

WORKING PAPER

FAMILY INCOMES IN THE 1980s:

**New Pressure on Wives, Husbands,
and Young Adults**

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FAMILY INCOMES IN THE 1980s: New Pressure on Wives, Husbands, and Young Adults

Introduction

There has been considerable controversy over the character of recent income developments. Some analysts have claimed that there have been a "shrinking middle class," stagnant income growth, and a widening gap between the rich and the poor.¹ These claims have been challenged by other analysts for various "technical" reasons.² The public has watched in dismay as experts arrive at different conclusions even though they use the same government collected data.

This report examines family income developments between 1979 (the last business cycle peak) and 1986 (the latest year for which comprehensive data are available).³ We have adopted the most conservative procedures possible so that our study is not subject to the criticisms made of other studies which have also found widening inequality and slow growth.

The major criticism of other studies is that they used the official Consumer Price Index (CPI) as their inflation measure, a measure which some analysts say is "flawed." The CPI is said to have overstated inflation because of its treatment of housing prices prior to being revised in 1983. As a result, inflation-adjustments using the CPI are said to understate wage and income growth relative to inflation. In response, we use an inflation measure (technically, the CPI-U-X1) which does not have this alleged problem.

Another criticism of recent studies of family incomes is that they failed to "adjust" for changes in family size. Since families are now smaller, these critics contend, even if family incomes are now the same as they were eight years ago, the average family member is still better off. That is, each member of a three person family with a \$30,000 income is economically better off than members of a four person family with the same \$30,000 income. In response, we make a "family size" adjustment.

Another criticism of prior family income studies is that they exclude economic developments among those not in families, a group that has fared better than average. In response, the population studied in this report includes both "unrelated individuals" and families. Finally, we also make a correction for the fact that individuals underreport various types of incomes (primarily transfer and property income). This underreporting leads to an overstatement of income inequality.

Although these procedures are prudent and reasonable (see Appendix A for a detailed discussion of our methodological procedures), they skew the data to overstate recent increases in economic well-being. For instance, if a family with one child and an income of \$20,000 a year refrains from having another child because of the added expense, our adjustments make them appear better off as a result of this decision---the same income with a larger family would show a lower effective standard of living. Another problem is the uncounted services lost when both husband and wife are in the paid labor force. The increased expenses of daycare and of meals bought away from the home, plus the loss of other home care services, do not count in measuring well-being in a simple monetary income measure.⁴

The Results of the Analysis

(1) Slow and Monopolized Income Growth

Table 1 presents the average income (in 1986 dollars) for each quintile in 1979 and in 1986 and the percentage growth between 1979 and 1986. The average income grew by 7.3 percent in this seven year time period, a growth rate of just one percent each year. Exact historical comparisons are not possible since there are no historical family income data which are adjusted for changes in family size. However, our measure of income growth is comparable to another common measure, GNP per capita. By this standard, recent income growth has been significantly slower than that of the 1950s, -60s, and -70s. GNP per capita increased by 2.1 percent per year during the first 25 years after World War II. From 1969 to 1973, the yearly growth rate declined to 2.0 percent; from 1973 to 1979 this figure fell to 1.5 percent per year; and from 1979 to 1986 annual growth was 1.2 percent. Recent income growth is thus at least 20 percent slower than during the 1970s, and is just 60 percent of that of the period prior to 1973.

TABLE 1

Average Income*, by Quintile, 1979 and 1986

	Lowest Fifth	Lower Middle Fifth	Middle Fifth	Upper Middle Fifth	Highest Fifth	Average
<u>Average Income</u>						
1979	\$10,246	\$21,784	\$32,296	\$45,470	\$82,666	\$38,492
1986	9,133	21,322	33,279	48,600	94,104	41,288
<u>Percentage Change</u>						
	-10.9%	-2.1%	3.0%	6.9%	13.8%	7.3%
<u>Quintile Upper Limits</u>						
1979	\$16,412	\$27,031	\$37,972	\$54,706		
1986	15,446	27,192	39,903	59,533		

* All income figures are in constant 1986 dollars.

Although total personal income rose 7.3 percent for the population as a whole,⁵ the real income of the bottom 40 percent fell. The average income of the bottom quintile (those with incomes less than \$15,446) was fully 11 percent lower. As one moves up the income ladder, income gains were greater. This results in a pattern of uniformly increasing inequality. In 1979, the top quintile had seven times more income than the bottom quintile; by 1986, the top quintile (roughly \$60,000 or more) was more than nine times better off. Alternately, the middle quintile had incomes 215 percent as much as the poorest 20 percent in 1979, but 264 percent as much in 1986. And the ratio of the richest to middle quintile rose from 156 percent in 1979 to 180 percent in 1986.

