ESTIMATES OF HOUSEHOLD WEALTH INEQUALITY IN THE U.S., 1962-1983

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The study has two major objectives. The first is to determine time trends in household wealth inequality in the U.S. over the 1962-83 period. Four concepts of wealth are analyzed: (i) total household wealth, defined as total household assets less liabilities; (ii) fungible wealth, defined as total household wealth less consumer durables and household inventories; (iii) financial wealth, defined as fungible wealth less equity in owner-occupied housing; and (iv) capital wealth, defined as financial wealth less currency, checking accounts, and time deposits. Relying on a variety of data sources, I find that wealth inequality remained relatively constant from about 1962 to 1973, fell sharply from about 1973 to about 1979, and then rose sharply between 1979 and 1983. Concentration in 1983 was greater than that in 1962 for financial and capital wealth but of similar magnitude for total and fungible wealth. The second, methodological in nature, is to analyze the effect on measured inequality of the alignment of raw survey data to national balance sheet totals. I find that the alignment process can significantly affect point estimates of household wealth distribution but does not generally affect the direction of inequality trends.

INTRODUCTION

Recent evidence indicates that there has been a sharp decline in personal wealth inequality in several industrialized countries. Smith (1987) found that in the United States the share of net worth held by the top half percent of wealth holders was 21.4 percent in 1958 and 21.9 percent in 1972 and then fell to 14.4 percent in 1976; likewise the share of the top one percent was 26.6 percent in 1958 and 27.7 percent in 1972 and then declined to 19.2 percent in 1976. Between 1972 and 1976, the share of every asset type, including stocks and bonds, held by the top percentiles declined sharply. Whiteman (1984) corroborated this trend by reporting that the share of net worth of the top quintile fell from 80.0 percent in 1962 to 70.9 percent in 1979. However, additional evidence reported by Smith indicates that wealth inequality increased between 1976 and 1981, with the share of the richest 0.8 percent accounting for 20 percent of total net worth in the later year.

For the United Kingdom the evidence is even more dramatic. Shorrocks (1987) reported that the share of the top one percent of wealth holders declined fairly continuously from 61 percent in 1923 to 23 percent in 1980, while the share of the top 5 percent fell from 82 percent to 43 percent. Moreover, when pension rights are included as part of personal wealth, the share of the top one percent fell from 27 percent in 1971 to 19 percent in 1981 with one calculation of pension wealth and from 21 percent to 12 percent using a different calculation.

For Sweden, Spånt (1987) found that the share of net worth held by the richest one percent fell almost continuously from 50 percent in 1920 to 21 percent

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in 1975, while that of the top 5 percent fell from 60 percent to 28 percent. However, between 1975 and 1983, there was a slight increase in wealth inequality, with the share of the top one percent rising from 17 to 19.5 percent (based on market prices) and that of the top 2 percent from 24 to 26 percent.

This paper presents results on time trends in U.S. household wealth inequality over the period 1962 to 1983. Three major household databases are used in the analysis: the 1962 Survey of Financial Characteristics of Consumers or SFCC (see Projector and Weiss (1966) for a description); the 1969 MESP database (see Wolff (1980, 1982 and 1983) for descriptions); and the 1983 Survey of Consumer Finances or SCF (see Survey Research Center (1983) and Avery *et al.* (1984) for a description). In addition, where appropriate, results drawn from published work using Greenwood's 1973 household wealth database and the 1979 Income Survey Development Program, or ISDP, are included. These five data sources contain survey data across all wealth strata in the U.S. population.

The study has two primary objectives. The first, methodological in nature, is to determine the effect of the alignment of raw survey data to national balance sheet totals on measured wealth inequality. The alignment process takes two forms. The first is the imputation of assets not included in survey household balance sheet data but included in national balance sheet totals to individual households in the survey sample. The second is the alignment of asset and liability totals from survey data to corresponding national balance sheet totals. In some cases, this entails a proportional adjustment of reported values of balance sheet items in the survey data. In other cases, the adjustment factors vary by income class. In still other cases, the adjustment process takes the form of imputing an asset or liability value to households who do not report ownership of such an item. The comparison of adjusted and unadjusted household wealth distributions is carried out for both the 1962 SFCC and the 1983 SCF. Details on the adjustment procedures are described in Appendixes 1 and 2.

The second objective is to determine whether there has been a significant decline in household wealth inequality since the early 1960s. Particular attention is paid to the early 1980s, a period characterized by a deep recession and the implementation of a new set of social policies colloquially referred to as "Reaganomics." The analysis of time trends is performed for five different measures of household wealth.

The paper is organized in four parts. The first introduces the various concepts of household wealth. The second compares measures of adjusted and unadjusted household wealth distribution. The third analyzes time trends in wealth inequality over this period. In the last section, some concluding remarks are made.

1. Concepts of Household Wealth

Five different measures of household wealth are employed in this study. The first is called total household wealth W, defined by the accounting framework in Appendix Table A.1 or A.7:

(1) W = Owner-occupied housing + other real estate + consumer durables and household inventories + cash, demand deposits, time and

savings deposits, CDs, money market funds, and other financial securities + unincorporated business equity + insurance cash surrender value + pension cash surrender value + miscellaneous assets − mortgage debt − other debt.

The second is what I call "original survey wealth" and represents the assets and liabilities in the actual survey data. The coverage is quite similar among the three surveys included in this paper—the 1962 SFCC, the 1979 ISDP, and the 1983 SCF. With some minor exceptions, they encompass all the assets and liabilities included in total household wealth, with the exclusion of the other (non-vehicle) consumer durable category and household inventories.

The third concept is "fungible wealth," or W_1, defined as

(2) $W_1 = W$ − consumer durables and household inventories.

This concept is somewhat closer to the more conventional notion of wealth, since it reflects assets easily marketable and convertible to cash. Consumer durable and household inventories, on the other hand, are usually acquired to provide needed consumption services rather than to serve as a store of value.

