NUMBER 33

THE JOINT DISTRIBUTION OF WEALTH AND INCOME FOR AGE GROUPS, 1979

Daniel B. Radner and Denton R. Vaughan

Division of Economic Research

MARCH 1984

Social Security Administration
Office of Policy
Office of Research, Statistics and International Policy

I. INTRODUCTION*

This paper examines the economic well-being of age groups in the U.S. using data on both income and wealth. Although income will be discussed, we will focus on wealth in order to exploit relatively current data on wealth that have become available recently.

Annual money income before taxes is the most frequently used measure of economic well-being in the U.S. Estimates usually are obtained from household surveys, and the family unit or household ordinarily is used as the unit of analysis. Of course, annual money income before taxes is far from an ideal measure of economic well-being. An important exclusion is noncash income, from both government and private sources, which is a significant source of economic resources for most groups of the population. Also, by using pre-tax income, the resources available to the unit can be distorted. In addition, an annual time period is not the most appropriate time period for many purposes. Lifetime income is often more appropriate for studies of inequality, while sub-annual income is more appropriate for examining short-run economic well-being.

Measures of economic well-being that are confined to income omit the wealth of the unit, although income from assets ordinarily is included in income. A relatively new data base, the 1979 Income Survey Development Program (ISDP) file, allows us to examine both income and wealth. Wealth and income data can be used together in different ways.

There have been several attempts to combine income and wealth into one measure of economic well-being by converting the wealth into an annuity. Thus, the stock of wealth is converted into an income flow. Perhaps the best-known example of this technique is Weisbrod and Hansen (1968).1/

In this paper we take a much simpler approach to considering both income and wealth. We utilize income and wealth primarily as a two-dimensional classification. Among other estimates, we examine the distribution of wealth for different relative income classes. We are interested primarily in such questions as how the addition of wealth data changes the picture of economic well-being which the income data alone show.

Our approach does not implicitly spread the wealth out over the expected lifetime of the unit, as the "wealth as an annuity" method does, but is concerned with a much shorter time horizon. For example, what resources do units have to withstand emergencies, to deal with unexpected expenses or loss of income? In examining this aspect of the problem, the liquidity of the assets held is very important, although even illiquid assets can often be borrowed against. In most cases we examine net worth, but the more liquid concept of financial assets will be examined for some purposes.

In this paper we are not directly interested in the question of what happens to overall measures of inequality if (the annuity value of) wealth is added to the income measure. Instead, we are more interested in the question of the short-term "adequacy" of the economic resources of population groups.

Average amounts (e.g., of income or wealth) have often been used in analyses of the economic well-being of different groups. However, averages are not adequate to examine questions about the economic well-being of groups, especially for aged groups, which are of particular interest to us. Those groups contain units in very different economic situations. Thus, it is important to look behind the averages to the distributions of both income and wealth. Our two-dimensional classification facilitates the examination of distributions. For example, one important question involving distributions is how diverse are the amounts of wealth held by units in a given income class? In order to examine such questions of well-being and because we have a particular interest in the aged population, it will be useful to separate the population into age (of household reference person) groups, since wealth patterns would be expected to be different for different age groups at the same income level.

All estimates shown in this paper are on a household basis. For convenience we assume that the income and wealth of the household are resources for all members of the household and only for members of the household. Thus, relatives of persons in the household who do not live in the household (e.g., parents or children) are assumed to have no claim on the resources of the household. In some cases we take into account the number of persons in the household when we examine the economic resources of the household.

Section II briefly describes the wealth data used and presents

definitions of important concepts used in the paper. In Section III summary data on net worth by age of household reference person are presented to provide an overview of the wealthholdings of the population. In Section IV the joint distribution of wealth and income for age groups is examined using both net worth and financial assets as the concept of wealth. Adjustments are also made for size of household. Section V contains a summary and conclusions. The appendix contains a more detailed description of the way in which the ISDP wealth data used in this paper were collected and processed.

II. Data and Definitions Used

Data

The ISDP was an interagency effort involving the Bureau of the Census and headed by the Department of Health and Human Services. The Program was established to develop and test a new household survey design for producing more accurate and, from a public sector point of view, more useful measures of the economic resources of the population of the U.S. Several field tests were carried out in the course of 1977 - 1980. The 1979 panel, the largest of these, was essentially a pilot survey conducted as a final test prior to implementing a full-scale operational effort in the early 1980's (see Ycas and Lininger (1981) for a more detailed overview of the ISDP).

The sample for the 1979 panel consisted of approximately 7,500 participating households. It was nationally representative and both

low-income and high-income households were oversampled slightly.2/ The information obtained in the panel included labor force activity, income, assets, debts, and detailed socioeconomic characteristics. The panel was multi-wave in design with an initial interview followed by four up-date interviews conducted at three-month intervals over the course of one year. A final round-up interview was conducted in the second quarter of 1980. The data used in this paper are primarily from the fifth wave, which contained most of the data on wealth; interviewing for that wave was carried out in January, February and March, 1980. Despite the nature of the survey content and the level of respondent effort required, cooperation was quite good by general standards. Slightly more than 90 percent of eligible households agreed to be interviewed for the first wave. By the completion of the sixth wave, participation had only dropped an additional six or seven points (to about 7,000 households).

The income data suffer from the underreporting which is common to household surveys. However, overall the ISDP data appear to be better than the income data in the Current Population Survey (especially in regard to transfer income), although much more analysis of the data is needed (Vaughan, Whiteman, and Lininger 1982; Vaughan 1983).

The quality of the wealth data is more difficult to assess. While there is some evidence of marked increases in the identification of asset ownership compared to earlier estimates (Vaughan, Whiteman, and Lininger 1982; Vaughan 1983), unfortunately item nonresponse on asset values (for assets other than owner-occupied housing and vehicles) was quite high.

Item nonresponse rates on those asset values ranged from a low of about 20 percent for sample persons with savings and credit union accounts to a high of about 65-75 percent for persons owning stocks and mutual fund shares (66 percent) and nonactive business interests (77 percent). In general, the level of missing information was lower for amounts of secured debt (Pearl, Frankel, and Williams 1982:5-17). Thus, very substantial proportions of the final asset value aggregates stem from values assigned on the basis of "hot deck" imputation.3/

The post-imputation estimates of net worth and of most asset types presented here suffer from substantial underreporting. Financial assets appear to show the highest percentage of underreporting. However, a comparison of survey aggregates by type of asset to independent benchmarks suggests results that are similar to the 1962 Survey of Financial Characteristics of Consumers (SFCC) (Projector and Weiss 1966; Pearl, Frankel, and Williams 1982:32).

One characteristic of the ISDP wealth data is that the extreme upper tail of the net worth distribution shows a far lower share of net worth than other sources of wealth data show; the ISDP file does not contain any extremely large holdings of wealth. This "absence" of the extreme upper tail is at least partly the result of the nature of this survey; the emphasis was on obtaining data for low and middle income units. Thus, it was expected that the upper tail would not be measured well. Nonresponse problems undoubtedly are an important factor, and coding and top-coding restrictions might also be important.4/

Despite the very real problems with item nonresponse and underreporting, there are indications that the post-imputation estimates from the fifth wave file are not unreasonable. Changes in portfolio shares over the 1963-79 period, as implied by a comparison of the ISDP and SFCC results, seem plausible (a decline in the importance of stocks and mutual fund shares and an increase in the importance of interest bearing assets and of real assets) (Pearl, Frankel, and Williams 1982:31-35). Preliminary tabulations of net worth components and total wealth by household income, age and other demographic variables (Radner 1981; Pearl and Frankel 1981), appear to be quite sensible on the whole.

Taking these early results into account, and realizing that alternative sources of wealth information are also plagued by severe limitations in terms of completeness or availability of ancillary variables of interest, or can only be generalized to the U.S. household population with some difficulty, we feel that further and more detailed exploration of the ISDP wealth data is warranted. Additional discussion of the nature of the 1979 ISDP data, especially processing and imputation procedures, is presented in the appendix.

Terms and Concepts

In general the demographic concepts we use are the same or similar to those employed by the Bureau of the Census in its Annual Demographic Supplement to the Current Population Survey. Where differences exist, they are noted.

The data presented in the paper pertain to the civilian noninstitutional population living in the 50 states and the District of Columbia at the dates of interview.

All estimates are on a household basis. A household consists of all the persons who occupy a housing unit. A household includes the related family members and all the unrelated persons, such as lodgers, foster children and wards. A person living alone in a housing unit, or a group of unrelated persons sharing a housing unit as partners, is also counted as a household.5/

The household reference person (householder) is the person (or one of the persons) in whose name the home is owned or rented. If the home is owned or rented jointly by two persons, such as a husband and wife, either one, but only one, may be designated as the householder.6/ Age classifications are based on the age of the householder at his or her most recent birthday.

Income is defined on a before-tax basis and is presented at annualized rates, that is, as the measured three-month value times four. All money income received by household members during the three months preceding the month of interview is covered, including one-time or lump sum payments such as life insurance proceeds, gifts or other irregular money income.7/ While capital gains are not expressly covered in the three-month income concept, some capital gains may have been reported under lump sum payments. Bank withdrawals and money borrowed are nominally

excluded. Conceptually, all other sources of money income are included.

Net worth consists of all assets less all debts covered by the survey.8/ In our terminology net worth is defined to be wealth minus unsecured debt.9/ With the exception of home and vehicle equity, all net worth components were valued as of December 31, 1979. Home and vehicle equity, which were collected in wave two, were valued as of mid-1979. Both assets and debts are described more fully below.

Wealth is defined as the value of all assets covered by the survey, as described below, less any debts secured by the assets. Several items sometimes included in wealth are excluded. The most important exclusions are social security and private pension wealth (including equity in annuities). Also excluded are trusts (both in cases in which the individual has a beneficial interest, as well as when the individual only has rights to income from the trust), the value of royalties and the equity value of life insurance. Wealth is the sum of the following items:

Home equity.-- The difference between the market value of owner-occupied housing, as estimated by the respondent, and the amount of any outstanding mortgages on the residence. Equity in other residential property, such as vacation homes, was measured separately and is included under the category "other assets".

Durable goods.-- The equity in vehicles owned by all household members plus the market value of household durables (furniture, television sets, stereos, appliances and so forth). Cars, trucks,

motorcycles, boats, snowmobiles and recreational vehicles (RV's) were all covered by the items on vehicles. Equity in vehicles was measured as the difference between market value, as estimated on the basis of year, model and make of vehicle from "blue book" values, less associated debt. The market value of household durables was estimated by the most knowledgeable respondent available at the time of interview but was based on a single item covering all categories of durables.

Business equity.-- The value of owner-operated farm or nonfarm businesses or professional practices net of debts secured by the business.

Liquid financial assets.-- This term includes cash on hand, amounts held in checking accounts, amounts held in savings and credit union passbook accounts and the value of U.S. savings bonds (series E, F, and J).

Nonliquid financial assets.-- The value of bonds (other than series E, F and J U.S. savings bonds), certificates of deposit, personal loans and mortgage debt owed to household members and the market value of publicly traded stocks and mutual fund shares net of associated secured debt.