Income growth among the richest segments of the top 20 percent has been far above average. The top five percent had an average real income gain of 17.7 percent, whereas those with incomes greater than \$172,000 in 1986 (the top one percent) saw their incomes rise 20.3 percent. The average income of this elite group was over \$250,000 and more than 50 percent of it was from property income.⁶

Table 2 shows that those who are well-off received the lion's share of recent income growth. The richest quintile received 43 percent of all income in 1979 but received 82 percent of all income growth between 1979 and 1986. The decline of the bottom 40 percent

translates here into negative shares of the income growth.⁷

This pattern of income growth is a sharp break from the historical pattern. Most analysts have concluded that income distribution was very stable throughout the first half of the twentieth century, implying that income growth was distributed in rough proportion to people's incomes. From 1946 through 1969, the Census Bureau estimates that the distribution of income became more equal; i.e., the condition of those at the bottom improved faster than those at the top, resulting in a steady decline in the rate of poverty through 1973.

TABLE 2
Distribution of the Growth Dividend, Percentage Change by Quintile

	Lowest Fifth	Lower Middle Fifth	Middle Fifth	Upper Middle Fifth	Highest Fifth	Total
Shares of 1979-86 Income Growth	-8.0%	-3.3%	7.0%	22.4%	81.8%	100.0%
Share of 1979 Income	5.3	11.3	16.8	23.6	43.0	100.0

In other words, the common adage that "the rich get richer and the poor get poorer" did not apply in the post-World War II period from 1945 to 1973. There still were rich and poor, and a vast gap between the two, but the people at the bottom and in the middle received slightly more than their proportional share of the substantial growth that occurred during these earlier years. By contrast, the bottom 40 percent of the population was slightly worse off in real income in 1986 than in 1979. The next 40 percent of the population on the income scale saw their real income improve slightly, whereas the living standards of the richest 20 percent improved substantially. Thus, growth has stopped being distributed widely and evenly.

This uneven and slow growth is a dramatically different pattern of income growth from the one that existed during the postwar period prior to 1973. In recent years, only the

top fifth was able to achieve consistent income improvements comparable to that obtained in the period prior to 1973. The second and third quintiles did grow, but at a much lower rate than before. And for the bottom 40 percent, their income decline was in stark contrast to their previous experience of steadily improving living conditions.

(2) Increasing work effort of married women

One of the most remarkable shifts in economic behavior over the last thirty years has been the increasing participation in the paid labor force of married women, often those with young children. Even in the last 15 years, ever higher percentages of married women have joined the ranks of the employed. In 1973, 45.9 percent of nonelderly (less than 65 years old) married females worked for pay during the course of the year; by 1979, this figure rose to 55.4 percent and increased further to 66.1 percent by 1986.

It has been widely hypothesized that the added income associated with a two-income family was a major reason for families' maintaining their standard of living. Yet there has been no recent quantification of this effect. As Table 3 shows, there has been a significant increase in the hours worked by members of intact nonelderly couples.⁸ The overall labor supply of wives (annual hours worked by the average wife) increased by 18 percent, with the increases being greater in the lower income groups. There has been no appreciable change in the work effort of husbands, most of whom work more than full-time (a labor supply of more than one indicates a work year greater than forty hours weekly for fifty-two weeks).

This increase in wives' annual labor supply, however, is due more to an increase in their labor force participation than to an increase in their hours worked. The average working wife increased her annual hours by only three percent on average while wives in general increased their labor force participation by 14.5 percent.⁹

TABLE 3

Husband and Wife Annual Labor Supply, by Quintile*

	Lowest Fifth	Lower Middle Fifth	Middle Fifth	Upper Middle Fifth	Highest Fifth	Average
<u>Husbands</u>						
1979	0.95	1.09	1.09	1.10	1.12	1.09
1986	0.97	1.09	1.12	1.10	1.11	1.09
<u>Wives</u>						
1979	0.20	0.32	0.42	0.52	0.60	0.45
1986	0.26	0.40	0.50	0.60	0.68	0.53
Percentage Change in Wives' Annual Labor Supply	30%	25%	21%	16%	14%	18%
Percentage Change in Annual Labor Time per Working Wife	-3.4%	5.8%	5.2%	4.2%	-2.8%	3.0%
Percentage Change in Wives' Labor Force Participation	35%	18%	15%	11%	17%	14.5%

* Labor supply measured as annual hours worked divided by 2080 hours.

