moves families up in the distribution, largely because both alternative measures raise the incomes of smaller families relative to larger ones. As would be expected, the effect of changing to WAFI is smaller than that of changing to AFI. Moving from a cash measure to a per capita or weighted per capita measure pushes families further up the distribution for similar reasons. Measuring income on a per adult basis is similar to AFI for all families as a group, with upward and downward shifts roughly in balance.

Tables 3b through 3d show the differences in quintile rankings of families with children, elderly families, and other families, respectively, with values representing the percentages of all families in each quintile for each income measure, not the percentages of each family type.⁵ In general, families with children again rank higher under the cash or per adult measures than under AFI or WAFI, and lower under the per capita and weighted per capita measures. The reverse pattern holds for elderly families (Table 3c) and other families (Table 3d).

Effective Federal Tax Rates

The choice of equivalence scale clearly affects not only the ranking of families but also the observed

^{4.} Because quintiles are defined on the basis of persons while Tables 3a through 3d show the ranking of families, the quintiles in those tables generally do not contain equal numbers of families. In addition, because of rounding, the distributions of families in those tables may not agree completely with other tables.

^{5.} Appendix Tables A-2a through A-2c parallel Tables 3b through 3d but show percentages of the particular type of family rather than percentages of all families.

variation in effective tax rates across income levels and the change in that variation over time.⁶ The observed variation in tax burdens under different measures of income is more pronounced for some income categories than others and for particular types of families.

Figure 1 shows the variation in the effective total federal tax rates faced by three income quintiles of all families in 1980, 1985, 1990, and 1995, and projected for 1999, under each of the six measures of income described above. For all six measures, families in the lowest income quintile saw their federal tax rates rise between 1980 and 1985 before dropping in each successive five-year period. Observed effective tax rates vary across the six income measures, however, because of differences in the families comprising the lowest quintile. In 1980, for example, the effective tax rate ranged from 7.7 percent under the AFI measure to 9.5 percent with the per capita income measure. That pattern generally holds for other income quintiles of all families, although the variation in effective tax rates across measures is often smaller. For example, for families in the top quintile, the observed tax rate varies by less than one percentage point in every year. That smaller variation is likely the result of the population in the top quintile differing little across the six income measures. The lower income categories reveal greater variation in tax rates across measures, but nonetheless exhibit similar patterns of changing tax rates across the five-year intervals.

^{6.} Effective total federal tax rates are the sum of individual and corporate income taxes, payroll taxes, and excise taxes divided by family income. See Congressional Budget Office, Estimates of Federal Tax Liabilities for Individuals and Families by Income Category and Family Type For 1995 and 1990, May 1998, for a description of the methods used to measure total federal taxes at the household level.

^{7.} Appendix Table A-3a shows the effective total federal tax rates for each income category of all families. Appendix tables A-3b through A-3d provide comparable information for families with children, elderly families, and other families, respectively.

Similar patterns obtain for families with children, elderly families, and other families, as shown in Figures 2 through 4 respectively. With few exceptions, the rise and fall of tax rates across the 1980-1999 period follow comparable patterns for each income measure. Again, the highest income quintile exhibits the least variation in effective tax rates across different measures, and the lowest income quintile shows the greatest variation. In general, it appears that the choice of income measure makes little difference in terms of the basic patterns of change in effective federal tax rates over time.

One difference is worth noting. For the lowest quintile of families with children, the effective tax rate in 1999 is projected to be about -2.5 percent under the cash measure, compared to -0.5 percent under the AFI measure and nearly 3 percent under the per capita measure. The negative rates result from the earned income tax credit (EITC), which will provide a refundable credit of up to \$3,816 in 1999 for low-income families with two or more children and up to \$2,312 for those with one child. The credits will phase out, however, for families with incomes above about \$12,500, and families with incomes above about \$30,000 will not qualify at all. Under the cash measure, families in the lowest quintile are those with the lowest cash incomes, and therefore those most likely to qualify for the EITC. Under the other measures, because they adjust for differences in family size, the lowest quintile contains many larger families with incomes high enough to disqualify them from receiving the EITC. It is thus the different composition of the lowest quintile under the six measures that generates the substantial variation in observed effective tax rates. The Congress has increased the size of the EITC over the past decade, so the effect has grown over time.

The Effects of Federal Taxes on the Distribution of Income

An alternative measure of the inequality of the distribution of income among families and individuals is the gini coefficient. The gini coefficient ranges from zero, when every unit has the same income, to one, when all income goes to one unit. The top two panels of Figure 5 show estimated gini coefficients for pretax and posttax family incomes, respectively, under each of the six income measures for 1980, 1985, 1990, 1995, and 1999. The figure reveals four points. First, gini coefficients differ substantially across the six measures, with cash incomes showing the least inequality and the adjusted measures revealing progressively more inequality as we move across measures that take greater account of family size. Thus, the per capita measure shows the greatest inequality, the weighted per capita less, and per adult still less. The AFI and WAFI measures, which account for family members in a nonlinear manner, fall in the middle of that range.

Second, under all six measures, inequality has increased over the 19-year period, for both pretax and post-tax income, but the amount of change differs across the measures. For example, the gini coefficient for pretax income increased by 25 percent between 1980 and 1999 under the cash measure but only by 16 percent for per capita income. Changes in the composition of families over the period affect the changes in inequality measured under the different equivalence scales.

Third, federal taxes reduce income inequality, again regardless of how we measure income.

^{8.} Appendix Table A-4 shows the values used to create Figure 5.

In every year and under every measure, the gini coefficient for posttax income is between 4 percent and 12 percent lower than that for pretax income. The equalizing effect is not the same for all income measures, however. In percentage terms, the effect of federal taxes on the gini coefficient is greatest under the WAFI and per adult measures and least under the per capita measure. That observation demonstrates the differential taxes paid by different kinds of families. For example, the elderly, who are generally in smaller families, face lower average tax rates than younger families, so income measures that take greater account of family size and thus place smaller, elderly families higher in the income distribution, will show a smaller effect of taxes in reducing inequality. Conversely, because the EITC goes principally to families with children in the lower income categories, the income-equalizing impact of the EITC appears to be greater under measures that do not classify larger families with higher income lower in the distribution by adjusting for family size.

Finally, changes over time in the observed effect of federal taxes in equalizing posttax incomes differs little across the six equivalence scales. Under all six measures, the leveling effect of federal taxes fell between 1980 and 1985 and then rose in subsequent years. Federal taxes in the 1980-1985 period were characterized by generally rising tax rates as inflation pushed taxpayers into higher tax brackets and as payroll tax were increased to finance Social Security and Medicare. Both of those factors tended to raise taxes more for units lower in the income distribution than for those at the top, thus lessening the power of federal taxes to equalize incomes. Tax acts in 1986, 1990, and 1993 first leveled tax rates and then raised rates for high-income taxpayers. In combination with significant expansions of the EITC, the rate changes increased the income-equalizing effect of federal taxes.

Conclusions

Distributional analyses of federal taxes depend crucially on how families and individuals are ranked in the income distribution. Because family composition and other factors influence the level of well-being a family can attain with a given dollar income, meaningful distributional analyses must make adjustments to cash incomes to account for differences between families. The five adjustments examined in this paper result in significant reranking of families and individuals, and thus potentially could lead to differing conclusions about the distribution of federal taxes. At least for the six measures of income examined here and for changes in federal taxes that have occurred over the last two decades, choice of income measure matters little for distributional analyses. Conclusions about the distributional effects of federal taxes, based on both effective tax rates and gini coefficients, change little under the various income adjustments.

