Number 24

ADJUSTED ESTIMATES OF THE SIZE
DISTRIBUTION OF FAMILY MONEY
INCOME FOR 1972

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I. Introduction

It is well-known that for most purposes income size distribution data
collected in household surveys are far from ideal. The problems with those
data can be separated into two types: the data items that are collected, and
the accuracy of the data collected. Usually, although there are important
exceptions, the income data collected are confined to cash income before taxes,
thus ignoring the effects of both taxes and noncash income of all types. Also,
the income estimates usually are for one year, which often is not the best
accounting period for analysis. Furthermore, there usually is a lack of
adequate detail by income type, and the data ordinarily are not sufficiently
detailed to adjust for changes in the composition of the family unit during the
income accounting period.

The second problem is the accuracy of the data items that are collected.
This paper is confined to a discussion of this second problem. It has been
known for a long time that estimates of the size distribution of annual family
money income obtained from household surveys ordinarily contain substantial
error (e.g., Schultz 1964, Miller 1966, Budd and Radner 1975). The error is
primarily response error; respondents do not know, remember incorrectly, or
refuse to answer at all. The error usually produces underestimates of mean
income for all units taken together, distortions in the relative distribution
(e.g., decile shares) of income, and distortions in the relative income
positions of various socioeconomic groups (Budd, Radner, and Hinrichs 1973).

These effects usually are less important when changes in the distribution over time are considered, because many of the errors can be fairly stable over time.

Because of this deficiency in survey data, there has been interest in constructing estimates of the size distribution of income by combining the strongest features of various data sources and adjusting the estimates to be consistent with independently derived control totals. The most important data source which has been used to augment and improve household survey income data is Federal individual income tax returns. Aggregate control totals constructed by the Bureau of Economic Analysis (BEA), U.S. Department of Commerce, have also played an important role.

Early adjusted estimates were constructed at the Office of Business Economics (which later became BEA) using data on an income size class basis (e.g., Goldsmith 1958). In that work, many different sources of data were combined into one estimate of the size distribution. A more recent effort used several sources of data at an individual observation level (Budd, Radner, and Hinrichs 1973; Radner and Hinrichs 1974). In that work, a sample of 1964 Federal individual income tax returns was statistically matched to the March 1965 Current Population Survey (CPS) as one step in the construction of a microdata file from which adjusted estimates could be tabulated.

The results which are presented in this paper are from another, more recent microdata file in which the income estimates have been adjusted to produce greater accuracy. This work was a cooperative effort of the Office of Research and Statistics, Social Security Administration, and BEA. The construction of this file is described briefly in Section II. Then the CPS income distribution estimates and these new adjusted estimates for 1972 are presented in Section

III. In that section emphasis is placed upon different effects for socioeconomic groups, especially age groups. A summary and conclusions are presented in Section IV.

II. The 1972 Microdata File

The starting point for the construction of the adjusted file was the 1973 Current Population Survey--Internal Revenue Service--Social Security Administration Exact Match File (EM). The EM file had been constructed in a joint project by the Social Security Administration (SSA) and the Bureau of the Census (Kilss and Scheuren 1978). The EM sample was based on the March 1973 CPS. Persons in the March 1973 CPS had their survey data exactly matched with their SSA earnings and benefit administrative records and with a few items from their 1972 Federal individual income tax returns.

Although the EM is an extremely useful file, it has three principal limitations for our purposes. First, some of the CPS income information in tne EM suffers from serious response errors. Second, the EM sample contains few high-income observations. Third, there was not enough detail by income type. In order to make the EM a more useful file for our purposes, a statistical match was carried out between the EM and the Augmentation File (AF), which contained comprehensive, detailed Federal individual income tax return information.[1][2] In a statistical match the information brought together from the different files ordinarily is not for the same person, but is for a similar person; the match is made on the basis of similar characteristics. In contrast, in an "exact" match, information for the same person from two or more files is brought together using personal identifying information (Radner 1980).

The starting point for the construction of the AF was a subsample of the 1972 Statistics of Income (SOI) sample of Federal individual income tax returns. The SOI subsample was then exactly matched with SSA records containing earnings and demographic data. The SSA information was added to the AF primarily to improve the quality of the statistical match between the EM and AF.

EM-AF Statistical Match 3/

The EM-AF statistical match consisted of three parts, each of which was a statistical match: the initial match, the rematch, and the high-income match. The initial match and rematch were basically similar matches which focused on adding more accurate income data (and tax liabilities) to the EM. The high-income match was a different type of match which focused on adding more high-income AF returns to the statistically matched file. Approximately 42,000 EM records and 95,000 AF records were used in the match.