Table 4 examines how the wages of husbands and wives changed between 1979 and 1986. Clearly, the higher one is on the income scale, regardless of sex, the better one will fare over time. Husbands' salaries declined for households in the bottom 80 percent (with a steeper decline the lower the income standing).¹⁰ This is probably a major reason for the increased work effort of wives over this period, as wives work more to offset the fall in their husband's wage. The surprising result is that wives' salaries increased for all but the lowest 20 percent on the family income scale. However, total family earnings follow more closely

the pattern of the husband's salary changes because even in 1986, husbands in the work force supplied twice the labor of wives.

TABLE 4
Equivalent Annual Salaries* for Husbands and Wives

	Lowest Fifth	Lower Middle Fifth	Upper Middle Fifth	Middle Fifth	Highest Fifth	Average
<u>Husbands</u>						
1979	\$7,615	\$14,318	\$19,931	\$24,535	\$35,663	\$23,204
1986	5,902	12,459	17,861	23,826	36,756	22,240
<u>Percentage Change</u>	-22.5%	-13.0%	-10.4%	-2.9%	3.1%	-4.2%
<u>Wives</u>						
1979	\$6,990	\$9,759	\$12,162	\$14,917	\$20,216	\$14,064
1986	6,858	10,063	13,208	16,803	23,988	15,768
<u>Percentage Change</u>	-1.9%	3.1%	8.6%	12.6%	18.7%	12.1%

* Annual salary measured as hourly wage times 2080 hours.

These data permit us to calculate what would have happened to personal income if wives had not changed their work effort. It should be noted that although single-person and single-parent households have attracted much media attention, 72 percent of the population still resides in intact husband-wife relationships. The contrary notion is often given by analyses showing the falling proportion of families which have intact husband-wife relationships. However, since married-couple families have more family members than other family types, they still account for the bulk of the population. Consequently, an adjustment in wives' earnings affects most of the population.

Table 5 examines the effect of the increased work effort of wives on the income growth in each quintile. The first row shows the actual income growth. The second row shows the income growth that would have occurred if wives had not increased their annual hours at work. The contribution of increased working hours of wives on income growth is

shown in the third row. The increase in hours worked by the average wife contributed one-third, or 2.4 percentage points, of the overall 7.3 percent income growth. Had this development not occurred, the bottom 60 (those with 1986 incomes less than \$40,000) percent would have had lower incomes in 1986 than in 1979 (since the middle fifth would have lost one percent rather than gained three percent).

TABLE 5

Change in Family Income Controlling for Increase Wives' Hours of Work

	Lowest Fifth	Lower Middle Fifth	Middle Fifth	Upper Middle Fifth	Highest Fifth	Average
(1) Actual Income Growth	-10.9%	-2.1%	3.0%	6.9%	13.8%	7.3%
(2) If Wives had Maintained 1979 Annual Hours	-11.5	-5.7	-1.0	2.9	9.5	4.9
(3) Effect of Increased Work of Wives*	0.6	3.6	4.0	4.0	4.3	2.4

* Calculated as row (1) less row (2).

(3) Flat earnings/increasing property and transfer income

In Table 6, average quintile income is broken down into three component parts: earned income from wages, salaries, and self-employment; property income from interests, dividends, and rents; and transfer payments of Social Security, retirement and pension payouts, welfare, and unemployment insurance.

As the data demonstrate, earnings growth (from changes in both wages and annual hours) is significantly lower than for the other two types of income. In fact, average annual earnings for the bottom 60 percent were lower in 1986 than in 1979, reflecting the diminishing real value of the minimum wage and declining real wages. Only the top fifth

shows any substantial real annual wage growth.

Again, as we move up the income scale, the increase for each type of income rises. Among the bottom 40 percent there is a real income loss. High interest rates caused overall property income to soar (up 31 percent); yet, the lowest 40 percent had less property income in 1986 than in 1979. The large increases in transfer payments (21 percent) may surprise some, but they are largely due to Social Security payments resulting from the aging of the population and increased pay-outs and lower eligibility criteria of Social Security programs for the elderly. The lowest 40 percent contains many senior citizens, but real income declines and more strict eligibility hurdles for welfare programs and unemployment insurance offset higher Social Security benefits.

These data also reveal several interesting phenomena. The bottom quintile relies very heavily on transfer income, reflecting the fact that the poverty rate, without government transfer programs, would be greater than 20 percent. The rest of the population, particularly the nonelderly, relies mainly on earnings.