The fourth concept, "financial wealth" or W_2, as defined as

(3) $W_2 = W_1$ − net equity in owner-occupied housing.

W_2 measures the assets that can be easily converted into cash or that are held primarily for investment purposes. Financial wealth thus excludes owner-occupied housing, since it, like consumer durables and household inventories, provides consumption services.[1] Though relatively easy to sell and often held for capital gains, housing cannot be sold without some suitable substitute provided. Financial wealth thus represents the assets that the family can dispose of without affecting the flow of consumption service the household receives from its wealth. The final measure is "capital wealth" or W_3, given by:

(4) $W_3 = W_2$ − currency and demand deposits; time and savings deposits, certificates of deposit, and money market funds; and pension and insurance cash surrender value.

W_3 thus eliminates from total wealth assets held primarily for liquidity, consumption or retirement purposes. The remaining assets are held largely for long-term financial gains, investment purposes, or for the stream of income they provide.[2] As I argued previously (Wolff, 1983), this type of wealth is held largely by the upper wealth classes, whose motivation appears to be to increase its value over

[1]Mortgage debt is implicitly excluded from W_2, while other liabilities, including debt on consumer durables and other home purchases, are not. The rationale is that mortgage debt is, in almost all cases, automatically liquidated when a house is sold. This is usually by legal agreement and remains possible as long as the market value of the house exceeds the mortgage debt. In contrast, consumer loans on a particular item are rarely required to be repaid when the item is sold and, indeed, usually exceed the resale value of the purchase after a short period of time.

[2]This division is somewhat arbitrary, since money market funds and certificates of deposit, which are sometimes held for the income stream they provide, are excluded from W_3, whereas U.S. treasury bills, which may be held primarily for liquidity, are included in W_3. Certificates of deposit and money market funds are lumped with time deposits because of the categories available in the original survey data.

their lifetime and transfer it to succeeding generations. Capital wealth, moreover, is more directly related to economic power and social class than total household wealth.

2. Comparisons of Unadjusted and Adjusted Wealth Measures

The first part of the analysis determines the effect of aligning raw survey data to national balance totals on the measurement of household wealth distribution. The Gini coefficient computed from the original 1962 SFCC survey data is 0.77 and that from the original 1983 survey data is 0.79 (see Table 1). The addition

TABLE 1

Comparison of Unadjusted and Adjusted Measures of Household Wealth Inequality, Based on the 1962 SFCC and the 1983 SCF

	Gini Coefficient		Share of Top 1%		Share of Top 5%	
Wealth Measure	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted
			A. 1962 SFCC			
1. Original Survey Wealth	0.77	—	32.2%	—	52.4%	—
2. Total Household Wealth W	0.68	0.72	28.5	29.3	46.5	48.9
3. Fungible Wealth W_1	0.77	0.80	33.1	33.4	53.1	54.0
4. Financial Wealth W_2	0.79	0.84	37.6	39.5	59.2	61.9
5. Capital Wealth W_3	0.81	0.88	41.5	46.0	63.6	69.5
			B. 1983 SCF			
1. Original Survey Wealth	0.79	—	33.6	—	56.7	—
2. Total Household Wealth W	0.66	0.72	26.2	28.3	44.1	49.1
3. Fungible Wealth W_1	0.78	0.80	30.1	31.9	51.9	54.7
4. Financial Wealth W_2	0.87	0.91	45.6	48.1	71.9	74.9
5. Capital Wealth W_3	0.92	0.94	48.6	49.9	75.4	78.6

of other (non-vehicle) consumer durables and household inventories to the original survey wealth data to create unadjusted total houlsehold wealth W causes a sizable reduction in measured wealth inequality in both years. The Gini coefficient based on the 1962 SFCC falls from 0.77 to 0.68 and the 1983 Gini coefficient falls from 0.79 to 0.66. Likewise, the share of the top one percent based on the 1962 data declines from 32.2 percent to 28.5 percent and that of the top five percent from 52.4 to 46.5 percent, while the share of the top one percent based on the 1983 SCF drops from 33.6 to 26.2 percent and that of the top five percent from 56.7 to 44.1 percent. The reason for the decrease in measured wealth concentration is that durables and inventories are considerably more equally distributed than other assets. Moreover, the decline in measured inequality is greater from the 1983 data than from the 1962 data, even though other consumer durables and household inventories are a larger proportion of unadjusted total household net wealth in the earlier year, 12.6 percent, than in the later year, 10.1 percent.

The alignment of unadjusted W to the national balance sheet totals to create adjusted total household wealth causes a marked increase in measured wealth

inequality. The Gini coefficient based on the 1962 SCF rises from 0.68 to 0.72, while that based on the 1983 SCF rises from 0.66 to 0.72. The shares of the upper percentiles behave in similar fashion. The reason for the sizeable increase in measured inequality is that most of the underreporting occurs in financial assets and equities, which are heavily concentrated among the rich. Once the correction is made for underreporting, the measured share of the top percentiles increases. The joint effect of including inventories and other durables and aligning the raw data to the national balance sheet totals is a reduction in measured inequality. The Gini coefficient based on the 1962 SFCC declines from 0.77 to 0.72, while the 1983 Gini index falls from 0.79 to 0.72. Moreover, the measured shares of the top one and five percent of the distribution decline about the same degree in the two years.

The same pattern holds for the other three concepts of household wealth—W_1, W_2 and W_3. The alignment of the raw survey data to the national balance sheet totals causes measured inequality to increase for each of the three concepts and for both the 1962 and the 1983 data. Gini coefficients increase in a range from 0.02 to 0.07, the measured share of the top one percent from 1.3 to 4.5 percentage points, and the measured share of the top five percent from 2.6 to 5.9 percentage points.