Initial Match--Twenty-two variables were used to make the initial match. Those variables included amounts of adjusted gross income (AGI), interest, dividends in AGI, and social security taxable earnings; sex, race, age, number of tax return exemptions, and the presence of various tax return schedules. In the initial match procedure, for each EM record, a set of cell categories and acceptable ranges of AGI and age were defined. For each AF record in those cell categories and within the ranges (with some exceptions), a distance between the EM record and that AF record was computed using a distance function. The AF record with the smallest distance was chosen as the match if that distance was below a specified maximum. If no acceptable match was found in that step, then some cells were collapsed and the age range was eliminated,

and the AF record with the smallest distance was chosen. AF records were used with replacement.

Rematch--About 6,900 EM records which were considered to have an inconsistent initial match were rematched with the AF because we were not fully satisfied with the results of the initial match. The dissatisfaction was primarily with estimates of numbers of recipients and aggregate amounts for several income types in the AF. The presence of several income types was given a larger role in the rematch in order to improve these estimates. The rematching was carried out using cell categories, an AGI range, and a distance function. AF records were used with replacement. Matches from the rematch replaced matches from the initial match. Variables used to make the rematch included the presence of several tax return schedules and income types, and age, sex, and AGI.

High-Income Match--Because the EM sample is not stratified by size of income, that sample contains few high-income records, thus producing large sampling errors.for high-income groups and for aggregates of items which are concentrated in the high-income groups. The initial match and rematch did not alleviate that problem. It was decided to add more AF records at $30,000 AGI (absolute value) and above (the AF was highly stratified by size of AGI and thus contained far more high-income records that the EM did). About 1,200 EM records and 26,400 AF records were used in the high-income match. For those EM records, the matches from the high-income match replaced the matches from the initial match or rematch. The high-income match was carried out using cells and ranking of records in both files within those cells. The AF records were reweighted, sample weights of records in both files were split, and records

were duplicated. This step produced about 27,500 matched records.4/ Variables used to make the match included AGI, type of tax return, race, age, sex, number of tax return exemptions, and presence of social security taxable earnings.

Adjustment to Controls

Income amounts in the tax return data were adjusted for audit using information from the 1973 Taxpayer Compliance Measurement Program (TCMP) (Salter 1980). For amounts which were reported on the return, adjustment factors were computed from the TCMP for each income type for several cells (joint or nonjoint return, presence or absence of age and blind exemptions, short or long form) by relative size of the reported amount (in percentiles). After some smoothing, these factors were then applied to income amounts from tax returns in the EM and AF. Wages and salaries, interest, dividends, rent, royalties, nonfarm and farm self-employment income, partnership income, and estate and trust income were adjusted in this manner. For a few income types, numbers of recipients were also increased based upon TCMP data. In those cases, amounts were assigned to a specified number of nonreporters chosen randomly within cells. A large number of small amounts of interest income was assigned in this step. For income types which could be negative, in general the number of returns with a negative amount was decreased in this audit correction step.

Even after the audit correction, all income types except wages and salaries fell short of independent control aggregates. Income types which appeared on tax returns were adjusted by assuming that the after audit number of recipients was correct and inflating the after audit amounts (losses were decreased).5/ Simple inflation factors were used for some income types, while procedures

which involved adding a constant term as well as multiplying the amount by a factor were used for other income types. Interest from state and local bonds was estimated from 1972 Consumer Expenditure Survey data since it did not appear on the tax return.

Most types of transfer income were adjusted to aggregate and recipient control totals primarily (and for some types exclusively) by adding more recipients. For public assistance, additional recipients were chosen at random from units which had had nonzero amounts simulated from the CPS data.6/ The simulated amounts were used for those added units. For unemployment compensation, workmen's compensation, veterans' payments, government pensions, and private pensions and annuities, additional recipients were chosen randomly within cells and amounts of reporters in the cell were assigned to those persons. For all five of those income types, the number of small amounts was increased more than the number of larger amounts; this pattern was consistent with evidence from exact matches which suggested that small amounts usually are unreported more often than larger amounts.7/ Railroad retirement benefits were also assigned to additional recipients so that the control was met. Social security benefits were taken from the SSA benefit records which were a part of the EM.

III. Effects on the Distribution of Income

In this section we examine how estimates of the size distribution of annual family unit 3/ money income are affected by adjusting the CPS income amounts to independent controls using the methods described above. (It should be noted that the CPS estimates shown in this paper differ from corresponding published CPS estimates (U.S. Bureau of the Census 1973) because different sample weights are used here.)9/ The income concept used is total money income received in 1972, as defined in the CPS.10/ The primary data source for each type of adjusted income is shown in table 1. That table shows that, for filers of tax returns, tax return amounts replaced CPS amounts for wages and salaries, self-employment income, and property income. As noted earlier, SSA administrative amounts were used for social security benefits. CPS amounts were used as the basis for all other income types, including most transfer payments. However, the estimates were changed substantially for most of the CPS types that were used.11/ The principal adjustment steps applied to each income type are also shown in table 1.