Table 1. Alternative Equivalence Scales

Family Composition	Family Cash Income (e=0, c=1)	Per Adult Income (e=1, c=0)	Weighted Per Capita Income (e=1, c=0.5)	Per Capita Income (e=1, c=1)	Weighted Adjusted Family Income (e=0.5, c=0.5)	Adjusted Family Income (e=0.5, c=1)	Implicit in Poverty Thresholds
One adult, no children	1.00	1.00	1.00	1.00	1.00	1.00	1.00
One adult, one child	1.00	1.00	1.50	2.00	1.22	1.41	1.32
Two adults, no children	1.00	2.00	2.00	2.00	1.41	1.41	1.29
One adult, two children	1.00	1.00	2.00	3.00	1.41	1.73	1.55
Two adults, one child	1.00	2.00	2.50	3.00	1.58	1.73	1.55
Three adults	1.00	3.00	3.00	3.00	1.73	1.73	1.50
One adult, three children	1.00	1.00	2.50	4.00	1.58	2.00	1.96
Two adults, two children	1.00	2.00	3.00	4.00	1.73	2.00	1.95
Three adults, one child	1.00	3.00	3.50	4.00	1.87	2.00	2.01
Four adults, no children	1.00	4.00	4.00	4.00	2.00	2.00	1.98
One adult, four children	1.00	1.00	3.00	5.00	1.73	2.24	2.26
Two adults, three children	1.00	2.00	3.50	5.00	1.87	2.24	2.29
Three adults, two children	1.00	3.00	4.00	5.00	2.00	2.24	2.35
Four adults, one child	1.00	4.00	4.50	5.00	2.12	2.24	2.43
Five adults, no children	1.00	5.00	5.00	5.00	2.24	2.24	2.39

^{*} The equivalence scale implicit in the federal poverty thresholds equals the ratio of the poverty threshold for a given family composition divided by that for a single adult under age 65. That equivalence scale is shown here for comparison purposes only and is not included in the analysis. The poverty thresholds used are those for 1997.

Table 2. Percentage Distribution of Families and Individuals
by Income Quintile, Equivalence Scale, and Type of Family, 1995

Income			Weighted	Weighte			
Percentile	Cash	WAFI	AFI	PAI	WPCI	PCI	
		Al	l Families				
Lowest	26.5	22.5	21.6	21.6	18.3	16.5	
Second	22.6	20.4	20.0	19.5	18.8	18.1	
Middle	19.1	19.5	19.4	19.1	18.5	18.5	
Fourth	16.3	18.6	19.1	19.3	20.2	21.1	
Highest	15.5	19.0	19.9	20.7	24.1	25.8	
ALL	100.0	100.0	100.0	100.0	100.0	100.0	
		Families	s with Child	ren			
Lowest	20.0	22.2	23.5	19.3	24.0	26.8	
Second	18.8	20.5	21.5	19.2	21.7	23.5	
Middle	20.1	20.1	20.5	19.6	21.3	22.3	
Fourth	21.2	19.6	19.0	21.0	18.7	17.2	
Highest	19.8	17.6	15.5	20.8	14.2	10.2	
ALL	100.0	100.0	100.0	100.0	100.0	100.0	
		Elderly Fami	ilies and Ind	lividuals			
Lowest	33.7	26.2	22.8	26.4	15.2	8.5	
Second	28.6	26.2	25.5	26.0	25.2	23.5	
Middle	17.1	19.5	20.5	19.2	20.5	21.5	
Fourth	10.5	13.7	15.4	14.1	18.5	22.1	
Highest	10.0	14.4	15.8	14.3	20.6	24.3	
ALL	100.0	100.0	100.0	100.0	100.0	100.0	
		Other Famil	ies and Indi	viduals			
Lowest	28.1	21.2	19.6	21.1	15.5	12.3	
Second	22.7	17.8	16.6	16.8	14.0	11.8	
Middle	19.3	19.0	18.0	18.6	15.6	14.4	
Fourth	15.2	19.9	20.9	20.2	22.0	23.5	
Highest	14.7	22.1	24.9	23.3	32.9	38.0	
ALL	100.0	100.0	100.0	100.0	100.0	100.0	

Table 3a. Quintile Movement of All Families, Cash versus
Alternative Equivalence Scales, 1995 (In percent of all families)