It is also instructive at this point to compare the degree of wealth concentration of the four measures of household wealth, W through W_3. As is to be expected, measured inequality increases across the four measures. This holds true for both the unadjusted and adjusted wealth indices and for both the Gini coefficient and the shares of the top percentiles. The Gini coefficient for W_1 is of the order of 0.08 points greater than that for W, reflecting the more equal dispersion of consumer durables and household inventories than other assets. The Gini index for W_2 is about 0.07 points greater than that for W_1, reflecting the more equal distribution of home equity in the population than financial wealth. Finally, the Gini coefficient for W_3 is of the order of 0.03 to 0.04 points greater than that for W_2, because bank deposits are less concentrated than capital wealth. As will be seen below, the same pattern holds among wealth concentration measures for the 1969 data.

3. Time Trends in Wealth Inequality

Table 2 shows quintile shares, the shares of the top one and five percent of households, and Gini coefficients based on the original survey data from the 1962 SFCC, and 1979 ISDP, and the 1983 SCF. As mentioned above, no adjustments have been made to these data and all three sources include essentially the same assets and liabilities. From these estimates, there is a sizable drop in wealth inequality between 1962 and 1979. The share of the top quintile falls from 78 to 71 percent, while the shares of the second through the fourth quintile all increase. Between 1979 and 1983 there is a substantial increase in wealth concentration. The share of the top quintile rises from 71 to 81 percent, while the shares of quintiles two through four all decline. The same general pattern appears in Smith's data, which are based on estate tax returns. The estate tax data have essentially the same asset and liability coverage as the survey data. There is a significant

TABLE 2

SHARES OF HOUSEHOLD NET WORTH HELD BY QUINTILES AND TOP PERCENTILES, BASED ON ORIGINAL SURVEY ESTIMATES

Share Held By	1962 SFCC	1979 ISDP[a]	1983 SCF
Top 1%	32.2%	—	33.6%
Top 5%	52.4	—	56.7
Top Quintile	78.2	70.9%	80.6
2nd Quintile	14.4	18.4	12.8
3rd Quintile	6.2	8.2	5.3
4th Quintile	1.3	2.6	1.1
Bottom Quintile	0.0	0.0	0.2
Memo: Gini Coefficient	0.77	—	0.79

Addendum: Smith's Estimates of the Share of the Top 1 Percent of individuals[b]

Year	Share
1962	28.2%
1969	27.4
1972	27.7
1976	19.2
1981	20.0[c]

[a]Source: Whiteman (1984).
[b]Source: Smith (1987).
[c]Share of the top 0.8 percent in 1981.

decline in the share of the top percentile of individuals between 1962 and 1976 from 28 to 19 percent and then an increase between 1976 and 1981.[3] Finally, based on the original survey data, the 1983 distribution is somewhat more unequal than the 1962 distribution. The share of the top one percent is 1.4 percentage points higher, that of the top five percent 4.3 percentage points higher, and that of the top quintile 2.4 percentage points higher, while the Gini coefficient is 0.02 points greater.

Time trends based on the total household wealth measure W show little change in wealth concentration just as those based on original survey data (see Table 3). The Gini coefficient computed from the unadjusted data fully from 0.68 in 1962 to 0.66 in 1983, while that calculated on the adjusted estimates remains at 0.72. For the unadjusted data, the share of the top quintile falls slightly, while the shares of the bottom four quintiles all rise. For the adjusted data, the quantile shares are almost identical in the two years. Moreover, from calculations based on adjusted data, there is a slight rise in wealth inequality between 1962 and

[3]The 1981 figure is based on the share of the top 0.8 percent of the population. The corresponding share of the top one percent is probably in the range of 22 to 24 percent. It should also be noted that Smith's estimate of the share of the top one percent of *individuals* is lower than the corresponding estimate of the share of the top one percent of households for 1962 and, as will be seen below, for 1969. In principle, the concentration of wealth among families can never be greater than that among individuals. (Indeed, it must always be less unless household wealth is exactly divided between husband and wife.) The discrepancy between the survey and estate tax data results probably reflects a higher degree of underreporting in estate tax returns than in survey questionnaires.

TABLE 3

SHARES OF TOTAL HOUSEHOLD WEALTH W BY QUINTILES AND TOP PERCENTILES, BASED ON UNADJUSTED AND ADJUSTED ESTIMATES

	Unadjusted Estimates		Adjusted Estimates		
Share Held By	1962 SFCC	1983 SCF	1962 SFCC	1969 MESP	1983 SCF
Top 1%	28.5%	26.2%	29.3%	31.8%	28.3%
Top 5%	46.5	44.1	48.9	49.9	49.1
Top Quintile	70.9	68.3	74.4	74.9	74.7
2nd Quintile	15.2	16.8	14.1	13.7	14.2
3rd Quintile	8.1	8.4	7.1	6.2	6.9
4th Quintile	3.9	4.3	3.1	3.4	3.0
Bottom Quintile	1.9	2.1	1.3	1.7	0.1
Memo:					
Gini Coefficient	0.68	0.66	0.72	0.73	0.72

1969. The Gini coefficient rises from 0.72 to 0.73, the share of the top percentile from 29.3 to 31.8 percent, and the share of the top quintile from 74.4 to 74.9 percent.

Fungible wealth inequality also shows little change between 1962 and 1983 as does total wealth inequality (see Table 4). Based on adjusted data, the share of the top percentile is about 33 percent in the two years, the share of the top quintile is about 81 percent, and the Gini index is 0.80. Moreover, a slight increase in fungible wealth inequality is now evident between 1962 and 1969, with the Gini coefficient computed from adjusted portfolio data rising from 0.80 to 0.81. For fungible wealth, an additional data point is included for 1973 from household wealth estimates compiled by Greenwood. Her estimates are included here under the heading adjusted estimates, because her measure of household wealth is fairly

TABLE 4

SHARES OF FUNGIBLE WEALTH W_1 HELD BY QUINTILES AND TOP PERCENTILES BASED ON UNADJUSTED AND ADJUSTED ESTIMATES[a]