Table 2 shows CPS income aggregates by type compared to the adjusted income aggregates. Property income increased the most, either as a percent of the CPS aggregate (135 percent) or in terms of aggregate income ($46 billion). Wages and salaries and social security and railroad retirement benefits increased by the smallest percentage (3 percent), while the increases in self-employment income and "other income" were large (24 percent and 31 percent respectively), but far below the property income increase. In terms of aggregates, wages and salaries increased $18 billion, self-employment rose $15 billion, and "other" increased $13 billion. Social security and railroad retirement increased only $1 billion.

All Units

Mean adjusted income for all family units was $12,081, which was 12 percent
higher than the CPS mean of $10,793 (table 3). Median income rose from $9,023
to $9,839, an increase of 9 percent. It was expected that the mean would
increase more than the median since one of the effects of the substitution of
IRS amounts for CPS amounts in the statistical matching steps was a relatively
large increase in the income of the upper tail, thus pulling the mean up
relative to the median. The size distribution of all units showed the expected
changes—upper middle and high income classes ($12,000 and above) showed
increases in the percent of units, while classes with lower (positive) incomes
(below $12,000) showed decreases. The percent of units with $50,000 and over
was approximately doubled.

The relative income shares are shown in table 4. These shares can be
looked at two ways. First, changes in the shares show changes in the
inequality of the distribution. For example, a decrease in the share of the
bottom decile along with an increase in the share of the top 5 percent and no
change in other groups would mean an increase in inequality.12/ Second, the
shares show how the adjustment steps affected various parts of the
distribution. For example, an increase in the share of the top 5 percent would
mean that the top 5 percent of the distribution received a larger positive
adjustment than the distribution as a whole. That is, the mean income of the
top 5 percent increased more than the mean for all units in the group. (It is
important to note that the relative shares for adjusted income shown in this
paper are based upon reranked distributions. Thus, the change in any share

reflects reranking of observations as well as adjustment of a specific set of CPS observations.)

The relative shares show one expected change, the substantial increase in the share of the top 5 percent. That share rose by 1.9 percentage points, an increase of 11 percent. This rise was primarily due to the substitution of IRS amounts for CPS amounts. An unexpected result was the stability of the shares of the bottom deciles. It was expected that the share of the bottom of the distribution would rise due to the substantial adjustments made to most types of transfer payments.13/ The bottom three deciles showed no change, deciles four through nine showed increasingly large declines, and the 91st through 95th percentile group showed a small decline. Thus, the increase at the top was confined to the top 5 percent group. These changes produced an increase in inequality.14/

The composition of total income by type of income for income size classes is shown in tables 5 (CPS) and 6 (adjusted). Wages and salaries fell as a share of total income in all classes above $1,999, with a large decrease in the $50,000 and over class. Property income showed a rise in all classes, with the share in the top class more than doubled. Those two changes clearly reflect the small overall adjustment to wages and salaries and the large overall adjustment to property income. The share of social security and railroad retirement fell slightly at the bottom, and rose a small amount elsewhere. The share of "other income" increased slightly in all classes, while the share of self-employment rose slightly at the bottom and in most classes at the top, and fell slightly in the middle.

When we look at the composition by type of specific parts of the
distribution, we see a large shift toward property income and away from wages
and salaries at the top. The bottom showed a small shift from social security
and railroad retirement to "other income ", while the middle showed a small
shift from wages and salaries which was distributed among most of the other
types.

Socioeconomic Groups

Next we turn to an examination of selected socioeconomic groups. Mean
incomes for those groups are shown in table 7, and relative income shares
appear in table 8. As a generalization, we would expect groups that rely
heavily on wage and salary income to have relatively small adjustments to mean
income, while groups that have a relatively high proportion of their income in
property income would be expected to have relatively large adjustments. It is
more difficult to generalize about expected changes in income shares. One
reason is that a given quintile (e.g., the top) can represent very different
income classes in different socioeconomic groups. High-income quantiles (e.g.,
the top 5 percent in most groups) would be expected to show increases in their
shares.

The mean for unrelated individuals increased somewhat more than the mean
for families, 17 percent compared to 11 percent. Looking at family type and
sex, female unrelated individuals showed by far the largest rise, 26 percent,
followed by other female heads (15 percent) and other male heads (14 percent).
Families headed by husband-wife couples (11 percent) and male unrelated
individuals (9 percent) showed the smallest increases. This pattern is
generally consistent with the generalizaion that the groups with the smallest

dependence on wage income show the largest increases, although the small size of the increase for male unrelated individuals is somewhat puzzling.

Families and unrelated individuals showed the same pattern of change in relative income shares (and an increase in inequality)--no change at the bottom, declines in the second through fourth quintiles and in the 81-95 percentile group, and a rise in the top 5 percent. There was a different pattern for each type of family. Families headed by husband-wife couples showed declines in quintiles one through four and in the 81-95 percentile group and a rise in the top 5 percent; again, an increase in inequality is implied. Other male heads showed the same pattern except that the bottom quintile rose slightly. Other female heads, however, showed a very different pattern--the bottom three quintiles rose, and the top two quintiles fell; the share of the top 5 percent was unchanged, and there was a decrease in inequality. Male and female unrelated individuals showed different patterns. Male unrelated individuals showed increases in the bottom two quintiles, no change in the third, a decline in the fourth, and a small increase in the top quintile. On the other hand, female unrelated individuals showed a large rise in the top 5 percent and declines in all other groups, producing an increase in inequality.