Lowest Second Middle Fourth Highest All			0 1	**							
Lowest 20.2 6.3 0.0 0.0 0.0 26.5	Income Quintile										
Lowest 20.2 6.3 0.0 0.0 0.0 26.5	Under Cash	Lowest	Second	Middle	Fourth	Highest	All				
Lowest 20.2 6.3 0.0 0.0 0.0 26.5											
Second 1.5 11.2 8.4 1.5 0.0 22.5 Middle 0.0 2.4 8.3 7.1 1.2 19.2 Fourth 0.0 0.0 2.6 8.7 4.9 16.3 Highest 0.0 0.0 0.0 1.8 13.7 15.5 All 21.5 20.0 19.3 19.2 19.9 100.0 Weighted Adjusted Family Income Weighted Adjusted Family Income Lowest 21.4 5.1 0.0 0.0 0.0 26.5 Second 1.1 13.3 7.9 0.4 0.0 22.5 Middle 0.0 2.0 9.5 7.0 0.6 19.2 Fourth 0.0 0.0 0.1 1.6 14.0 15.5 All 22.5 20.3 19.4 18.6 19.1 100.0 Per Capita Income Lowest 13.6 7.9 5.0 <			Adjusted Family Income								
Middle 0.0 2.4 8.3 7.1 1.2 19.2 Fourth 0.0 0.0 2.6 8.7 4.9 16.3 Highest 0.0 0.0 0.0 1.8 13.7 15.5 All 21.5 20.0 19.3 19.2 19.9 100.0 Weighted Adjusted Family Income Lowest 21.4 5.1 0.0 0.0 0.0 26.5 Second 1.1 13.3 7.9 0.4 0.0 22.5 Middle 0.0 2.0 9.5 7.0 0.6 19.2 Fourth 0.0 0.0 2.1 9.8 4.4 16.3 Highest 0.0 0.0 0.0 1.6 14.0 15.5 All 22.5 20.3 19.4 18.6 19.1 100.0 Per Capita Income Lowest 13.6 7.9 5.0 0.0 0.0 2.5	Lowest	20.2	6.3	0.0	0.0	0.0	26.5				
Fourth 0.0 0.0 2.6 8.7 4.9 16.3 Highest 0.0 0.0 0.0 1.8 13.7 15.5 All 21.5 20.0 19.3 19.2 19.9 100.0 Weighted Adjusted Family Income Lowest 21.4 5.1 0.0 0.0 0.0 26.5 Second 1.1 13.3 7.9 0.4 0.0 22.5 Middle 0.0 2.0 9.5 7.0 0.6 19.2 Fourth 0.0 0.0 2.1 9.8 4.4 16.3 Highest 0.0 0.0 0.0 1.6 14.0 15.5 All 22.5 20.3 19.4 18.6 19.1 100.0 Per Capita Income Lowest 13.6 7.9 5.0 0.0 0.0 26.5 Second 2.6 5.9 4.4 7.3 2.5 22.5	Second	1.5	11.2	8.4	1.5	0.0	22.5				
Highest All 0.0 0.0 1.8 13.7 15.5 Weighted Adjusted Family Income Lowest 21.4 5.1 0.0 0.0 0.0 26.5 Second 1.1 13.3 7.9 0.4 0.0 22.5 Middle 0.0 2.0 9.5 7.0 0.6 19.2 Fourth 0.0 0.0 2.1 9.8 4.4 16.3 Highest 0.0 0.0 0.0 1.6 14.0 15.5 All 22.5 20.3 19.4 18.6 19.1 100.0 Per Capita Income Lowest 13.6 7.9 5.0 0.0 0.0 26.5 Second 2.6 5.9 4.4 7.3 2.5 22.5 Middle 0.3 3.6 4.5 5.3 5.4 19.2 Fourth 0.0 0.8 3.9 4.9 6.5 16.3 Highest	Middle	0.0	2.4	8.3	7.1	1.2	19.2				
No.	Fourth	0.0	0.0	2.6	8.7	4.9	16.3				
Weighted Adjusted Family Income	Highest	0.0	0.0	0.0	1.8	13.7	15.5				
Lowest 21.4 5.1 0.0 0.0 0.0 26.5 Second 1.1 13.3 7.9 0.4 0.0 22.5 Middle 0.0 2.0 9.5 7.0 0.6 19.2 Fourth 0.0 0.0 2.1 9.8 4.4 16.3 Highest 0.0 0.0 0.0 1.6 14.0 15.5 All 22.5 20.3 19.4 18.6 19.1 100.0 Per Capita Income Lowest 13.6 7.9 5.0 0.0 0.0 26.5 Second 2.6 5.9 4.4 7.3 2.5 22.5 Middle 0.3 3.6 4.5 5.3 5.4 19.2 Fourth 0.0 0.8 3.9 4.9 6.5 16.3 Highest 0.0 0.0 0.6 3.5 11.4 15.5 All 16.4 18.1 18.5	All	21.5	20.0	19.3	19.2	19.9	100.0				
Lowest 21.4 5.1 0.0 0.0 0.0 26.5 Second 1.1 13.3 7.9 0.4 0.0 22.5 Middle 0.0 2.0 9.5 7.0 0.6 19.2 Fourth 0.0 0.0 2.1 9.8 4.4 16.3 Highest 0.0 0.0 0.0 1.6 14.0 15.5 All 22.5 20.3 19.4 18.6 19.1 100.0 Per Capita Income Lowest 13.6 7.9 5.0 0.0 0.0 26.5 Second 2.6 5.9 4.4 7.3 2.5 22.5 Middle 0.3 3.6 4.5 5.3 5.4 19.2 Fourth 0.0 0.8 3.9 4.9 6.5 16.3 Highest 0.0 0.0 0.6 3.5 11.4 15.5 All 16.4 18.1 18.5			***								
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Middle 0.0 2.0 9.5 7.0 0.6 19.2 Fourth 0.0 0.0 2.1 9.8 4.4 16.3 Highest 0.0 0.0 0.0 1.6 14.0 15.5 All 22.5 20.3 19.4 18.6 19.1 100.0 Per Capita Income Lowest 13.6 7.9 5.0 0.0 0.0 26.5 Second 2.6 5.9 4.4 7.3 2.5 22.5 Middle 0.3 3.6 4.5 5.3 5.4 19.2 Fourth 0.0 0.8 3.9 4.9 6.5 16.3 Highest 0.0 0.0 0.6 3.5 11.4 15.5 All 16.4 18.1 18.5 21.1 25.8 100.0 Per Adult Income Lowest 18.5 7.9 0.0 0.0 0.0 26.5 Second <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>											
Fourth 0.0 0.0 2.1 9.8 4.4 16.3 Highest 0.0 0.0 0.0 1.6 14.0 15.5 All Per Capita Income Lowest 13.6 7.9 5.0 0.0 0.0 26.5 Second 2.6 5.9 4.4 7.3 2.5 22.5 Middle 0.3 3.6 4.5 5.3 5.4 19.2 Fourth 0.0 0.8 3.9 4.9 6.5 16.3 Highest 0.0 0.0 0.6 3.5 11.4 15.5 All 16.4 18.1 18.5 21.1 25.8 100.0 Per Adult Income Lowest 18.5 7.9 0.0 0.0 0.0 26.5 Second 2.7 7.9 7.1 4.9 0.0 22.5 Middle 0.2 2.9 9.3 2.7 4.0 19.2 <											
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Lowest 13.6 7.9 5.0 0.0 0.0 26.5 Second 2.6 5.9 4.4 7.3 2.5 22.5 Middle 0.3 3.6 4.5 5.3 5.4 19.2 Fourth 0.0 0.8 3.9 4.9 6.5 16.3 Highest 0.0 0.0 0.6 3.5 11.4 15.5 All 16.4 18.1 18.5 21.1 25.8 100.0 Per Adult Income Lowest 18.5 7.9 0.0 0.0 0.0 26.5 Second 2.7 7.9 7.1 4.9 0.0 22.5 Middle 0.2 2.9 9.3 2.7 4.0 19.2			Per Capita Income								
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Middle 0.3 3.6 4.5 5.3 5.4 19.2 Fourth 0.0 0.8 3.9 4.9 6.5 16.3 Highest 0.0 0.0 0.6 3.5 11.4 15.5 All 16.4 18.1 18.5 21.1 25.8 100.0 Per Adult Income Lowest 18.5 7.9 0.0 0.0 0.0 26.5 Second 2.7 7.9 7.1 4.9 0.0 22.5 Middle 0.2 2.9 9.3 2.7 4.0 19.2											
Fourth 0.0 0.8 3.9 4.9 6.5 16.3 Highest 0.0 0.0 0.6 3.5 11.4 15.5 All 16.4 18.1 18.5 21.1 25.8 100.0 Per Adult Income Lowest 18.5 7.9 0.0 0.0 0.0 26.5 Second 2.7 7.9 7.1 4.9 0.0 22.5 Middle 0.2 2.9 9.3 2.7 4.0 19.2											
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Per Adult Income Lowest 18.5 7.9 0.0 0.0 0.0 26.5 Second 2.7 7.9 7.1 4.9 0.0 22.5 Middle 0.2 2.9 9.3 2.7 4.0 19.2											
Per Adult Income Lowest 18.5 7.9 0.0 0.0 0.0 26.5 Second 2.7 7.9 7.1 4.9 0.0 22.5 Middle 0.2 2.9 9.3 2.7 4.0 19.2	-										
Lowest 18.5 7.9 0.0 0.0 0.0 26.5 Second 2.7 7.9 7.1 4.9 0.0 22.5 Middle 0.2 2.9 9.3 2.7 4.0 19.2											
Second 2.7 7.9 7.1 4.9 0.0 22.5 Middle 0.2 2.9 9.3 2.7 4.0 19.2				Per Adult I	ncome						
Middle 0.2 2.9 9.3 2.7 4.0 19.2	Lowest	18.5	7.9	0.0	0.0	0.0	26.5				
	Second		7.9	7.1	4.9	0.0	22.5				
Fourth 0.0 0.6 2.3 9.6 3.8 16.3	Middle	0.2	2.9	9.3	2.7	4.0	19.2				
	Fourth	0.0	0.6	2.3	9.6	3.8	16.3				
Highest 0.0 0.0 0.5 2.1 12.8 15.5	Highest	0.0	0.0	0.5	2.1	12.8	15.5				
All 21.5 19.4 19.1 19.2 20.6 100.0	All	21.5	19.4	19.1	19.2	20.6	100.0				
Weighted Day Capita Income (Day Adult + 0.5 Children)		Weigh	tod Don Con	ita Incoma (Don Adult :	0 5 Children	-)				
Weighted Per Capita Income (Per Adult + 0.5 Children) Lowest 15.9 7.9 2.7 0.0 0.0 26.5	Tauran		_								
Fourth 0.0 0.5 3.6 6.7 5.5 16.3											
Highest 0.0 0.0 0.4 2.9 12.2 15.5	•										
All 18.3 18.9 18.5 20.2 24.1 100.0	All	18.3	18.9	18.5	20.2	24.1	100.0				

Table 3b. Quintile Movement of Families with Children, Cash versus Alternative Equivalence Scales, 1995 (In percent of all families)

