Household Saving and Portfolio Change: Evidence from the 1983-89 SCF Panel

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Abstract

There are very few sources of high-quality data on the dynamics of wealth accumulation. This paper uses newly-available data from the 1983-89 panel of the Survey of Consumer Finances to examine household saving and portfolio change over the 1980s. The 1983 SCF collected detailed information on households' assets, liabilities, income and other characteristics for a sample of 4,103 families. In 1989, 1,479 of these families were re-interviewed using a similar questionnaire. After describing the sample and methodology of the panel survey, we analyze changes in household wealth over the 1983-89 period. We also investigate changes in the structure of households' assets and debts.

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I. Introduction

This paper uses data from the 1983-1989 panel of the Survey of Consumer Finances to examine household saving and portfolio change over the 1980s. This survey provides unique information for studying these issues. There are very few sources of high-quality data on the dynamics of wealth accumulation. Some of the major household surveys provide valuable information on the savings behavior of typical households--for example, the Survey of Income and Program Participation (SIPP) and the 1984 and 1989 waves of the Panel Survey of Income Dynamics (PSID). But these surveys are not specifically intended to measure wealth, and provide little detail on changes in the composition of household portfolios over time. Some recent panel studies have begun collecting detailed data on household wealth, notably the Health and Retirement Survey (HRS) and Asset and Health Dynamics Among the Oldest Old (AHEAD). However, the samples are confined to households in particular age ranges, and thus provide only limited insights into the ways in which savings behavior may change over the life cycle. Moreover, because there is evidence that survey nonresponse is correlated with wealth (Kennickell and McManus 1994), estimates of many important wealth characteristics will be biased unless specific measures can be taken to adjust for such nonresponse.

The Survey of Consumer Finances (SCF) collects detailed information on households' assets, liabilities, income and other characteristics, and has a special sample designed specifically to support wealth estimation. The main goal of the SCF is to provide accurate cross-sectional information on families' financial situations. However, a subset of the families who were interviewed for the 1983 SCF were re-interviewed in 1989, providing an opportunity for studying the dynamics of wealth accumulation with a nationally-representative sample.

The 1983-89 period is interesting for several reasons. First, various legal changes encouraged the growth of tax-deferred savings vehicles such as Individual Retirement Accounts (IRAs) and 401(k) -type retirement accounts. While such accounts came to represent a sizable share of households' financial assets, it is unclear whether the growth represented higher saving by households, or simply a shift of savings into tax-deferred forms (Poterba, Venti and Wise 1992; Engen, Gale and Scholz 1994). Second, household debt rose substantially over the 1980s, while tax changes eliminated deductions for non-mortgage interest payments (Canner, Kennickell and Luckett 1995) . Third, real wages were virtually flat for those with high school education or less, but they rose considerably for workers with college educations (Levy and Murnane 1992) . Fourth, overall stock prices rose substantially over the period, despite a sharp decline during the stock market crash of October 1987. Finally, although median wealth increased over the 1980s, there appeared to be a substantial increase in the inequality of the distribution of household wealth (Kennickell and Woodburn 1992).

This paper is organized as follows. Section II discusses the background, sample and methodology of the 1983-89 SCF panel. Section III uses the data to describe changes in wealth and the distribution of those changes. Section IV examines the determinants of saving, estimating models of changes in net worth as a function of a set of explanatory variables. Section V analyzes changes in the composition of households' portfolios. The final section offers some conclusions and points toward future research.

II. Background, Sample and Methodology

Background. The current series of SCFs has been conducted every three years since 1983, under the sponsorship of the Federal Reserve Board with the cooperation of Statistics of Income (S01) at the Internal Revenue Service. To represent accurately the full distribution of household wealth, the 1983 SCF had a dual-frame sample design.[1] The first part consisted of a standard multi-stage area-

1. The 1983 sample is described in Avery, Elliehausen and Kennickell (1988). For a general description of the 1983 SCF, see Avery, Elliehausen and Canner (1984).

probability (AP) sample, intended to provide good coverage of assets and liabilities that are broadly distributed in the population (such as vehicles and mortgages) . The second part was a list sample drawn from a file of taxpayers maintained by SOI, using a procedure that oversampled households with relatively high incomes.[2] The list sample considerably improves the precision of estimates of assets and liabilities that are held by relatively wealthy households, such as stocks and bonds.[3] Altogether, the sample interviewed for the 1983 SCF included 4,103 households, of whom 438 came from the list sample. In addition, the information from the SOI file provided a way to make systematic nonresponse adjustments, mitigating the problem of bias due to differential nonresponse.

Panel sample. The 1989 SCF had a complex sample design intended to provide both cross-section and panel data.[4] The panel part of the survey was based on a subsample of the respondents to the 1983 SCF. If a person living at one of a subset of AP addresses was a respondent to the 1983 SCF, or was the spouse or partner of that person, an attempt was made to obtain an interview.[5] A subsample of original AP respondents who had moved was also pursued.[6] Efforts were made to secure interviews with all list sample respondents . Divorced, widowed and separated spouses of list sample

2. According to the conditions for access to the list sample, to be included in the 1983 SCF, the potential list respondents were asked to return a postcard if they were willing to be interviewed. Only about 10 percent of these cases returned postcards. Since the 1989 SCF, list sample cases have been asked to return a postcard only if they did not wish to be interviewed, and unsurprisingly, the response rate improved.

3. See Avery, Elliehausen and Kennickell (1988) and Curtin,Juster and Morgan (1989) for comparisons of the 1983 SCF with other sources of wealth data.

4. Briefly, the 1989 survey consisted of three major parts: (1) a completely new cross-section survey, with list and area-probability samples, (2) list sample respondents to the 1983 survey, who have only panel representation in the 1989 survey, and (3) a subsample of the names and addresses of area-probability cases from the 1983 SCF (see text) . There was also a small additional sample included to account for new construction. For details, see Heeringa, Connor and Woodburn (1994), and Kennickell and McManus (1994).

5. The geographic scope of the AP was limited to the "half sample" of PSUs maintained by the Survey Research Center at the University of Michigan.

6. Among the AP households, all households with heads over age 45 in 1983 were followed, but only 25 percent of younger movers were followed.

respondents were also eligible to be included in the panel. In total, 1,479 households--including 361 list sample cases--were reinterviewed in 1989.

Panel weights. Weights are a critical link between the data and their interpretation. Because some important assumptions have been made in the construction of the panel weights, we provide a brief summary here.[7]

There are four main steps in the calculation of the panel weights. First, the "FRB final merged sample weight" from the 1983 SCF (B3016) is adjusted for the systematic part of the panel sample selection.[8] Had the adjustment been made for all cases selected from the 1983 sample for the panel, the sum of the weights would be very close to the number of households with heads aged 22 and over in 1983. Since data are available only for people who completed interviews, a second adjustment attempts to account for the implicit selection process imposed by nonresponse. Weights are resealed using a set of nonresponse factors that condition on a number of important financial and demographic characteristics of respondents.[9]

At this stage, the estimates of key financial variables in the panel are different from estimates for comparable age groups in the 1983 and 1989 cross-sections to a degree that could not be explained by simple sampling error or other such sources. In particular, panel households generally look much wealthier in 1983 than the comparable age subset of the 1983 cross-section. Moreover, the difference actually widens when the 1989 wealth of the panel is compared to the 1989 cross-section, suggesting a "success bias" in the retention of households in the sample. Since one of the most

7. Kennickell and Woodburn (1996) discuss the construction of the panel weights in detail.

8. Avery, Elliehausen and Kennickell (1988) explain the construction of the 1983 weight.

9. Heeringa (1993) describes the choice of adjustment cells. In light of the other adjustments to the weights that we discuss below, it might seem desirable to try other approaches to nonresponse adjustment at this stage. Unfortunately, the complete list of cases (respondents and nonrespondents) selected for the panel was not available to us. Thus, it is not known which 1983 cases are absent from the panel because they were not sampled, and which are absent because they declined to participate.

interesting uses of this panel sample is to examine changes in wealth, such a problem raises critical questions. Because the nonresponse adjustments discussed above already condition on observable data within the sample, an appropriate recourse for dealing with the unobserved factors that drive this implicit selection is to use information outside the panel.

The 1983 and 1989 cross-sections are a natural place to turn for such data. Ignoring sampling error (and problems induced by the death of 1983 respondents), the panel and the 1983 cross-section should produce the same estimates. Although the 1989 cross-section is more independent of the panel sample, there is some overlap in terms of interviews, and all interviews in 1989 were conducted with questionnaires and procedures that were almost identical. At the third stage of adjustment, the weights are post-stratified in turn by 1983 income, 1983 homeownership, 1989 age, and 1983 and 1989 net worth.[10] The net worth adjustments are applied iteratively (raked) to ensure that the percentage of the population in different wealth groups in each year is approximately the same as that implied by the cross-sections.[11]

Editing and imputation. Survey data on wealth typically contain a fair amount of missing or incomplete information. Some survey respondents are unable or unwilling to report details of their financial situations. Sometimes respondents' answers are recorded or processed with error. Traditionally, the SCF has addressed these problems through systematic data editing and statistical imputation of missing data values. Processing of panel data involves some additional complications. There is an immense amount of information in the 1983 and 1989 surveys that might be used to edit the data, as well as some information from a brief 1986 reinterview.[12] Moreover, the panel interviews provide information that was not used in the

10. See Little (1993) for a discussion of post-stratification.
11. The weights are also slightly smoothed.
12. In 1986, some 2,822 of the households from the 1983 SCF were reinterviewed by phone, and asked to provide summary information on their assets and liabilities. Analysis of the 1986 data suggested that holdings are reported much less accurately when information is collected in summary form (Avery and Kennickell 1991).

original cross-section imputations, so the missing data could be reimputed using a broader set of conditioning variables.