The wealthiest households have large property income. (Their 1986 property income alone would put them at the 35th percentile of the population as a whole.) In fact, their increase in property income almost equals the total average income of the bottom 20 percent of the population. This effect is even more pronounced for progressively smaller slices of the income elite. The earnings of the top 1 percent of the population represented only 39 percent of their income, and their property income increased by \$26,700 to \$134,400 per family. A similar pattern is evident using different adjustment factors on income by source. (See Appendix Table A.1.)

These data show that increased property income (primarily interest paid to bondholders) played a disproportionate role in recent income growth. Although property income contributed just 13 percent of total income in 1986, increased property income was responsible for 45 percent of the income growth between 1979 and 1986. Since most property income goes to the most well-off it is not surprising that the rich have seen fast income growth in recent years.

TABLE 6

Change in Income Components, by Quintile

	Lowest Fifth	Lower Middle Fifth	Middle Fifth	Upper Middle Fifth	Highest Fifth	Average
<u>1979 Income</u>						
Earnings	\$ 5,652	\$16,635	\$27,014	\$38,682	\$62,275	\$29,907
Property	251	859	1,538	2,938	14,970	4,111
Transfer	4,344	4,291	3,743	3,850	5,411	4,360
Total	10,257	21,786	32,294	45,470	82,656	38,378
<u>1986 Income</u>						
Earnings	\$ 4,981	\$16,032	\$26,843	\$39,728	\$65,432	\$30,578
Property	183	796	1,829	3,646	20,565	5,404
Transfer	3,989	4,496	4,607	5,228	8,108	5,281
Total	9,133	21,324	33,279	48,601	94,104	41,263
<u>Income Growth Rates</u>						
Earnings	-11.9%	-3.6%	-0.6%	2.7%	5.1%	2.2%
Property	-26.9	-7.3	18.9	24.1	37.4	31.4
Transfer	-8.6	4.8	23.1	35.8	49.8	21.1
Total	-10.9	-2.1	3.0	6.9	13.8	7.3
<u>Distribution</u>						
Earnings	54.5	75.2	80.6	81.7	69.5	74.1
Property	2.0	3.7	5.5	7.5	21.9	13.1
Transfer	43.4	21.1	13.9	10.8	8.6	12.8
Total	100.0	100.0	100.0	100.0	100.0	100.0

(4) The changing fate of children and young adults

It is well documented that the children's poverty rate exceeded one in five throughout the 1980s. In our quintile analysis, a higher concentration of children are found in the bottom 20 percent; if the distribution of children across the income scale had remained at its 1979 level, 1.3 million fewer children would have been spared from growing up in our poorest households.

We focus in this section on the income problems of young adults, those who are between 25 and 34 years old. Table 7 presents the individual labor market experience for

these young adults. The patterns evident in previous tables are repeated here. First, a larger number of women have entered the labor force, which led to an increase in their average labor supply by 11 percent for all educational levels. Second, wage levels for men have declined. Men with low educational attainment levels (high school or less) had 17 percent lower wages in 1986 than in 1979 whereas those who attended college but did not graduate had wages seven percent less; wages were higher only for men with college degrees--by 5.6 percent.¹¹ Third, women's wage rates outperformed those of men. Annual salaries for the least educated women declined by only 1 percent; those women with some college saw their wage rates rise by 5.5 percent, whereas the comparable figure for women with college degrees was 12.6 percent.

The wage problems of young adults without any college education affect a sizable part of this age group--half the young men and 55 percent of the young women. On the other hand, only one-fourth of young adults in 1986 were equipped with a college degree (see Appendix Table C). More worrisome is the fact that the share of young men with at best a high school degree has increased (from 49.6% to 54.2%) and the share with a college degree has fallen from (27.1 to 24.8%). Educational attainment among women has been rising, however.

When comparing the relative standing of young adults to prime age adults (35 to 54-year-olds), less educated people again lost ground. Males with the lowest level of educational attainment were behind their older counterparts by 16 percent in 1979 and by 21 percent in 1986. The younger males at the middle educational level were in virtually the same position as the older, whereas young men with college degrees actually had a slightly higher relative standing than older counterparts. Women of all educational levels, by contrast, are further behind their older counterparts.

Finally, while all of the data were constructed using the adjusted CPI price deflator, this may not be the appropriate adjustment factor to use for young adults. The reasons for the controversy over the CPI revolved around the increasing costs of home ownership. Yet it is precisely young adults who are facing the home purchasing decision for the first time.