Differences in adjustment to mean income by race were quite small, with the mean for blacks increasing by 11 percent and the mean for the white or other group increasing by 12 percent. However, differences in changes in relative income shares by race were large. The white or other group showed little change at the bottom, declines in quintiles three and four and in the 81-95 percentile group, and a large increase in the top 5 percent, implying an increase in inequality. The black group showed increases in the bottom four

quintiles and a fall in the top quintile, especially in the top 5 percent, producing a decrease in inequality.

Size of family unit groups showed fairly large differences in adjustment to mean income, and a pattern existed: smaller family units had larger increases. As noted above, the mean for unrelated individuals rose by 17 percent, while the mean for two-person families rose by 15 percent, and the means for three, four, and five or more person families rose by only 10 percent. Changes in relative income shares showed some differences by size of family unit. For three, four, and five or more person families the bottom four quintiles fell and the top quintile rose, producing an increase in inequality. The change for unrelated individuals was similar, except that the bottom quintile showed no change. Two-person families showed a slight rise in the bottom quintile; otherwise the pattern was the same as for the other family size groups.

The most striking differences in adjustment to mean income were for age of head groups, where a clear pattern emerged: the older the age group, the larger the increase.15/ The oldest group, 65 and over, showed by far the largest increase in mean income, 37 percent. This increase was more than double the 16 percent increase of the 55-64 age group. The 14-24 age group showed essentially no change.16/ One way of looking at the differential change by age is to note that the mean for the 14-24 group fell from 57 percent of the overall mean in the CPS estimates to 50 percent in the adjusted estimates, while the mean for the 65 and over group rose from 59 percent to 72 percent of the overall mean.

Further investigation suggested that the lack of an increase in the mean
for the 14-24 group was primarily due to several incorrect large amounts in the
CPS data which apparently resulted from CPS processing errors.17/18/ Several of
these observations were male unrelated individuals, which helps to explain the
small increase for that group.

Also, it should be noted that the large increases for the age 65 and over
group and the female unrelated individual group are closely related since a
substantial proportion of the age 65 and over group consists of female
unrelated individuals. Because the differences by age of head are so large, we
will examine these differences in more detail later. We are particularly
interested in how the large increase for the aged group is distributed; for
example, did the low-income aged show as large an increase as the high-income
aged.

Age groups also showed different patterns in changes in relative income
shares. The 25-34, 35-44, 45-54, and 55-64 groups all showed declines in
quintiles two through four and in the 81-95 percentile group, and a rise in the
top 5 percent. The 25-34 and 45-54 groups showed increases in the bottom
quintile, while the 35-44 group showed a decrease and the 55-64 group showed no
change. The latter two groups had increases in inequality. The 14-24 and 65
and over groups showed very different results. The 14-24 group had large
increases in the bottom two quintiles, little change in quintiles three and
four, a small rise in the 81-95 percentile group, and a decline in the top 5
percent; a decrease in inequality was produced. This pattern is consistent
with the large downward adjustment of the apparently incorrect high-income CPS
records mentioned earlier. The age 65 and over group had substantial declines

in the bottom three quintiles, smaller declines in the fourth quintile and the 81-95 percentile group, and a large increase in the top 5 percent, producing a substantial increase in inequality. Thus, the adjustments produced a shift in inequality by age of head—the two oldest groups showed increases in inequality, while the youngest group showed a decrease. We also have some indication of the distribution of the large average adjustment in the age 65 and over group—the adjustment was much larger at the top of the distribution than at the bottom. We will now turn to a more detailed look at the distribution of the adjustment by age.

Table 9 contains the percentage change in decile mean income from the CPS to the adjusted amount for each age of head group. It should be noted that each age group is ranked separately so that the deciles refer to different income size classes for different age groups; also, the adjusted distribution is reranked. We focus here on the 14-24 and 65 and over groups, the groups which showed the most extreme adjustments to the mean for the age group. The adjustments for the age 14-24 group showed striking differences—the adjustment was much higher at the bottom, was about zero in the sixth through eighth deciles, and was a substantial negative in the tenth decile. A substantial part of the large increase in the bottom decile was accounted for by units which were changed from zero income to a positive amount. The large decline in the top 5 percent is primarily due to the adjustment of the several apparently incorrect CPS records and the outlier referred to earlier. The 65 and over group showed large differences by decile. The increase in the bottom decile was extremely low because of an increase in negative income. The adjustment rose with each decile, with a sharp rise at the top decile and the top 5 percent. Thus, the adjustment for the 65 and over group was very unequally

distributed, with relatively high-income units receiving a far higher adjustment than relatively low-income units.