To keep the processing of the data manageable, the editing and imputation of the panel data had to be limited in significant ways.[13] First, rather than use all of the detailed information in the 1983 SCF, variables summarizing holdings of the main types of assets and liabilities were used for editing and imputation. Second, questions asked in 1989 about changes in assets or liabilities between 1983 and 1989 were not used in editing or imputation, because this information was too often inconsistent with the information on current holdings (Kennickell and Starr-McCluer 1995). Finally, the data from the 1986 re-interview were used only for minor editing.

The missing values in the panel data were imputed, using the multiple imputation technique developed for the SCF (Kennickell 1991).[14] This method preserves the first and second moments of the data and allows estimation of the uncertainty of the imputations. The imputed values in the panel data may differ from imputations in the cross-section data, because a broader set of variables is used to condition the imputations.

Representativeness of the data. It is important to emphasize the nature of the population included in the panel sample. The sample design specifically excluded households with heads under the age of 22 in 1983. Because many people below this age are in college or the military, or live with their families, the independent households with heads who were in this age group in 1983 do not represent very well the set of independent households with heads aged less than 28 in 1989.[15] Also, the panel does not include individuals who immigrated

13. A detailed description of the panel processing is contained in Kennickell and McManus (1994).

14. See Rubin (1987) for an explanation of multiple imputation. The method used to impute the SCF data is based on a Gibbs sampling technique. The panel data are imputed three times.

15. The cut-off of age 22 is somewhat arbitrary, since some fraction of every age group may be temporarily in an institution or living as a secondary family member. However, the fraction declines substantially after the early 20s. A small number of under-28 households appear in the panel sample, because the sample design followed both halves of couples that separated since 1983.

to the U.S. during the 1983-89 period, unless they became a part of an existing sample family.[16]

There are other, more complex reasons that statistics computed using the panel data may differ from comparable estimates using the 1983 and 1989 cross-section data. Because the panel is smaller than either of the two cross-sections, it provides less efficient estimates of population statistics. Various other factors, such as differing imputations may explain some small part of differences. However, the most important factor may be that the panel consists of people who were systematically sampled from the respondents to the 1983 cross-section, who could be located in 1989 and who were willing to be reinterviewed. Adjustments to weights can remove the effects of systematic selection and part of the implicit selection induced by the other observable factors. But the ability to find and reinterview households may also depend on unobservable factors, such as employment or marital stability, or financial success, which may well be correlated with changes in wealth.

III. Changes in Household Wealth, 1983-89

A. Changes in the Incomes and Net Worth of Individua1 Families

Because income is an important determinant of wealth, it is useful to describe first the changes in real family income for the panel sample that occurred over the period. Table 1 shows mean and median income in 1983 and 1989 in terms of a number of family characteristics. In the panel sample as a whole, mean income rose from $33,400 in 1983 to $36,800 in 1989, while the median increased slightly from $24,900 to $25,100, largely reflecting the effects of the aging of the panel (all values are given in 1989 dollars). Similar panel aging effects occur throughout the analysis that follows.

16. Additionally, some respondents may have died between 1983 and 1989. A response code indicates cases for which this fact is known. However, this method is unlikely to identify all deceased respondents, because the interviewer may not have spoken with someone who knew that the respondent had died--a situation more likely for lower-income respondents, or those who had not lived a long time in a given community.

When families are grouped by their 1983 incomes, mean income increased for all groups except the group with income between $50,000 and $100,000, for whom mean income declined. Median income rose for the groups with incomes below $50,000, while declining for those with incomes above that level. Consistent with the tendency for labor income to rise into middle age, mean and median income rose over the period for families headed by persons below age 45. For other age groups, changes were more mixed, with median income declining for all groups with heads age 45 and over. In terms of education, mean and median income declined for families headed by a person without a high school degree, while increasing slightly for families in which the head was a high school graduate, and increasing more appreciably for families where the head had a college degree. This is consistent with evidence of rising returns to education over the 1980s (Levy and Murnane 1992). When families are grouped by their 1983 net worth, mean income increased most strongly for the bottom and top groups. However, median income rose for families in the lower two quartiles of the wealth distribution, but declined for families in other groups.

Table 2 shows how mean and median levels of net worth changed for the panel sample between 1983 and 1989. Net worth is defined as the sum of a family's financial and nonfinancial assets, minus all of its debts. Among the panel sample, mean net worth increased from $142,600 in 1983 to $187,600 in 1989, while median net worth rose from $43,300 to $56,600. The fact that the mean and median both increased by around 30 percent suggests little change in the concentration of wealth ownership over the period. We return to the issue of wealth concentration in the next section of the paper.

When grouped by 1983 income, the age or education of the head, or 1983 net worth, mean net worth rose strongly for all groups. A similar pattern also arises for the median, but with some significant exceptions. Median wealth declined for both the 55-64 and the 75-and-over age groups, as well as the top decile of the 1983 net worth distribution. Increases in net worth were particularly noteworthy for families headed by persons with college degrees. The means also increased strikingly in the bottom half of the 1983 wealth distribution.

Table 3 shows some direct measures of changes in wealth for the panel sample. The first two columns show the mean and median change in net worth between 1983 and 1989. By mathematical identity, the mean changes exactly parallel the differences in the mean levels given in table 2. On average, families' net worth rose by $45,000 over the period. The median change of $7,600 was much lower than the mean change, and also much lower than the change in the overall median ($13,300). While median changes in net worth ranged between $10,000 and $15,000 for families in the under-55 age groups, median changes were negligible for families in older age groups. Families in the top 10 percent of the 1983 wealth distribution saw a median change in net worth of -$75,300.

To provide a sense of each group's contribution to total household saving, column (4) shows each group's share of the total change in net worth in the panel sample. Despite the median decline in net worth for the top 10 percent of the 1983 wealth distribution, that group contributed nearly 25 percent of all saving by families between 1983 and 1989. The top two income groups contributed over 60 percent of total saving. Families with college-educated heads accounted for 67.0 percent of all saving, although they represented only 24.4 percent of all families. Families with heads in the 45-54 age range also accounted for a disproportionate share of saving.

Finally, it is also interesting to examine saving relative to income. To estimate saving rates, one would ideally want information on consumption spending, as well as on net worth and income over the period. However, the panel data contain no information on consumption spending. As an alternative, it is possible to approximate saving rates from information on net worth and income in 1983 and 1989, using some assumptions about interest rates and income growth. Specifically, assuming that the real interest rate is constant and equal to r, family i's 1989 wealth may be expressed as

$$W_{i,1989} = W_{i,1983}[1+r]^6 + \sum_{t=0}^{5} S_{i,1983+t}[1+r]^{6-t} \qquad [1]$$

where $W_{i,1983}$ is the family's 1983 wealth, and $S_{i,1983+t}$ is saving during year (1983+t). If the family's saving rate is constant and equal to α_i, its saving in period T would be

$$S_{i,T} = \alpha_i Y_{i,T} \quad [2]$$

where $Y_{i,T}$ is family income in year T. Assuming that $Y_{i,t}$ grew at a constant annual rate of g_i between 1983 and 1989, then income for the years between 1984 and 1988 could be estimated as

$$Y_{i,T} = Y_{i,1983}[1+g_i]^T \quad [3]$$

where $(1+g_i) = [Y_{i,1989} / Y_{i,1983}]^{1/6}$. Then α_i could be calculated as

$$\alpha_i = \frac{W_{i,1989} - W_{i,1983}(1+r)^6}{Y_{i,1983} \sum_{t=0}^{5} (1+r)^{6-t}(1+g)^t} \quad [4]$$

Table 4 presents estimates of annual saving rates based on [4], assuming a real interest rate of 2 percent.[17] Columns (1) and (2) show the mean and median savings rate for families within each group. For the panel sample as a whole, the median annual savings rate over the six-year period is 3.1 percent. Both mean and median saving rates rise strongly with income. For example, families with incomes below $10,000 in 1983 had a median savings rate of 0.1 percent, versus 16.1 percent for families with 1983 incomes above $100,000. There is a similar positive relationship between education and saving rates. At least in terms of medians, there is some evidence of life cycle saving, with families below age 55 having positive saving rates and those above that age having negative rates. In terms of 1983 wealth, median saving rates were highest for families

17. Note that unrealized capital gains and losses are not included in the income measure.

in the middle of the wealth distribution. The median rate was negative for families who had been in the top two groups in 1983.

Column (3) shows an overall saving rate for each group, using the group's total income and total wealth for the computation. The aggregate rates show qualitatively similar patterns, although the levels tend to be much higher.

B. Changes in the Distribution of Net Worth

Previous research using cross-section data has documented an increase in the concentration of wealth over the 1980s (see Kennickell and Woodburn 1992, or Wolff 1995) . Some analysts take the trend to imply that those who were wealthy at the outset of the period had become even wealthier by the end. However, this interpretation may or may not be correct: concentration could rise either because initially wealthy families tended to become wealthier, or because families who became wealthy amassed very high levels of wealth. It is not possible to distinguish between these two stories without information on the wealth changes of individual families.