	Unadjusted Estimates		Adjusted Estimates			
Share Held By	1962 SFCC	1983 SCF	1962 SFCC	1969 MESP	Greenwood[b] 1973	1983 SCF
Top 1%	33.1%	30.1%	33.4%	34.4%	32.6%	31.9%
Top 5%	53.1	51.9	54.0	54.7	57.5	54.7
Top Quintile	78.6	81.5	81.7	80.7	84.7	81.2
2nd Quintile	14.1	14.4	12.9	12.8	11.7	13.1
3rd Quintile	6.0	3.9	5.2	4.9	3.5	5.1
4th Quintile	1.4	0.2	0.8	1.3	0.1	0.7
Bottom Quintile	0.0	0.0	0.0	0.2	0.0	0.0
Memo:						
Gini Coefficient	0.77	0.78	0.80	0.81	0.82	0.80

[a] W_1 is defined as W less consumer durables and household inventories.
[b] Source is Greenwood (1987), Table 1.

close to the adjusted fungible wealth concept used here. Greenwood's results indicate very little change between 1969 and 1973. Indeed, the share measures of the top percentile indicate a slight downward movement in wealth concentration while the Gini index and the share of the top quintile suggest a slight upward movement.

Time trends are very similar for financial wealth and capital wealth (Table 5 and 6). Between 1962 and 1969, there is very little change in the measured inequality of W_2 and W_3. The shares of the top percentile and quintile both show a slight decline, while the Gini coefficient shows no change. However, between 1969 and 1983, there is a sizable increase in the concentration of W_2 and W_3. The share of the top percentile and quintile both increase, while the Gini coefficient for W_2 rises by 0.07 points and that for W_3 by 0.06 points.

TABLE 5

SHARES OF WEALTH W_2 HELD BY QUINTILES AND TOP PERCENTILES, BASED ON UNADJUSTED AND ADJUSTED ESTIMATES

	Unadjusted Estimates		Adjusted Estimates		
Share Held By	1962 SFCC	1983 SCF	1962 SFCC	1969 MESP	1983 SCF
Top 1%	37.6%	45.6%	39.5%	38.4%	48.1%
Top 5%	59.2	71.9	61.9	58.7	74.9
Top Quintile	82.4	92.1	86.1	84.7	93.2
2nd Quintile	11.5	6.9	9.5	10.3	5.8
3rd Quintile	4.3	0.8	3.3	3.6	0.7
4th Quintile	1.7	0.2	1.1	1.4	0.2
Bottom Quintile	0.0	0.0	0.0	0.1	0.0
Memo:					
Gini Coefficient	0.79	0.87	0.84	0.84	0.91

[a] W_2 is defined as W_1 less equity in owner-occupied housing.

TABLE 6

SHARES OF CAPITAL WEALTH W_3 HELD BY QUINTILES AND TOP PERCENTILES, BASED ON UNADJUSTED AND ADJUSTED ESTIMATES

	Unadjusted Estimates		Adjusted Estimates		
Share Held By	1962 SFCC	1983 SCF	1962 SFCC	1969 MESP	1983SCF
Top 1%	41.5%	48.6%	46.0%	43.1%	49.9%
Top 5%	63.6	75.4	69.5	64.9	78.6
Top Quintile	85.6	93.9	91.3	90.8	95.1
2nd Quintile	9.3	5.4	5.9	8.1	4.4
3rd Quintile	4.3	0.6	2.1	0.9	0.4
4th Quintile	0.9	0.1	0.8	0.2	0.1
Bottom Quintile	0.0	0.0	−0.1	0.0	0.0
Memo:					
Gini Coefficient	0.81	0.92	0.88	0.88	0.94

[a] W_3 is defined as W_2 less demand deposits and currency; time and savings deposits, certificates of deposit, and money market funds (in 1983); and insurance and pension cash surrender value.

Another indicator of changes in the distribution of household wealth is shifts in mean wealth profiles by age cohort. These are shown in Table 7 for total household wealth W (except for 1979, which is based on original wealth data). There are two comparisons of interest. The first is the shape of the age-wealth profiles. According to life-cycle theory, wealth should increase with age until retirement and then decline (see, for example, Modigliani and Brumberg (1954) and Ando and Modigliani (1963)). This hump-shaped age profile is confirmed for the 1962, 1979 and 1983 data but not for the 1969 or 1973 estimates. In these two cases, mean wealth rises with age throughout the age profile. However, further inspection reveals that the overall shape of the age-wealth profile changes rather slightly between 1962, on the one hand, and 1969 and 1973, on the other hand. The ratio in mean wealth between the 55 to 64 age cohort and the 65 and over age cohort is 1.05 for the 1962 SFCC adjusted data, 0.98 for the 1969 adjusted data, and 0.95 for the 1973 Greenwood estimates. However, by 1979, based on original wealth estimates, the ratio in mean wealth between these two age cohorts rises to 1.33, and in 1983 it is 1.25 based on unadjusted data, and 1.12 based on adjusted data. Moreover, based on unadjusted data, peak wealth by age cohort rises relative to mean wealth from 1.56 in 1962 to 1.69 in 1979 and then to 1.74 in 1983. Based on adjusted data, the ratio of peak wealth to mean wealth declines from 1.53 in 1962 to 1.41 in 1969 and then to 1.35 in 1973 but rises sharply to 1.85 in 1983.

The second comparison is the dispersion of mean wealth across age cohort. Two measures are used: (1) the ratio of the standard deviation of mean wealth by age cohort to overall (weighted) mean wealth and (2) the coefficient of variation, defined as the ratio of the standard deviation of mean wealth by age cohort to *unweighted* mean wealth. The unadjusted data show a reduction in the dispersion of average wealth across age cohorts between 1962 and 1979 followed by an increase between 1979 and 1983. The adjusted estimates indicate a downward trend in the relative dispersion of mean wealth by age cohort between 1962 and 1969, stability between 1969 and 1973, and a sharp increase from 1973 to 1983. The variation in wealth by age indicated by these measures is significantly greater in 1983 than in 1962.