Income Quintile	Inc	ome Quintile	Under Alter	native Equiv	alence Scale			
Under Cash	Lowest	Second	Middle	Fourth	Highest	All		
		Ad	justed Fam	ilv Income				
Lowest	6.6	0.2	0.0	0.0	0.0	6.8		
Second	1.4	4.8	0.3	0.0	0.0	6.4		
Middle	0.0	2.3	4.3	0.2	0.0	6.8		
Fourth	0.0	0.0	2.4	4.6	0.2	7.1		
Highest	0.0	0.0	0.0	1.6	5.1	6.7		
All	8.0	7.3	7.0	6.4	5.2	33.9		
		Weighted Adjusted Family Income						
Lowest	6.5	_	0.0	0.0	0.0	6.8		
Second	1.0	0.3 5.0	0.0	0.0	0.0	6.4		
Middle	0.0	1.6	4.8	0.5	0.0	6.8		
Fourth	0.0	0.0	1.6	5.2	0.0	7.1		
Highest	0.0	0.0	0.0	1.1	5.7	6.7		
All	7.5	7.0	6.9	6.7	6.0	33.9		
All .	7.5	7.0	0.9	0.7	0.0	33.7		
			Per Capita	Income				
Lowest	6.4	0.5	0.0	0.0	0.0	6.8		
Second	2.5	3.4	0.5	0.0	0.0	6.4		
Middle	0.3	3.4	2.7	0.5	0.0	6.8		
Fourth	0.0	0.8	3.7	2.6	0.2	7.1		
Highest	0.0	0.0	0.5	2.8	3.3	6.7		
All	9.1	8.0	7.5	5.9	3.5	33.9		
			Per Adult I					
Lowest	5.2	1.6	0.0	0.0	0.0	6.8		
Second	1.2	3.3	1.2	0.0	0.0	6.4		
Middle	0.1	1.4	4.2	0.7	0.6	6.8		
Fourth	0.0	0.4	1.0	4.9	0.8	7.1		
Highest	0.0	0.0	0.3	0.9	5.6	6.7		
All	6.6	6.5	6.7	7.1	7.1	33.9		
2 111	0.0	0.5	0.7					
	Weigh	ited Per Cap			- 0.5 Children			
Lowest	6.1	0.7	0.0	0.0	0.0	6.8		
Second	1.9	3.6	0.8	0.1	0.0	6.4		
Middle	0.1	2.7	3.3	0.6	0.1	6.8		
Fourth	0.0	0.5	2.8	3.6	0.4	7.1		
Highest	0.0	0.0	0.3	2.0	4.4	6.7		
All	8.2	7.3	7.2	6.3	4.9	33.9		

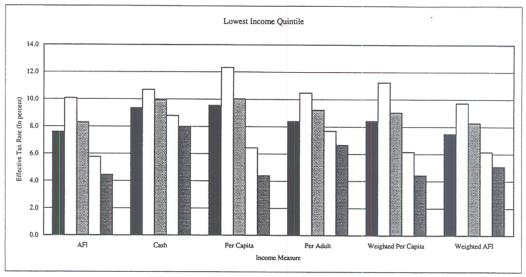
Table 3c. Quintile Movement of Elderly Families, Cash versus
Alternative Equivalence Scales, 1995 (In percent of all families)

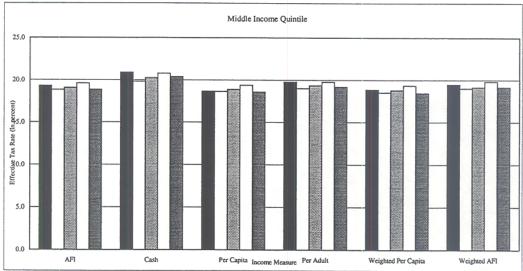
Income Quintile	Inc	Income Quintile Under Alternative Equivalence Scale							
Under Cash	Lowest	Second	Middle	Fourth	Highest	All			
		Ad	ljusted Fami	ily Income					
Lowest	4.5	2.2	0.0	0.0	0.0	6.7			
Second	0.0	2.8	2.5	0.4	0.0	5.7			
Middle	0.0	0.0	1.6	1.6	0.2	3.4			
Fourth	0.0	0.0	0.0	1.1	1.0	2.1			
Highest	0.0	0.0	0.0	0.0	2.0	2.0			
All	4.6	5.0	4.1	3.1	3.1	20.0			
		Weighted Adjusted Family Income							
Lowest	5.2	1.6	0.0	0.0	0.0	6.7			
Second	0.1	3.6	2.0	0.1	0.0	5.7			
Middle	0.0	0.1	1.8	1.4	0.1	3.4			
Fourth	0.0	0.0	0.1	1.2	0.8	2.1			
Highest	0.0	0.0	0.0	0.0	1.9	2.0			
All	5.2	5.2	3.9	2.7	2.8	20.0			
		Per Capita Income							
Lowest	1.6	3.5	1.6	0.0	0.0	6.7			
Second	0.0	1.2	1.9	1.9	0.5	5.7			
Middle	0.0	0.1	0.6	1.8	0.9	3.4			
Fourth	0.0	0.0	0.1	0.6	1.5	2.1			
Highest	0.0	0.0	0.0	0.1	1.9	2.0			
All	1.6	4.7	4.3	4.4	4.9	20.0			
			Per Adult I	ncome					
Lowest	4.5	2.2	0.0	0.0	0.0	6.7			
Second	0.7	2.4	1.6	1.0	0.0	5.7			
Middle	0.0	0.5	1.9	0.4	0.5	3.4			
Fourth	0.0	0.0	0.3	1.3	0.5	2.1			
Highest	0.0	0.0	0.0	0.2	1.8	2.0			
All	5.2	5.2	3.8	2.8	2.8	20.0			
	Weigh	ted Per Cap	ita Income (Per Adult +	0.5 Children	1)			
Lowest	2.9	2.9	0.8	0.0	0.0	6.7			
Second	0.1	1.9	1.8	1.6	0.3	5.7			
Middle	0.0	0.2	1.3	1.1	0.9	3.4			
Fourth	0.0	0.0	0.2	0.8	1.1	2.1			
Highest	0.0	0.0	0.0	0.1	1.9	2.0			
All	3.0	5.0	4.1	3.7	4.1	20.0			

Table 3d. Quintile Movement of Nonelderly, Childless Families, Cash versus Alternative Equivalence Scales, 1995 (In percent of all families)

Income Quintile	Inc	ome Quintile	Under Altern	native Equiv	alence Scale					
Under Cash	Lowest	Second	Middle	Fourth	Highest	All				
			justed Fami	•						
Lowest	9.0	3.9	0.0	0.0	0.0	12.9				
Second	0.1	3.6	5.8	1.1	0.0	10.4				
Middle	0.0	0.1	2.5	5.3	1.1	8.9				
Fourth	0.0	0.0	0.1	3.0	3.8	7.0				
Highest	0.0	0.0	0.0	0.2	6.6	6.8				
All	9.1	7.6	8.3	9.6	11.5	46.1				
		Weighte	d Adjusted	Family Inco	ome					
Lowest	9.6	3.3	0.0	0.0	0.0	12.9				
Second	0.1	4.7	5.5	0.2	0.0	10.4				
Middle	0.0	0.2	2.9	5.1	0.5	8.9				
Fourth	0.0	0.0	0.4	3.4	3.3	7.0				
Highest	0.0	0.0	0.0	0.5	6.4	6.8				
All	9.7	8.2	8.7	9.2	10.2	46.1				
		Per Capita Income								
Lowest	5.6	4.0	3.4	0.0	0.0	12.9				
Second	0.1	1.3	1.8	5.4	1.8	10.4				
Middle	0.0	0.2	1.1	3.1	4.6	8.9				
Fourth	0.0	0.0	0.3	1.7	4.9	7.0				
Highest	0.0	0.0	0.0	0.6	6.1	6.8				
All	5.7	5.4	6.7	10.8	17.5	46.1				
			Per Adult I	ncome						
Lowest	8.8	4.2	0.0	0.0	0.0	12.9				
Second	0.9	2.3	4.2	3.1	0.0	10.4				
Middle	0.1	1.0	3.1	1.7	2.9	8.9				
Fourth	0.0	0.3	1.0	3.4	2.4	7.0				
Highest	0.0	0.0	0.3	1.0	5.5	6.8				
All	9.7	7.8	8.6	9.3	10.7	46.1				
	WW7-2-N-	4. J D C	4. T	Dan Adala	0 <i>5 C</i> hildren					
Louise	_	-			0.5 Children	12.9				
Lowest	6.9	4.2	1.8	0.0	0.0	10.4				
Second	0.2	1.7	2.8	5.0	0.6 4.6	8.9				
Middle	0.0	0.4	1.8	2.1		7.0				
Fourth	0.0	0.1	0.6	2.2	4.0					
Highest	0.0	0.0	0.1	0.8	5.9	6.8				
All	7.1	6.4	7.1	10.2	15.2	46.1				