Table 5 presents information from the SCF panel on changes in the distribution of net worth by selected family characteristics. According to the panel data, the net worth distribution by age and 1983 income was fairly stable between 1983 and 1989. In both years, more than a third of total net worth was held by the 2.6 percent of families with incomes above $100,000, while over 45 percent of total net worth was held by the 31.1 percent of families with heads age 55 and older. In contrast, the share of wealth held by families with college-educated heads rose over the period, from 45.7 percent in 1983 to 50.8 percent in 1989.

According to the panel data, the share of wealth held by families in the top 1 percent of the 1983 wealth distribution declined from 30.5 percent in 1983 to 25.4 percent in 1989, while the share held by families in the bottom half rose from 3.7 percent to 9.4 percent. The declining share of the top 1 percent seems largely due

to the declining values of businesses and real estate held by this group (see below). At first glance, this shift in the wealth distribution appears to be at odds with other evidence that wealth inequality rose over the 1983-89 period. Some part of the apparent discrepancy results from analyzing wealth shares in terms of families' initial wealth, rather than current wealth. In terms of current wealth, the share of 1989 wealth held by families in the top 1 percent of the wealth distribution in 1989 was 31.6 percent--slightly higher than the 30.5 percent of 1983 wealth held by families in the top 1 percent in 1983 (table 6). This suggests a need for caution in using cross-section data to draw inferences about changes in wealth of individual families.[18]

The SCF panel can be used to look directly at the shifts of individual families within the wealth distribution.[19] Table 7 presents a transition matrix, showing where families fell in the 1989 wealth distribution relative to their position in 1983. The percentiles are defined using the weighted panel data. The data suggest a fair amount of persistence in the distribution of net worth over the period. Of the families in the lowest quartile of the wealth distribution in 1983, 67.2 percent were still in the lowest quartile in 1989; another 24.6 percent had moved into the second quartile; and only 8.2 percent shifted into the top half. Of those in the top 1 percent in 1983, 59.3 percent were still there in 1989: another 24.7 percent were still in the top 2-5 percent; and only 16.0 percent had moved down below that. There was somewhat more downward mobility among families originally in the top 2 to 5 percent; of these, 29.6 percent were no longer in the top 10 percent of the wealth distribution in 1989. But generally, a family's 1983 wealth was highly correlated with its 1989 wealth, as indicated by a Spearman

18. Using the SCF cross-section data (for families in the panel age range), the share of wealth held by the top 1 percent of families rose more appreciably, from 31.6 percent in 1983 to 33.1 percent in 1989. Conceivably, the more modest increase for the panel may reflect attrition related to wealth changes not fully accounted for in the panel weights.

19. The adjustments made to the weights described above might seem to impose the changes in wealth over the period. However, only the 1983 and 1989 marginal distributions are imposed, while the sample determines transitions, conditional on the marginal distributions.

correlation coefficient of 0.90.[20]

IV. Factors Explaining Family Saving

Standard theories of saving behavior emphasize the roles of lifetime income, lifecycle factors and precautionary motives in explaining savings decisions. Prior inheritance or the desire to leave a bequest may also be involved. Some previous research examines the extent to which observed changes in wealth seem to reflect the concerns of standard theories, with fairly mixed results. For example, using data from the 1983-86 SCF and a comprehensive set of explanatory variables, Avery and Kennickell (1991) are only able to explain 7 to 8 percent of variation in saving in the 1983-86 sample. However, because wealth is likely to be measured with considerable error in the 1986 SCF, it is not clear whether this low explanatory power reflects noise in the data, or idiosyncratic factors in wealth accumulation, or some combination of the two.

The 1983-89 SCF panel provides a good opportunity to reinvestigate this question. In particular, these surveys' detailed questions on assets and liabilities, along with the careful cleaning and editing of the data, are likely to make problems with measurement error less influential than they might be in other surveys. This section presents regressions describing saving in terms of a comprehensive set of explanatory variables, intended to reflect the main concerns of standard theories of savings behavior. Detailed descriptions of the explanatory variables are given in table 8. The variables include measures of 1983 income; a measure of 1983-89 income growth; the age, education and race of the family head; 1983 wealth percentile; several variables indicating household composition and changes therein; indicators of events occurring between 1983 and 1989 that might be expected to affect wealth (a residential move, inheritance, deterioration in health, and expected or unexpected

20. The degree of income mobility was slightly greater than the degree of wealth mobility. For example, of families in the lowest quartile of the income distribution in 1983, 15 percent had shifted into the upper half of the income distribution by 1989; for wealth, the comparable share was 8.2 percent. The Spearman correlation coefficient for income was 0.86.

retirement) ; and a self-described measure of whether the family saves regularly.

For the dependent variable, we use three different measures of family saving. The first measure (CHNW) is the absolute change in the family's net worth between 1983 and 1989, expressed in 1989 dollars. The second measure (SAVRAT) is the estimated savings rate described in III.A above, expressed as a ratio. The third measure (PCHNW) is the estimated percent change in wealth. PCHNW is calculated as the ratio of the change in net worth relative to the average of 1983 and 1989 net worth. Because these variables are highly skewed, and likely contain substantial measurement error in the tails of the distribution, it is important to use regression techniques that are not overly sensitive to influential observations.[21] Thus, we use median and robust regression to estimate the effects of the explanatory variables on these measures of saving.[22]

Table 9 presents the results of the regression analysis. Regardless of the measure of saving used, saving was greater for families with higher levels of 1983 income, other things being equal. It was also positively related to income growth over the 1983-89 period. The age, education and race of the family head had few significant effects on saving, after controlling for income, initial wealth and other factors. Under some but not all measures of saving, having 1983 wealth in the bottom half of the distribution had a positive effect on saving, ceteris paribus. Having 1983 wealth in the top 10 percent was associated with significantly lower saving in all specifications .

The variables indicating household composition had few significant effects of saving. An exception is families where the head and spouse were continuously married to each other; in most specifications , such families had significantly higher saving than

21. For example, in an OLS regression with CHNW as the dependent variable, 27 observations (of 1,479) have studentized residuals greater than 2 in absolute value. Deleting these observations affects the magnitude and significance of estimated coefficients.

22. The robust technique is that of Rousseeuw-Leroy, as implemented in Stata 4.0.

other types of families, other things being equal.[23] Not surprisingly, families receiving an inheritance in the 1983-89 period had significantly higher levels of saving than others. In addition, families who reported that they saved regularly had significantly higher saving than others.[24] Interestingly. saving did not differ by race/ethnicity, once other characteristics are taken into account.

Despite the significance of many coefficients in the saving regressions, the models explain only a small part of the variation in saving in the panel sample. The pseudo-R-squareds for the median regressions range between 0.05 and 0.11. The R-squareds from comparable OLS regressions range between 0.03 and 0.05. (There is no straightforward goodness-of-fit measure for the robust regressions) . Two factors may account for the low explanatory power of the regression models. First , even if problems with the measurement error are smaller in the 1983-89 panel than in other panel data sets, the level of noise in the wealth data may still be substantial. Second, the explanatory variables included in our regressions, while comprehensive, may provide noisy measures of some of the shocks and sources of heterogeneity that affected family saving over the period. Factors likely to be measured poorly include changes in expected lifetime income, more complex changes in family composition, unexpected events like accident or illness, and so forth.

IV. Changes in Household Portfolios. 1983-89

In addition to changes in wealth, the panel data also provide information on changes in its composition over time. Data on portfolio changes are valuable for several reasons. They may shed light on the question of how actively households manage their assets and liabilities. They provide information relevant to the question of whether tax incentives for saving have the intended effect of increasing saving, or just encourage portfolio restructuring to exploit tax breaks. They may also provide a basis for exploring dynamic relationships between assets, debt and income.

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23. Smith (1995) documents a strong relationship between marriage and wealth, using the Health and Retirement Survey.

24. Kennickell (1995) finds a similar result.

Financial assets. Table 10 shows the shares of households owning financial assets in 1983 and 1989, and the mean and median values among households with holdings. Financial assets include liquid assets (checking, savings, money market and call accounts); retirement accounts (IRA and Keogh accounts, and 401(k) -type accounts permitting withdrawals or loans); securities (stocks, bonds, mutual funds, and other managed assets such as trusts); and 'other' financial assets (certificates of deposit, savings bonds, and cash value life insurance). In both years, about 90 percent of the panel households had some type of financial asset. Mean and median holdings rose substantially over the period for most of the groups shown in the table. As an exception, median financial assets declined for families in the top 10 percent of the 1983 wealth distribution.

Some important shifts in the composition of financial assets occurred over the period (table 11). For households as a whole, the share of financial assets in retirement accounts rose markedly, from 9.7 percent in 1983 to 21.6 percent in 1989. This share increased substantially for all types of households, except those where the head was 65 or older in 1983. Interestingly, the increased share in retirement accounts mostly came at the expense of securities, for which the share declined from 51.6 to 41.1 between 1983 and 1989. While it has been argued that growth in retirement accounts represented a shift of assets into tax-preferred forms, rather than new savings, the panel data suggest that much of the shift was between assets with differing degrees of tax preference, since investments in securities are also favored by the lack of a tax on unrealized capital gains.