TABLE 7

Labor Market Characteristics by Sex and Education, 25 to 34-Year Olds

	High School or Less		One to Three Years College		Four Years College or More	
	Male	Female	Male	Female	Male	Female
<u>1979</u>						
Participation Rate	92.5%	58.9%	92.0%	70.0%	93.5%	78.0%
Labor Supply in years	0.92	0.47	0.95	0.57	1.00	0.70
Annual Salary	\$21,630	\$13,640	\$23,780	\$16,450	\$26,780	\$20,030
<u>1986</u>						
Participation Rate	92.0%	64.0%	90.8%	76.2%	93.1	84.0
Labor Supply in years	0.89	0.52	0.94	0.64	1.00	0.80
Annual Salary	\$18,500	\$13,480	\$22,080	\$16,910	\$27,840	\$21,790

They are the ones who are taking on new mortgages with no equity built up from a previous home. In fact, they have succeeded less often at this endeavor, as evidenced by the eight percentage point decline in home ownership rates of young adults over the 1980s.

These wage developments help explain our findings of large increases of "return-to-nesters" among young adults -- those who are living with their parents. As Table 8 shows, there has been a large increase (from 40 to 50 percent) in the share of young adults who are still dependents (neither heading a household or married, nor single and not living with their families). For instance, the share of the least educated young males who were dependents rose from 13.5 percent in 1979 to 19.1 percent in 1986. Overall, an additional 4.5 percent of young men and an additional 3.6 percent of young women were dependents in 1986. This increased dependency meant an additional 1.5 million young adults were dependent in 1986, 851,000 young men and 626,000 young women. The increase in "return-to-nesters" is present for the groups at each educational level and throughout the income ladder.

TABLE 8

Demographic Changes by Sex and Education Among 25 to 34-Year-Olds

Household Status*	High School or Less		One to Three Years College		Four Years College or More	
	Male	Female	Male	Female	Male	Female
<u>1979</u>						
Householder*	72.2	85.5	67.5	79.4	67.4	69.6
Single	14.3	7.0	22.4	13.5	25.3	23.2
Dependent	13.5	7.7	10.1	7.1	7.3	7.2
<u>1986</u>						
Householder*	62.9	80.0	63.7	76.0	60.7	64.8
Single	18.0	8.4	22.1	13.7	29.5	24.9
Dependent	19.1	11.6	14.2	10.3	9.8	10.3

* The head of a family or spouse of the head only

Conclusion

The measurement techniques used in this study are extremely conservative; they give every benefit of the doubt to those who dispute the growing sense that American families are under greater income pressures than at any time since the 1930s.

Even with these conservative assumptions, the data show that some 40 percent have lost income since 1979, and another 20 percent maintained roughly stable incomes only because wives have had to work harder in order to compensate for the falling wages of their husbands. The study also confirms that this is not simply a problem of older blue-collar workers in a few declining industries as is often alleged. Young men and young women have lost ground relative to older families, which in turn is reflected in their eroding educational and home ownership status. It is also reflected in the widening phenomenon of adult children who are returning home as dependents of their parents.

The time for continued debate about the existence of a family income problem in America is running out. Even the most conservative methodologies now produce evidence of income erosion. It is time now for a new economic agenda that can once again support opportunities for rising living standards for all of the families of working Americans.

Appendix A: Methodology for Studying Income Distribution

One of the reasons for the expert controversy is differing conceptual approaches. Therefore, we want to state very clearly what we did and why we did it. The analyses were based on the 1980 and 1987 CPS March Supplement Data collected by and made available through the Bureau of the Census (and therefore dealing with income for 1979 and 1986).

(1) The family as the unit of analysis

We define families to include all people living together that usually share income and make joint decisions; single people living alone constitute a single separate family, and two single, unrelated people sharing an apartment constitute two separate families. This is the approach commonly used to analyze economic well-being, given that people share income and make decisions relative to the needs of the whole family. The alternative, looking at an individual's earnings, is more appropriate for labor market analyses than for studying changes in economic welfare.

(2) Quintile definitions and Family Size Adjustments

The standard approach to reporting income distribution is to divide the population into five ordered, ascending groups with 20 percent of the families in each group or "quintile." This results in the bottom quintile's being composed predominantly (one half of the households) of single persons living alone. Consequently, Census Bureau quintiles have unequal numbers of people in them; the bottom quintile has just 15 percent of the population; the top one has 25 percent.

This approach is not used by the Census Bureau to calculate the percentage of the population in poverty. The obvious fact that \$10,000 is enough for a single person, but inadequate for a family of six, translates into a series of different poverty thresholds that increase with family size. For this analysis we are not concerned with the number of families in poverty, but rather with the overall number of people in poverty and their prevalence (as a percentage of the total population).