Figure 1. Effective Total Federal Tax Rates of All Families, by Income Quintile and Income Measure, 1980-1999 (In percent)





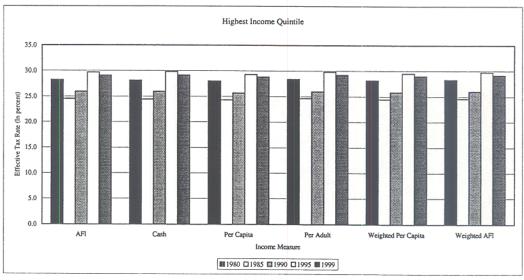
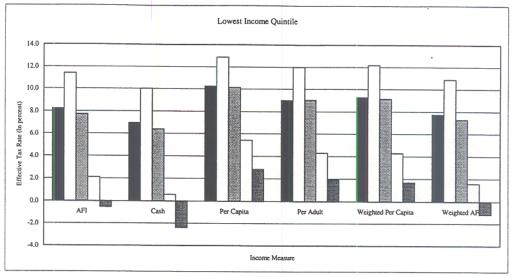
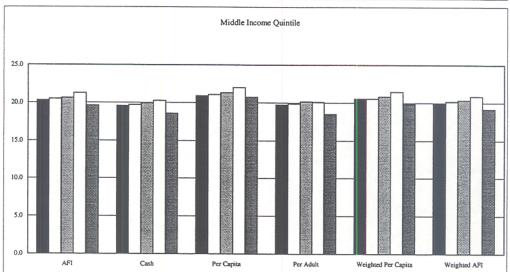


Figure 2. Effective Total Federal Tax Rates of Families with Children, by Income Quintile and Income Measure, 1980-1999 (In percent)





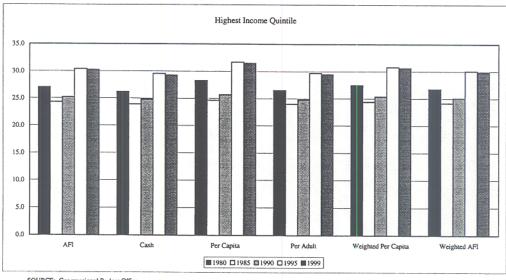
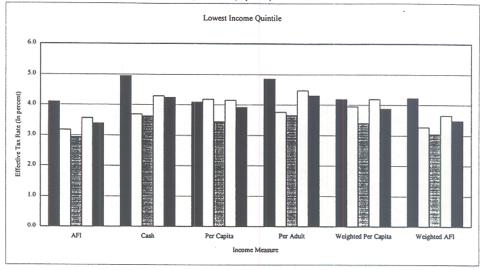
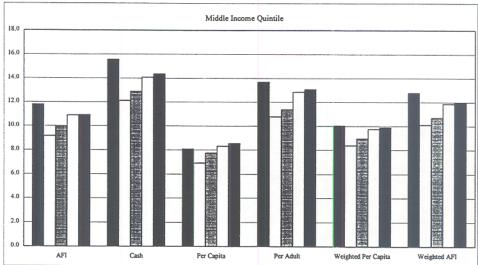


Figure 3. Effective Total Federal Tax Rates of Elderly Families, by Income Quintile and Income Measure, 1980-1999 (In percent)





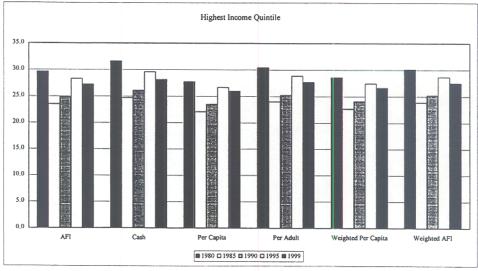
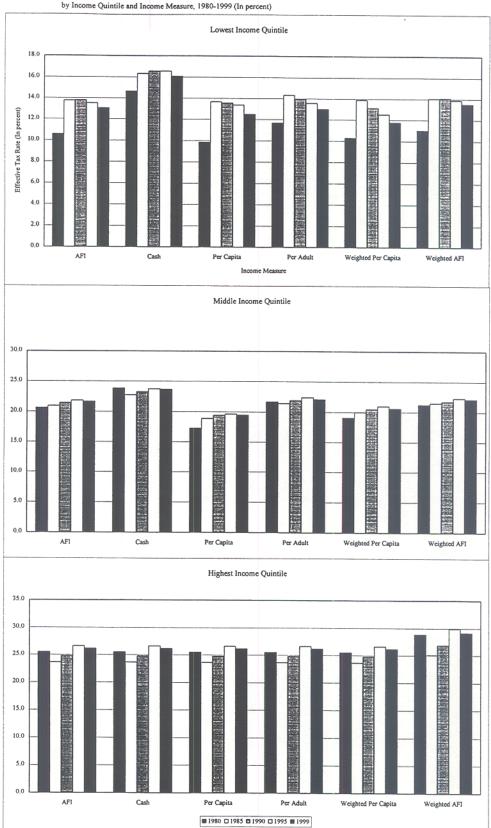


Figure 4. Effective Total Federal Tax Rates of Nonelderly Childless Families, by Income Quintile and Income Measure, 1980-1999 (In percent)



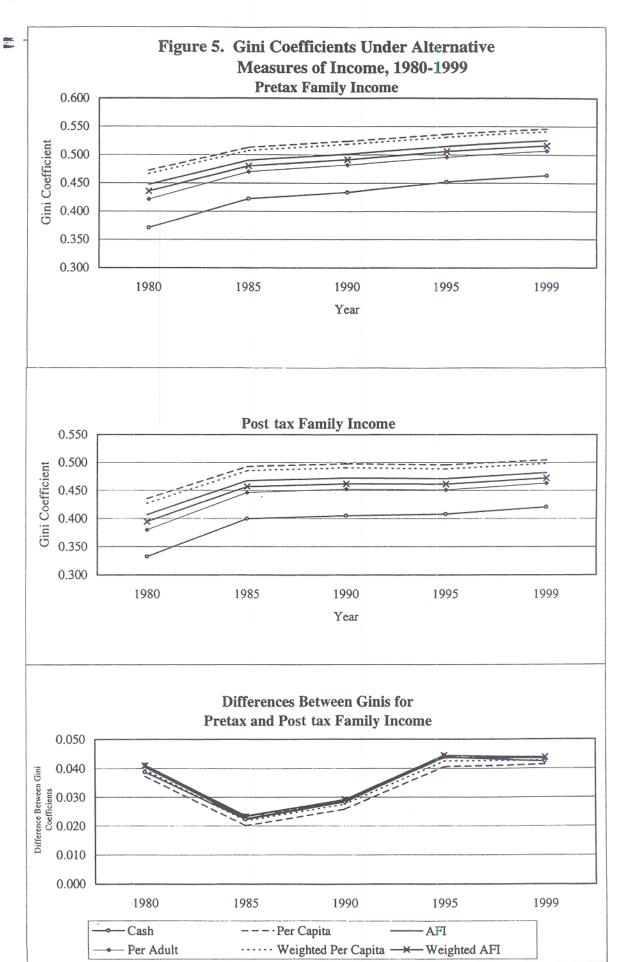


Table A-1. Percentage Distribution of People by Income Quintile, Equivalence Scale, and Type of Family, 1995