4. Concluding Remarks

Though our evidence is still only partial at this point, the pattern that emerges on trends in household wealth inequality over the 1962–83 period is quite striking. My own estimates, together with those of Smith, Greenwood, and Whiteman, suggest that inequality in total household wealth remained relatively constant between 1962 and, perhaps, 1973, declined rather substantially between 1973 and, perhaps, 1979, and then increased quite sharply between 1979 and 1983. Moreover, inequality in total household wealth in 1983 was about the same as in 1962.

Other concepts of household wealth yield consistent results across years. Inequality of fungible wealth is uniformly higher than that of total household wealth; financial wealth is distributed more unequally than fungible wealth in

TABLE 7

MEAN WEALTH BY AGE COHORT BASED ON UNADJUSTED AND ADJUSTED TOTAL HOUSEHOLD WEALTH

A. Unadjusted Estimates

Age Group[a]	1962 SFCC Mean	1962 SFCC Ratio to Overall Mean	1979 ISDP[b] Mean	1979 ISDP[b] Ratio to Overall Mean	1983 SCF Mean	1983 SCF Ratio to Overall Mean
Under 25	$ 557	0.03	$ 8,800	0.14	$ 21,817	0.17
25-34	7,261	0.35	24,520	0.39	51,035	0.42
35-44	15,613	0.76	64,950	1.04	105,196	0.86
45-54	21,981	1.07	79,120	1.27	213,788	1.74
55-64	32,201	1.56	105,740	1.69	213,270	1.74
65 and over	30,725	1.49	79,380	1.27	170,962	1.39
Overall Mean	20,576	1.00	62,430	1.00	122,912	1.00
Standard Deviation	11,581	0.56	33,509	0.54	75,630	0.62
Coefficient of Variation[d]		0.64		0.55		0.59

B. Adjusted Estimates

Age Group[a]	1962 SFCC Mean	1962 SFCC Ratio to Overall Mean	1969 MESP Mean	1969 MESP Ratio to Overall Mean	1973 Greenwood[c] Mean	1973 Greenwood[c] Ratio to Overall Mean	1983 SCF Mean	1983 SCF Ratio to Overall Mean
Under 25	$ 4,171	0.14	$17,745	0.39	$ 9,763	0.26	$ 18,347	0.14
25-34	13,064	0.42	27,404	0.60	24,096	0.64	46,901	0.34
35-44	23,612	0.77	36,688	0.80	36,454	0.97	106,035	0.78
45-54	31,872	1.03	48,637	1.06	43,669	1.16	229,636	1.70
55-64	47,175	1.53	63,668	1.39	48,068	1.27	244,352	1.80
65 and over	44,857	1.46	64,798	1.41	50,855	1.35	217,473	1.61
Overall Mean	30,779	1.00	45,969	1.00	37,711	1.00	135,400	1.00
Standard Deviation	15,680	0.51	17,582	0.38	14,456	0.38	90,793	0.67
Coefficient of Variation		0.37		0.41		0.41		0.63

[a]Based on age of head of household in 1962 and 1969 and age of respondent in 1983.
[b]Source: Radner and Vaughn (1987), Table 1. Household wealth is based on original survey data.
[c]Source: Greenwood (1987), Table 2.
[d]The coefficient of variation is defined as the ratio of the standard deviation to the *unweighted* mean.

each year; and capital wealth is uniformly more unequal than financial wealth. As a result, trends in both financial wealth and capital wealth are the same as that of total household wealth, though there are missing data for the 1970s. For both concepts I find virtually no change in measured wealth concentration between 1962 and 1969 and then a fairly sharp increase between 1969 and 1983. However, for fungible wealth, I find a relatively small increase in inequality between 1962 and 1973 and then a slight decline between 1973 and 1983, though here, again, data points are missing for the period between 1973 and 1983.

The different inequality trends for financial and capital wealth, on the one hand, and total and fungible wealth, on the other, can be explained by the changing importance of net equity in owner-occupied housing in the household portfolios of 1962 and 1983. Home equity grew from 16 percent of total wealth in 1962 to 21 percent in 1983. Since home equity is more equally distributed than financial wealth, its exclusion from fungible wealth to obtain financial wealth causes a larger increment in measured inequality in 1983 than 1962.

Results on mean total household wealth by age cohort indicate a lessening dispersion of cohort wealth between 1962 and 1969, little change between 1969 and 1973, growing dispersion between 1973 and 1979, and then again between 1979 and 1983. The dispersion in wealth across age groups appears greater in 1983 than in 1962. Moreover, the age-wealth profile appears to flatten between 1962 and 1969, to remain relatively unchanged from 1969 to 1973, and then to sharpen (that is, to acquire a higher peak) between 1973 and 1979 and again in 1983.

The adjustment of original survey data to national balance sheet totals causes a significant change in measured wealth inequality. The inclusion of non-vehicle consumer durables and household inventories in the household balance sheet of the 1962 and 1983 survey data causes a marked reduction in measured concentration, because these are more evenly distributed than other assets. The alignment of survey data to national balance sheet totals results in an increase in measured inequality, because the underreported assets tend to be concentrated in the upper wealth classes. The net effect of these two adjustments is a reduction in measured inequality in total household wealth based on both the 1962 and 1983 data. For fungible wealth, financial wealth, and capital wealth, the alignment process increases measured inequality in all cases. As a result, the reassuring conclusion is that time trends based on original data, unadjusted data, and adjusted data are the same in direction in all cases, though the magnitudes of the changes do vary.