A number of recent studies have reported family income scaled for family size.¹² Such an approach requires adopting equalization formulas for different-sized families to change reported income into an "adjusted equivalent income." A considerable literature on this procedure exists, with the most commonly used approach to date being the use of the poverty thresholds by family size. We have adopted a slight variation of that approach. Over the years, the poverty lines come very close to a proportional relationship between size and income: a single person requires one-half the income of a family of four; each additional person adds one-sixth of the family of four's income total. Therefore, we adopted a uniform protocol of adjusting each family to its equivalent family-of-four income (EFFI): $EFFI = \text{reported income} / \text{scaling factor}$ (with the scaling factor equaling one-third plus one-sixth times the number of persons in the family. We also go one step further: we ensure that each quintile has 20 percent of the population by analyzing the scaled family income of individuals.

We have organized our data by person records rather than by families (the usual procedure). Each person is assigned his/her total family income variables. This approach permits us to clearly track the performance of various subpopulations over time. Sheldon Danziger and Michael Taussig, in "The Income Unit and the Anatomy of Income Distribution" (Review of Income and Wealth, Vol. 25:365-374), argue for the appropriateness of this approach. Income quintiles based on scaling are much more demographically similar than those without this adjustment.¹³

(3) Choice of price deflator

In order to compare different points in time, some adjustment must be made for the changing purchasing power of the dollar. Although most people are familiar with the consumer price index (CPI), government agencies estimate a series of price deflators for each specific sector of the economy. The CPI is meant to be an all-purpose indicator of changing prices that affect consumer purchases in urban areas. In 1981, however, the method by which it was calculated was substantially changed: rental costs price changes replaced the more volatile home-buying market. When this new index, called CPI-U-X1, was consistently applied, the inflation adjustment was smaller. Thus, the choice of price deflators seriously

affects the results--both in size of economic advancement and, sometimes, even whether there has been growth or decline.

To be very cautious and not overestimate income effects, we chose the less volatile price deflator. At various points in this analysis, we provide estimates of the results using the old CPI. The controversy over the best index to use points to the problem of using a single price deflator. People at different stages in their lives, and in different regions of the country, purchase different bundles of consumer goods. Developing a series of price deflators to account for these variations has been left to future research.

(4) The quality of the CPS income data

The primary source for most income studies is the yearly March supplement of the ongoing Current Population Survey. Detailed family income information is available by type of income: wages, salaries, self-employment, transfer payments, rents, dividends, etc. This rich data source has several substantial limitations.¹⁴ There is a maximum answer available (an upper limit or top code) to each income question, and the sum of everyone's reported income does not equal more accurate independent estimates from other sources. This underreporting is not consistent by income type and varies from over 50 percent for most types of property income to about 1 to 3 percent for wage and salary income.

In addition, questions that refer to monetary income include transfer payments, but exclude taxes. This represents some double counting and excludes nonmonetary benefits such as food stamps and employer-provided benefits. A more ideal measure of economic welfare would use after-tax income and include nonmonetary benefits. But allocating taxes is quite difficult and most analysts have chosen to avoid this morass.¹⁵

We felt that the underreporting problem was too important to ignore because it affects people at different levels of the income ladder more or less strongly. Therefore, we allocated the underreported family income in proportion to the overall income reported (making no special adjustment for underreported income lost because of top coding).

This adjustment primarily effects those who receive property and transfer incomes. Our adjustment allocates unreported property income, for example, to those individuals and families that receive property income. The implicit assumption is that those who receive

property income or those who have incomes comparable to those receiving property incomes (i.e., same quintile) are the ones who received underreported property income.

(5) Time frame of the analysis

For this preliminary analysis, we compare income change over two points in time: 1986, the most recent computer data available, and 1979, the business cycle peak. Such point-to-point comparisons are commonly used, although some studies have done a year-by-year analysis to avoid any unforeseen anomalies in a specific year's numbers.¹⁶ Another approach is to track the same people over many years. This "longitudinal" approach has many advantages but the available data are quite limited at this time.

(6) The net impact of these adjustments

Our procedure tends to affect the extremes rather than the middle. Scaling increases the shares held by the lower two quintiles at the expense of those lying in the fortieth to eightieth percentiles. In a similar vein, adjusting for underreporting affects transfer payments and property income the most, increasing the incomes of the bottom and top quintile relative to the second and third quintiles. Finally, using the adjusted CPI generates greater income growth than would be the case using the standard CPI. When taken together, we believe these procedures are appropriate and tend to understate inequities and overstate income growth. (In this sense we refer to their capacity not to bias the data to maximize income inequality, to portray slow growth, or to dramatize the plight of the poor.)