Income Percentile	Cash	AFI	Weighted AFI	Per Capita	Per Adult	Weighted Per Capita
		A	II Families			
0-20%	20.0	20.0	20.0	20.0	20.0	20.0
21-40%	19.9	20.0	20.0	20.0	20.0	20.0
41-60%	20.1	20.0	20.0	20.0	20.0	20.0
61-80%	20.0	20.0	20.0	20.0	20.0	20.0
81-100%	20.0	20.0	20.0	20.0	20.0	20.0
ALL	100.0	100.0	100.0	100.0	100.0	100.0
		Famili	es with Childre	n		
0-20%	18.0	28.0	21.3	22.8	19.5	24.9
21-40%	18.2	24.2	20.7	21.8	19.7	22.3
41-60%	20.4	22.1	20.5	20.9	19.8	21.4
61-80%	22.3	16.3	19.9	19.2	20.9	18.2
81-100%	21.1	9.3	17.6	15.3	20.0	13.2
ALL	100.0	100.0	100.0	100.0	100.0	100.0
		Elderly Fan	nilies and Indiv	iduals		
0-20%	26.3	8.5	21.8	18.7	25.0	14.6
21-40%	28.2	22.0	25.9	24.7	26.6	24.5
41-60%	19.9	22.3	20.6	21.6	19.9	21.3
61-80%	12.9	22.9	15.4	17.0	14.1	19.1
81-100%	12.8	24.3	16.3	18.0	14.3	20.5
ALL	100.0	100.0	100.0	100.0	100.0	100.0
		Other Fam	ilies and Indivi	duals		
0-20%	20.9	10.4	16.7	15.4	18.7	13.4
21-40%	19.4	11.3	16.2	14.7	17.5	13.4
41-60%	19.6	15.2	18.8	17.7	20.4	16.9
61-80%	18.9	25.5	22.2	22.8	21.0	23.7
81-100%	21.3	37.6	26.1	29.4	22.4	32.3
ALL	100.0	100.0	100.0	100.0	100.0	100.0

Table A-2a. Quintile Movement of Families with Children, Cash versus Alternative Equivalence Scales, 1995 (In percent)

Income Quintile	Income Quintile Under Alternative Equivalence Scale									
Under Cash	Lowest	Second	Middle	Fourth	Highest	All				
	Adjusted Family Income									
Lowest	19.5	0.5	0.0	0.0	0.0	20.0				
Second	4.1	14.1	0.8	0.0	0.0	18.9				
Middle	0.0	6.8	12.7	0.5	0.0	20.0				
Fourth	0.0	0.0	7.0	13.5	0.5	21.1				
Highest	0.0	0.0	0.0	4.9	15.1	19.7				
All	23.5	21.6	20.5	18.9	15.4	100.0				
		Weighted Adjusted Family Income								
Lowest	18.9	1.4	0.0	0.0	0.0	20.0				
Second	7.3	10.0	1.6	0.0	0.0	18.9				
Middle	0.8	10.0	8.1	1.4	0.0	20.0				
Fourth	0.0	2.4	10.8	7.6	0.5	21.1				
Highest	0.0	0.0	1.6	8.4	9.7	19.7				
All	26.8	23.5	22.2	17.3	10.3	100.0				
	Per Capita Income									
Lowest	18.9	1.4	0.0	0.0	0.0	20.0				
Second	7.3	10.0	1.6	0.0	0.0	18.9				
Middle	0.8	10.0	8.1	1.4	0.0	20.0				
Fourth	0.0	2.4	10.8	7.6	0.5	21.1				
Highest	0.0	0.0	1.6	8.4	9.7	19.7				
All	26.8	23.5	22.2	17.3	10.3	100.0				
			Per Adult I	ncome						
Lowest	15.4	4.6	0.0	0.0	0.0	20.0				
Second	3.5	9.7	3.5	2.2	0.0	18.9				
Middle	0.3	4.1	12.4	1.4	1.9	20.0				
Fourth	0.0	1.1	3.0	14.6	2.4	21.1				
Highest	0.0	0.0	0.8	2.7	16.5	19.7				
All	19.5	19.2	19.7	21.1	20.8	100.0				
	Weigh	ited Per Can	ita Income (Per Adult +	0.5 Children	1)				
Lowest	18.1	2.2	0.0	0.0	0.0	20.0				
Second	5.7	10.5	2.4	0.3	0.0	18.9				
Middle	0.3	7.8	9.7	1.9	0.3	20.0				
Fourth	0.0	1.4	8.4	10.5	1.1	21.1				
Highest	0.0	0.0	0.8	5.9	13.0	19.7				
All	24.1	21.6	21.4	18.6	14.3	100.0				

Table A-2b. Quintile Movement of Elderly Families, Cash versus Alternative Equivalence Scales, 1995 (In percent)

Income Quintile	Inc	ome Quintile	Under Alteri	native Equiv	alence Scale					
Under Cash	Lowest	Second	Middle	Fourth	Highest	All				
		A d	justed Fami	ily Income						
Lowest	22.5	11.0	0.0	0.0	0.0	33.5				
Second	0.0	14.2	12.4	1.8	0.0	28.4				
Middle	0.0	0.0	7.8	8.3	0.9	17.0				
Fourth	0.0	0.0	0.0	5.5	5.0	10.6				
Highest	0.0	0.0	0.0	0.0	10.1	10.1				
All	22.9	25.2	20.6	15.6	15.6	100.0				
		Weighted Adjusted Family Income								
Lowest	8.3	17.4	8.3	0.0	0.0	33.5				
Second	0.0	6.0	9.6	9.6	2.8	28.4				
Middle	0.0	0.5	3.2	9.2	4.6	17.0				
Fourth	0.0	0.0	0.5	3.2	7.3	10.6				
Highest	0.0	0.0	0.0	0.5	9.6	10.1				
All	8.3	23.4	21.6	22.0	24.3	100.0				
		Per Capita Income								
Lowest	8.3	17.4	8.3	0.0	0.0	33.5				
Second	0.0	6.0	9.6	9.6	2.8	28.4				
Middle	0.0	0.5	3.2	9.2	4.6	17.0				
Fourth	0.0	0.0	0.5	3.2	7.3	10.6				
Highest	0.0	0.0	0.0	0.5	9.6	10.1				
All	8.3	23.4	21.6	22.0	24.3	100.0				
			Per Adult I	ncome						
Lowest	22.5	11.0	0.0	0.0	0.0	33.5				
Second	3.7	11.9	8.3	5.0	0.0	28.4				
Middle	0.0	2.8	9.6	1.8	2.3	17.0				
Fourth	0.0	0.0	1.4	6.4	2.8	10.6				
Highest	0.0	0.0	0.0	0.9	9.2	10.1				
All	26.1	26.1	19.3	14.2	14.2	100.0				
	Weigh	ted Per Capi	ta Income (Per Adult +	0.5 Children	1)				
Lowest	14.7	14.7	4.1	0.0	0.0	33.5				
Second	0.5	9.6	9.2	8.3	1.4	28.4				
Middle	0.0	0.9	6.4	5.5	4.6	17.0				
Fourth	0.0	0.0	0.9	4.1	5.5	10.6				
Highest	0.0	0.0	0.0	0.5	9.6	10.1				
All	15.1	25.2	20.6	18.3	20.6	100.0				

Table A-2c. Quintile Movement of Nonelderly, Childless Families, Cash versus Alternative Equivalence Scales, 1995 (In percent)