The panel data also provide some perspective on turnover in ownership of financial assets. Table 12 divides households into those owning an asset in both 1983 and 1989, those apparently selling off their holdings between 1989 and 1989, those acquiring holdings of the asset between 1983 and 1989, and those without holdings in either year.[25] For example, in 1983, 12.2 percent of households reported

25. It is possible that some acquisitions and sell-offs measured in the data are spurious, reflecting differences in the way assets were reported in the 1983 and 1989 surveys or other measurement problems.

that they did not have liquid assets of any kind.[26] By 1989, 42.6 percent of this group (5.2/12.2) had acquired liquid assets. Conversely, 5.8 percent of households that had liquid assets in 1983 [5.1/(82.7+5.1)] no longer had liquid assets in 1989. Over 7 percent had no liquid assets in either year. These findings suggest that it is misleading to view households without assets at a given time as never having assets, since many will acquire them over time.

A second point of interest concerns ownership of securities. Previous studies suggest that the low rate of stock ownership reflects information costs associated with getting started in stock investment (King and Leape 1987, Haliassos and Bertaut 1995). The panel data show a net inflow into securities among households with heads in the age groups between 35 and 65, with the share of households acquiring securities generally exceeding the share selling off holdings. There was a net outflow from securities among households with heads in older age ranges. However, the overall gross outflow from securities was relatively large, with 41.5 percent of households that owned securities in 1983 [9.0/(9.0+12.9)] no longer having holdings in 1989. Some part of this outflow may reflect portfolio adjustments following the stock market crash of 1987.

Nonfinancial assets. Table 13 shows information on the shares of households owning nonfinancial assets in 1983 and 1989, and the mean and median values among households with holdings. Nonfinancial assets include a primary residence; business equity and investment real estate; vehicles; and other assets such as art and precious metals. The share of households owning nonfinancial assets rose from 90.6 percent in 1983 to 93.1 percent in 1989, with large increases for households whose incomes were below $10,000, or whose heads were under 35, in 1983. The share of households owning such assets declined noticeably in the group aged 75 and older.

Much of the increase in ownership of nonfinancial assets is associated with an increase in homeownership among the panel households. As shown in table 14, the homeownership rate increased

26. Note that the SCF does not collect information on holdings of cash.

from 63.1 percent to 69.1 between 1983 and 1989. As might be expected, the largest increases in homeownership occurred among households with heads under 35 in 1983. The increase was also large among households with college-educated heads, and among those with relatively low net worth in 1983. While the mean home value rose substantially over the period, from $82,100 in 1983 to $101,000 in 1989, the median value rose only modestly, from $62,300 to $65,000. The largest increase in the median occurred among households with 1983 incomes exceeding $100,000. In both years, homes accounted for around 44 percent of the total value of nonfinancial assets held by households (table 15). The share of business equity and investment real estate fell from 50 to 45 percent, reflecting a substantial decline in holdings for the wealthiest group, partially offset by increases for the rest of the population.

As shown in table 16, there are some distinct life-cycle patterns in the acquisition and sale of nonfinancial assets. The share of families becoming homeowners in the 1983-89 period was highest among families where the head was under 35 in 1983. While transitions out of homeownership were quite uncommon for families with heads between the ages of 45 and 74, almost 20 percent of older families who owned homes in 1983 no longer owned homes in 1989. Similarly, there was a net inflow into ownership of business and real estate interests among families with heads in the under-55 age groups, but a net outflow among families with heads in the older age groups. Interestingly, the wealthier a household was in 1983, the more likely it was to move out of business and investment real estate.

Debts. Table 17 provides information on the share of households having debt of any kind in 1983 and 1989, and the mean and median values among households with debts. Debts include mortgages; installment loans (loans for vehicles, consumer durables, and home improvement) ; credit card debts; and other debts (loans for investment real estate, lines of credit, and miscellaneous other debts) . Reflecting the general aging of the panel, the share of households with debts declined slightly from 75.1 percent in 1983 to 73.4 percent in 1989. Mean and median debts rose considerably over the period, with the median rising from $11,800 in 1983 to $19,800 in 1989. The

composition of household borrowing was fairly constant, with mortgages accounting for around 62 percent of total borrowing by families in both years (table 18).

As in the case of nonfinancial assets, there are some clear life-cycle patterns in debt holdings (table 19). The share of families acquiring mortgages between 1983 and 1989 was highest for the under-35 age group. In all other age groups, the share of households getting rid of mortgage debt over the period exceeded the share acquiring it. In the under-35 age group, the share of families acquiring installment loans exceeded the share getting rid of them, while the inflows largely offset the outflows for families in the 35-54 age groups. There is also evidence of a life-cycle pattern for credit card debt, with a large net inflow into credit card debt for the under-35 age group and net outflows for families in the older age groups. This suggests that, while analyses of credit card borrowing often distinguish between 'revolvers' and 'convenience users,' in fact the likelihood of having credit card debt often changes over time.

V. Summary and conclusions

This paper analyzed saving and portfolio changes using the 1983-89 panel of the SCF, and had four major findings. First, there was a modest increase in median wealth over the period, partly reflecting the aging of the panel sample. Second, while overall wealth inequality rose over the period, families in the top 1 percent of the wealth distribution in 1983 saw their share of total wealth decline between 1983 and 1989. Third, regression analysis showed significant effects of age, income and initial wealth on saving over the 1983-89 period, as standard models of saving behavior would predict. However, the analysis still left a large part of total variation in saving unexplained. This may be due to measurement error in wealth, as well as problems measuring the myriad of factors that explain saving behavior. Finally, there are some clear life-cycle patterns in the portfolios of assets and liabilities held by families, with younger families acquiring homes, businesses and all types of debts, and older families getting rid of them.

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Table 1. Mean and Median Income. 1983 and 1989

	Share of families	Thousands of 1989 dollars			
		Mean income		Median income	
		1983	1989	1983	1989
All families	100.0	33.4	36.8	24.9	25.1
By 1983 income ('89 $)					
Below $10,000	17.3	6.3	11.1	6.2	7.9
$10,000-24,999	33.5	17.1	22.8	16.8	18.8
$25,000-49,999	32.9	36.3	40.7	35.9	36.0
$50,000-99,999	13.8	66.2	57.3	62.6	55.0
$100,000+	2.6	209.5	229.6	148.9	135.0
By 1983 age of head (yrs)					
Under 35	33.1	26.0	37.2	22.5	28.0
35-44	19.7	41.9	44.8	34.9	36.9
45-54	16.2	41.7	43.7	34.5	32.0
55-65	15.8	36.4	29.5	22.2	16.0
65-74	11.6	28.8	29.2	17.1	13.0
75 and over	3.7	18.5	15.2	12.9	10.2
By education of head					
Below high school	26.8	18.7	16.1	13.7	12.0
High school diploma	48.8	30.9	34.5	25.7	27.0
College degree	24.4	54.3	64.3	40.5	44.0
By 1983 net worth					
Bottom 25 percent	25.0	16.1	20.7	12.7	18.8
25 -49 percent	25.0	24.5	28.0	21.0	25.0
50 -74 percent	25.0	33.5	35.3	31.1	30.0
75 -89 percent	15.0	41.3	40.3	38.0	33.0
Top 10 percent	10.0	86.4	97,4	49.9	47.7

Table 2. Mean and Median Net Worth. 1983-1989

	Thousands of 1989 dollsrs			
	Mean net worth		Median net worth	
	-L2&!-	1989	1983	1989
All families	142.6	187.6	43.3	56.6
By 1983 income ('89 $)				
Below $10,000	24.4	27.8	4.9	7.3
$10,000-24,999	61.4	69.6	24.3	35.9
$25,000-49,999	120.0	159.3	57.4	98.5
$50,000-99,999	203.2	298.1	111.3	163.4
$100,000+	1923.7	2524.5	933.5	1223.7
By 1983 age of head (yrs)				
Under 35	49.4	77.6	9.2	30.5
35-44	129.1	172.0	48.9	73.7
45-54	191.0	268.0	68.6	89.3
55-64	229.5	275.4	69.7	63.6
65-74	246.3	295.3	76.9	81.9
75 and over	139.6	190.0	62.4	50.9
By education of head				
Below high school	66.9	71.6	23.7	29.9
High school diploma	121.8	149.8	39.4	54.8
College degree	267,3	390.9	81.9	128.6
By 1983 net worth				
Bottom 25 percent	1.0	16.5	1.2	4.0
25-49 percent	20.2	54.1	17.7	33.0
50-74 percent	74.2	126.6	72.8	93.3
75-89 percent	168.8	224.5	164.0	176.0
Top 10 percent	932.0	1044.3	476,8	416.6

Table 3. Measures of Changes in Wealth, 1983-1989

	Change in net worth th '89		Percent change in group's total wealth	Group's share of change in total wealth	Group's share of all families
	Mean (1)	Median (2)	(3)	(4)	(5)
All households	45.0	7.6	31.6	100.0	100.0
By 1983 income					
Below $10,000	3.5	0.2	14.2	1.3	17.3
$10,000-24,999	8.2	3.1	13.3	6.1	33.5
$25,000-49,999	39.3	24.4	32.7	28.6	32.9
$50,000-99,999	94.9	33.9	46.7	29.0	13.8
$100,000+	600.9	236.1	31.2	34.9	2.6
By 1983 age of head (yrs)					
Below 35	28.2	9.8	57.1	20.7	33.1
35-44	43.0	14.0	33.3	18.8	19.7
45-54	77.0	15.5	40.3	27.7	16.2
55-64	45.9	0.2	20.0	16.1	15.8
65-74	49.0	0.0	19.9	12.6	11.6
75 and over	50.3	-0.9	36.0	4.1	3.7
By education of head					
Below high school	4.7	0.2	7.0	2.8	26.8
High school diploma	27.9	8.3	22.9	30.2	48.8
College degree	123.6	29.6	46.3	67.0	24.4
By 1983 net worth					
Bottom 25 percent	15.5	2.9	1579.2	8.6	25.0
25-49 percent	33.9	14.2	167.8	18.8	25.0
50-74 percent	52.3	17.7	70.5	29.1	25.0
75-89 percent	55.6	23.1	33.0	18.5	15.0
Top 10 percent	112.3	-75.3	12.1	25.0	10.0