Other assets.-- The market value of real assets other than own home (farm property other than an own farm business, and residential property including houses, apartments and condominiums, commercial or industrial property and undeveloped land) less associated

mortgages or other debts, the equity in farm and nonfarm business interests when the household member was not actively engaged in the management and operation of the business, and the equity in assets not specified elsewhere.

In general, unsecured debt is any debt owed by members of the household as of the survey reference date that is not secured by the assets included in the concept of wealth. Specifically, unsecured debt includes installment debt (store or credit card bills), and noninstallment debt (personal loans obtained through a financial institution, unpaid medical bills and money owed to private individuals), and educational loans. Debt not classified elsewhere is also included here.

III. Summary Data on Net Worth

In this section data on net worth by age of reference person are summarized, including mean and median amounts, size distributions, relative shares within age groups, and the composition of net worth. Nine age classes are used in most tables in this paper: six summary classes that include all ages, and three detailed age classes within the age 65 and over summary class. The detail among the aged groups is very important not only because those groups are of particular interest to us, but also because substantial differences in the distribution of economic well-being can exist between the younger aged households and the older aged households.

When analyzing the economic well-being of different age groups it is useful to examine the composition of each age group by type of household. Table 1 shows the distribution of each age group by household size and sex of householder. We see that the proportion of one-person households falls from the youngest group to the 35-44 group, then rises sharply in the 65 and over group. Half of the households in the 75 and over group are one-person households. In order to take account of these differences by age, some adjustments for size of household are made in the estimates shown later in this paper. The proportion of householders who are female falls, then rises as age increases. In the 75 and over group, 86 percent of the one-person households are females; many of those women are widows. Thus, aged households tend to be smaller and to have female householders more often. More than one third of all aged households are females in one-person households. These differences should be kept in mind when the income and wealth data for age groups are examined. The number of sample households and weighted number of households in each age group are also shown to illustrate the size of each age group.

Mean Income and Mean and Median Net Worth

Mean and median amounts of net worth and mean income by age of reference person are shown in Table 2. 10/ Mean household income (three-month income annualized) ranges from a low of $10,852 for the 75 and over age group to a high of $28,135 for the 45-54 group, showing the familiar pattern of relatively low means for the young and old age groups. Relative mean incomes (the mean for the group divided by the overall

mean) range from 0.51 for the oldest age group to 1.34 for the 45-54 group. Age groups under 35 and 65 and over have relative means of less than 1.00.

Mean net worth ranges from a low of $8,875 for the under 25 group to a high of $105,744 for the 55-64 group. (It is important to note that these estimates are almost certainly understated, and to a greater extent than the income estimates.) In terms of relative means, the range is from 0.14 to 1.69. The pattern is low relative means in the under 35 groups followed by gradually increasing then decreasing relative means. Median net worth ranges from $3,454 to $51,444; of course, because of the skewness of the distributions, the median is far below the mean in every age group. Relative medians range from 0.13 to 2.00.

All age groups 55 and over show relative means for net worth that exceed their relative means for income; age groups under 55 show the opposite situation. Another way of looking at the relationship between income and net worth is to examine the ratio of mean net worth to mean income. Those ratios range from 0.63 for the youngest age group to 6.74 for the 70-74 group, compared to the overall estimate of 2.96. Thus, not surprisingly, when mean amounts are used the older age groups have far more net worth relative to income than the younger age groups.

Size Distribution of Net Worth

Of course, there are large differences in economic well-being within age groups that cannot be shown using mean and median amounts. The size

distribution of net worth within age groups is shown in Table 3. One important thing to note in this table is that substantial dispersion is present in all age groups. For example, except for the youngest age group, in each age group the modal size class and the classes above and below that class contain less than 53 percent of the households in the age group. Thus, in each of those age groups at least 47 percent of the households are two or more classes away from the modal class in net worth.

Despite this dispersion, general statements about the distributions within age groups can be made, expanding on the information shown by the means and medians in Table 2. As would be expected, households in the younger age groups are concentrated in the lower net worth classes; for example, almost 60 percent of the under 25 group has less than $5,000 in net worth. In contrast, the middle age groups show a much higher percentage in the higher size classes; for example, 29 percent of households in the 55-64 group have net worth of at least $100,000. The 65-74 groups show little decline from the 55-64 group distribution, but the 75 and over group does show a substantial decline in the percentage of units with high net worth. About 7 percent of the units in the 65 and over group have net worth of less than $1,000 and almost 16 percent have net worth of less than $5,000; those percentages are slightly higher for the 75 and over group.

Relative Shares of Net Worth Within Age Groups

Another indicator of dispersion is the relative shares of net worth within age groups, which are shown in Table 4. As measured by the Gini concentration ratio, inequality declines from the youngest age group (.76) to the 45-54 group (.61), then remains about the same in the 55-64 and 65 and over groups.11/ Within the 65 and over group, the 65-74 groups show the lowest inequality (.59), while inequality rises substantially in the 75 and over group (.65). The share of the top five percent falls from 39 percent for the youngest age group to about 27 percent in the 65-74 groups, then rises to 37 percent in the 75 and over group. Thus, a general pattern of a decline in inequality followed by a rise as age increases to the 75 and over group is present. We would expect that the true overall degree of inequality is understated in these data because of the absence of the extreme upper tail.12/

Composition of Net Worth

Table 5 shows the percentage composition of net worth for each age group, while Table 6 shows mean amounts of the different asset types and unsecured debt for all households in each age group. Home equity is a relatively constant percentage of net worth across age groups, However, the mean amounts show large differences, ranging from $2,678 (under 25) to $31,450 (age 55-64). Financial assets are relatively low in importance for the younger groups and relatively important for the older groups. The differences are more pronounced using mean amounts, with the mean for the 55-64 group 17 times the mean for the under 25 group.

For the age groups under 35, financial assets are split about evenly between what we call liquid and nonliquid assets. For the age groups 35 and over, nonliquid assets are relatively more important, constituting about 75 percent of the total.

Business equity shows a steady decline in importance in the older age groups, and the mean amounts also decline. Other assets are a relatively constant percentage of net worth except for the under 25 group. The 70-74 group shows a relatively high percentage, but that difference could result from a few sample cases with large amounts. Durable goods are relatively important for the youngest age groups, but that importance declines rapidly with age; mean amounts peak in the 55-64 group, then decline as age increases. Unsecured debt is important only for the youngest age groups, although the mean amount is highest for the 35-44 group.

Table 7 shows the percentage of households in each age group which had the specific type of asset or debt shown. Differences in these ownership rates explain some of the differences in mean amounts among age groups. We see that home ownership rises from a low of 21 percent in the youngest group to 73 percent in the 55-64 group. The 65-74 groups show a small decline to 70 percent, while the 75 and over group shows a substantial fall to 59 percent. The ownership of financial assets and liquid financial assets is fairly constant across age groups at a very high level; these concepts include cash on hand and checking accounts. Ownership of nonliquid financial assets rises steeply from the youngest group to the 70-74 group, then declines in the 75 and over

group. Presence of business equity is low at the age extremes and peaks in the 35-54 groups. Ownership of other assets is low under 35 and fairly constant in the groups 35 and over. Presence of unsecured debt is highest in the 25-34 group and declines markedly in the 55 and over groups to a low in the 75 and over group.

Net Worth by Age and Income

Table 8 shows mean net worth for age groups and overall income quintiles;13/ the bounds of the income quintiles are shown in Table 9. As expected, for all ages together mean net worth rises as income increases. In general this pattern holds within age groups although there are some exceptions. As we noted earlier, mean net worth for all income quintiles rises from the youngest group to the 55-64 group where it peaks, then falls through the aged groups as age increases. However, when we look at overall income quintiles different patterns emerge. In the bottom quintile mean net worth shows an age pattern that is roughly similar to the pattern for all quintiles. In the other four quintiles, mean net worth peaks in the 65 and over summary group. One of those peaks is in the 65-69 group, two are in the 70-74 group, and one is in the 75 and over group.14/ Thus, standardizing for income in a crude way significantly alters the relationship between mean net worth and age. This pattern within income quintiles reflects, among other things, the fact that the aged have had more time than younger households to accumulate wealth. Also, as members of aged households leave the labor force, the income of the household usually falls. Since aged households

are ranked here on the basis of current income, their net worth appears to be high relative to their income.

Table 10 shows the composition of net worth for summary age groups (under 65, 65 and over) for each overall income quintile. For all households, in general the importance of home equity falls as income rises. The same pattern is present for the 65 and over group, but the under 65 group does not show a decline until the top quintile. The aged group shows a higher percentage than the nonaged group for home equity in the bottom quintile (50 as opposed to 37), but lower percentages in the top three quintiles. Nonliquid financial assets show a rise in importance as income rises for all households. The aged group also shows a general rise, while the nonaged group shows an uneven pattern; the aged group shows a higher percentage than the nonaged group in the top four quintiles. Liquid financial assets show a slight rise then fall as income rises; the aged percentages are above the nonaged percentages. Business equity shows a decline as income rises for all ages and for nonaged households and an irregular pattern for the aged. The percentage for the aged group is below the percentage for the nonaged group in all quintiles. Other assets show a rise, fall, and rise in the top quintile for all ages and both age groups. Durable goods show little pattern as income increases, except for a decline in the top quintile; the aged percentage is below the nonaged percentage in each quintile. Unsecured debt shows little pattern for all ages and for the aged group, in which the percentage is insignificant. For the nonaged group there is a slight decline as income rises.

IV. The Distribution of Households Among Wealth and Income Quintiles

In this section the joint distribution of wealth and income among quintiles is shown. Both net worth and financial assets are used as definitions of wealth, and differences produced by adjustment for size of household are examined. Table 11 shows the distribution of households in each age group among income and net worth quintiles. The income and net worth quintiles shown in this table are defined over all households, and the income and net worth quintiles are defined independently. Before discussing the distributions in the table it is useful to mention the amounts of income and net worth represented by each quintile. The upper bounds of the bottom four quintiles are shown in Table 9, along with the medians. Thus, the bottom income quintile consists of households with $7,268 or less in annualized money income before tax, while the top quintile consists of households with $30,745 or more in annualized income. The bottom net worth quintile consists of households with $3,143 or less, the second quintile consists of households with $3,144 to $15,608, and the top net worth quintile consists of households with $86,680 or more. The two bottom quintiles of net worth contain amounts that are quite low -- for example, those amounts are all below median annualized household income ($16,444).

The first six lines of Table 11 show the distribution of households in each age group among net worth quintiles (for all income quintiles). In those lines we see that the under 35 age groups tend to be concentrated in the lower net worth quintiles, the 35-44 age group is fairly evenly spread among the quintiles, and the 45 and over age groups tend to be

more concentrated in the upper quintiles. Within the aged group, the 65-74 groups are concentrated in the upper quintiles, while the 75 and over age group is spread fairly evenly among the quintiles. Almost 30 percent of the 65 and over group is in the bottom two quintiles. Of course, these patterns are consistent with the differences in size distributions shown in Table 3.