In future work I will attempt to fill in additional data points in the time series and analyze the factors which affect changes in household wealth inequality. In regard to the latter, there are two which appear particularly germane to the movements observed over the 1962–83 period and deserve some mention here. The first is changes in income inequality. My own estimates (unpublished) indicate that income inequality has been rising since the mid-1970s and at an accelerating rate after 1980. The movement after 1980 is due, in part, to new social programs enacted by the Reagan administration and to the deep recession of the early 1980s. A second factor is the change in the relative price between homes and corporate stock. Between 1963, the first date for which data are available, and

1969, the median price of new homes increased at an annual rate of 5.87 percent.[4] Over the same period, stock prices, as measured by the New York Stock Exchange composite index, increased by 7.00 percent per year. The change in relative price between housing and corporate stock was small over this period, which accounts, in part, for the relative stability in wealth inequality over this period. In contrast, during the 1969–79 period, the median price of new homes increased by 8.99 percent per year while the New York Stock Exchange composite index grew by only 0.65 percent per year. The sharp relative fall in stock prices helps account for the increased wealth equality over this period. Finally, from 1979 to 1983, new home prices increased by 4.50 percent per year, and stocks by 11.57 percent, thus explaining in part the sharp rise in inequality over these years.[5] However, over the whole 1962–83 period, stock prices, as measured by the New York Stock Exchange index, grew more slowly than new home prices, by 2.3 percent per year, though wealth inequality was the same in 1962 and 1983.

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[4]The source for new home prices is: U.S. Bureau of the Census, "Construction Reports: Price Index of New One-Family Houses Sold", April, 1986.

[5]The source for data on stock price is: *Economic Report of the President, 1984*, Table B-90, p. 323. Over the 1962–1969 period, the Dow Jones industrial average grew at 4.50 percent per year and the Standard and Poor's composite index increased by 6.43 percent per year. Between 1969 and 1979, the former changed by −0.38 percent per year and the latter by 0.51 percent, while in the 1979–83 period, the Dow Jones average increased 8.58 percent per year and the Standard and Poor index by 11.07 percent.

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APPENDIX I

Construction of 1962 Household Balance Sheets from the 1962 Survey of Financial Characteristics of Consumers (SFCC)

Asset and liability estimates for 1962 are based initially on the SFCC tape. The original values reported in the dataset are then adjusted to align with aggregate household balance sheet data reported in Ruggles and Ruggles (1982) and other published sources as indicated. Details on adjustments are provided below.

Table A1 presents a comparison of household balance sheet totals based on the original SFCC data with those of Ruggles and Ruggles. Also shown are the percentage of households reporting each item in the SFCC, the household mean value of each item, and ratio of the original SFCC total to that of the Ruggles and Ruggles balance sheet data.

The total of all assets in the Ruggles' estimates is $2,038.6 billion. If only the assets appearing on the SFCC tapes are included (thus excluding other consumer durables, inventories, insurance, and pensions), the Ruggles' asset estimates sum to $1,774.0 billion. The original SFCC asset values total $1,410.1 billion, or 79 percent of the corresponding Ruggles' total. The major items which differ are:

(1) Owner-occupied housing is overvalued (if Ruggles' estimates are taken as standard). The SFCC estimate is almost half again as much as the Ruggles' value.
(2) Demand deposits and currency are undervalued by two-thirds. One should note that currency is not included in the SFCC data.
(3) Time and saving deposits are undervalued by almost half.
(4) Corporate stock is undervalued by almost 40 percent.
(5) Unincorporated business equity is undervalued by over 40 percent. It should be noted that the book value—not the market value—of ownership equity in businesses is used in the SFCC.
(6) Trust fund equity is undervalued by over a third.

The total of all liabilities in the Ruggles' estimate is $256.0 billion. This estimate probably includes the debt on life insurance which is excluded from the SFCC data and from the Projector and Weiss (1966) published tables. The total of all liabilities represented in the SFCC is $218.5 billion. In the published tables (Table A14), debt on life insurance is given as $3.6 billion. Adding this to the value of the liabilities found on the SFCC tape yields a figure of $222.1 billion as the SFCC estimate of total liabilities, which is 15 percent lower than the Ruggles' total.

The Ruggles' estimate of net worth is $1,518.0 billion if only comparable assets are included. The SFCC estimate is $1,192 billion. Thus the Ruggles'

TABLE A.1

COMPARISON OF ORIGINAL 1962 SFCC AND RUGGLES AND RUGLES' AGGREGATE BALANCE SHEET TOTALS

	Ruggles' Estimates	Original SFCC Estimates			Ratio of SFCC to Ruggles
		Total	Household Mean	% of Households Reporting Item	
I. Assets	$2,038.6	$1,410.6	$24,354	—	0.69
A. Tangible Assets	691.6	643.3	11,107	—	0.93
Owner-Occupied Housing	331.2	473.9	8,182	57.0%	1.43
Other Real Estate	104.0	114.4	1,976	11.2	1.10
Cars	72.4	55.0	949	73.9	0.76
Other Consumer Durables	127.9	—	—	—	—
Inventories	56.1	—	—	—	—
B. Fixed Claim Assets	417.3	265.0	4,575	—	0.64
Demand Deposits & Currency	69.8	23.7	409	59.4	0.34
Time & Saving Deposits	207.3	104.7	1,808	58.5	0.51
State & Local Gov't Bonds	18.3	12.7	219	0.4	0.69
Other Bonds & Instruments	121.9	123.9	2,139	59.5	1.02
C. Equities	929.7	501.8	8,664	—	0.54
Corporate Stock	361.0	222.8	3,847	16.1	0.62
Unincorporated Business Equity	402.9	224.7	3,881	16.2	0.56
Trust Fund Equity	85.2	54.3	937	1.4	0.64
Insurance	75.6	—	—	—	—
Pensions	5.0	—	—	—	—
II. Liabilities	256.0	218.5	3,772	—	0.85
Mortgage Debt	163.8	146.5	2,529	32.6	0.89
Insurance Debt	92.2	—	—	—	—
Other Debt		72.0	1,243	58.2	—
III. Net Worth	1,782.6	1,191.6	20.573	—	0.67

estimate is 27 percent greater than the SFCC estimate, if only comparable assets are used.

Adjustments to the Original SFCC data.