Table 4. Estimated Savings Rates , 1983-1989

	Saving as a percent of income		
	Mean	Median	Aggregate
All families	2.2	3.1	12.2
By 1983 Income ('89 $):			
Below $10,000	0.4	0.1	0.8
$10,000-24,999	-5.2	1.2	0.3
$25,000-49,999	6.2	7.0	9.9
$50,000-99,999	11.9	5.9	17.1
$100,000+	7.6	16.1	25.7
By age of head (yrs) :			
Under 35	9.2	5.5	11.5
35-44	-4.2	5.4	9.7
45-54	20.3	5.1	19.4
55-64	-16.8	-1.5	7.8
65-74	-11.0	-5.2	9.8
75 and over	17.0	-5.3	29.5
By education of head:			
Below high school	-10.5	0.0	-3.3
High school diploma	3.5	3.3	6.1
College degree	13.6	10.1	24.2
By 1983 net worth:			
Bottom 25 percent	12.4	3.1	13.5
25-49 percent	15.0	7.1	18.9
50-74 percent	17.3	5.2	19.6
75-89 percent	-14.0	-4.7	13.0
Top 10 percent	-68.6	-44.1	-0.9

Note : Saving rates are estimated using the method described in Section III.A.

Table 5. Distribution of Net Worth, 1983 and 1989

	Group's share of aggregate net worth		Group's share of all families
	1983	1989	
All families	100.0	100.0	100.0
By 1983 income ('89 $):			
Below $10,000	3.0	2.6	17.3
$10,000-24,999	14.4	12.4	33.5
$25,000-49,999	27.7	27.9	32.9
$50,000-99,999	19.6	21.9	13.8
$100,000+	35.3	35.2	2.6
By age of head (yrs):			
Below 35	11.5	13.7	33.1
35-44	17.8	18.1	19.7
45-54	21.7	23.1	16.2
55-64	25.4	23.2	15.8
65-74	20.0	18.2	11.6
75 and over	3.6	3.7	3.7
By education of head:			
Below high school	12.6	10.2	26.8
High school diploma	41.7	38.9	48.8
College degree	45.7	50.8	24.4
By 1983 net worth:			
Bottom 25 percent	0.2	2.2	25.0
25-49.9 percent	3.5	7.2	25.0
50-74.9 percent	13.0	16.9	25.0
75-89.9 percent	17.8	17.9	15.0
90-94.9 percent	12.4	10.1	5.0
95-98.9 percent	22.7	20.3	4.0
Top 1 percent	30.5	25.4	1.0

Table 6. Distribution of Net Worth, by 1983 and 1989 Wealth Percentile

Net worth percentile:	Share of aggregate net worth		
	Share of 1983 net worth, based on 1983 percentile	Share of 1989 net worth, based on 1983 percentile	Share of 1989 net worth, based on 1989 percentile
Bottom 25 percent	0.2	2.2	0.3
25-49.9 percent	3.5	7.2	4.3
50-74.9 percent	13.0	16.9	12.7
75-89.9 percent	17.8	17.9	17.7
90-94.9 percent	12.4	10.1	11.4
95-98.9 percent	22.7	20.3	21.9
Top 1 percent	30.5	25.4	31.6
Total	100.0	100.0	100.0

Table 7. Transition Matrix for Net Worth, 1983 to 1989

1983 wealth percentile	1989 wealth percentile: Bottom 25	25-49	50-74	75-89	90-94	Top 2-5	Top 1	Total
Bottom 25	67.2	24.6	6.3	1.8	0.1	0.0	0.0	100.0
25-49	24.6	49.5	19.0	4.2	1.9	0.7	0.0	100.0
50-74	6.6	19.2	48.0	20.8	3.7	1.6	0.0	100.0
75-89	2.1	8.2	32.9	41,8	11.3	3.6	0.2	100.0
90-94	1.1	7.1	21.2	30.1	22.5	17.7	0.4	100.0
Top 2-5	0.0	2.8	16.4	10.4	18.0	43.0	9.4	100.0
Top 1 percent	0.0	3.1	2.4	6.1	4.5	24.7	59.3	100.0
Total	25.0	25.0	25.0	15.0	5.0	4.0	1.0	100.0

Note : Wealth percentiles are calculated using the weighted panel data.

Table 8. Definitions of Variables Used in Regression Analysis

		Means (unweighted)
Dependent variables		
CHNW	Change in net worth. 1983-1989, in 1989 dollars	609467.40
SAVRAT	Defined as in text	0.21
PCHNW	Change in net worth, 1983-1989, divided by average net worth 1983 & 1989	.05
Explanatory variables		
INCB10	Dummy variable for 1983 income below $10K	.09
INC1025	$10-24.9K	.24
INC2550	$25-49.9K (omitted)	.25
INC50100	$50-99.9K	.14
INCA100	$100K and above	.28
PCHINC	Change in income, 1983-1989, divided by average income 1983 and 1989	-.08
AGEB35	Dummy variable for head under age 35 in 1983	.15
AGE3544	35-44	.19
AGE45-54	45-54 (omitted)	.23
AGE5564	55-64	.23
AGE6574	65-74	.15
AGE75A	75 and over	.05
EDUC	Education of head (in years)	13.20
NONWHITE	Dummy variable for head nonwhite or Hispanic	.16
NWB25	Dummy variable for 1983 net worth in bottom 25% of weighted distribution	.13
NW2549	25-49%	.18
NW5074	50-74% (omitted)	.22
NW7589	75-89%	.14
NW9010C	Top 10%	.32
ALLMAR	Dummy variable for head married to the same person, 1983-1989	.58
GOTWID	Widowed, 1983-89	.03
GOTMAR	Got married, 1983-89	.04
CHMAR	Other change in marital status, 1983-89	.05
UNMAR	Unmarried, 1983-89 (omitted)	.30
KIDS83	Number of children of head and spouse living in the household, 1983	.92
CHKIDS	Change in number of children living in the household, 1583-89	-.18
IAS83	Number of adults in the household beside head, spouse and children	.10
CHIAS	Change in number of adults, 1983-89	-.02
MOVED	Dummy variable, moved between 1983 and 1989	.16
INHERIT	Dummy variable for an inheritance or trust received between 1983 and 1989	.14
HEALDO	Dummy variable, head's health was good/excellent in 1983, fair/poor in 1989	.11
RETEXP	Dummy variable, head retired between 1983 and 1989, expected to in 1983	.10
RETUNEXP	Dummy variable, head retired between 1983 and 1989, did not expect to in 1983	.03
SAVREG	Dummy variable, save regularly by putting money aside each month (1989)	.30
MAJMET	Dummy variable, family lives in major metropolitan area	.51
NONMET	Dummy variable, family lives in nonmetropolitan area	.23
LIST	Dummy variable, case was in list sample in 1983	.24