The other five "Total" lines show the distribution of households among income quintiles. The age groups under 55 in general show more households in the upper income quintiles than in the upper net worth quintiles and fewer in the lower income quintiles than in the lower net worth quintiles. For example, the 35-44 group shows 29 percent in the top income quintile, but only 22 percent in the top net worth quintile; that group shows only 13 percent in the bottom income quintile, but 18 percent in the bottom net worth quintile. Thus, as we saw earlier (Table 2), the households under 55 have relatively more income than net worth. The households 55 and over show the opposite pattern; this opposite pattern also holds for the detailed aged groups. For example, for the 75 and over group, 5 percent were in the top income quintile, but 18 percent were in the top net worth quintile.

We will now turn to the joint distribution of income and net worth by examining, for each age group and income quintile, the distribution of households among net worth quintiles in Table 11. For all ages (the "Total" column) we see the familiar strong positive correlation between income and net worth. For example, in the bottom income quintile 40 percent (8.1/20.0) of the households are in the bottom net worth

quintile, while only 6.5 percent (1.3/20.0) are in the top net worth quintile. In contrast, in the top income quintile only 4 percent are in the bottom net worth quintile, while 44 percent are in the top net worth quintile. This general pattern of strong correlation between income and net worth holds within each of the age groups also.

When we look across age groups for a given income quintile we see the expected pattern. For example, in general, for each income quintile the proportion of households in the bottom net worth quintile falls as age increases, while the proportion in the top net worth quintile rises. This pattern is consistent with the pattern of mean net worth by income and age shown in Table 8.

One thing that Table 11 shows that could not be seen in earlier tables is the extent of dispersion of net worth within income and age groups, as shown by the distribution among net worth quintiles. We have not calculated sophisticated measures of dispersion. Instead, a simple indicator of that dispersion will be used in this discussion: for a given age group and income quintile, the indicator is the range of percentages (i.e., the largest minus the smallest) for net worth quintiles divided by the total percentage. For example, in the bottom income quintile for all ages, the range is 6.8 percent (8.1 minus 1.3) and the total percentage is 20.0. Thus, the indicator is 0.34 (i.e., 6.8/20.0). A high value suggests high concentration and low dispersion.15/ When we look at all households, we see that the middle three quintiles have relatively high dispersion, while the bottom and top quintiles show more concentration. In the bottom income quintile,

aged households show substantially more dispersion that nonaged households. In the second quintile, the two youngest groups show more concentration than the other groups. In the top three quintiles, in general aged households show more concentration than nonaged households. For aged households, relatively high income is accompanied by relatively high net worth in 78 percent (7.0/9.0) of the cases.

We will now look at the two-dimensional classification of income and net worth and examine the proportion of households in each age group at the extremes of the income-net worth distribution. For this purpose we will examine the proportion of households in the bottom income quintile and the bottom two net worth quintiles and the proportion in the top income and net worth quintiles. The bottom two net worth quintiles are used because amounts are quite low throughout that range (Table 9). For all ages, 13 percent of all households are in the lower group defined above (see the summary presented in the first panel of Table 16). For the youngest group, 23 percent are in the lower group, while for the 25-64 groups only 9 to 10 percent are in that group. For aged households, 20 percent are in that group, ranging from 15 percent for the 65-69 group to 26 percent for the 75 and over group. Thus, more than one fourth of the 75 and over group had annual income of less than $7,269 and net worth of less than $15,609. Nine percent of all households are in the upper group. The proportion in the upper group increases with age to the 45-64 groups (15-16 percent), then falls to 7 percent for the 65 and over group, with only 4 percent in the 75 and over group.

Table 12 is similar to Table 11, but shows quintiles of financial assets

rather than net worth. The boundaries of the financial asset quintiles are shown in Table 9; the small amounts shown in the bottom three quintiles should be noted. Looking at financial assets gives a better indicator of wealth that can be used in the short-run. The distribution of age groups among financial asset quintiles differs slightly from the net worth distribution, although the general patterns discussed above are the same. The youngest group shows a higher distribution for financial assets than for net worth, and aged households show more in the top and bottom quintiles of financial assets; the increase at the top is mostly in the 75 and over group. Looking at the joint distribution of income and financial assets, we see a strong positive correlation similar to that for net worth and income. The patterns of dispersion in general are similar to those for net worth and income.

In this table we will concentrate on the two-dimensional classification, using the bottom income quintile and the bottom two financial asset quintiles (less than $794), and the top income and financial asset quintiles. For all ages, 13 percent are in the lower group, a figure that is unchanged from the net worth figure (see the summary in the first panel of Table 16). For the youngest group, 19 percent are in the lower group (down from 23), while for the 25-64 groups 9 to 11 percent are in that group (little change). For aged households, 19 percent are in the lower group (little change), with a small range from 18 percent (65-69) to 21 percent (70-74). This range is far smaller than for net worth. If the bottom income quintile and the bottom three financial asset quintiles are used (financial assets of less than $3,311), for all

ages 16 percent are in the lower group. Again, the youngest group shows a relatively high figure (25 percent), while the 25-64 groups are relatively low (10 to 13 percent). The 65 and over group shows 28 percent, with a progression from 21 percent (65-69) to 30 percent (70-74) to 32 percent (75 and over). Thus, 28 percent of aged households had income of less than $7,269 and financial assets of less than $3,311. Nine percent of households are in the upper group. In that group there is little change from the net worth percentages.

Adjustment for Size of Household

When the distribution of income is examined as an indicator of the distribution of economic well-being, researchers often adjust that distribution for differences in size of unit (in this case households). In this paper we will adjust income, net worth, and financial assets for size of unit using an equivalence scale based on the U.S. poverty lines (see Table 13). The amounts were divided by the scale values to obtain the adjusted amounts. We make no claim that this is obviously the best scale to use, but only that it is a familiar scale that can be used to see whether this adjustment makes a substantial difference. The answer to this question could be sensitive to the choice of the scale. It is appropriate to adjust wealth as well as income because here we are viewing wealth primarily as a resource for consumption in the short run, and that resource is being viewed as spread over the persons in the household.

Table 14 shows households classified according to quintiles based on the adjusted income and net worth amounts. Looking at the overall distribution of net worth, we find that the distributions of younger households are not changed very much, but the 35-54 groups show slightly lower distributions after adjustment. The 55-64 group shows a slightly higher distribution, while the 65 and over groups show higher distributions, particularly at the top of the net worth distribution.

The change in the income distribution is substantial, with aged households moving up and households in the 35-54 groups moving down. As expected, there is still a strong positive correlation between income and net worth exhibited here. The patterns of dispersion are generally similar to the those for unadjusted net worth and income. Looking at the two-dimensional classification of adjusted income and adjusted net worth, and using the bottom income quintile and the bottom two net worth quintiles as the lower group, for all ages we find 13 percent in that group (see the second panel of Table 16). This shows no change from the unadjusted data in Table 11. For the youngest group, 21 percent are in the lower group (a small decline), while the 25-64 groups show 10-13 percent (a small increase). For aged households, 16 percent are in that group (down from 20); the range is from 11 percent (65-69) to 20 percent (75 and over). In general, the gap between aged and nonaged has been reduced. Using the top income and net worth quintiles as the upper group, eight percent of all households are in that group. This estimate shows little change from the unadjusted estimate. The 55 and over groups show small increases, while the 35-54 groups show declines.

Table 15 shows the classification by adjusted income and adjusted financial assets. We will look at the two-dimensional classification and compare it to the unadjusted financial asset classification (Table 12). Using the bottom income quintile and the bottom two financial asset quintiles, for all ages, 14 percent are in the lower group; there is little change from the unadjusted estimate (see the second panel of Table 16). For the youngest group, 16 percent are in the lower group (down from 19), while for the 25-64 group 11 to 14 percent are in that group (a slight rise). For aged households, 16 percent are in the lower group (down from 19) with a range from 13 percent (65-69) to 19 percent (70-74). As was the case with net worth, the adjustment reduces the gap between aged and nonaged households. If the bottom income quintile and the bottom three financial asset quintiles are used, for all ages 17 percent are in the lower group (little change). The youngest group shows a relatively high figure (22 percent, a slight decline), while the 25-64 groups are slightly below the overall figure. The 65 and over group shows 23 percent (down from 28), with a progression from 18 percent (65-69) to 25 percent (70-74) to 26 percent (75 and over). All of the aged figures are somewhat below the unadjusted figures for those age groups. Using the top income and financial asset quintiles as the upper group, eight percent of all households are in that group; this estimate shows little change from the unadjusted estimate. The 55 and over groups show small increases, while the 35-54 groups show declines.

V. Summary and Conclusions

Annual money income before taxes is the measure ordinarily used to assess the economic well-being of the U.S. population. One of the deficiencies of that measure, at least for some purposes, is the omission of wealth. In this paper we summarize the patterns of household wealthholding for age of householder and income groups shown in the 1979 Income Survey Development Program file. Our emphasis on age groups results from the substantial differences in wealth between age groups, as well as our particular interest in the economic well-being of aged units.

Our overview of wealthholding patterns shows increasing mean net worth as age increases up to the 55-64 age group, then a decline (Table 2). All age groups show substantial dispersion in amounts of net worth within the age group (Table 3). Patterns of the composition of wealth also differ among age groups, with older households holding a higher percentage of their net worth in financial assets than younger households do (Table 5). When mean net worth is examined for age groups and income quintiles, within age groups mean net worth in general rises as income rises (Table 8). For the top four overall income quintiles, in general mean net worth rises as age increases, up to the 65 and over age group. The composition of net worth also differs among summary age and income groups (Table 10). For example, 50 percent of the net worth of the 65 and over group in the bottom income quintile consists of home equity, while for all households age 65 and over the share is only 32

percent.

Income and wealth are examined for age groups using the joint distribution. This two-way classification enables us to examine the dispersion in amounts of net worth and financial assets by overall income quintile and age. Table 16 summarizes the data for households with relatively low income and low wealth and with relatively high income and high wealth, both before and after adjusting the income and wealth data for size of household. Looking at the estimates before adjustment for size of household, we see that 13 percent of all households were in the bottom income quintile (less than $7,269) and the bottom two net worth quintiles (less than $15,609) while the corresponding figure for households age 65 and over was 20 percent. The percentage for the 65 and over age group exceeds the percentage for each group in the 25-64 age range. Shifting to the bottom two quintiles of financial assets (less than $794) instead of net worth produces fairly small changes, with a shift within the age 65 and over group (a decline in the proportion in the 75 and over group and a rise in the 65-74 groups). Using the bottom three quintiles of financial assets (less than $3,311) produces substantial increases in the percentages in the 70 and over age groups. In these three variations, the percentage of households age 65 and over that have both relatively low income and relatively low wealth ranges from 19 to 28 percent; in all three cases those percentages are substantially above the percentages for all ages and for each age group in the 25-64 range. Adjusting for size of household decreases the percentages for aged households to a range from

16 to 23 percent, but those percentages remain above the percentages for all households and for each age group in the 25-64 range. Looking at households in the top quintile in both income and wealth, the percentage of aged households in this high group is slightly below the percentage for all ages before adjustment for size of household; after adjustment the percentages are the same for aged households and all households. Only small differences are produced by shifting from net worth to financial assets.