Lowest Second Middle Fourth Highest All Lowest Second Middle Fourth Highest	19.5 0.2 0.0 0.0 19.7 12.1 0.2 0.0 0.0 0.0	8.5 7.8 0.2 0.0 0.0 16.5 Weighter 8.7 2.8 0.4	7.4 4.0	0.0 2.4 11.5 6.6 0.4 20.9 Family Inco	0.0 0.0 2.4 8.3 14.3 24.9	28.0 22.7 19.3 15.1 14.7 100.0
Second Middle Fourth Highest All Lowest Second Middle Fourth Highest	0.2 0.0 0.0 0.0 19.7 12.1 0.2 0.0 0.0	8.5 7.8 0.2 0.0 0.0 16.5 Weighter 8.7 2.8 0.4	0.0 12.5 5.4 0.2 0.0 18.1 d Adjusted 7.4 4.0	0.0 2.4 11.5 6.6 0.4 20.9 Family Inco	0.0 2.4 8.3 14.3 24.9	22.7 19.3 15.1 14.7 100.0
Second Middle Fourth Highest All Lowest Second Middle Fourth Highest	0.2 0.0 0.0 0.0 19.7 12.1 0.2 0.0 0.0	8.5 7.8 0.2 0.0 0.0 16.5 Weighter 8.7 2.8 0.4	0.0 12.5 5.4 0.2 0.0 18.1 d Adjusted 7.4 4.0	0.0 2.4 11.5 6.6 0.4 20.9 Family Inco	0.0 2.4 8.3 14.3 24.9	22.7 19.3 15.1 14.7 100.0
Second Middle Fourth Highest All Lowest Second Middle Fourth Highest	0.2 0.0 0.0 0.0 19.7 12.1 0.2 0.0 0.0	7.8 0.2 0.0 0.0 16.5 Weighter 8.7 2.8 0.4	12.5 5.4 0.2 0.0 18.1 d Adjusted 7.4 4.0	2.4 11.5 6.6 0.4 20.9 Family Inco	0.0 2.4 8.3 14.3 24.9	22.7 19.3 15.1 14.7 100.0
Middle Fourth Highest All Lowest Second Middle Fourth Highest	0.0 0.0 0.0 19.7 12.1 0.2 0.0 0.0	0.2 0.0 0.0 16.5 Weighte 8.7 2.8 0.4	5.4 0.2 0.0 18.1 d Adjusted 7.4 4.0	11.5 6.6 0.4 20.9 Family Inco	2.4 8.3 14.3 24.9	19.3 15.1 14.7 100.0
Fourth Highest All Lowest Second Middle Fourth Highest	0.0 0.0 19.7 12.1 0.2 0.0 0.0	0.0 0.0 16.5 Weighte 8.7 2.8 0.4	0.2 0.0 18.1 d Adjusted 7.4 4.0	6.6 0.4 20.9 Family Inco	8.3 14.3 24.9	15.1 14.7 100.0
Lowest Second Middle Fourth Highest	0.0 19.7 12.1 0.2 0.0 0.0	0.0 16.5 Weighte 8.7 2.8 0.4	0.0 18.1 d Adjusted 7.4 4.0	0.4 20.9 Family Inco 0.0	14.3 24.9	14.7 100.0
Lowest Second Middle Fourth Highest	12.1 0.2 0.0 0.0	Weighte 8.7 2.8 0.4	d Adjusted 7.4 4.0	Family Inco	24.9 ome	100.0
Second Middle Fourth Highest	0.2 0.0 0.0	8.7 2.8 0.4	7.4 4.0	0.0		20.0
Second Middle Fourth Highest	0.2 0.0 0.0	8.7 2.8 0.4	7.4 4.0	0.0		20.0
Middle Fourth Highest	0.0 0.0	2.8 0.4				20.0
Fourth Highest	0.0			11.7	4.0	22.7
Highest			2.4	6.8	9.9	19.3
_	0.0	0.0	0.6	3.8	10.7	15.1
All 1		0.0	0.0	1.4	13.3	14.7
	12.3	11.7	14.5	23.5	38.0	100.0
		I	Per Capita l	ncome		
Lowest 1	12.1	8.7	7.4	0.0	0.0	28.0
Second	0.2	2.8	4.0	11.7	4.0	22.7
Middle	0.0	0.4	2.4	6.8	9.9	19.3
Fourth	0.0	0.0	0.6	3.8	10.7	15.1
Highest	0.0	0.0	0.0	1.4	13.3	14.7
All 1	12.3	11.7	14.5	23.5	38.0	100.0
		1	Per Adult I	ncome		
Lowest 1	19.1	9.1	0.0	0.0	0.0	28.0
Second	2.0	5.0	9.1	6.8	0.0	22.7
Middle	0.2	2.2	6.8	3.8	6.4	19.3
Fourth	0.0	0.6	2.2	7.4	5.2	15.1
Highest	0.0	0.0	0.6	2.2	11.9	14.7
All 2	21.1	16.9	18.7	20.1	23.3	100.0
,	Weight	ed Per Capi	ta Income (Per Adult +	0.5 Children	a)
Lowest 1	14.9	9.1	4.0	0.0	0.0	28.0
Second	0.4	3.8	6.2	10.9	1.4	22.7
Middle	0.0	0.8	4.0	4.6	9.9	19.3
Fourth	0.0	0.2	1.4	4.8	8.7	15.1
Highest	0.0	0.0	0.2	1.8	12.7	14.7
All 1	15.5	13.9	15.5	22.1	33.0	100.0

Table A-3a. Effective Total Federal Tax Rates of All Families (In percent)

Income Percentile	1980	1985	1990	1995	1999				
			0.000						
AFI	7.6	10.1	0-20%	-					
Cash	7.6	10.1	8.3	5.8	4.5				
	9.3	10.7	9.9	8.8	8.0				
Per Capita	9.5	12.3	10.0	6.4	4.4				
Per Adult	8.4	10.5	9.2	7.7	6.7				
Weighted Per Capita	8.4	11.2	9.0	6.1	4.4				
Weighted AFI	7.5	9.7	8.3	6.1	5.1				
		21-40%							
AFI	14.8	15.4	15.2	14.6	13.7				
Cash	17.0	16.9	16.6	16.0	15.6				
Per Capita	15.3	15.8	15.6	15.2	13.8				
Per Adult	15.0	15.3	15.1	14.4	13.7				
Weighted Per Capita	14.4	15.1	15.0	14.3	13.3				
Weighted AFI	15.0	15.3	15.1	14.4	13.5				
			44 60 60						
AFI	10.2		41-60%						
	19.3	18.8	19.0	19.6	18.8				
Cash	20.9	19.8	20.2	20.8	20.4				
Per Capita	18.7	18.6	18.9	19.4	18.6				
Per Adult	19.8	19.0	19.3	19.7	19.2				
Weighted Per Capita	18.8	18.5	18.8	19.3	18.4				
Weighted AFI	19.4	19.0	19.1	19.8	19.1				
weighten AFI	19.4	19.0	19.1	19.8	19.				

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Table A-3a, continued.

Income Percentile	1980	1985	1990	1995	1999
		6	61-80%		
AFI	22.4	21.4	21.6	22.6	22.3
Cash	23.3	22.2	22.4	23.5	23.1
Per Capita	21.6	20.7	21.0	22.1	21.8
Per Adult	22.7	21.7	22.0	23.0	22.5
Weighted Per Capita	22.0	21.1	21.3	22.4	22.1
Weighted AFI	22.7	21.6	21.9	22.8	22.5
		0	1 1000		
AFI	20.2		1-100%	20.7	00.1
Cash	28.2	24.5	26.0	29.7	29.1
	28.1	24.4	25.9	29.8	29.1
Per Capita	28.0	24.3	25.7	29.3	28.9
Per Adult	28.4	24.6	26.0	29.8	29.2
Weighted Per Capita	28.2	24.5	25.9	29.5	29.0
Weighted AFI	28.3	24.6	26.0	29.8	29.2
		All Inco	me Percentil	les	
AFI	23.3	21.8	22.6	24.7	24.2
Cash	23.3	21.8	22.6	24.7	24.2
Per Capita	23.3	21.8	22.6	24.7	24.2
Per Adult	23.3	21.8	22.6	24.7	24.2
Weighted Per Capita	23.3	21.8	22.6	24.7	24.2
Weighted AFI	23.3	21.8	22.6	24.7	24.2
	20.0	21.0	22.0	27.1	24.2

Table A-3b. Effective Total Federal Tax Rates of Families with Children (In percent)

Income Percentile	1980	1985	1990	1995	1999
			0-20%		
AFI	8.2	11.4	7.7	2.1	-0.5
Cash	6.9	10.0	6.4	0.6	-2.4
Per Capita	10.2	12.9	10.1	5.4	2.8
Per Adult	9.0	12.0	9.0	4.3	1.9
Weighted Per Capita	9.3	12.2	9.1	4.3	1.7
Weighted AFI	7.7	10.9	7.3	1.6	-1.2
			21-40%		
AFI	16.5	17.5	17.1	15.5	12.5
Cash	15.4	16.8	15.3	15.5 12.7	13.5
Per Capita	17.8	18.5	18.2		10.8
Per Adult	15.7	17.0	16.2	17.6	15.6
Weighted Per Capita	16.8			14.1	12.2
Weighted AFI	15.9	17.9 17.2	17.5	16.0	14.1
Weighted AFT	13.9	17.2	16.4	14.5	12.4
			41-60%		
AFI	20.3	20.5	20.6	21.2	19.6
Cash	19.6	19.7	20.0	20.3	18.6
Per Capita	20.9	21.1	21.3	22.0	20.7
Per Adult	19.8	19.9	20.1	20.1	18.5
Weighted Per Capita	20.5	20.5	20.8	21.4	19.9
Weighted AFI	19.9	20.1	20.3	20.8	19.1

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Table A-3b, continued.