Table 9. Regression Analysis of Saving Measures

	CHNW				SAVRAT				PCHNW			
	Median		Robust		Median		Robust		Median		Robust	
INC<10K	-53436*	(11040)	-45990′	(12651)	-.231′	.063	-.254*	.057	-.596′	.099)	-.325*	(.094
INC1025	-33048′	(6902)	-30518″	(7900)	-.141*	.040	-.125*	.035	-.264′	.062)	-.234*	(.058
INC5010O	42616*	(7713)	33757′	(8830)	.090′	.045	.089′	.039	.242*	.069)	.205′	(.065
INC>10O	420512*	(11698)	166182*	(13338)	.535′	,068	.470′	.059	.621′	.103)	.553*	(.099
PCHINC	56462′	(4121)	39186*	(4685)	.229*	.024	.224*	.021	.374′	.037)	.357*	(.035
AGE<35	-26657*	(8449)	-18239+	(9635)	-.089+	.049	-.062	.043	-.074	.075)	-.090	(.071
AGE3544	-28776*	(7312)	-21623′	(8367)	-.064	.042	-.057	.037	-.091	.066)	-.010	(.062
AGE5564	3915	(7132)	-8445	(8110)	.047	.041	.041	.036	-.002	.063)	-.007	(.060
AGE6574	8317	(8084)	1693	(9224)	.032	.047	-.052	.041	-.042	.073)	-.008	(.068
AGE>75	9003	(11318)	-2653	(12912)	.070	.065	-.027	.058	.007	.101)	-.025	(.096
EDUC	-454	(940)	344	(1073)	.000	.005	-.002	.005	.010	.008)	.013	(.008
NONWHITE	-158	(6454)	-6518	(7387)	.002	.037	-.009	.033	-.039	.058)	.019	(.055
NW<25	11261	(9169)	9916	(10568)	.167*	.053	.175′	.047	1.179′	.083)	1.324*	(.078
NW2549	13184+	(7480)	7519	(8581)	.094′	.043	.104*	.038	.398*	.068)	.322*	(.064
NW7589	-8515	(7852)	-14490	(8999)	-.098*	.046	-.109*	.040	-.210*	.070)	-.188*	(.067
NW9010O	-109336′	(8874)	-150133′	(10099)	-.525*	.051	-.429*	.045	-.655*	.079)	-.638*	(.075
ALLMAR	7340	(5948)	12329+	(6794)	.088′	.034	.077′	.030	.150*	.053)	.174′	(.050
GOTWI D	2684	(12538)	3640	(14708)	-.066	.074	-.017	.066	-.010	.116)	.012	(.109
GOTMAR	9520	(12047)	12807	(13823)	055	.070	.041	.062	.164	.108)	.221*	(.102
CHMAR	-10848	(10847)	-14459	(12422)	-:009	.063	-.051	.056	-.158	.098)	-.036	(.092
KIDS83	778	(2671)	-2073	(3043)	-.008	.015	-.012	,014	.007	.024)	.002	(.022
CHKIDS	-1255	(3685)	4282	(4208)	-.012	.021	.008	.019	.006	.033)	.022	(.031
IAS83	6516	(7057)	-3632	(8456)	.043	.043	.014	.038	.086	.066)	.041	(.063
CHIAS	8379	(8430)	-1480	(10053)	.037	.051	.002	.045	.019	.079)	-.062	(.074
MOVED	7944	(6263)	-6079	(7155)	.007	036	-.020	.032	.024	.056)	.034	(.053
INHERIT	36435*	(6440)	18432′	(7344)	.114	,037	117*	.033	.182*	.058)	.156*	(.054
HEALDO	-2374	(7250)	-4150	(8319)	-.033	,042	-:048	.037	.040	.065)	.010	(.062
RETEXP	-282	(7874)	18096″	(9030)	.036	,046	.031	.040	.079	.071)	.122+	(.067
RETUNEXP	-2196	(12749)	-14616	(14554)	.134+	.074	.038	.065	.076	.114)	.009	(.107
SAVREG	11534′	(5012)	17405*	(5715)	.066*	.029	.081*	026	185*	.045)	.166*	(.042
MAJMET	16424*	(5713)	1/832″	(6546)	.063+	.033	068′	.029	.099+	.051)	.117*	(.048
NONMET	-269	(6602)	-7946	(7544)	-.022	.038	-:044	.034	-.111+	.059)	-.032	(.056
LIST	654839*	(10298)	658435*	(11676)	.167*	.059	.105*	.052	-.037	.091)	.006	(.086
Constant	33999*	(15562)	37944*	(17760)	.013	.090	.083	.079	.093	.139)	-.018	(.132
Pseudo R^2	.0541				.0607				.1106			
F(33,1445)			47.27				15.64				24.10	
Prob > F			0.00				0.00				0.00	

● Significant at 5 percent level.
+Significant at 10 percent level.

Note: Standard errors in parentheses. See previous table for variable definitions

Table 10. Family holdings of financial assets, 1983-1989

	Share of families owning fin, assets		Value of holdings among families with finanial assets			
			Mean		Median	
	1983	1989	1983	1989	1983	J9a_9-
All families	90.5	90.8	48.3	67.6	6.3	11.2
By 1983 income ('89 $)						
Below $10,000	70.3	73.4	4.1	10.5	1.4	1.5
$10,000-24,999	87.7	89.6	17.7	18.6	4.2	6.7
$25,000-49,999	99.1	97.2	30.6	43.6	6.0	16.4
$50,000-99,999	100.0	98.1	67.6	101.6	28.0	54.4
$100,000+	100.0	100.0	715.6	1022.7	217.8	396.6
By 1983 age of head (years)						
Under 35	89.8	89.9	12.5	20,9	2.4	5.0
35-44	92.2	89.9	32.1	44.7	6.3	13.4
45-54	93.4	93.7	48.9	82.3	8.1	19.0
55-64	87.7	90.1	88.3	117.3	13.1	16.4
65-74	90.4	92.2	116.5	143,7	20.9	21.0
75 and over	86.5	88.7	74.3	83.1	23.7	26.8
By education of head						
Below high school	77.8	79.9	20.4	20,1	3.1	3.0
High school diploma	93.3	92.3	33.2	47.1	5.4	10.4
College degree	98.7	99.7	100.9	147.4	14.1	33.7
By 1983 net worth						
Bottom 25 percent	72.1	77.2	2.3	6.8	1.0	1.7
25-49 percent	91.9	88.3	6.0	16.4	3.2	7.0
50-74 percent	98.6	98.4	16.9	35.7	10.7	16.2
75-89 percent	99.2	99.1	51.1	75.2	35.3	50.8
Top 10 percent	99.2	99.4	302.8	366.1	97.7	77.4

Note : See text for definition of financial assets.

Table 11. Distribution of financial assets of all families, by type of asset, 1983 and 1989

	Share of each group's total financial assets							
	Liquid assets		Retirement accts		Securities		Other financial	
	1983	dA?.9-	1983	1989	1983	1989	_LM3-	_H8.s!-
All families	18.1	18.6	9.7	21.6	51.6	41.1	20.6	18,7
By 1983 inc. ('89 $)								
Below $10,000	44.1	36.0	0.2	3.3	11.3	23.2	44.4	37.5
$10,000-24,999	28.8	29.2	2.8	12.2	21.1	11.3	47.3	47.3
$25,000-49,999	24.8	22.3	11.8	29.8	37.7	21.1	25.8	26.8
$50,000-99,999	20.5	18.7	12.3	29.8	41.7	33.0	25.6	18.5
$100,000+	9.7	13.5	9.5	16.0	73.6	62.8	7.2	7.7
By age of head (yrs)								
Under 35	24.4	24.3	13.5	38.9	27.1	13.1	35.0	23.7
35-44	23.4	19.8	12.8	36.0	46.0	19.5	17.8	24.7
45-54	16.9	14.9	12.3	30.5	56.1	37.3	14.6	17.3
55-64	16.6	17.0	9.6	17.8	54.4	50.4	19.5	14.8
65-74	14.5	19.1	7.5	7.9	56.2	55.1	21.8	17.9
75 and over	25.1	25.2	0.2	0.1	52.3	50.3	22.5	24.4
By education of head								
Below high school	27.4	22.8	4.8	13.2	33.1	20.7	34.7	43.3
High school dipl.	18.7	21.0	8.4	20.6	43.0	33.4	29.9	25.0
College degree	16.1	16.6	11.4	23.3	60.3	48.1	12.2	12.0
By 1983 net worth								
Bottom 25 percent	35.0	35.4	3.4	25.5	36.0	7.9	25.5	31.2
25-49 percent	44.4	21.8	11.3	38.7	13.3	7.5	31.0	31.9
50-74 percent	33.8	23.6	12.6	33.0	10.4	14.4	43.2	29.0
75-89 percent	30.8	21.8	10.4	25.9	19.3	22.4	39.6	29.9
Top 10 percent	11.3	15.4	9.2	15.8	67.5	57.9	12.1	11.0

Table 12. Turnover of financial assets, 1983 and 1989

Owned in 1983 / Owned in 1989	Liquid assets				Retirement accounts				Securities				Other financial			
	Yes / Yes	Yes / No	No / Yes	No / No	Yes / Yes	Yes / No	No / Yes	No / No	Yes / Yes	Yes / No	No / Yes	No / No	Yes / Yes	Yes / No	No / Yes	No / No
All families	82.7	5.1	5.2	7.0	18.2	4.0	17.9	59.9	12.9	9.0	9.9	68.2	40.8	12.8	16.0	30.4
By income																
Below $10K	50.5	12.6	13.6	23.4	0.0	0.7	2.5	96.8	1.5	0.9	4.6	93.0	13.3	16.4	11.3	59.1
$10-24.9K	80.1	4.3	6.9	8.8	4.3	3.6	18.6	73.5	7.2	7.2	5.6	80.0	36.7	13.3	17.2	32.8
$25-49.9K	94.4	3.7	1.8	0.2	22.5	5.7	25.4	46.4	14.9	12.8	12.5	59.8	47.6	10.3	19.8	22.2
$50-99.9K	98.1	1.9	0.0	0.0	54.3	4.7	18.9	22.1	25.9	13.4	21.1	39.5	64.3	13.1	10.4	12.2
Over $100K	99.9	0.0	0.1	0.0	71.7	3.3	12.1	12.9	65.4	14.3	9.6	10.7	65.8	10.9	13.5	9.8
By head's age																
Under 35	80.8	4.4	5.9	8.9	12.1	4.8	24.5	58.6	6.6	8.2	7.7	77.6	34.3	9.3	17.9	38.5
35-44	83.2	8.6	3.8	4.4	25.8	2.1	24.8	47.3	13,8	11.3	14.4	60.5	45.4	15.1	16.1	23.4
45-54	86.1	5.1	2.6	6.2	27.0	5.3	18.3	49.4	14.8	9.3	14.6	61.3	41.8	10.4	21.2	26.5
55-64	82.1	4.1	6.1	7.7	22.2	5.2	10.6	62.1	15.9	7.3	8.9	67.8	40.3	16.0	15.7	28.0
65-74	82.4	3.5	8.6	5.5	10.8	2.5	1.8	84.9	21.4	8.8	6.2	63.7	50.6	15.2	7.1	27.1
75 and over	85.5	1.1	3.2	10.3	0.0	0.2	2.0	97.8	16.0	9.9	2.0	72.0	41.7	20.2	5.0	33.0
By head's educ																
Below HS	64.3	9.6	9.2	16.9	5.4	2.0	6.0	86.6	3.7	3.4	5.9	87.0	26.6	13.2	14.5	45.8
HS diploma	86.5	4.9	3.5	5.1	16.7	5.2	19.3	58.8	11.4	9.6	9.0	70.0	41.1	12.9	16.6	29.4
College degree	95.3	0.3	4.3	0.0	35.4	3.7	28.2	32.7	25.8	14.0	16.1	44.0	55.8	12.0	16.5	15.6
By '83 net worth																
Bottom 25%	56.4	8.5	14.2	20.9	2.4	3.4	16.3	78.0	0.5	3.6	4.1	91.7	11.4	13.3	15.6	59.7
25-49%	82.7	7.4	3.5	6.3	8.5	3.7	21.4	66.4	5.8	9.0	6.0	79.3	36.0	10.5	18.5	35.0
50-74%	95.8	1.0	2.2	1.0	23.1	4.5	19.2	53.3	11.7	9.8	14.5	64.0	57.4	14.8	15.7	12.0
75-89%	94.1	5.0	1.0	0.0	36.6	5.0	15.1	43.4	26.1	11.0	19.9	43.0	55.3	13.7	16.5	14.5
Top 10%	98.3	0.6	1.1	0.0	42.2	3.5	14.4	40.0	44.3	17.4	8.0	30.3	62.8	10.8	10.7	15.7

Note: See text for definitions.