In this paper we have found that substantial dispersion in amounts of wealth held is present for aged households, even within income groups. A substantial proportion of aged households have both relatively low income and relatively low wealth; that proportion is above the proportion for all ages and for each age group in the 25-64 range. Much work needs to be done to examine in more detail the characteristics of households in the various income-wealth categories. For example, labor force participation, marital status, sex, size of household, and size of social security benefits are among the characteristics that require further examination.

TABLE 1--PERCENTAGE COMPOSITION OF AGE GROUPS BY HOUSEHOLD SIZE AND SEX OF HOUSEHOLDER

	AGE OF HOUSEHOLDER									
	TOTAL	UNDER 25	25-34	35-44	45-54	55-64	65+	65-69	70-74	75+
SAMPLE CASES	6,922	621	1,441	1,089	1,049	1,155	1,567	489	411	667
WEIGHTED NUMBER OF HOUSEHOLDS (THOUSANDS)	82,211	6,613	19,272	14,014	12,975	12,722	16,614	5,570	4,818	6,226
TOTAL	100	100	100	100	100	100	100	100	100	100
HOUSEHOLD SIZE 1	25	31	21	14	15	23	44	36	45	50
MALE	10	16	13	9	8	7	9	8	13	7
FEMALE	15	15	9	5	7	16	35	28	33	43
HOUSEHOLD SIZE 2+	75	69	79	86	85	77	56	64	55	50
MALE	60	45	62	66	68	68	45	54	44	39
FEMALE	16	24	17	20	17	9	11	11	10	11

TABLE 2 -- MEAN INCOME AND MEAN AND MEDIAN NET WORTH FOR AGE GROUPS (IN DOLLARS)

AGE OF HOUSEHOLDER	INCOME		NET WORTH				MEAN NET WORTH ÷ MEAN INCOME
	MEAN	RELATIVE MEAN	MEAN	RELATIVE MEAN	MEDIAN	RELATIVE MEDIAN	
TOTAL.....	$21,072	1.00	$62,426	1.00	$25,771	1.00	2.96
UNDER 25.....	14,116	.67	8,875	.14	3,454	.13	.63
25-34.....	20,060	.95	24,517	.39	12,107	.47	1.22
35-44.....	25,304	1.20	64,946	1.04	29,818	1.16	2.57
45-54.....	28,136	1.34	79,122	1.27	39,181	1.52	2.81
55-64.....	25,108	1.19	105,744	1.69	51,444	2.00	4.21
65 AND OVER.....	12,844	.61	79,382	1.27	38,722	1.50	6.18
65-69.....	15,208	.72	90,039	1.44	47,298	1.84	5.92
70-74.....	12,680	.60	85,479	1.37	45,440	1.76	6.74
75 AND OVER.....	10,852	.51	65,127	1.04	28,413	1.10	6.00

TABLE 3--PERCENTAGE DISTRIBUTION BY SIZE OF NET WORTH WITHIN AGE GROUPS

SIZE OF NET WORTH ($)	AGE OF HOUSEHOLDER									
	TOTAL	UNDER 25	25-34	35-44	45-54	55-64	65+	65-69	70-74	75+
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
NEGATIVE	5.2	10.7	9.9	4.6	4.4	2.5	1.0	1.6	.3	1.0
0	.3	.0	.0	.3	.2	.6	.5	-	1.4	.1
1-999	6.4	19.0	6.9	4.6	3.9	4.5	5.7	5.3	4.5	7.0
1000-4999	13.2	29.7	18.6	13.0	8.9	6.9	8.6	7.0	9.3	9.3
5000-9999	8.5	17.3	11.4	9.1	5.6	3.8	7.1	4.4	6.4	10.0
10,000-19,999	11.3	9.8	16.9	8.5	7.9	9.7	11.8	9.4	8.8	16.2
20,000-29,999	8.7	5.9	10.3	9.8	9.5	6.5	8.0	7.8	9.1	7.3
30,000-49,999	13.9	5.2	12.7	14.1	17.7	14.8	15.1	18.3	13.3	13.6
50,000-99,999	15.4	1.8	8.3	17.4	18.3	22.2	19.8	18.3	21.9	19.5
100,000-199,999	10.0	.2	3.8	11.5	15.1	14.8	12.2	15.7	12.6	8.7
200,000-499,999	5.6	.3	1.2	5.3	6.3	10.3	8.7	10.6	11.3	5.0
500,000+	1.5	-	-	1.9	2.2	3.5	1.6	1.6	1.0	2.1

- NO CASES

TABLE 4 -- RELATIVE SHARES OF NET WORTH OF HOUSEHOLDS, BY AGE GROUP 1/

PERCENTILES	ALL AGES	UNDER 25	25-34	35-44	45-54	55-64	65+	65-69	70-74	75+
1-20.....	-0.2	-4.6	-2.3	-0.1	0.2	0.5	0.7	0.8	0.7	0.6
21-40.....	2.6	2.5	2.9	3.2	4.7	4.4	4.1	5.2	4.3	3.5
41-60.....	8.2	7.7	9.8	9.2	10.2	9.8	9.9	10.4	10.9	8.6
61-80.....	18.4	17.6	21.3	19.9	20.3	19.1	19.8	20.5	21.8	18.3
81-100.....	70.9	76.8	68.2	67.7	64.7	66.1	65.5	63.1	62.3	69.1
91-100.....	52.4	56.5	49.8	49.8	46.0	47.7	46.6	43.9	41.9	52.9
96-100.....	36.8	39.0	34.4	34.3	31.7	31.9	30.6	26.8	26.3	36.7
TOTAL.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
GINI CONCENTRATION RATIO.....	.674	.759	.680	.650	.612	.621	.616	.592	.591	.649

1/ THESE ESTIMATES INCLUDE A SMALL NUMBER OF SAMPLE CASES WITH NEGATIVE HOUSEHOLD INOCME.

TABLE 5--PERCENTAGE COMPOSITION OF NET WORTH FOR AGE GROUPS

	AGE OF HOUSEHOLDER									
	TOTAL	UNDER 25	25-34	35-44	45-54	55-64	65+	65-69	70-74	75+
NET WORTH	100	100	100	100	100	100	100	100	100	100
WEALTH	103	113	111	105	103	102	101	101	100	101
HOME EQUITY	33	30	40	34	34	30	32	33	32	30
FINANCIAL ASSETS	27	23	15	20	22	34	35	34	29	44
LIQUID	7	12	7	5	6	8	10	10	9	12
NONLIQUID	20	11	8	14	16	26	25	24	20	32
BUSINESS EQUITY	13	16	14	20	16	11	7	9	7	5
OTHER ASSETS	18	6	14	19	21	17	18	16	24	13
DURABLE GOODS	12	37	28	13	10	9	9	10	8	8
UNSECURED DEBT	3	13	11	5	3	2	1	1	0	1

TABLE 6--MEAN AMOUNTS OF ASSETS AND DEBTS FOR AGE GROUPS (IN DOLLARS)

	AGE OF HOUSEHOLDER									
	TOTAL	UNDER 25	25-34	35-44	45-54	55-64	65+	65-69	70-74	75+
NET WORTH	62,426	8,875	24,517	64,946	79,122	105,744	79,382	90,039	85,479	65,127
WEALTH	64,475	10,044	27,267	68,063	81,705	107,431	79,926	91,011	85,712	65,529
HOME EQUITY	20,408	2,678	9,816	21,966	26,647	31,450	25,110	29,293	27,547	19,480
FINANCIAL ASSETS	17,163	2,080	3,628	12,686	17,465	35,962	28,015	30,495	24,384	28,607
LIQUID	4,670	1,096	1,762	3,294	4,675	8,069	8,020	8,801	7,708	7,562
NONLIQUID	12,493	984	1,866	9,391	12,790	27,893	19,995	21,694	16,676	21,044
BUSINESS EQUITY	8,079	1,399	3,479	12,689	12,579	12,014	5,658	7,959	5,914	3,402
OTHER ASSETS	11,323	566	3,548	12,291	16,992	18,237	14,086	14,318	20,860	8,635
DURABLE GOODS	7,501	3,321	6,796	8,431	8,022	9,768	7,057	8,946	7,007	5,406
UNSECURED DEBT	2,049	1,169	2,750	3,117	2,583	1,687	544	972	233	402

TABLE 7--PERCENTAGE OF UNITS WITH THE SPECIFIC ASSET OR DEBT TYPE

	AGE OF HOUSEHOLDER									
	TOTAL	UNDER 25	25-34	35-44	45-54	55-64	65+	65-69	70-74	75+
NET WORTH	100	100	100	100	100	99	100	100	99	100
WEALTH	100	100	100	99	100	99	99	99	99	100
HOME EQUITY	59	21	47	64	69	73	66	70	70	59
FINANCIAL ASSETS	93	91	92	92	91	94	95	93	95	96
LIQUID	93	91	92	92	91	94	95	93	95	96
NONLIQUID	28	9	17	29	35	36	36	37	40	31
BUSINESS EQUITY	10	5	10	15	15	11	4	6	4	3
OTHER ASSETS	16	3	8	17	22	21	18	18	20	16
DURABLE GOODS	98	98	98	98	99	97	98	97	98	99
UNSECURED DEBT	68	69	84	81	72	62	39	46	43	28

TABLE 8--MEAN NET WORTH FOR INCOME QUINTILES AND AGE GROUPS (IN DOLLARS)

OVERALL INCOME PERCENTILES	AGE OF HOUSEHOLDER									
	TOTAL	UNDER 25	25-34	35-44	45-54	55-64	65+	65-69	70-74	75+
TOTAL.....	62,426	8,875	24,517	64,946	79,122	105,744	79,382	90,039	85,479	65,127
1-20.....	24,084	5,220	10,920	24,832	15,368	39,296	30,634	36,267	36,028	23,797
21-40.....	43,653	8,067	10,407	31,633	58,718	59,091	74,541	75,749	79,366	69,053
41-60.....	50,412	10,464	20,436	44,530	49,927	87,286	114,898	122,725	114,025	107,157
61-80.....	56,139	9,251	27,933	59,099	78,234	80,688	126,263	116,901	146,626	125,148
81-100.....	137,764	27,694	56,405	119,371	124,243	210,586	233,772	208,928	245,325	267,474

TABLE 9 -- UPPER BOUNDS OF QUINTILES (IN DOLLARS)

ITEM	PERCENTILES				
	1-20	21-40	41-60	61-80	MEDIAN
INCOME (ANNUALIZED)...	$7,268	$12,848	$20,120	$30,744	$16,444
NET WORTH.....	3,143	15,608	37,263	86,680	25,771
FINANCIAL ASSETS.....	111	793	3,310	15,248	1,580