In come Describ	1000	1005	1000	400#			
Income Percentile	1980	1985	1990	1995	1999		
			C1 00 0				
A 777			61-80%				
AFI	22.8	22.4	22.5	23.4	22.6		
Cash	22.2	22.1	21.9	22.8	21.6		
Per Capita	23.5	22.9	23.2	24.5	23.9		
Per Adult	22.1	22.0	21.9	23.0	21.8		
Weighted Per Capita	23.0	22.6	22.6	23.8	23.0		
Weighted AFI	22.5	22.2	22.2	23.1	22.1		
			81-100%				
AFI	27.0	24.3	25.2	30.4	30.2		
Cash	26.2	23.9	24.8	29.6	29.3		
Per Capita	28.3	24.7	25.7	31.7	31.5		
Per Adult	26.5	24.0	24.8	29.7	29.4		
Weighted Per Capita	27.5	24.4	25.4	30.8	30.6		
Weighted AFI	26.7	24.2	25.1	30.1	29.9		
	All Income Percentiles						
AFI	22.3	21.8	22.1	24.7	24.0		
Cash	22.3	21.8	22.1	24.7	24.0		
Per Capita	22.3	21.8	22.1	24.7	24.0		
Per Adult	22.3	21.8	22.1	24.7	24.0		
Weighted Per Capita	22.3	21.8	22.1	24.7	24.0		
Weighted AFI	22.3	21.8	22.1	24.7	24.0		
3		2	22.1	27.7	27.0		

Table A-3c. Effective Total Federal Tax Rates of Elderly Families (In percent)

Income Percentile	1980	1985	1990	1995	1999		
			0-20%				
AFI	4.1	3.2	2.9	3.6	3.4		
Cash	4.9	3.7	3.6	4.3	4.2		
Per Capita	4.1	4.2	3.4	4.1	3.9		
Per Adult	4.8	3.8	3.7	4.5	4.3		
Weighted Per Capita	4.2	3.9	3.4	4.2	3.9		
Weighted AFI	4.2	3.3	3.0	3.6	3.5		
	21-40%						
AFI	6.8	5.1	5.6	6.6	6.8		
Cash	10.2	7.7	8.3	9.4	9.4		
Per Capita	5.2	3.8	4.1	4.9	5.0		
Per Adult	8.5	6.5	7.3	7.7	7.8		
Weighted Per Capita	6.3	4.6	5.3	6.0	6.0		
Weighted AFI	7.8	5.6	6.3	7.3	7.4		
	41-60%						
AFI	11.8	9.2	10.0	10.9	10.9		
Cash	15.5	12.1	12.9	14.1	14.4		
Per Capita	8.1	6.9	7.7	8.3	8.5		
Per Adult	13.7	10.8	11.4	12.8	13.1		
Weighted Per Capita	10.0	8.4	9.0	9.7	9.9		
Weighted AFI	12.8	10.1	10.7	11.9	12.0		

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Table A-3c, continued.

Income Percentile	1980	1985	1990	1995	1999
		6	61-80%		
AFI	16.6			1/1	1//
	16.6	13.3	14.3	16.1	16.6
Cash	19.9	16.4	17.3	19.5	20.2
Per Capita	13.3	11.1	12.0	13.5	14.0
Per Adult	17.9	14.6	15.6	17.7	18.2
Weighted Per Capita	14.9	12.4	13.1	15.1	15.5
Weighted AFI	17.6	14.1	15.2	17.0	17.6
		8	1-100%		
AFI	29.6	23.5	24.8	20.2	27.2
Cash				28.3	27.2
	31.6	24.7	26.1	29.6	28.1
Per Capita	27.7	22.0	23.4	26.7	26.0
Per Adult	30.4	23.9	25.2	28.9	27.7
Weighted Per Capita	28.6	22.6	24.0	27.4	26.6
Weighted AFI	30.1	23.8	25.2	28.7	27.5
		All Inco	me Percenti	les	
AFI	20.1	16.4	17.6	19.9	19.5
Cash	20.1	16.4	17.6	19.9	19.5
Per Capita	20.1	16.4			
			17.6	19.9	19.5
Per Adult	20.1	16.4	17.6	19.9	19.5
Weighted Per Capita	20.1	16.4	17.6	19.9	19.5
Weighted AFI	20.1	16.4	17.6	19.9	19.5

Table A-3d, continued.

Income Percentile	1980	1985	1990	1995	1999
		(61-80%		
AFI	23.5	22.9	23.2	23.9	23.7
Cash	25.3	24.0	24.5	25.4	25.2
Per Capita	21.4	21.6	22.2	22.8	22.5
Per Adult	24.5	23.4	23.9	24.5	24.3
Weighted Per Capita	22.7	22.3	22.8	23.4	23.2
Weighted AFI	24.1	23.2	23.5	24.2	24.1
		8	1 - 100 %		
AFI	25.5	23.6	24.8	26.6	26.2
Cash	25.5	23.6	24.8	26.6	26.2
Per Capita	25.5	23.6	24.8	26.6	26.2
Per Adult	25.5	23.6	24.8	26.6	26.2
Weighted Per Capita	25.5	23.6	24.8	26.6	26.2
Weighted AFI	28.8	25.1	26.9	29.9	29.1
		437.7			
AFI	0.5.5		me Percentil		
·	25.5	23.6	24.8	26.6	26.2
Cash	25.5	23.6	24.8	26.6	26.2
Per Capita	25.5	23.6	24.8	26.6	26.2
Per Adult	25.5	23.6	24.8	26.6	26.2
Weighted Per Capita	25.5	23.6	24.8	26.6	26.2
Weighted AFI	25.5	23.6	24.8	26.6	26.2

Table A-4. Gini Coefficients Under Alternative Measures of Income, 1980-1999

Income Measure	1980	1985	1990	1995	1999
	Pretax Fa	mily Income			
Cash Income	0.371	0.422	0.434	0.452	0.463
Adjusted Family Income	0.447	0.490	0.501	0.515	0.525
Weighted AFI	0.436	0.480	0.491	0.506	0.516
Per Capita Income	0.472	0.513	0.524	0.536	0.546
Per Adult Income	0.421	0.470	0.482	0.496	0.507
Weighted Per Capita Income	0.466	0.507	0.518	0.531	0.541
	Post-tax F	amily Income	e		
Cash Income	0.332	0.400	0.405	0.408	0.421
Adjusted Family Income	0.407	0.468	0.473	0.471	0.482
Weighted AFI	0.395	0.457	0.462	0.461	0.472
Per Capita Income	0.435	0.493	0.498	0.496	0.505
Per Adult Income	0.380	0.446	0.453	0.451	0.463
Weighted Per Capita Income	0.427	0.485	0.491	0.488	0.498
Differences Between	een Ginis for P	retax and Po	st-tax Family	Income	
Cash Income	0.039	0.022	0.028	0.044	0.042
Adjusted Family Income	0.040	0.023	0.029	0.044	0.043
Weighted AFI	0.041	0.023	0.029	0.044	0.044
Per Capita Income	0.037	0.020	0.026	0.041	0.041
Per Adult Income	0.041	0.024	0.029	0.044	0.044
Weighted Per Capita Income	0.040	0.022	0.028	0.042	0.043