# Appendix D. Data Quality

Two major determinants of the quality of data collected in household surveys are the magnitude of missing responses and the accuracy of the responses that are provided. This appendix provides information on the nonresponse rates for selected net worth items in the Survey of Income and Program Participation and provides a comparison of the survey net worth estimates with independent benchmark data.

Nonresponse in this discussion refers to missing responses to specific questions or "items" on the questionnaire. Noninterviews or complete failure to obtain cooperation from any household member have not been considered in this examination of nonresponse rates. Adjustments to account for noninterviews are made by proportionally increasing the survey weights of interviewed households. Missing responses to specific questions are assigned a value in the imputation phase of the data processing operation.

Nonresponse is an important factor in assessing the quality of survey data. Nonresponse occurs when respondents do not answer questions because of a lack of knowledge or a refusal to answer. Nonresponse rates for selected asset ownership questions from the first wave of SIPP are shown in table D-1. The rates are calculated by dividing the number of missing responses by the total number of responses that should have been provided. In general, the asset ownership nonresponse rates in SIPP are low, with an average rate of 1.4 percent. For specific asset types, the rates ranged from 0.9 percent for rental property and royalties to 2.2 percent for certificates of deposit. The second column of table D-2 shows nonresponse rates for asset amount items in SIPP. The first column of table D-2 shows nonresponse rates from the Income Survey Development Program (ISDP), a research version of SIPP. Data on assets and liabilities were collected in the fifth wave of ISDP (end of 1979). The SIPP nonresponse rates, in general, show improvements over the nonresponse rates encountered in ISDP. The adoption of a callback procedure to attempt to collect missing asset amounts and a major emphasis during interviewer training on the need to obtain complete asset information were two factors which contributed to the reduction in the nonresponse rates.

**Table D-1. Nonresponse Rates for Asset Ownership**

| Asset type | Percent refusal/ Don't know | Unweighted base |
|---|---|---|
| Total | 1.4 | 40,959 |
| Savings accounts | 1.7 | 27,124 |
| Money market deposit accounts | 2.1 | 27,039 |
| Certificates of deposit | 2.2 | 27,102 |
| Interest earning-checking accounts | 1.9 | 27,098 |
| Other interest earning assets | 1.4 | 40,858 |
| Stocks and mutual fund shares | 1.2 | 40,971 |
| Rental property | 0.9 | 40,959 |
| Royalties | 0.9 | 40,928 |
| IRA Accounts | 1.4 | 33,040 |
| KEOGH Accounts | 1.0 | 33,062 |
| Other real estate | 1.0 | 17,279 |
| Other investments | 1.3 | 40,935 |

**Table D-2. Comparison of Nonresponse Rates for Asset Amounts Between SIPP and ISDP**

| Asset type | ISDP[1] | SIPP |
|---|---|---|
| Amount in savings accounts | 24.9 | 16.8 |
| Amount in checking accounts | 23.1 | 13.3 |
| Amount in bonds and government securities | 32.2 | 25.9 |
| Market value of stocks and mutual fund shares | 65.8 | 41.5 |
| Debt on stocks and mutual funds shares | 87.3 | 41.1 |
| Face value of U.S. savings bonds | 35.8 | 24.9 |
| Value of rental property | 39.9 | 33.5 |
| Value of own business | 55.3 | 37.9 |
| Debt on own business | 50.4 | 28.8 |

[1]Source: Robert Pearl, Matilda Frankel, and Richard Williams, "The Effect of the Reliability of Net Worth Data From the 1979 ISDP Research Panel," Survey Research Laboratory, University of Illinois, May 1982.

Nonresponses are assigned values prior to producing estimates from the survey data. The procedure used to assign or impute most responses for missing data for SIPP are of a type commonly referred to as a "hot deck" imputation method. This process assigns values reported in the survey by respondents to nonrespondents. The respondent for whom the value is taken is termed the "donor'. Values from donors are assigned by controlling for demographic and economic data available for both donors and nonrespondents. For every asset and liability item, there was a common, set of characteristics used in the imputation process. These included the age, race, sex, and years of schooling of the person (or householder), and total household income during the four month reference period. For selected items, additional characteristics were used in the imputation process. For example, the imputation of the current market value of own home used the common set of characteristics listed above plus the original purchase price of the home. Similarly, for most assets covered in the core section of the questionnaire, income was used as an additional characteristic in the imputation of current balances or market values.

A second important determinant of data quality is the accuracy of reported and imputed amounts. Response errors are the result of a variety of factors including random response error, misreporting or failure to report asset ownership, and misreporting of asset and liability values. The extent of response error is measured by comparing survey estimates with independently derived estimates.