TABLE 10--PERCENTAGE COMPOSITION OF NET WORTH FOR AGE GROUPS AND INCOME QUINTILES

	OVERALL PERCENTILES OF INCOME					
	TOTAL	1-20	21-40	41-60	61-80	81-100
	AGE OF HOUSEHOLDER: TOTAL					
NET WORTH	100	100	100	100	100	100
WEALTH	103	104	102	104	104	103
HOME EQUITY	33	44	39	35	37	26
FINANCIAL ASSETS	27	20	23	24	26	32
LIQUID	7	8	9	7	8	7
NONLIQUID	20	12	14	16	18	26
BUSINESS EQUITY	13	15	13	14	13	12
OTHER ASSETS	18	12	15	18	13	22
DURABLE GOODS	12	14	13	13	15	10
UNSECURED DEBT	3	4	2	4	4	3
	AGE OF HOUSEHOLDER: UNDER 65					
NET WORTH	100	100	100	100	100	100
WEALTH	104	107	105	105	105	103
HOME EQUITY	33	37	39	39	39	27
FINANCIAL ASSETS	25	20	14	17	23	30
LIQUID	7	6	6	6	8	6
NONLIQUID	18	15	8	11	15	24
BUSINESS EQUITY	15	23	24	14	14	13
OTHER ASSETS	18	9	13	19	13	22
DURABLE GOODS	13	17	16	16	16	10
UNSECURED DEBT	4	7	5	5	5	3
	AGE OF HOUSEHOLDER: 65 AND OVER					
NET WORTH	100	100	100	100	100	100
WEALTH	101	101	100	100	101	101
HOME EQUITY	32	50	39	26	25	19
FINANCIAL ASSETS	35	20	31	40	44	42
LIQUID	10	10	12	10	9	8
NONLIQUID	25	9	19	30	36	34
BUSINESS EQUITY	7	7	3	13	5	8
OTHER ASSETS	18	14	17	14	17	24
DURABLE GOODS	9	10	10	7	10	8
UNSECURED DEBT	1	1	0	0	1	1

TABLE 11--PERCENTAGE JOINT DISTRIBUTION OF INCOME AND NET WORTH

OVERALL INCOME AND NET WORTH QUINTILES	AGE OF HOUSEHOLDER									
	TOTAL	UNDER 25	25-34	35-44	45-54	55-64	65+	65-69	70-74	75+
TOTAL (INCOME)										
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-20	20.0	47.3	28.8	17.6	14.1	11.8	11.9	11.1	11.0	13.3
21-40	20.0	35.9	27.6	18.8	13.8	10.6	17.7	12.0	16.1	24.0
41-60	20.0	11.6	25.2	19.8	20.7	17.0	19.5	19.2	18.2	20.6
61-80	20.0	4.7	12.6	21.9	24.1	28.2	23.6	25.7	20.9	23.7
81-100	20.0	.6	5.9	21.9	27.3	32.5	27.4	32.0	33.7	18.4
1-20 (INCOME)										
TOTAL	20.0	26.9	12.1	12.7	12.6	17.1	40.6	32.3	40.2	48.3
1-20	8.1	16.6	8.1	5.5	6.2	6.9	9.3	8.6	8.8	10.2
21-40	4.8	6.8	1.6	3.9	3.1	3.3	10.8	6.1	9.6	15.8
41-60	3.5	2.1	1.6	1.6	1.2	2.9	10.3	8.0	10.9	12.0
61-80	2.3	1.3	.4	.5	1.6	1.9	7.1	6.1	6.1	8.8
81-100	1.3	.0	.4	1.1	.5	2.2	3.1	3.5	4.8	1.6
21-40 (INCOME)										
TOTAL	20.0	24.1	20.5	15.6	11.6	15.5	31.5	31.4	34.1	29.4
1-20	5.5	13.6	10.0	5.6	3.0	1.8	1.6	.6	1.3	2.7
21-40	4.5	8.5	6.2	3.7	1.4	2.2	5.9	4.1	5.3	7.9
41-60	3.5	.6	3.2	3.1	3.2	4.0	5.4	7.1	6.0	3.4
61-80	3.5	1.2	.5	1.7	1.8	5.0	9.5	10.6	7.7	9.9
81-100	3.0	.2	.5	1.6	2.1	2.5	9.1	9.0	13.9	5.5
41-60 (INCOME)										
TOTAL	20.0	26.9	24.3	21.2	17.7	19.9	12.8	14.9	10.6	12.5
1-20	3.6	7.7	7.0	3.5	2.2	1.4	.8	1.7	.7	.1
21-40	4.8	12.6	7.0	5.8	4.1	2.7	.7	1.1	.8	.2
41-60	4.9	6.0	6.9	4.3	5.3	4.6	2.5	1.8	1.3	4.0
61-80	3.5	.5	2.3	4.0	3.2	5.9	4.0	4.1	4.2	3.8
81-100	3.1	.1	1.1	3.6	2.9	5.3	4.8	6.2	3.6	4.4
61-80 (INCOME)										
TOTAL	20.0	18.5	28.8	21.4	23.0	21.2	6.2	9.3	5.2	4.3
1-20	2.0	7.9	2.7	1.1	1.9	1.4	.2	-	.3	.3
21-40	4.6	7.4	11.0	3.1	3.6	1.7	.2	.3	.3	-
41-60	4.6	2.1	8.8	5.6	4.6	3.5	.9	2.0	.0	.6
61-80	5.1	1.1	4.8	7.6	6.7	7.5	1.6	2.7	1.4	.8
81-100	3.8	.0	1.5	3.9	6.2	7.1	3.3	4.3	3.2	2.6
81-100 (INCOME)										
TOTAL	20.0	3.6	14.3	29.1	35.0	26.3	9.0	12.2	9.8	5.4
1-20	.8	1.5	1.0	1.8	.7	.3	.0	.1	-	.0
21-40	1.2	.6	1.7	2.3	1.5	.8	.2	.4	.1	-
41-60	3.4	.7	4.6	5.2	6.4	2.0	.4	.4	-	.7
61-80	5.7	.6	4.5	8.1	10.8	7.9	1.3	2.2	1.5	.5
81-100	8.8	.2	2.4	11.7	15.6	15.4	7.0	9.0	8.3	4.3

- NO CASES

TABLE 12--PERCENTAGE JOINT DISTRIBUTION OF INCOME AND FINANCIAL ASSETS

OVERALL INCOME AND FINANCIAL ASSET QUINTILES	AGE OF HOUSEHOLDER									
	TOTAL	UNDER 25	25-34	35-44	45-54	55-64	65+	65-69	70-74	75+
TOTAL (INCOME)										
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-20	20.0	31.2	24.9	21.8	17.7	12.6	15.7	17.3	17.6	12.8
21-40	20.0	30.4	28.6	19.5	15.6	14.7	13.7	13.2	10.4	16.7
41-60	20.0	27.6	23.9	21.1	18.2	16.4	15.7	15.9	15.2	16.0
61-80	20.0	9.6	18.5	20.0	23.6	22.9	20.7	16.2	22.4	23.5
81-100	20.0	1.2	4.1	17.5	24.8	33.4	34.1	37.4	34.3	31.0
1-20 (INCOME)										
TOTAL	20.0	26.9	12.1	12.7	12.6	17.1	40.6	32.3	40.2	48.3
1-20	9.1	16.6	7.5	6.6	8.9	7.2	11.8	11.0	13.9	10.9
21-40	3.5	2.8	1.8	2.2	1.9	4.1	7.5	6.8	6.8	8.8
41-60	3.4	5.7	2.3	1.6	.7	1.9	8.5	3.4	9.3	12.4
61-80	2.8	1.8	.5	2.0	.7	2.1	8.6	6.5	6.9	11.7
81-100	1.3	-	.1	.3	.4	1.9	4.2	4.6	3.4	4.5
21-40 (INCOME)										
TOTAL	20.0	24.1	20.5	15.6	11.6	15.5	31.5	31.4	34.1	29.4
1-20	5.6	5.4	9.6	8.1	4.2	2.6	2.4	4.8	1.9	.6
21-40	5.0	13.0	6.0	3.7	3.5	2.0	5.2	5.2	2.6	7.3
41-60	2.9	4.1	2.9	2.5	.7	3.7	3.8	6.0	4.3	1.4
61-80	3.1	1.2	1.8	.7	2.2	3.6	7.6	3.9	11.5	7.9
81-100	3.4	.5	.2	.6	1.0	3.6	12.5	11.6	13.8	12.2
41-60 (INCOME)										
TOTAL	20.0	26.9	24.3	21.2	17.7	19.9	12.8	14.9	10.6	12.5
1-20	2.9	5.0	4.6	3.7	2.1	1.8	.9	1.3	.7	.7
21-40	5.5	9.0	10.0	4.8	5.2	4.2	.7	.8	1.0	.4
41-60	4.9	8.7	5.8	7.2	3.8	3.5	2.1	3.5	1.0	1.7
61-80	3.8	4.2	3.4	3.5	5.1	4.8	2.5	2.8	2.3	2.4
81-100	2.9	.1	.5	2.1	1.5	5.7	6.6	6.5	5.6	7.4
61-80 (INCOME)										
TOTAL	20.0	18.5	28.8	21.4	23.0	21.2	6.2	9.3	5.2	4.3
1-20	1.7	3.7	2.4	1.9	1.7	.7	.4	.2	.8	.3
21-40	4.3	4.9	8.5	5.4	3.1	2.9	.2	.3	.0	.2
41-60	5.7	7.8	9.6	5.4	6.5	4.4	.9	1.9	.6	.2
61-80	4.9	1.8	7.0	5.8	5.8	6.3	1.2	2.2	.5	.7
81-100	3.5	.3	1.2	2.8	5.9	6.9	3.6	4.6	3.3	2.9
81-100 (INCOME)										
TOTAL	20.0	3.6	14.3	29.1	35.0	26.3	9.0	12.2	9.8	5.4
1-20	.7	.6	.7	1.5	.8	.4	.3	.1	.4	.3
21-40	1.7	.8	2.3	3.4	2.0	1.5	.1	.1	.1	.0
41-60	3.2	1.3	3.3	4.4	6.5	3.0	.5	1.0	-	.3
61-80	5.4	.5	5.8	8.0	9.8	6.2	.9	.8	1.2	.8
81-100	8.9	.5	2.1	11.7	16.0	15.3	7.2	10.0	8.1	4.0

- NO CASES

TABLE 13 -- FACTORS USED FOR ADJUSTMENT FOR SIZE OF HOUSEHOLD

SIZE OF HOUSEHOLD	FACTORS USED TO ADJUST INCOME AND WEALTH 1/
1 PERSON 2/	
AGE UNDER 65	1.024
AGE 65 AND OVER	.943
2 PERSONS	
AGE UNDER 65	1.322
AGE 65 AND OVER	1.190
3 PERSONS	1.568
4 PERSONS	2.009
5 PERSONS	2.379
6 PERSONS	2.687
7 PERSONS OR MORE	3.329

1/ THESE FACTORS WERE DERIVED FROM COLUMN 2 OF TABLE A-3 IN U.S. BUREAU OF THE CENSUS, CURRENT POPULATION REPORTS, SERIES P-60, NO. 130, CHARACTERISTICS OF THE POPULATION BELOW THE POVERTY LEVEL: 1979. NONFARM TOTAL POVERTY LINES WERE USED.

2/ THE WEIGHTED AVERAGE OF ONE-PERSON UNITS HAD AN IMPLIED FACTOR OF 1.000.