In order to align the SFCC data with the Ruggles' balance sheet totals, each asset or liability in the SFCC is adjusted either by a constant proportion or in more complex fashion, depending on the degree of error and the availability of outside information. Where possible, I compared both the percentage of households holding various assets and their mean value by family income class from the SFCC with the percentage of households reporting corresponding income flows and the mean value of these income flows by family income class. The latter information was obtained from the Internal Revenue Service, *Statistics of Income, 1962: Individual Tax Returns*, publication No. 79 (1-65), 1965. I refer to these data as SOI figures. Thus, dividends reported in the SOI were compared to corporate stock holdings in the SFCC. It is then possible to adjust the percentage of households holding each asset type in the SFCC by income class if the percentage of units reporting the corresponding income flow is greater in the SOI. Moreover, it is also possible to adjust the asset values in the SFCC differentially by income class if average yields, defined as the ratio of the income flow to the asset value, differ substantially by income class.

For almost all asset types, the percentage of households reporting the asset in the SFCC was greater than or equal to the percentage of units reporting the corresponding income flow in the SOI. Exceptions are indicated below. Moreover, for almost all asset types, average yield figures were fairly uniform across income classes. Again exceptions are noted below. The details for the imputations are as follows.

(1) The owner-occupied housing figures in the SFCC are not adjusted. As noted, the SFCC total is larger than that in the national balance sheet data. The likely reason is that SFCC households report their estimated market value of their homes, while the national balance sheet data are based on a perpetual inventory accumulation of the value of residential investment in new construction.

(2) For the same reason, the other real estate figures in the SFCC are not adjusted.

(3) Automobiles are adjusted by scaling up by a factor of 1.316.

(4) Other consumer durables are not included in the SFCC. Their value is imputed to each household based on a regression equation estimated from the 1969 MESP database (see Table A.8 for more details), which is as follows:

$$\begin{aligned}\text{OTHRDUR62} = {} & 2871.4 + 0.08644\,\text{INC62} - (0.3271 \times 10^{-6})(\text{INC62})^2 \\ & - 7.1401\,\text{AGEHEAD} + 811.32\,\text{MARRIED} \\ & - 240.31\,\text{FEMHEAD} + 189.51\,\text{URBANRES}\end{aligned}$$

where OTHRDUR62 ≡ value of other consumer durables in 1962 dollars. INC62 ≡ income of the household unit in 1962 dollars. AGEHEAD ≡ age of head of unit. MARRIED = 1 if head is married, 0 otherwise. FEMHEAD = 1 if head is female, 0 otherwise and URBANRES = 1 if unit's residence is in an urbanized area.

The total value for other consumer durables developed from this equation is different from the Ruggles' estimate. The results are scaled down by a factor of 0.626 to make the totals compatible.

(5) Inventories are not included in the SFCC. The ratio of inventory holdings to family income, based on the 1960-61 Consumer Expenditure Survey, is shown in Table A.2. These ratios are applied to each household based on (before-tax) family income. These estimates are adjusted by a factor of 0.611 to make them equal in total to the Ruggles' estimates.

TABLE A.2

EXPENDITURES ON HOUSEHOLD INVENTORY ITEMS AS A PERCENT OF FAMILY INCOME BY FAMILY INCOME CLASS IN 1960-61[a]

1960-61 After-Tax Income Class	1960-61 Before-Tax Income Class[b]	Ratio of Inventory Purchases to Before-Tax Family Income
1. Under $1,000	Under $1,071	0.726
2. $1,000-$1,999	$1,071-$2,031	0.413
3. $2,000-$2,999	$2,032-$3,132	0.358
4. $3,000-$3,999	$3,133-$4,262	0.330
5. $4,000-$4,999	$4,263-$5,493	0.305
6. $5,000-$5,999	$5,464-$6,604	0.292
7. $6,000-$7,499	$6,605-$8,385	0.274
8. $7,500-$9,999	$8,386-$11,357	0.253
9. $10,000-$14,999	$11,358-$17,379	0.214
10. $15,000 and over	$17,380 and over	0.144
Mean: $5,557	$6,246	0.268

[a]Source: Bureau of Labor Statistics, *Handbook of Labor Statistics, 1975*, Bulletin 1865, U.S. Government Printing Office, 1975, Table 137, p. 359. Household inventory items are defined as (1) food purchased for home use, (2) tobacco, (3) alcoholic beverages, and (4) clothing and clothing materials.

[b]This was computed by multiplying the upper bound of each income class by the ratio of the average before-tax income to the average after-tax income within the income class.

(6) Demand deposits and currency are adjusted by the factor 2.945.

(7) Time and savings deposits are adjusted by the factor 1.980.

(8) State and local government bonds are proportionately adjusted by the factor 1.441.

(9) Other financial assets, bonds and instruments are adjusted differentially by income class. The percent reporting interest income (including interest on savings and time deposits) in the SOI either falls below the range or within the range of households in the SFCC reporting that they owned other financial assets (see Table A.3). Therefore, it is unlikely that there is an underreporting problem in the SFCC with regard to the number of households who report holding other financial assets. Estimated yields show great variance but also seem ridiculously low. Total SOI interest (7.16 billion) divided by total Ruggles' savings deposits plus other financial assets (329.2 billion) is only two percent. Bank rates were about 2.8 percent in 1962 and bond rates were about 5 percent. Thus, it appears that IRS interest was severely underreported. Despite problems with the IRS data, it appears likely that SFCC financial assets are underreported more for

TABLE A.3

RECONCILIATION OF SFCC OTHER FINANCIAL ASSETS AND SOI INTEREST INCOME

1962 Family Income Class	SFCC[a] Other Financial Assets			SOI Total Interest		Bond Interest[b]		
	Percent of Units Owning Asset	Mean for Owners	Mean for All Units	Percent of Units Reporting Interest	Mean for All Units	Mean for All Units	Estimated Yield	Adjustment Factor
Under $3,000	12-16	$ 3,621	$ 507	13.5	$ 60	$ 3	0.006	1.83
$3,000-4,999	20-30	3,216	804	17.0	81	14	0.018	1.59
$5,000-7,499	30-41	1,503	526	23.3	74	2	0.003	1.83
$7,500-9,999	40-61	3,286	1,643	32.6	106	2	0.001	1.83
$10,000-14,999	51-84	2,559	1,727	49.2	205	31	0.018	1.59
$15,000-24,999	43-88	8,243	5,399	68.3	557	240	0.044	1.43
$25,000-49,999	51-100	12,832	9,688	78.2	1,284	590	0.060	1.03
$50,000-99,999	69-100	65,366	55,234	84.9	2,514	1,447	0.026	1.43
$100,000 or more	75-100	58,673	48,405	88.1	6,357	5,298	0.109	1.03
All units	28-45	3,770	1,376	23.5	114	14	0.010	—

[a]Projector and Weiss (1966), Tables A9, A10, and A12. This category includes: U.S. savings bonds, marketable securities other than stock and state and local bonds, mortgage assets, company savings plans, and loans to individuals. Percentage range indicates lowest and highest possible percent owning the asset. Mean computed from midpoint of percentage range.