Appendix Table A.1 shows the data without any adjustments. Appendix Table A.2 shows the data after the family size adjustment. These can be compared to the data in text Table 6 which incorporates the family size and income underreporting adjustments. The net effect of these adjustments is to raise average income growth by 1.9 percentage points from 5.4 to 7.3 percent.

APPENDIX TABLE A.1

Income by Source, 1979 and 1986, No Adjustments to Reported Income

	Lowest Fifth	Lower Middle Fifth	Middle Fifth	Upper Middle Fifth	Highest Fifth	Average
<u>1979 Income</u>						
Earnings	\$3,529	\$12,914	\$23,757	\$34,816	\$57,227	\$26,448
Property	294	702	830	1,144	3,968	1,388
Transfer	3,595	3,681	2,516	2,272	2,935	3,000
Total	7,417	17,297	27,104	38,231	64,130	30,836
<u>1986 Income</u>						
Earnings	\$3,047	\$11,963	\$22,721	\$35,287	\$62,841	\$27,172
Property	228	784	1,163	1,635	5,323	1,827
Transfer	3,496	4,084	3,416	3,022	3,556	3,515
Total	6,772	16,830	27,300	39,943	71,720	32,513
<u>Income Growth Rates</u>						
Earnings	-13.6%	-7.4%	-4.4%	1.4%	9.8%	2.7%
Property	22.4	11.7	40.1	42.9	34.1	31.6
Transfer	-2.7	10.9	35.7	33.0	21.2	17.2
Total	-8.7	-2.7	0.7	4.5	11.8	5.4
<u>1986 Proportion of Total Income</u>						
Earnings	45.0%	71.1%	83.2%	88.3%	87.6%	83.6%
Property	3.4	4.7	4.3	4.1	7.4	5.6
Transfer	51.6	24.3	12.5	7.6	5.0	10.8
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

APPENDIX TABLE A.2

Income by Source, 1979 and 1986, Scaled for Family Size Alone

	Lowest Fifth	Lower Middle Fifth	Middle Fifth	Upper Middle Fifth	Highest Fifth	Average
<u>1979 Income</u>						
Earnings	\$4,825	\$15,043	\$25,145	\$37,010	\$61,821	\$28,769
Property	216	685	1,025	1,504	5,426	1,771
Transfer	4,043	4,203	3,572	3,154	3,884	3,771
Total	9,084	19,931	29,742	41,668	71,131	34,311
<u>1986 Income</u>						
Earnings	\$4,368	\$14,684	\$25,405	\$38,783	\$69,839	\$30,616
Property	172	708	1,324	2,230	7,693	2,425
Transfer	3,958	4,788	4,666	4,505	5,170	4,618
Total	8,499	20,180	31,395	45,519	82,701	37,659
<u>Income Growth Rates</u>						
Earnings	-9.5%	-2.4%	1.0%	4.8%	13.0%	6.4%
Property	-20.1	3.3	29.2	48.2	41.8	36.9
Transfer	-2.1	13.9	30.6	42.9	33.1	22.4
Total	-6.4	1.3	5.6	9.2	16.3	9.8
<u>1986 Proportion of Total Income</u>						
Earnings	51.4%	72.8%	80.9%	85.2%	84.4%	81.3%
Property	2.0	3.5	4.2	4.9	9.3	6.4
Transfer	46.6	23.7	14.9	9.9	6.3	12.3
Total	100.0	100.0	100.0	100.0	100.0	100.0

APPENDIX TABLE B

Labor Supply* (in equivalent full-time labor years), by Quintile

	Lowest Fifth	Lower Middle Fifth	Middle Fifth	Upper Middle Fifth	Highest Fifth
1979 per family	0.45	0.90	1.20	1.42	1.55
1986 per family	0.46	0.91	1.19	1.38	1.47
1979 Family Head	0.34	0.65	0.81	0.89	0.94
1986 Family Head	0.34	0.64	0.78	0.81	0.87
Less than 65 years old					
1979 per family	0.63	1.14	1.39	1.59	1.75
1986 per family	0.62	1.17	1.42	1.60	1.75

* Labor supply measured as annual hours worked divided by 2080.