TABLE 14--PERCENTAGE JOINT DISTRIBUTION OF INCOME AND NET WORTH, ADJUSTED FOR SIZE OF UNIT

OVERALL INCOME AND NET WORTH QUINTILES SCALED BY SIZE OF UNIT	AGE OF HOUSEHOLDER									
	TOTAL	UNDER 25	25-34	35-44	45-54	55-64	65+	65-69	70-74	75+
TOTAL (INCOME)										
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-20	20.0	47.4	29.2	19.5	14.2	10.8	10.4	9.0	10.5	11.5
21-40	20.0	36.3	28.7	21.0	14.1	10.9	14.1	11.4	14.2	16.6
41-60	20.0	12.1	24.0	21.8	23.0	18.4	15.9	13.2	14.1	19.7
61-80	20.0	2.8	13.5	21.6	24.1	25.2	25.8	28.8	20.4	27.4
81-100	20.0	1.5	4.6	16.0	24.6	34.8	33.8	37.6	40.9	24.9
1-20 (INCOME)										
TOTAL	20.0	22.7	15.1	17.9	15.3	16.3	32.8	23.7	34.8	39.3
1-20	8.2	15.9	9.0	7.6	6.8	5.6	7.9	6.0	8.8	8.9
21-40	4.5	4.9	3.1	5.0	2.8	3.5	7.7	5.3	6.4	10.7
41-60	3.3	1.9	2.2	2.5	3.0	2.4	6.5	4.3	6.4	8.7
61-80	2.2	.0	.4	1.0	1.5	2.2	6.8	4.7	6.6	8.9
81-100	1.8	.0	.5	1.7	1.2	2.5	3.8	3.4	6.7	2.0
21-40 (INCOME)										
TOTAL	20.0	21.8	22.2	20.7	11.2	15.5	26.5	28.6	20.3	29.5
1-20	5.4	11.8	10.3	5.8	2.6	2.0	1.6	1.6	1.1	1.8
21-40	4.6	7.6	6.9	4.7	2.0	2.3	4.5	3.9	5.3	4.4
41-60	4.0	1.4	3.5	5.7	2.2	4.6	5.2	4.4	3.6	7.2
61-80	3.5	.2	1.1	2.9	2.0	4.1	9.0	10.2	6.9	9.5
81-100	2.4	.7	.4	1.5	2.4	2.5	6.2	8.4	3.4	6.5
41-60 (INCOME)										
TOTAL	20.0	24.3	23.3	18.9	18.0	17.3	18.9	20.9	23.7	13.4
1-20	3.3	10.3	5.7	2.8	2.0	1.8	.4	.7	.3	.3
21-40	4.7	9.8	7.8	5.3	2.8	2.8	1.5	1.0	2.1	1.5
41-60	4.8	3.2	6.8	4.9	6.6	3.5	2.6	2.0	3.4	2.6
61-80	3.5	1.0	1.9	3.6	4.6	3.9	5.3	7.5	2.9	5.1
81-100	3.6	-	1.2	2.4	2.0	5.3	9.0	9.7	15.0	3.9
61-80 (INCOME)										
TOTAL	20.0	23.1	22.0	20.9	24.5	21.2	11.3	12.0	10.1	11.7
1-20	2.2	6.7	2.8	2.0	2.6	.9	.4	.7	.3	.3
21-40	4.3	11.0	8.1	3.3	4.9	1.0	.3	.5	.3	-
41-60	4.4	4.5	6.4	5.0	5.3	4.2	1.2	2.0	.8	.8
61-80	5.1	.7	4.2	7.4	5.6	8.1	3.1	3.3	3.1	2.8
81-100	4.0	.1	.5	3.3	6.1	6.9	6.4	5.5	5.7	7.7
81-100 (INCOME)										
TOTAL	20.0	8.2	17.3	21.5	31.0	29.7	10.5	14.9	11.1	6.2
1-20	.9	2.8	1.5	1.3	.2	.5	.0	.0	-	.0
21-40	1.8	2.9	2.7	2.7	1.6	1.3	.2	.6	.1	-
41-60	3.4	1.1	5.1	3.7	5.8	3.5	.3	.6	-	.3
61-80	5.7	.7	6.0	6.7	10.5	6.8	1.7	3.0	.8	1.1
81-100	8.2	.7	2.1	7.1	12.8	17.6	8.3	10.6	10.2	4.7

- NO CASES

TABLE 15--PERCENTAGE JOINT DISTRIBUTION OF INCOME AND FINANCIAL ASSETS, ADJUSTED FOR SIZE OF UNIT

OVERALL INCOME AND FINANCIAL ASSET QUINTILES SCALED BY SIZE OF UNIT	AGE OF HOUSEHOLDER									
	TOTAL	UNDER 25	25-34	35-44	45-54	55-64	65+	65-69	70-74	75+
TOTAL (INCOME)										
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-20	20.0	30.1	25.5	21.9	17.9	13.1	14.9	16.8	15.9	12.5
21-40	20.0	28.9	29.2	22.6	15.5	14.0	11.7	10.1	10.2	14.3
41-60	20.0	29.1	23.7	20.3	21.2	15.6	14.3	16.3	13.0	13.6
61-80	20.0	9.3	17.1	20.4	23.7	23.9	21.5	18.1	22.8	23.5
81-100	20.0	2.6	4.6	14.8	21.7	33.4	37.6	38.8	38.1	36.1
1-20 (INCOME)										
TOTAL	20.0	22.7	15.1	17.9	15.3	16.3	32.8	23.7	34.8	39.3
1-20	10.0	13.3	9.7	10.4	10.2	7.3	10.5	9.2	13.3	9.6
21-40	3.6	3.2	2.9	3.4	2.6	3.5	5.7	4.0	5.7	7.3
41-60	3.0	5.6	1.8	1.8	1.2	1.6	6.6	5.1	5.8	8.6
61-80	2.4	.5	.7	1.8	.8	2.1	7.0	3.6	8.2	9.1
81-100	1.1	-	.1	.4	.6	1.9	2.9	1.9	1.8	4.7
21-40 (INCOME)										
TOTAL	20.0	21.8	22.2	20.7	11.2	15.5	26.5	28.6	20.3	29.5
1-20	5.2	7.1	9.4	5.6	3.2	2.7	2.7	5.7	.7	1.6
21-40	5.3	7.4	8.0	7.0	3.2	2.4	3.9	2.5	2.6	6.3
41-60	3.8	4.7	3.4	5.5	1.8	3.6	4.3	4.9	5.1	3.2
61-80	2.8	2.0	1.0	1.6	1.8	3.5	6.5	6.4	6.7	6.6
81-100	2.8	.5	.3	1.1	1.2	3.2	9.0	9.2	5.3	11.7
41-60 (INCOME)										
TOTAL	20.0	24.3	23.3	18.9	18.0	17.3	18.9	20.9	23.7	13.4
1-20	2.7	4.8	4.0	3.2	2.3	1.8	.9	1.2	.8	.6
21-40	5.6	12.2	9.0	5.2	5.3	3.3	1.5	3.2	1.2	.3
41-60	4.1	4.1	6.4	4.6	4.3	2.6	2.2	4.1	1.7	1.0
61-80	4.3	3.2	3.4	4.4	4.3	5.1	4.9	3.0	5.5	6.1
81-100	3.3	.0	.6	1.5	1.8	4.4	9.4	9.4	14.4	5.4
61-80 (INCOME)										
TOTAL	20.0	23.1	22.0	20.9	24.5	21.2	11.3	12.0	10.1	11.7
1-20	1.5	3.5	1.9	2.0	1.3	.8	.6	.7	.7	.3
21-40	4.0	4.9	7.3	5.2	3.2	2.8	.4	.3	.7	.4
41-60	5.1	10.6	6.8	4.4	7.4	3.5	.8	1.7	.3	.5
61-80	5.1	2.5	5.1	5.9	8.2	6.8	1.6	3.0	1.2	.7
81-100	4.4	1.5	.9	3.4	4.5	7.3	7.9	6.4	7.2	9.7
81-100 (INCOME)										
TOTAL	20.0	8.2	17.3	21.5	31.0	29.7	10.5	14.9	11.1	6.2
1-20	.6	1.3	.5	.7	.8	.5	.3	.0	.4	.4
21-40	1.4	1.2	1.9	1.8	1.3	1.9	.1	.1	.1	.0
41-60	4.0	4.1	5.2	4.1	6.6	4.3	.3	.6	-	.2
61-80	5.5	1.0	7.0	6.7	8.7	6.5	1.5	2.1	1.2	1.0
81-100	8.5	.6	2.7	8.3	13.6	16.6	8.4	11.9	9.3	4.6

- NO CASES

TABLE 16 -- PERCENT OF HOUSEHOLDS IN EACH AGE GROUP IN THE SPECIFIED INCOME-WEALTH PERCENTILES

INCOME-WEALTH PERCENTILES	AGE OF HOUSEHOLDER									
	TOTAL	UNDER 25	25-34	35-44	45-54	55-64	65 AND OVER	65-69	70-74	75 AND OVER
NO ADJUSTMENT FOR SIZE OF UNIT										
INCOME 1-20% AND:										
NET WORTH 1-40%.....	13	23	10	9	9	10	20	15	18	26
FINANCIAL ASSETS 1-40%.....	13	19	9	9	11	11	19	18	21	20
FINANCIAL ASSETS 1-60%.....	16	25	12	10	12	13	28	21	30	32
ADJUSTED FOR SIZE OF UNIT										
INCOME 1-20% AND:										
NET WORTH 1-40%.....	13	21	12	13	10	9	16	11	15	20
FINANCIAL ASSETS 1-40%.....	14	16	13	14	13	11	16	13	19	17
FINANCIAL ASSETS 1-60%.....	17	22	14	16	14	12	23	18	25	26
NO ADJUSTMENT FOR SIZE OF UNIT										
INCOME 81-100% AND:										
NET WORTH 81-100%.....	9	0	2	12	16	15	7	9	8	4
FINANCIAL ASSETS 81-100%....	9	1	2	12	16	15	7	10	8	4
ADJUSTED FOR SIZE OF UNIT										
INCOME 81-100% AND:										
NET WORTH 81-100%.....	8	1	2	7	13	18	8	11	10	5
FINANCIAL ASSETS 81-100%....	8	1	3	8	14	17	8	12	9	5

FOOTNOTES

* An earlier version of this paper was presented at the C.V. Starr Center Conference on International Comparisons of the Distribution of Household Wealth, New York University, November 11-12, 1983. The authors are greatly indebted to Sharon Johnson, who prepared the estimates, and to Benjamin Bridges, John Hambor, Thomas Juster, Daniel Kasprzyk, and Charles Lininger for their helpful comments. Any opinions expressed are those of the authors and do not necessarily represent the position of the Social Security Administration.

1/ Looking at the aged, Hurd and Shoven (1982) capitalized several sources of income and added those values to estimates of wealth. Thus, income flows were converted into stocks of wealth.

2/ The top income quintile contained 13 percent more observations than would have been expected without oversampling; the bottom income quintile contained 32 percent more observations than would have been expected. The top net worth quintile contained 12 percent more observations than would have been expected, while the bottom net worth quintile contained 21 percent more. The oversampling was carried out by oversampling housing units in the 1976 Survey of Income and Education that had (1975) income of less than $2,500 or more than $36,999. The oversampling at the top was far less than that used in the 1962 Survey of Financial Characteristics of Consumers.