It is useful to relate these deciles for the age 65 and over group to income size classes. For example, the bottom two deciles, which had relatively low adjustments, consisted of units with CPS income below $1,999. The third and fourth deciles, which had moderate adjustments, contained units with CPS incomes of $1,999 to $3,167, and the top decile, which had a very large adjustment, contained units with CPS incomes of $13,434 or more.

IV. Summary and Conclusions

It is well-known that estimates of the size distribution of annual family money income obtained from household surveys ordinarily contain substantial error, particularly response error. This paper has described the effects on the size distribution of family unit money income produced by adjusting CPS estimates for 1972. Those adjustments were made by combining several other data sources, primarily tax return data, with the CPS data and altering the income estimates on an individual observation basis so that the estimates were consistent with independently derived control totals.

These adjustments produced several important effects. Mean income for all units rose 12 percent. The relative share of the top 5 percent increased substantially, while the shares of the fourth through ninth deciles fell. In general, property income increased and wage and salary income decreased in relative importance. Self-employment income and transfers other than social security and railroad retirement also increased somewhat in relative importance.

When the mean incomes of socioeconomic groups are examined, several important shifts are found. The most striking differences are by age of head. Family units headed by persons age 65 or over showed a large increase in mean income (37 percent), while units headed by persons age 14-24 showed essentially no change. In general, the adjustment rose as age of head increased. Further examination of the results for the age 65 and over group showed that the adjustment was much larger for the higher income units in the age group and that the lower deciles of that age group showed only modest increases in mean income. Female unrelated individuals also showed a large increase in mean income; a substantial proportion of that group consists of persons age 65 and over. Changes in relative shares in the distributions within socioeconomic groups showed many different patterns. In general, the share of the top 5 percent increased.

Although, strictly speaking, these results apply only to the data from the March 1973 CPS, it is expected that the broad patterns of change would be obtained if most other household survey data were used. Mean income would be expected to rise. In general, socioeconomic groups which do not rely as heavily on wage and salary income and have substantial property income show the largest increases in mean income; groups that rely primarily on wage and salary income show the smallest increases in mean income. This is because wage and salary income is reported relatively well and property income is reported relatively poorly. Similar work done on March 1965 CPS data showed the same broad patterns of change (Budd, Radner, and Hinrichs 1973).

Table 1.--Principal Data Sources and Major Adjustment Steps Applied in the Construction of the Adjusted Estimates

Income Type	Principal Source of Data	Major Adjustment Steps Applied to Principal Source of Data
Wage and Salary	IRS (EM,AF) a/b/	Only minor adjustments c/
Self-employment		
Nonfarm	IRS (AF) b/	Audit correction, Additional inflating
Farm	IRS (AF) b/	Audit correction, Additional inflating
Property		
Interest	IRS (EM,AF) a/b/d/	Audit correction, Additional inflating
Dividends	IRS (EM,AF) a/b/	Audit correction, Additional inflating
Rent	IRS (AF) b/	Audit correction, Additional inflating
Royalty	IRS (AF) b/	Audit correction, Additional inflating
Estate & Trust	IRS (AF) b/	Audit correction, Additional inflating
Social Security and Railroad Retirement		
Social Security	SSA	Only minor adjustments
Railroad Retirement	CPS	Addition of recipients
Other		
Public Assistance	CPS	Addition of recipients
Other Government Transfers		
Unemployment Compensation	CPS	Addition of recipients
Workmen's Compensation	CPS	Addition of recipients
Veterans' Payments	CPS	Addition of recipients
Government Pensions	CPS	Addition of recipients
Private Pensions, Annuities, and Miscellaneous		
Private Pensions and Annuities	CPS	Addition of recipients
Miscellaneous e/	CPS	Only minor adjustments f/

a/ AF amounts were used for records used in the high-income match; EM amounts were used for other filers of tax returns.

b/ CPS amounts were used for nonfilers of tax returns.

c/ A small audit correction was applied to a small number of records.

d/ Interest from state and local bonds was estimated from other information.

e/ Miscellaneous includes alimony, contributions from outside the household, and other types.

f/ Amounts of veterans' life insurance dividends were assigned.

Table 2—Income Aggregates, 1972

(Eillions of $)

Type of Income	CPS Aggregate a/	Adjusted Aggregate b/	Adjusted ÷ CPS
Wage and Salary	607.1	625.6	1.03
Self-employment	63.2	78.2	1.24
Nonfarm	52.6	60.4	1.15
Farm	10.6	17.9	1.69
Property (Interest, Dividends, Rent, Royalty, Estate & Trust)	34.0	80.0	2.35
Social Security and Railroad Retirement	37.8	39.0	1.03
Other	41.4	54.3	1.31
Public Assistance	7.9	10.7	1.36
Other Government Transfers (Unemployment Compensation, Workmen's Compensation, Veterans' Payments, Government Pensions)	19.3	27.8	1.44
Private Pensions, Annuities, and Miscellaneous c/	14.2	15.8d/	1.12
TOTAL	783.5	877.2	1.12

a/ These aggregates differ from the published CPS aggregates because different sample weights are used here (see footnote 9).

b/ These aggregates are equal to the control aggregates except for wage and salary income and social security benefits. The adjusted wage and salary aggregate exceeded the control by $4 billion; possible explanations for this excess include inaccuracies in the statistical matching, sampling error, and inaccuracies in the control. The adjusted social security benefit aggregate was below the control by $0.7 billion; this difference is probably due to sampling error. The control aggregate for total income is $873.9 billion.

c/ Miscellaneous includes alimony, contributions from outside the household, child support, and other types.

d/ Almost all of the Miscellaneous category was not adjusted. Amounts of veterans' life insurance dividends were assigned.