Table 13. Family holdings of nonfinancial assets, 1983 and 1989

	Share of families owning nonfin. assets		Value of holdings among families with nonfinancial assets			
			Mean		Median	
	1983	1989	1983	1989	1983	1989
All families	90.6	93.1	131.5	166.1	57.9	67.3
By 1983 income ('89 $)						
Below $10,000	65.1	74.3	37,4	34.0	14.4	20.0
$10,000-24,999	90.5	93.8	61.1	74.1	37.6	49.8
$25,000-49,999	99.5	98.9	114.0	150.8	67.1	91.8
$50,000-99,999	99.7	99.7	175.2	251.6	115.6	144.5
$100,000+	99.9	100.0	1340.2	1659.1	509.6	674.0
By 1983 age of head (years)						
Under 35	88.9	98.4	63.9	98.3	14.9	52.4
35-44	91.8	94.3	142.1	179.8	76.3	78.8
45-54	92.4	92.6	185.5	239.2	84.5	91.5
55-64	92.5	90.5	181.7	205.2	66.3	64.6
65-74	91$0	87.1	165.1	194.9	63.1	62.8
75 and over	81.7	71.6	97.6	167.8	56.5	57.6
By education of head						
Below high school	85.8	84.7	67.6	75.0	37.2	38.6
High school diploma	91.1	94.9	122.1	138.3	56.7	64.1
College degree	94.8	98.9	213.1	305.2	93.8	123.7
By 1983 net worth						
Bottom 25 percent	65.7	79.0	6.2	32.4	3.1	11.2
25-49 percent	97.8	95.7	31.4	68.6	25.7	46.3
50-74 percent	98.9	97.9	79.3	120.1	73.2	87.9
75-89 percent	100.0	99.6	142.4	183.7	141.5	123.7
Top 10 percent	100.0	100.0	693.1	748.2	382.3	283.8

Note : See text for items included in nonfinancial assets,

Table 14. Ownership of primary residence, 1983 and 1989

	Share of families owning their home		Value of primary residence among families owning their home [1]			
			Mean		Median	
	1983	1989	1983	1989	1983	1989
All families	63.1	69.2	82.1	101.0	62.3	65.0
By 1983 income ('89 $)						
Below $10,000	37.8	41.4	40.9	40.2	24.9	30.0
$10,000-24,999	55.6	65.0	58.0	66.8	49.8	53.2
$25,000-49,999	71.7	79.6	75.6	97.1	62.3	70.0
$50,000-99,999	86.7	84.0	108.0	144.7	93.4	105.0
$100,000+	96.2	95.8	305.4	408.8	230.3	300.0
By age of head (years)						
Under 35	39.4	63.2	64.2	87.9	62.3	65.0
35-44	69.2	66.4	93.4	111.6	77.8	70.0
45-54	79.5	77.4	91.2	113.3	68.5	70.0
55-64	76.4	75.4	88.8	101.4	62.3	60.0
65-74	77.9	73.8	74,6	100.3	56.0	60.0
75 and over	68.7	60.1	62.3	91.9	49.8	50.0
By education of head						
Below high school	61.6	60.3	54.2	62.1	43.6	44.3
High school diploma	65.6	69.6	76.8	84.8	62.3	60.0
College degree	59.9	77.9	12.5.3	163.0	93.4	100.0
By 1983 net worth						
Bottom 25 percent	6.5	29.0	22.0	56.9	18.7	50.0
25-49 percent	63.0	70.5	36.1	63.0	33.6	45.0
50-74 percent	89.8	86.9	68.4	88.4	62.3	70.0
75-89 percent	91.5	89.7	97.6	112.9	87.2	80.0
Top 10 percent	95.5	90.9	178.3	221.8	124.5	150.0

Table 15. Distribution of total nonfinancial assets, by type of asset, 1983 and 1989

	Share of each group's total nonfinancial assets							
	Primary residence		Business interests and investment real estate		Vehicles		Other nonfinancial	
	1983	1989	1983	1989	1983	1989	1983	1989
All families	43.5	45.1	50.4	45.3	4.8	5.5	1.3	4.0
By 1983 inc. ('89 $)								
Below $10,000	63.4	65.8	28.3	17.5	8.2	11.2	0.0	5.5
$10,000-24,999	58.3	62.5	34.3	26.9	6.9	8.4	0.5	2.2
$25,000-49,999	47.8	51.8	45.0	38.3	6.1	6.7	1.1	3.2
$50,000-99,999	53.6	48.4	38.4	40.6	5.9	6.0	2.2	4.9
$100,000+	21.9	23.6	75.4	69.6	1.1	1.7	1.5	5.1
By age of head (yrs)								
Below 35	44.5	57.4	45.3	30.3	8.3	8.9	1.9	3.4
35-44	49.5	43.7	43.7	45.0	5.7	6.5	1.1	4.7
45-54	42.3	39.6	51.8	52.4	4.3	4.7	1.7	3.3
55-64	40.4	41.2	55.0	50.5	3.3	3.8	1.3	4.6
65-74	38.7	43.6	57.7	48.8	3.0	3.1	0.6	4.4
75 and over	53.7	46.0	42.4	48.8	3.3	1.8	0.6	3.4
By educ. of head								
Below HS	57.5	59.0	35.0	32.3	7.2	7.1	0.4	1.6
HS diploma	45.3	45.0	48.5	43.7	5.3	7.2	0.9	4.1
College degree	37.2	42.1	57.3	49.7	3.5	3.7	2.0	4.5
By 1983 net worth								
Bottom 25%	35.6	64.4	2.2	15.2	61.9	16.4	0.3	4.1
25 -49%	74.2	67.5	8.5	19.4	16.1	9.9	1.2	3.1
50-74%	78.3	65.4	12.3	23.2	7.9	8.3	1.5	3.1
75-89%	62.7	55.3	30.2	35.4	5.5	6.2	1.6	3.1
Top 10%	24.6	26.9	72.6	65.9	1.6	2.3	1.2	4.9

Table 16. Turnover in nonfinancial assets, 1983 and 1989

Owned in 1983 / Owned in 1989	Primary residence				Business interests and investment real estate				Vehicles				Other assets			
	Yes / Yes	Yes / No	No / Yes	No / No	Yes / Yes	Yes / No	No / Yes	No / No	Yes / Yes	Yes / No	No / Yes	No / No	Yes / Yes	Yes / No	No / Yes	No / No
All families	56.0	7.2	13.2	23.7	19.5	8.5	12.2	59.8	81.0	5.1	5.9	8.0	5.6	4.7	16.7	73.0
By 1983 income																
Below $10K	26.6	11.2	14.9	47.4	3.4	7.6	2.6	86.3	41.6	11.3	15.5	31.6	0.0	0.4	14.5	85.1
$10-24.9K	49.5	6.1	15.5	28.9	13.9	7.3	11.1	67.8	80.6	6.0	6.6	6.7	4.2	3.7	14.3	77.9
$25-49.9K	66.4	5.2	13.2	15.1	25.8	7.5	15.4	51.2	94.6	2.2	2.9	0.4	7.1	5.1	17.4	70.5
$50.0-99.9K	76.7	10.0	7.3	6.1	27.5	14.4	20.8	37.3	96.7	1.9	0.5	0.9	11.2	10.6	19.1	59.0
$100K +	92.2	3.9	3.6	0.2	76.2	9.7	4.1	10.0	93.0	4.0	2.2	0.8	14.6	8.3	39.5	37.7
By age of head																
Under 35	34.6	4.9	28.6	32.0	14.0	6.0	14.4	65.5	83.9	1.5	13.0	1.6	7.8	6.2	17.2	68.8
35-44	55.8	13.4	10.6	20.2	18.9	6.1	17.0	58.0	87.9	2.7	2.5	6.9	5.2	5.9	17.5	71.4
4 5 - 5 4	72.1	7.4	5.3	15.3	23.7	9.7	14.7	52.0	87.8	1.7	2.4	8.2	6.2	3.5	17.4	72.8
55-64	71.6	4.9	3.8	19.7	27.3	12.5	6.4	53.8	77.2	8.7	2.6	11.6	4.7	4.0	17.7	73.6
65-74	73.8	4.2	0.0	22.0	22.8	11.5	4.1	61.6	68.1	12.5	2.7	16.7	2.7	1.5	15.0	80.8
75 +	55.9	12.8	4.2	27.1	10.2	11.2	5.6	72.9	46.0	25.8	1.1	27.0	0.1	1.7	4.7	93.6
By educ. of head																
Below HS	54.2	7.4	6.1	32.3	11.2	5.2	7.9	75.7	66.8	12.2	3.5	17.5	1.6	1.5	12.3	84.5
HS diploma	57.3	8.3	12.4	22.0	19.0	9.9	13.8	57.3	85.4	2.0	6.8	5.8	4.7	4.1	19.9	71.3
College degree	55.4	4.5	22.5	17.5	29.6	9.3	13.7	47.4	88.0	3.2	7.1	1.8	11.9	9.2	15.1	63.8
By 1983 net worth																
Bottom 25%	4.2	2.3	24.8	68.7	0.3	1.1	10.2	88.4	59.6	3.8	15.6	21.0	1.0	1.3	11.7	86.1
25-49%	50.6	12.4	19.9	17.1	8.1	5.9	14.6	71.4	83.1	7.1	3.7	6.0	5.2	4.4	15.9	74.5
50-7-4%	83.7	6.1	3.2	7.0	20.0	7.6	17.5	54.9	87.3	6.0	2.8	4.0	6.7	7.2	14.0	72.1
75-89%	84.1	7.4	5.7	2.8	36.8	19.6	8.8	34.8	93.4	4.1	1.2	1.3	8.2	6.0	21.5	64.3
Top 10%	87.2	8.2	3.7	0.9	68.7	18.8	3.0	5.5	95.1	2.1	2.4	0.4	11.8	5.5	30.5	52.3