3/ Another problem is that missing asset information and missing income information were imputed independently.

4/ This absence of the extreme upper tail would be expected to have a substantial impact on comparisons between survey aggregates and independent control aggregates.

5/ Contrary to usual Bureau of the Census practice, group quarters (housing units with five or more persons who are unrelated) are included in the universe of households for this paper. However, since the number of such households is quite small, this departure from conventional Census Bureau definitions should have no substantive impact on our findings.

6/ The concept of householder is closely related to the traditional concept of "head" which it supplants. However, in husband-wife families either partner may be designated as the householder. This contrasts with past Bureau of Census practice when the husband was always classified as the "head". In the 1979 ISDP, approximately 3 million (or somewhat less than 6 percent) of women in married couple families were designated as the householder. In the March 1980 CPS (income year 1979), approximately 1.6 million (or 3 percent) were classified as the householder. The March 1979 CPS (income year 1978) employed the traditional head concept.

7/ Thus, income from assets is included in income at the same time that income-producing assets are included in wealth. It should be noted that the nonfarm self-employment income estimate is the person's "draw" from the business, rather than net income from the business.

8/ Assets and debts of persons under age 16 are excluded from the estimates shown in this paper.

9/ The asset and debt definitions and terminology used in this paper were chosen to be as similar as possible to the SFCC definitions and terminology. However, some differences remain.

10/ With the exception of Table 4, the estimates in this paper exclude the small number of sample cases with negative household income.

11/ The Lorenz curves for the 45-54, 55-64, and 65 and over groups cross.

12/ The share of the top one percent of households is in the 10 to 15 percent range for age groups (12.5 percent for all ages). Such values are far below estimates from most other data sources. See the discussion in the text of the absence of the upper tail in these data.

13/ Median net worth shows essentially the same pattern; however, the median is below the mean in every case. In cells with very high means, the mean is not very far above the median because of the compression of high amounts discussed earlier.

14/ The precise location of the peak among detailed aged groups should be examined with caution; some of those quintiles contain relatively few observations (see Table 11 for indications of small cells).

15/ The range of this indicator is from 1.00 (maximum concentration) to 0.00 (maximum dispersion).

REFERENCES

Hurd, Michael and John B. Shoven (1982), "Real Income and Wealth of the Elderly," American Economic Review, Vol. 72, No.2 (May), pp.314-18.

Pearl, Robert B. and Matilda Frankel (1981). "Composition of Personal Wealth of American Households at the Start of the Eighties," a paper presented at the the American Economic Association meetings, Washington, D.C., December 29th.

Pearl, Robert B., Matilda Frankel and Richard C. Williams (1982). "The Effects of Missing Information on the Reliability of Net Worth Data from the 1979 ISDP Research Panel." Survey Research Laboratory, University of Illinois, Urbana.

Projector, Dorothy S., and Gertrude S. Weiss (1966). Survey of Financial Characteristics of Consumers. Board of Governors of the Federal Reserve System.

Radner, Daniel B. (1981). "An Early Look at the Joint Distribution of Wealth and Income, 1979," a paper presented at the American Economic Association meetings, Washington, D.C., December 29th.

Vaughan, Denton R., Cameron Whiteman and Charles Lininger (1983). "Quality of the Income and Program Data in the 1979 ISDP Research Panel: Preliminary Findings," in Martin David, (ed.), Technical, Conceptual, and Administrative Lessons of the Income Survey Development Program (ISDP), Social Science Research Council, New York, pp. 203-227.

Vaughan, Denton R. (1983). Family Composition and Poverty Status: Recipient Families and Aggregate Benefits from Selected Public Income Maintenance Programs, Spring 1979, Social Security Administration, Office of Research and Statistics.

Weisbrod, Burton A., and Lee W. Hansen (1968). "An Income-Net Worth Approach to Measuring Economic Welfare." American Economic Review, Vol. LVIII, No.5. (December), pp. 1315-29.

Yeas, Martynas and Charles Lininger (1981). "The Income Survey Development Program: Design Features and Initial Findings," Social Security Bulletin, Vol. 44, No. 11, pp. 13-19.

APPENDIX

Some General Notes on
The ISDP Fifth Interview Data Base on Assets:
Data Collection and Processing*

With the exception of equity in vehicles and owner-occupied housing, the ISDP wealth estimates presented in this paper were collected in the 5th interview of the 1979 ISDP Research Panel conducted in January, February and March, 1980. 1/ This section will offer a brief overview of the collection and processing procedures employed for the various asset components of net worth and a discussion of some possible implications for analytical work.

Data Collection 2/

From the standpoint of collection and processing procedures, asset information can be roughly divided into two classes: that type for which ownership information had been established in prior interviews (for the most part assets which might be expected to produce periodic income flows) and such other assets as owner-occupied housing, vehicles, cash on hand and in checking accounts, and household durables.

The basic information underlying estimates of equity in owner-occupied housing and motor vehicles was appended to the fifth wave Public Use File from data collected in the second interview for purposes of simulating program eligibility. A limited description of the collection and coding of these data is given in [9] and final editing and imputation procedures are discussed in [8,10]. Information concerning

cash on hand and in checking accounts, and household durables was obtained during the fifth wave interview in a relatively straightforward manner and will not be discussed.

Collection of asset values in the fifth interview for income producing assets (farm and nonfarm businesses, interest-bearing assets, stocks and mutual fund shares, real property other than own home, and nonactive business interests) was based on ownership information developed at the level of individuals over the course of the first four interviews that preceded the net worth interview conducted in the fifth wave. The collection of ownership information for these types of assets was closely intertwined, in turn, with the wave by wave collection of information on periodic income flows from these same sources.3/

Beginning in the initial interview, conducted in early 1979, individuals were asked an extensive set of questions about asset ownership. Questions about holdings in savings and credit union accounts and savings bonds were directed to all sample members. Then sample persons in households with incomes in roughly the lower 2/3 of the distribution (annualized household incomes of less than $24,000) were asked a summary item about the ownership of stocks, rentals or other types of bonds. If they responded positively to the general question, respondents were asked to specify in detail what particular types of additional assets were owned. Members of households in the upper 1/3 of the distribution (with annualized household incomes of $24,000 or more) answered a much more detailed set of questions about the remaining types of financial

assets and real estate other than owner-occupied housing.

An introductory statement designed to introduce the asset holdings section and to encourage the reporting of savings or credit union accounts and U.S. savings bonds was read to each respondent. Respondents in upper income households were read an additional statement prior to administering the detailed items which they were to answer. 4/

Answers to the holdings items were used to construct a holdings roster for each sample adult. As a result, up to 16 distinct types of asset holdings are identifiable on the level of the individual. At a later point in the interview, after the remaining information on income sources was obtained, and questions about income flows from earnings and transfer income had been completed, respondents were asked a set of questions about the amount of income received from each of the asset types reported earlier. In general, separate question sequences were employed for each distinct asset type. In the case of savings and credit union accounts, individuals who were unable to answer the items on interest flows were asked to provide a dollar amount for the balance in their account(s).

In subsequent waves, information about each individual's income sources and asset holdings was transcribed from a household control record onto the questionnaire prior to interview. Most types of asset holdings were listed in a separate "asset roster" located at the beginnning of the set of items covering asset ownership. Each respondent was read the list of holdings reported for the sample person during the prior interview.

This information was confirmed and continued ownership status ascertained. Special probes were introduced to uncover savings and credit union accounts and savings bonds for those who had not reported them in the prior interview and a final catch-all question was asked about other assets, such as "bonds, stocks, rentals or any other assets which bring in money", which the individual may have owned during the three-month reference period. This final item provided the opportunity to report newly acquired assets or additional holdings information which had been overlooked or withheld during the prior interview(s). The full set of updated information was then used to ask about asset income flows in the same manner as in the first interview. Again, nonresponse to items on savings and credit union account interest amounts was followed by a question on account balances.

The update procedure was repeated for each wave up through and including the fifth wave. In the fifth wave itself, asset value questions were generally inserted at appropriate points in the sections dealing with flows from the asset in question, just as the item on savings account balances had been incorporated in the earlier waves. Obviously, however, in the fifth wave respondents were <u>always</u> asked about income amounts <u>and</u> asset values for each asset type covered. 5/

As noted, most values for financial assets and real assets other than owner-occupied housing were collected in tandem with income flows from these sources. In general the income flows from a given asset were obtained in three packets or bundles ... 1) flows stemming from a particular category of asset owned individually, 2) flows associated

with assets owned jointly with a spouse, and 3) flows from asset bundles owned jointly with persons other than a spouse. In instances of joint ownership by spouses, only the first spouse interviewed was asked to provide information on the income amounts stemming from the jointly held asset. For assets jointly held with other persons, additional items generally permitted direct or indirect derivation of the sample person's share of the flow from the jointly held asset. Asset values in the fifth wave were obtained using the same schema. Paralleling the questioning approach, the record for each adult in the initial data file (the so-called "questionnaire image file") carried a series of complementary fields for income amounts and asset values corresponding to the asset bundles owned individually, owned jointly with a spouse and owned jointly with other persons. 6/

Processing (Editing and imputation for missing values) 7/

Editing.-- Over the course of the various processing steps which moved the file from a "questionnaire image" stage to the public use working file, the detail at the bundle level was eliminated. In the case of asset income, a single amount field was developed prior to imputation for each asset type by the appropriate period of account (monthly or quarterly depending on type of asset). Consequently, the original response pattern is not available in the public use file, nor is partial nonresponse discernible. For example, the amount carried for a given individual for dividend income was derived from the sum of the dividends reported to have been received in a sample individual's own name, plus 1/2 the amount, if any, reported to have been received jointly with a

spouse (the other half being assigned to the spouse) plus the individual's share of any dividends reported in conjunction with "other" jointly held stocks. Hot deck imputation was carried out subsequent to this consolidation of information, asset by asset, at the persons' level, and assignments for "partial" missingness were not made. Thus if an individual reported receiving dividends in his own name, jointly with a spouse and jointly with someone else, but could only recall the amount received from the stocks owned in his own name, he was not considered eligible for imputation of amounts. The response was treated as "operationally" complete and is carried as such on the public use working file.

The same general procedure was adopted for the asset value information with two important exceptions:

1. Jointly reported amounts were not split between spouses. The joint amount was retained in the reporting spouse's record and the other spouse was assigned a "zero" amount value for the jointly owned bundle before adding up took place. A joint holdings flag for spouses was provided to indicate if joint ownership was reported, and if so, which spouse's record would contain the amount, if reported. (The user is cautioned, however, that meaningful comparisons of spouses' holdings are formally precluded despite the presence of the joint holdings flag because jointly held amounts can not be separately identified.)

2. If ownership of more than one of the three person-level bundles was reported and some, but not all, of the corresponding asset value fields were coded "don't know" or refused", the value for the entire summary field was coded as "don't know" or "refused".8/

Imputation Procedures.-- In contrast to earnings and transfer income amounts, item nonresponse on asset income amounts and the value of asset holdings was quite high [8:5-17]. The impact of imputation on mean asset holdings has been documented and was substantial . . . especially "for those financial categories--corporate stocks and the [asset] group containing certificates of deposit . . . where income and age have the most pronounced effect on size of holdings [8:29]".