A comparison of SIPP aggregate asset amounts with estimates derived from the Flow of Funds data of the Federal Reserve Board (FRB) is shown in table D-3. The Flow of Funds Balance Sheet data provides estimates as of the end of the year and is shown in the first column. There are several conceptual and coverage differences between SIPP and the FRB Balance Sheet data. First, the household sector in the FRB Balance Sheets includes nonprofit institutions and private trusts which are not covered in SIPP. In order to make the sources more comparable, a rough estimate of the financial assets held by the nonprofit sector and personal trusts was obtained. The adjustment to the FRB Balance Sheets data is shown in table D-3, line D-4. The second difference is that the SIPP universe consists of the noninstutional resident population. Excluded from the universe are Armed Forces personnel living in military barracks, citizens residing abroad, and institutionalized persons, such as correctional facility inmates and nursing home residents. The asset holdings of these groups are included in the FRB Balance Sheet estimates. A third limitation in this comparison is that the household sector of the FRB Balance Sheets is estimated as a residual after allocations are made to all other sectors (farm business, nonfarm, noncorporate business, nonfinancial corporate business, and private financial insitutions). As a result, allocation errors can lead to inaccuracies in the household sector estimates, especially in assets where the amount held by households comprise a small percentage of the total.

Overall, SIPP aggregate net worth was 92 percent of the FRB Balance Sheet estimate. The extent of agreement between the two data sources, however, vary by asset type. The survey estimates of tangible assets (equity in own home, motor vehicles, and own business) are relatively close to the FRB figures, but the survey underestimates holdings of financial assets. Overall, the survey estimates of financial assets is about 75 percent of the independent figure. The overall figure, therefore, is the result of offsetting errors, that is, an overestimate of the equity in tangible assets and an underestimate of the value of financial assets.

Two final issues related to data quality are asset coverage and population coverage. The household net worth estimates presented in this report exclude equities in pension plans, the cash surrender value of life insurance policies, and the value of household furnishings such as furniture, antiques, art and jewelry. These were excluded because it is particularly difficult to obtain reliable data on these assets in a household survey. For households likely to hold these assets, the estimates in this report will underestimate more general definitions of net worth. The exclusion of pension plan equities is likely to be

**Table D-3. SIPP Asset and Liability Estimates Compared to Federal Reserve Board Balance Sheet Data for the Household Sector: 1984**

(Numbers in billions)

| Category | FRB balance sheet | SIPP | Ratio of SIPP to FRB balance sheet |
|---|---|---|---|
| A. Equity in owner-occupied housing | $2,174.2 | $2,823.6 | 1.30 |
| Gross value | 3,482.7 | 3,958.2 | 1.14 |
| Debt | 1,308.5 | 1,134.6 | 0.87 |
| B. Equity in motor vehicles | 287.0 | 410.5 | 1.43 |
| Gross Value | 459.6 | 558.8 | 1.22 |
| Debt | 172.6 | 148.3 | 0.86 |
| C. Equity in noncorporate business | 2,229.7 | 1,680.2 | 0.75 |
| Rental property | (NA) | 909.6 | (NA) |
| Other business equity | (NA) | 770.6 | (NA) |
| D. Financial assets | 3,812.0 | 2,826.1 | 0.74 |
| 1. Interest-earning assets[1] | 3,195.2 | 1,635.7 | 0.51 |
| 2. Corporate equities[2] | 1,456.7 | 1,062.7 | 0.73 |
| 3. Other financial assets[3] | 160.4 | 127.8 | 0.80 |
| 4. Less: Financial assets held by nonprofit sector or in personal trusts | (840.0) | (X) | (X) |
| E. Installment and other consumer debt[4] | 379.9 | 241.5 | 0.64 |
| F. Net Worth (A+B+C+D-E) | 8,122.9 | 7,498.8 | 0.92 |

NA Separate estimates not available.
X Not applicable.
[1]Includes passbook savings accounts, money market deposit accounts, certificates of deposit, checking accounts, money market funds, U.S. Government securities, municipal or corporate bonds, savings bonds, IRA and KEOGH accounts, and other interest-earning assets.
[2]Includes equities in stocks, mutual fund shares, and incorporated self-employed businesses or professions.
[3]Includes mortgages held by sellers and other financial assets not otherwise specified.
[4]Excludes debt for automobile and mobile homes.

more important for older householders with substantial lifetime work experience.

The second related issue is population coverage. The distribution of net worth is known to be highly concentrated. Findings from SIPP show that the top two percent of the distribution hold 26 percent of total net worth and even a greater proportion of certain asset types. The SIPP did not make a special effort to measure the top of the distribution. When the distribution is so concentrated, the normal SIPP area frame sample, which does not oversample high income households, has limited coverage of top wealthholders.

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