Note: See text for definitions,

Table 17. Family debt holdings, 1983 and 1989

	Share of families with debt		Total value of debts among families with debt			
			Mean		Median	
	-.DE!-	1989	1983	1989	1983	1989
All families	75.1	73.4	26.9	38.7	11.8	19.8
By 1983 "income (' 89 $)						
Below $10,000	50.1	51.3	5.7	10.1	1.9	2.5
$10,000-24,999	68.3	70.4	13.8	23.5	3.3	11.9
$25,000-49,999	87.8	82.7	26.9	39.1	15.9	25.0
$50,000-99,999	91.1	86.5	42.9	60.6	36.2	40.9
$100,000+	85.8	72.4	153.0	217.0	93.2	97.5
By age of head (years)						
Under 35	85.0	90.3	21.9	42.0	8.3	25.8
35-44	87.3	85.8	35.5	43.9	21.6	23.9
45-54	84.5	80.0	30.9	38.4	17.2	19.0
55-64	66.0	55.3	24.0	28.9	8.7	6.5
65-74	41.3	37.0	22.3	18.9	4.4	3.8
75 and over	25.6	19.6	17.0	19.9	1.2	0.5
By education of head						
Below high school	59.9	56.1	11.7	14.2	3.9	4.6
High school diploma	80.3	76.5	25.4	32.6	13.4	22.2
College degree	81.6	86.4	42.2	67.0	23.6	36.1
By 1983 net worth						
Bottom 25 percent	69.3	71.3	6.8	20.2	1.8	5.5
25-49 percent	78.9	79.4	20.4	32.9	11.4	22.9
50-74 percent	74.8	75.3	28.0	34.8	21.2	23.6
75-89 percent	76.0	66.8	32.0	49.5	21.4	26.8
Top 10 percent	80.0	69.0	76.9	97.9	36.8	45.0

Table 18. Distribution of debt, by type of debt, 1983 and 1989

Share of each group's total debt

	Mortgage		Installment		Credit card		Other debt	
	1983	1989	-D.u-	1989	1983	1989	1983	1989
All families	61.8	62.1	**11.0**	13.8	2.1	2.5	25.1	21.7
By '83 inc ('89 $)								
Below $10,000	63.6	54.6	19.8	41.2	1.6	3.4	15.0	0.8
$10,000-24,999	68.0	69.1	11.3	20.0	3.1	2.7	17.6	8.2
$25,000-49,999	67.3	69.9	12.4	13.6	2.6	3.2	17.6	13,4
$50,000-99,999	64.9	62.5	12.1	11.0	2.0	2.3	21.0	24.2
$100,000+	38.5	33.1	4.6	5.1	0.3	0.5	56.6	61.3
By age of head (yrs)								
Under 35	68.4	75.4	12.7	13.5	2.4	2.4	16.5	8+8
35-44	65.8	51.5	10.9	15.0	1.6	2.2	21.7	31.3
45-54	64.1	60.8	11.2	13.3	2.6	2.9	22.1	23.0
55-64	43.4	41.7	9.6	13.2	2.4	3.6	44.6	41.5
65-74	42.6	34.8	4.7	12.6	1.3	1.1	51.4	51.5
75 and over	11.1		7.2	10.5	0.6	1.8	81.1	87.7
By educ ation of head								
Below HS	64.7	56.9	17.6	32.3	3.3	5.5	14.4	5.4
HS degree	63.3	61.8	12.6	17.0	2.4	2.4	21.6	18.8
College degree	59.4	63.1	7.6	8.2	1.5	2.1	31.5	26.6
By '83 net worth								
Bottom 25%	26.3	66.6	37.7	26.3	7.3	3.8	28.7	3.2
25 -49%	72.5	71.8	14.3	15.5	3.0	3.3	10.3	9.5
50-74%	80.2	71.7	10.2	15.0	2.2	2.9	7.4	10.4
75-89%	71.2	62.4	9.0	10.7	2.1	2.5	17.8	24.4
90-100%	40.5	40.7	5.6	6.6	0.5	0.6	53.3	52.1

Table 19. Turnover in debt, 1983 and 1989

Owned in 1983 / Owned in 1989	share of families															
	Mortgage				Installment				Credit Card				Other debt			
	Yes / Yes	Yes / No	No / Yes	No / No	Yes / Yes	Yes / No	No / Yes	No / No	Yes / Yes	Yes / No	No / Yes	No / No	Yes / Yes	Yes / No	No / Yes	No / No
All families	27.4	12.0	14.2	46.4	33.3	14.8	16.4	35.6	24.1	14.9	15.2	45.8	8.9	19.5	10.0	61.6
By 1983 income																
Below $10K	3.8	11.1	11.8	73.4	19.3	11.6	18.8	50.3	3.2	5.8	19.5	71.5	2.6	19.2	1.5	76.6
$10-24.9K	16.0	8.2	17.0	58.9	31.6	10.6	19.2	38.6	21.2	11.7	14.7	52.4	5.4	15.1	9.9	69.7
$25-49.9K	41.1	12.1	13.6	33.2	40.5	17.5	14.3	27.6	35.4	22.0	15.0	27.6	10.1	20.4	11.8	57.6
$50-99.9K	49.7	19.8	13.1	17.4	40.3	21.3	13.1	25.2	33.1	18.1	12.1	36.7	17.7	25.9	16.4	40.0
$100K +	40.4	26.3	6.5	26.8	18.7	19.7	7.8	53.9	10.9	9.5	11.4	68.2	32.6	31.3	12.6	23.4
By age of head																
Under 35	28.7	6.2	28.2	36.9	50.0	13.5	20.0	16.4	25.8	14.2	24.7	35.3	8.4	23.0	11.4	57.2
35-44	38.3	20.7	11.8	29.2	39.6	18.1	19.4	22.9	29.7	19.5	14.1	36.7	9.2	22.5	17.5	50.9
45-54	40.1	16.7	8.6	34.7	34.8	18.7	17.7	28.8	34.4	16.6	12.3	36.7	14.5	23.3	8.8	53.4
55-64	16.8	14.7	6.2	62.3	14.4	16.1	12.8	56.7	20.7	15.8	7.6	55.9	8.4	15.1	5.6	70.9
65-74	10.5	6.0	1.1	82.3	7.5	8.8	6.3	77.5	6.3	8.7	8.0	77.0	4.9	10.4	4.2	80.5
75 +	0.0	5.8	0.0	94.2	3.9	3.8	9.5	82.8	4.8	-4.6	2.9	87.7	1.0	2.7	0.9	95.4
By educ. of head																
Below HS	13.6	9.4	5.0	71.9	24.6	14.4	13.1	47.9	11.7	12.9	14.6	60.7	2.8	13.8	3.9	79.6
HS diploma	30.5	14.4	14.5	40.6	39.5	14.7	17.3	28.5	27.0	16.3	14.6	42.1	8.6	21.8	12.0	57.7
College degree	36.5	10.2	23.7	29.7	30.4	15.2	18.1	36.3	32.0	14.2	17.1	36.8	16.2	21.2	13.0	49.6
By 1983 net worth																
Bottom 25%	2.8	2.8	20.9	73.4	32.8	18.0	21.7	27.5	17.5	12.0	19.6	51.0	5.7	21.0	8.1	65.1
25-49%	28.3	14.1	19.8	37.8	45.3	11.9	15.8	27.0	30.7	13.7	16.1	39.5	5.6	16.5	12.7	65.2
50-747.	42.2	12.3	7.2	38.3	30.9	12.1	17.1	39.9	29.9	16.6	15.9	37.7	6.6	14.0	10.4	69.0
75-89%	38.9	16.9	8.6	35.7	24.3	16.5	10.9	47.9	21.5	16.5	12.2	49.7	12.2	25.6	8.4	53.7
Top 10%	32.2	22.3	8.9	36.6	23.5	17.3	11.2	48.0	13.7	18.5	4.8	63.0	25.5	27.5	9.8	37.1

Note: See text for definitions.