Asset income and asset value fields with missing amounts were assigned values by hot deck procedures [9:7-32 to 7-34, 10:17-29]. 9/ The Bureau of the Census developed and implemented the approach employed for asset income amounts while the Survey Research Laboratory (SRL) of the University of Illinois carried out the imputation work for the net worth items independently. The imputation schemes for both asset income and asset values were frankly preliminary and designed to bring the files to a point where preliminary analyses could be conducted. The imputation procedures were reasonably adequate by these standards, although they were intended as the initial stage in developing "final" procedures; this process was interrupted and has not been completed. Consequently, certain important limitations should be borne in mind:

1. The only strictly financial classifier used in either the income or asset hot deck procedure for imputing amount values was a single nine level summary item on total household income for the month prior to interview. The item was similar to global income questions widely used in survey research in which the respondent's answer is formulated on the basis of predetermined response categories presented on a card. Thus the item was not built up from the detailed responses of each household member and is not the preferred measure [7:25-30].

2. With the exception of savings and credit union account balances, reported asset values for a given asset were not used to assign a missing flow amount, nor were reported asset flows used as hot deck classifiers when asset values were missing. 10/ Furthermore, when both asset income amounts and asset values were missing, they were imputed independently. (As noted SRL began work on the asset imputation task before the Bureau of the Census had carried out the income imputations, so the imputed income variables were not available to SRL until the bulk of their work was completed.)

3. Apart from household income in the month prior to the interview, the only other variables used in asset value imputations were age and sex [8:23-29, 10:A-7 to A-12]. Educational attainment of the household reference person was used as a proxy for household income if household income was missing. The most generally employed age group classifiers

were: < 25, 25-34, 35-44, 45-54, 55-64 and 65 and over. More detailed breaks were never employed for the 65 and over age group. 11/ Note also that race was not incorporated in the imputation scheme. Thus black sample members with missing information on asset amounts are likely to have frequently been assigned values from white sample members of similar age and income.

Given the existence of high levels of item nonresponse and the substantial impact that imputation had on the nature of the final estimates, analysts are well advised to consider carefully the limited set of variables used in the imputations and the implications that the imputation scheme might have for their particular analyses. For example, our analysis focuses on the joint distribution of income and wealth with particular attention to how the joint distribution varies by age. Consequently we are concerned about the problems that might arise because the assignment of missing asset amounts was not coordinated with asset income flows. Also, while we feel that age detail within the age 65 and older group is analytically essential, we realize that the imputation schema for assets did not take variation by age within the broader age group directly into account.

Concern for the potential limitations imposed by the preimputation processing and the imputation procedures per se led the inter-agency group overseeing the production of the public use version of the 1979 Research Panel to underwrite the development of a special mini-file of

so-called "questionnaire image" information for most financial assets and real assets other than owner-occupied housing (various interest-bearing assets, stocks and mutual fund shares, rental and other real property, and miscellaneous assets). Asset value information on this file is arranged essentially as it was collected. Most importantly, the three basic asset bundles (self, joint with spouse, and joint with a person other than spouse) are identifiable by source at the person level for both asset income flows and asset values. Consequently, this adjunct file, also in the public domain, could be used to directly address and, if necessary, rectify some of the limitations in the current version of the full fifth wave public use data set. Time and resources permitting, we hope to use the mini-file to look into these problems more carefully, and in the meantime, any conclusions we might like to draw on the basis of our early analyses with the public use file will be strongly tempered by our awareness of these limitations.

From the past to the future.-- Research by Ferber and his colleagues in the 1960's showed that the basic source of overall bias in survey estimates of asset values generally stems from failure to identify asset ownership [3,4,5,6]. Failure to identify asset ownership was in turn traced to two basic sources: 1) interviewed persons who actually owned assets of the type in question but did not report them in the survey, and 2) the subset of eligible sample households who were not interviewed, particularly when nonparticipation resulted from refusals.

Ferber also found nonreporting to be somewhat higher for assets such as savings accounts that were owned solely by one individual as opposed to

accounts owned jointly (as by spouses) [5:441], and, on the basis of small methodological studies, established that the use of leading questions [4:72-73] and repeated questioning about asset ownership in a panel context had positive effects on ownership reporting [3:179, 212-213].

There are at least six aspects of the ISDP design which must be seen as innovative in the light of such research findings but which have received little attention by the broader community:

1. the distinct separation of question sequences about asset ownership from items about asset income and asset values;
2. separation of asset holdings into bundles at the person's level;
3. the collection of ownership information in a multi-wave panel context;
4. the use of leading statements to introduce critical asset questions;
5. Census Bureau sponsorship of the data collection as part of an ongoing Bureau activity; and
6. the integration of asset income and asset value measurement.

The separation of items on asset ownership from those on asset income flows and asset valuation facilitates focusing on developing reports of asset ownership. The collection of information about a given asset in terms of bundles held in the sample individual's own name and held jointly with others may contribute to a lessening of the tendency for

individually owned assets to be differentially underreported. Repeated questioning about asset ownership as an integral part of the panel design might be expected to have beneficial effects on nonreporting as well. Collection of the asset data as a routine and ongoing activity of the Bureau of the Census is very likely to result in much lower noninterview rates than could generally be obtained by other survey organizations. Finally, the availability of information on asset income flows could prove to be highly useful in dealing with item nonresponse on asset value questions and in assessing the basic reasonableness of reported asset values.

With the exception of the use of leading questions, the 1983 Survey of Income and Program Participation (SIPP) retains and strengthens the innovative features of the ISDP asset measurement approach and incorporates additional motivational techniques designed to markedly reduce the extent of item nonresponse for asset income amounts and asset values. Of course, as is the case with the 1979 ISDP panel, processing and imputation procedures must take these innovative features into account if the data are to make their way to government and private sector users in a reasonably adequate form.

APPENDIX FOOTNOTES

* Most of the discussion presented here is based on the following sources:

[1] Cavanaugh, R. "Description of the 1979 ISDP Wave 1 Reformat System". Memorandum to the Record. U.S. Bureau of the Census, Demographic Surveys Division: Washington, D.C., September 1981.

[2] Cavanaugh, R. "Differences Between the Wave 1 and Waves 2-5 1979 ISDP Core Data Imputation System". Memorandum to the Record. U.S. Bureau of the Census, Demographic Surveys Division: Washington, D.C., September 1981.

[3] Ferber, R. The Reliability of Consumer Reports of Financial Assets and Debts. Studies in Consumer Savings, No. 6. Urbana: Bureau of Economic and Business Research, University of Ilinois, 1966.

[4] Ferber, R., and M. Frankel. "The Collection, Measurement, and Evaluation of Savings Account Reports," Survey Research Laboratory, University of Illinois, 1978. (a report made pursuant to contract HEW-100-77-0112).

[5] Ferber, R., J. Forsythe, H. Guthrie and E. Maynes. "Validation of a National Survey of Consumer Financial Characteristics: Savings Accounts." The Review of Economics and Statistics, 51:4:436-444 (November, 1969).

[6] Ferber, R., J. Forsythe, H. Guthrie and E. Maynes. "Validation of Consumer Financial Characteristics: Common Stock." Journal of the American Statistical Association, 64:326:415-425 (June, 1969).

[7] Mathematica Policy Research. Survey of Income and Program Participation 1978 Panel Data Analysis. "Interview Completion Time and Household Income Screener." a report submitted under contract HEW-100-79-0118. September, 1980.

[8] Pearl, R., M. Frankel and R. Williams. "The Effects of Missing Information on the Reliability of Net Worth Data from the 1979 ISDP Research Panel." Survey Research Laboratory, University of Illinois: Urbana, 1982.

[9] Research Triangle Institute. ISDP Research Panel Documentation. Research Triangle Institute: Research Triangle Park, 1982.

[10] Williams, R., M. Ewing and K. Woodrow. "The Consolidated Net Worth Analysis File: Description and Glossary." Survey Research Laboratory, University of Illinois: Urbana, 1982.

Unfortunately only a minority of these sources are generally available. The second author also relied a good deal on his personal knowledge of the ISDP data collection process and on contacts with former members of the ISDP staff. However, this discussion is at best informal and no pretense is made that it is in any way complete.

1/ The formal reference date for the valuation of net worth components obtained in these interviews was fixed as December 31, 1979. With the exception of home and vehicle equity, the abbreviated set of asset information collected in the second wave will not be discussed.

2/ A complete description of procedures would be more complicated than presented here because of experimental procedures which involved asset ownership and asset income flows for some subsamples. The description given here applies most specifically to the 2/3 of the sample interviewed with the persons' oriented questionnaire and the subset of that group in the 3-month asset income recall treatment. Update procedures were the same for the entire sample. However 1/2 of the sample was only asked about asset income flows every second interview (the 6-month recall group). For more details on the various experimental treatments employed in the 1979 panel see [9].

3/ Ownership of farm and nonfarm businesses was determined in conjunction with developing information on earned income. Asset values for owner-operated businesses were collected in wave five as part of the usual sequence of questions on income flows from such businesses and will not be discussed.

4/ The first introductory statement was as follows:

> Many people try to save for their later years for some special purpose or just for emergencies.

The statement was immediately followed by the item on savings and credit union account ownership.

The second statement, read to the "upper income" respondents only was:

> Apart from savings accounts and U.S. savings bonds, people with a little more money often make investments in other kinds of assets. During this period did ... own or hold any of the following:

The statement was followed by a set of 16 additional questions about various types of asset holdings.

5/ Income flows from royalties, annuities and paid-up life insurance and estates and trusts were also collected. However, values for these assets were not obtained.

6/ Reporting of multiple bundles at the persons' level was not uncommon. For example, among sample persons in wave 1 with joint savings or credit union accounts perhaps 30 percent were reported to have accounts in their own names or other shared accounts in addition to those held jointly with a spouse.

7/ Processing of the income information was carried out by the Bureau of the Census. For the most part, net worth information was edited and imputed by personnel of the Survey Research Laboratory (SRL) of the University of Illinois (see [8, 10]). A fully imputed set of income data was not available from the Bureau of the Census when SRL staff did their editing and imputation work on assets and debts.

8/ Evidently, "partial missingness" was quite rare for asset value items (personal communication, Richard Williams, 10/12/83), so little useful information was lost by this procedure.

9/ The reader will note that this discussion focuses entirely on imputation of asset values and asset income amounts. This is because the incidence of item nonresponse to asset ownership questions was nil.

10/ Additional information on annual income flows from financial assets, real property and owner-operated businesses, obtained in wave six, offered yet another source of considerable potential for the imputation of asset values. Indeed, its collection was in part justified for this purpose. However, due to severe operational constraints, it could not be used.

11/ Because of the relatively small sample sizes involved and the high levels of item nonresponse, incorporation of more age detail may not have been practical. This is not to say that it would not have been highly desirable to do so under more favorable circumstances or, that if it were possible to do so, that the estimates might not be affected considerably.