Table 3— Percent Distributions of All Units

Size of Total Income($)	CPS a/	Adjusted
Negative	.2	.2
0	.9	.6
1-1,999	8.5	7.2
2,000-3,999	13.0	11.7
4,000-5,999	11.1	10.8
6,000-7,999	10.5	10.2
8,000-9,999	10.3	10.1
10,000-11,999	9.7	9.3
12,000-13,999	8.2	8.5
14,000-15,999	6.9	7.2
16,000-17,999	5.0	5.6
18,000-19,999	3.9	4.3
20,000-24,999	5.8	6.7
25,000-29,999	2.7	3.2
30,000-49,999	2.5	3.4
50,000 and over	.6	1.2
Total	100.0	100.0
Mean	$10,793	$12,081
Median	$9,023	$9,839

a/ These estimates differ from published CPS estimates
because different sample weights are used here
(see footnote 9).

Table 4--Income Shares of All Units

Percentiles	CPS a/	Adjusted
1-10	1.0	1.0
11-20	2.6	2.6
21-30	4.1	4.1
31-40	5.8	5.7
41-50	7.5	7.3
51-60	9.3	9.0
61-70	11.2	10.9
71-80	13.6	13.1
81-90	17.0	16.4
91-100	28.1	29.9
91-95	10.7	10.6
96-100	17.4	19.3
Total	100.0	100.0

a/ These estimates differ from published
CPS estimates because different sample
weights are used here (see footnote 9).

Table 5--Composition of CPS Total Income
by Income Type and Size of Total Income a/

(Percent)

Size of Total Income ($)	Wages and Salaries	Self-Employment	Property	Social Security and Railroad Retirement	Other b/	Total
1-1,999	24.0	.8	4.7	43.6	26.9	100.0
2,000-3,999	35.3	3.1	5.7	33.5	22.4	100.0
4,000-5,999	56.9	4.6	5.7	18.8	14.0	100.0
6,000-7,999	71.7	5.5	4.2	9.1	9.4	100.0
8,000-9,999	78.8	6.4	3.5	5.0	6.3	100.0
10,000-11,999	83.1	5.9	3.0	3.1	4.9	100.0
12,000-13,999	86.5	4.8	2.7	2.2	3.8	100.0
14,000-15,999	86.4	5.9	2.8	1.7	3.2	100.0
16,000-17,999	85.8	6.4	3.1	1.6	3.1	100.0
18,000-19,999	85.4	6.8	3.5	1.3	3.0	100.0
20,000-24,999	84.7	7.8	3.5	1.3	2.7	100.0
25,000-29,999	81.7	10.9	4.2	1.0	2.2	100.0
30,000-49,999	70.2	18.8	7.8	.8	2.4	100.0
50,000 and over	56.5	27.5	14.2	.4	1.4	100.0
Total c/	77.5	8.1	4.3	4.8	5.3	100.0

a/ These estimates differ from published CPS estimates because different
sample weights are used here (see footnote 9).

b/ See table 1 for a definition of Other.

c/ The Total percents include income of units with negative total income.

Table 6--Composition of Adjusted Total Income
by Income Type and Size of Total Income

(Percent)

Size of Total Income ($)	Wages and Salaries	Self-Employment	Property	Social Security and Railroad Retirement	Other a/	Total
1-1,999	24.9	1.8	4.8	39.9	28.6	100.0
2,000-3,999	34.9	4.1	6.3	28.9	25.8	100.0
4,000-5,999	54.4	5.2	7.2	16.2	17.0	100.0
6,000-7,999	66.5	5.4	7.3	9.5	11.2	100.0
8,000-9,999	74.3	5.0	6.3	6.3	8.1	100.0
10,000-11,999	80.1	4.3	5.6	3.9	6.1	100.0
12,000-13,999	82.6	4.4	5.3	2.8	5.0	100.0
14,000-15,999	83.6	4.0	5.3	2.5	4.7	100.0
16,000-17,999	83.3	4.7	5.7	2.1	4.2	100.0
18,000-19,999	81.4	6.9	5.6	1.8	4.3	100.0
20,000-24,999	79.3	8.1	7.2	1.6	3.8	100.0
25,000-29,999	75.5	10.8	8.2	1.6	3.8	100.0
30,000-49,999	62.3	19.8	13.8	1.0	3.1	100.0
50,000 and over	36.4	29.9	31.5	.6	1.6	100.0
Total b/	71.3	8.9	9.1	4.5	6.2	100.0

a/ See table 1 for a definition of Other.

b/ The Total percents include income of units with negative total income.