APPENDIX TABLE C

Educational Attainment of Young Adults, 25 to 34-year-olds

	MALE		FEMALE	
	1979	1986	1979	1986
Total (in millions)	17.8	16.1	18.9	17.4
<u>Educational Level (percent)</u>				
High school or less	49.6	54.2	58.6	54.9
One to three years college	23.4	21.0	20.6	22.5
College degree or more	27.1	24.8	20.8	22.6
Total	100.0	100.0	100.0	100.0

APPENDIX TABLE D

Family Income Distribution by Sex and Education, 25 to 34-year-olds

	High School or Less		One to Three Years College		Four Years College or More	
	Male	Female	Male	Female	Male	Female
<u>1979</u>						
Bottom 40%	40.3	49.6	27.0	32.0	16.8	17.5
Middle 20%	24.2	22.6	22.4	23.3	18.7	18.4
Top 40%	35.4	27.8	50.7	44.7	64.5	64.1
<u>1986</u>						
Bottom 40%	45.3	55.4	29.8	33.4	15.6	15.3
Middle 20%	24.7	21.4	23.7	24.3	16.3	19.5
Top 40%	30.3	23.3	46.5	42.4	68.2	65.1

Endnotes

1. The term "shrinking middle class" was originally coined by Robert Kuttner in an Atlantic Monthly article in August 1983. The causes of this shift were usually attributed to the "Deindustrialization of America" (Bluestone, B. and Harrison, B., New York: Basic Books, 1982) and the "hollowing out of the US corporation" (Business Week, 1986). In addition Frank Levy in Dollars and Dreams (New York, Russell Sage Foundation, 1987) provided a detailed discussion of the changes in the distribution of income.

2. See Robert Lawrence, Can America Compete (Washington, DC: Brookings Institution, 1983), Congressional Budget Office, "Trends in Family Income, 1970-1986" (Washington, DC: General Accounting Office, 1987), and Michael Horigan and Steven Haugen, "The Declining middle-class thesis: A sensitivity analysis" (Monthly Labor Review, May 1988, pp. 5-13).

3. We use a broad definition of family unit to include all people living together who make joint decisions. This includes single people, husband-wife couples, and single-parent households. The Census Bureau uses a narrow definition of family to include only related people sharing living quarters. We use the term family, family unit, and household interchangeably; the official Census Bureau household definition is all people sharing living quarters independent of relational status.

4. In the future, we plan to develop new adjustment factors to better align money income and well-being.

5. Because more people are living alone or in smaller single-parent families with less sharing of living costs, this figure is slightly less than the growth of per capita GNP.

6. This figure is a low estimate because the income responses on the Census surveys have maximum limits that are obviously exceeded by this group.

7. We calculated the shares of the growth dividend using different methodological approaches, yet found the same pattern of the top fifth of the population getting the lion's share of the gain.

8. This increase in work effort does not surface when the labor supply of members of the average family is examined (see Appendix Table B). The cause of this anomaly is that the rise in the labor supply of husband-wife couples is offset by the higher number of single-person and one-parent households--both groups with low annual hours of work per family member.

9. This could also reflect entrants working less than average annual hours while other married women worked more weeks and more hours per week.

10. The annual salaries for husbands in the bottom quintile is lower than that of their wives. This surprising finding results from the definition of earnings, which includes self-employment income. Many husbands in the bottom quintile reported losses for self-employment earnings, thus lowering the effective wage of husbands in the bottom fifth.

11. This increasing return on the investment required to finish a college degree is also documented in a new study released by Kevin Murphy and Finis Welch, reported in Business Week, September 19, 1988, p. 20.

12. See CBO study on "Trends in Family Income," op. cit. and Daniel Radner, "Money Income of Aged and Non-Aged Family Units," Social Security Bulletin, August, 1987, pp. 9-20.

13. Because of our belief in multiple indices, we did not use the separate poverty lines available for the elderly and farm areas. We chose a single set of adjustment factors to be used in all cases; in future research, we intend to pursue the strategy of constructing multiple price indices.

14. A small number of families report negative total incomes due to high self-employment income losses. We chose to exclude these families from our data set to avoid reducing the income of the bottom quintile with these often "phantom losses."

15. There is a vast literature and controversy over the incidence of various types of taxes. (See Joseph Pechman, Who Pays Taxes 1967-1985 (Washington, DC: Brookings Institution, 1987.) Frank Levy in Dollars and Dreams, op. cit., attempts to estimate income distribution accounting for taxes and nonmonetary benefits.

16. We were constrained by time and resources from doing a year-by-year comparison. Our approach and results are similar to the CBO study and yearly variations were not significant in that report.