Table 7—Mean Incomes of Selected Socioeconomic Groups

(Dollars)

Socioeconomic Group	CPS a/	Adjusted	Adjusted ÷ CPS
All Units	10,793	12,081	1.12
Type of Unit and Sex of Head			
Families	12,697	14,125	1.11
Headed by:			
Husband-Wife Couples	13,590	15,061	1.11
Other Male Heads	11,932	13,549	1.14
Other Female Heads	7,274	8,388	1.15
Unrelated Individuals	5,110	5,983	1.17
Male	6,580	7,173	1.09
Female	4,086	5,155	1.26
Race			
White or Other	11,266	12,622	1.12
Black	7,144	7,914	1.11
Family Size			
Two	10,541	12,079	1.15
Three	12,653	13,925	1.10
Four	14,522	15,949	1.10
Five or more	14,543	15,947	1.10
Age of Head			
14-24	6,111	6,097	1.00
25-34	10,866	11,094	1.02
35-44	13,660	14,667	1.07
45-54	14,393	16,063	1.12
55-64	11,607	13,496	1.16
65 and over	6,330	8,658	1.37

a/ These estimates differ from published CPS estimates because different sample weights are used here (see footnote 9).

Table 8—Income Shares for Selected Socioeconomic Groups a/

(Percent of Total Income)

Socioeconomic Group		1-20	21-40	41-60	61-80	81-100	81-95	96-100
All Units	CPS	3.5	9.8	16.8	24.8	45.1	27.7	17.4
	Adj.	3.6	9.8	16.3	24.0	46.3	27.0	19.3
Type of Unit and Sex of Head								
Families	CPS	5.4	11.9	17.5	23.9	41.4	25.6	15.8
	Adj.	5.4	11.6	16.9	23.1	43.0	25.2	17.8
Headed by:								
Husband-Wife Couples	CPS	6.2	12.5	17.5	23.5	40.2	24.9	15.3
	Adj.	5.9	12.2	17.0	22.8	42.1	24.6	17.5
Other Male Heads	CPS	5.1	11.9	17.5	23.7	41.8	26.3	15.5
	Adj.	5.2	11.4	17.0	23.1	43.4	25.7	17.7
Other Female Heads	CPS	4.5	9.7	15.5	24.1	46.1	28.6	17.5
	Adj.	5.3	10.2	15.7	23.8	45.0	27.5	17.5
Unrelated Individuals	CPS	3.1	8.2	13.8	23.9	51.0	29.7	21.3
	Adj.	3.1	7.8	13.6	23.2	52.2	28.6	23.6
Male	CPS	3.1	8.5	14.9	24.1	49.5	27.9	21.6
	Adj.	3.3	8.6	14.9	23.6	49.6	27.6	22.0
Female	CPS	3.5	8.9	13.8	23.8	50.0	30.5	19.5
	Adj.	3.3	7.7	12.9	22.8	53.3	28.7	24.6
Race								
White or Other	CPS	3.7	10.2	17.0	24.6	44.5	27.4	17.1
	Adj.	3.7	10.1	16.4	23.8	46.0	26.7	19.3
Black	CPS	3.5	8.6	15.5	25.1	47.3	29.8	17.5
	Adj.	3.7	9.1	15.9	25.5	45.7	29.5	16.2
Family Size								
Two	CPS	4.9	10.7	16.5	24.0	43.9	26.7	17.2
	Adj.	5.0	10.6	16.2	23.1	45.1	25.8	19.3
Three	CPS	5.8	12.5	17.6	23.6	40.6	25.1	15.5
	Adj.	5.7	11.9	17.0	22.9	42.5	24.7	17.8
Four	CPS	6.5	13.2	17.8	23.3	39.2	24.1	15.1
	Adj.	6.3	12.7	17.2	22.6	41.2	24.2	17.0
Five or more	CPS	6.3	12.8	17.9	23.8	39.2	24.7	14.5
	Adj.	6.1	12.5	17.4	23.2	40.8	24.5	16.3

Table 8 (continued)

Age of Head								
14-24	CPS	2.8	9.9	17.3	25.6	44.4	28.0	16.4
	Adj.	3.4	10.5	17.4	25.6	43.1	28.4	14.7
25-34	CPS	5.9	13.4	18.7	24.4	37.6	24.4	13.2
	Adj.	6.1	13.2	18.6	24.2	37.9	24.3	13.6
35-44	CPS	5.7	12.7	17.9	23.9	39.8	24.8	15.0
	Adj.	5.6	12.4	17.6	23.3	41.1	24.4	16.7
45-54	CPS	4.6	12.0	17.8	24.2	41.4	25.6	15.8
	Adj.	4.7	11.8	17.4	23.6	42.6	25.5	17.1
55-64	CPS	3.5	10.1	16.6	24.3	45.5	27.9	17.6
	Adj.	3.5	9.9	16.2	23.6	46.7	27.1	19.6
65 and over	CPS	4.2	8.0	12.8	21.1	53.7	29.4	24.3
	Adj.	3.3	6.9	11.9	20.5	57.3	28.8	28.5

a/   The CPS estimates shown here differ from published CPS estimates because
different sample weights are used here (see footnote 9).

Table 9—Percentage Change in Decile Mean Income, CPS to Adjusted

Age of Head

Percentiles	14-24	25-34	35-44	45-54	55-64	65+
1-10	62	12	4	13	10	2
11-20	15	3	5	13	20	10
21-30	7	1	4	11	15	14
31-40	4	1	5	10	13	20
41-50	1	1	5	9	13	25
51-60	0	2	6	9	14	29
61-70	0	2	5	9	13	33
71-80	0	1	5	9	13	33
81-90	1	2	5	10	13	34
91-100	-6	4	15	18	23	51
96-100	-10	5	20	21	29	60
Total	0	2	7	12	16	37

FOOTNOTES

* The author is greatly indebted to Sharon Johnson for preparing the estimates, and to Benjamin Bridges, Louis Esposito, John Hambor, Sharon Johnson, Edward Budd, Jean Salter, and Robert Yuskavage for their helpful comments.

1/ An exact match could not be performed because the EM and AF contained only a few persons in common.

2/ A major purpose of the statistical match was the addition to the EM of amounts of income tax liabilities. Those amounts are not used in this paper.

3/ See Radner (1980) for a more detailed description of this match.

4/ See Radner (1980) for a description of this procedure.

5/ Recipient control totals were not available for those income types.

6/ See Projector and Murray (1978) for the details of the simulation method.

7/ More specifically, looking at one of those types, reported amounts were separated into three size classes. Then the percentage by which the number of recipients in each of the size classes would be increased was computed so that the number of recipient and aggregate amount controls were both met. Recipients and nonrecipients were then separated into socioeconomic cells, and the percentage increase for the size class was applied to the reported number in each size class in each cell, producing a desired number of recipients to be added in each size class in each cell. Then, in each cell, nonrecipients were chosen randomly to be assigned amounts; the amounts to be assigned to them were chosen randomly from the cell and size class.

8/ A family unit is either a family or an unrelated individual, as defined in U.S. Bureau of the Census (1973),p.12.

9/ The weights used here were adjusted for the Census undercount and to be consistent with administrative control totals in the construction of the EM file (Scheuren et al. 1981, p.42). Although the change in weights had some effect on the estimates, the general patterns of change are the same using either weight in computing the CPS estimates. In the comparisons shown in this paper, the same weights are used for the CPS and adjusted estimates (except for a few observations).

10/ Budd and Salter (1981) present estimates from this work using a slightly different definition of income.

11/ The exceptions were alimony, regular contributions from outside the household, and other miscellaneous types; CPS amounts were used almost without change for those types.

12/ In this paper we say that there has been an increase (decrease) in
     inequality if the CPS and adjusted income Lorenz curves (based upon the
     relative shares shown) do not cross and the adjusted income Lorenz curve
     lies outside (inside) the CPS Lorenz curve. See Atkinson (1970) for a
     detailed discussion of the measurement of inequality and Lorenz curves.

13/ A large increase in the share of the bottom had been found in similar work
     done on 1964 data (Budd, Radner, and Hinrichs 1973). One factor which
     explains at least part of the difference between the 1964 and 1972 results
     is that the 1964 adjusted estimates used CPS farm self-employment income
     (which had relatively little negative income), while the 1972 adjusted
     estimates used IRS farm self-employment income (which has much more
     negative income).

14/ If unrounded share data are used, the Lorenz curves intersect. The more
     detailed data show a very small decline in the bottom decile and very
     small increases in deciles two and three. Also, if the rounded quintile
     data for all units shown in table 8 are used, the Lorenz curves intersect.

15/ Estimates derived from the published CPS estimates (U.S. Bureau of the
     Census 1973, p.51) show a CPS mean for the age 14-24 group which was more
     than $300 above the CPS estimate shown here, and a mean for the age 65 and
     over group which was almost $200 below the CPS estimate shown here. Thus,
     if the published CPS estimates were used, the differences in adjustment by
     age of head would be even larger.

16/ There was actually a very small decline. The BEA work using 1964 data
     also showed larger increases for older age groups, but there was an
     increase in the youngest age group (Budd, Radner, and Hinrichs 1973).

17/ We concluded that the CPS wage and salary amounts in those records were
     much too high after comparing those amounts with the wage and salary
     amounts in their income tax returns and their SSA earnings records in the
     EM, and looking at their CPS occupation and education information.

18/ The CPS sample also included one person in that age group with a very high
     income; that outlier pulled the CPS mean up. In the high-income match,
     that outlier was matched with AF records which had somewhat lower incomes.

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