[b]Calculated from SOI and SFCC data under the assumption that interest on time and savings deposits averaged 2.8 percent.

lower income than for upper income groups, and the adjustment factors vary accordingly.

(10) Corporate stock is also adjusted differentially by income class. As shown in Table A.4, the percentage reporting stock in the SFCC is uniformly greater than the percent reporting dividends in the SOI. It should be noted that dividends are after exclusion in the SOI. Moreover, many forms of stock pay no dividends. Despite this, the comparison suggests that there is no significant underreporting in percent of holders in the SFCC. The yield figures show no clear pattern by income class. However, there are two income classes with yields significantly higher than average, suggesting greater than average underreporting of asset values in the SFCC. These income classes are assigned higher than average adjustment factors.

(11) Unincorporated business equity also has different adjustment factors by income class. As shown in Table A.5, the overall percentage reporting business equity in the SFCC is identical to the percent reporting business income in the SOI, and the percentages are quite close by income class. However, the estimated yields appear particularly high for lower income groups. All the adjustment is therefore done in the bottom 7 income classes.

(12) Trust fund equity is the only asset whose ownership appears to be underreported in the SFCC (Table A.6). The corresponding income category is income from estate and trusts. Since estates are included, the percent reporting this income item should be higher in the SOI than the SFCC. However, not all trust funds may generate income. In any case, the percent reporting trusts is uniformly greater in the SFCC than in the SOI except for three upper income classes. Additional consumer units in these three income classes are assigned the mean asset value in the SFCC. The yield numbers vary quite erratically, so that the adjustment factor assigned to each income class is the same.

(13) Insurance is not included as an asset on the SFCC tape. Some estimates appear in Table A31 of Projector and Weiss (1966). An estimate is arrived at by regressing mean insurance value on the midpoint of the income classes of Table A31 (taking \$200,000 for the highest class). The regression equation is:

$$\underset{}{\text{INS}} = \underset{(24.9)}{182.852 + 0.1656\ \text{INC62}}$$

where INS ≡ insurance asset value and INC62 ≡ unit's income and the t-value is shown in parentheses.

The R-square for this regression is 0.989 and the F-statistic is 619.

The asset value computed from the regression equation is then adjusted by a factor of 1.053 to correspond to the Ruggles' estimate.

(14) Pensions do not appear on the SFCC tape. Some estimates appear in Table A31 of Projector and Weiss (1966). An estimate is arrived at by regressing mean pension value on the midpoints of the income classes of Table A31 (taking \$200,000 as the midpoint of the highest class). The regression equation is:

$$\underset{}{\text{PEN}} = \underset{(4.54)}{845.991 + 0.0239\ \text{INC62}}$$

where PEN ≡ pension value.

The R-square of this regression is 0.747 and the F-statistic is 20.6.

TABLE A.4

RECONCILIATION OF SFCC CORPORATE STOCK AND SOI DIVIDENDS

1962 Family Income Class	SFCC[a] Corporate Stock		SOI[b] Dividends		Estimated Yield	Adjustment Factors
	Percent of Units Owning Asset	Mean for Owners	Percent of Units Reporting Dividends	Mean for Dividend Recipients		
Under $3,000	7	$ 6,429	5.1	$ 532	0.083	1.30
$3,000-4,999	8	8,575	6.0	1,041	0.121	2.10
$5,000-7,499	15	9,347	6.9	727	0.078	1.30
$7,500-9,999	19	13,995	10.5	787	0.056	1.30
$10,000-14,999	32	14,128	20.8	1,116	0.079	1.30
$15,000-24,999	52	20,060	46.7	2,180	0.109	1.94
$25,000-49,999	83	85,986	69.4	5,169	0.060	1.30
$50,000-99,999	88	183,824	85.7	14,269	0.078	1.30
$100,000 or more	97	985,916	94.4	74,291	0.075	1.30
All Units	16	23,275	9.3	1,825	0.078	1.30
Mean for all Units	—	3,724	—	—		

[a]Projector and Weiss (1966), Table A10.
[b]Dividends after exclusion.

TABLE A.5

RECONCILIATION OF SFCC UNINCORPORATED BUSINESS EQUITY AND SOI UNINCORPORATED BUSINESS INCOME

1962 Family Income Class	SFCC[a] Unincorporated Business Equity		SOI[b] Income from Unincorporated Business							
			Profit		Loss		Combined	Estimated Yield		
	Percent of Units Owning Asset	Mean for Owners	Percent of Units Reporting Profit	Mean for Recipients	Percent of Units Reporting Loss	Mean for Recipients	Percent of Units Reporting Income	Profit	Loss	Adjustment Factor
Under $3,000	12	$12,117	12.7	$1,197	3.8	−$2,282	16.51	0.129	−0.812	2.10
$3,000-4,999	12	10,508	13.4	2,670	3.0	−1,312	16.38	0.311	−0.679	2.10
$5,000-7,499	17	13,447	10.7	3,305	2.7	−885	13.38	0.307	−0.331	2.10
$7,500-9,999	18	12,661	11.8	4,304	2.6	−970	14.38	0.414	−0.430	2.10
$10,000-14,999	22	19,486	16.2	6,607	3.1	−1,235	19.31	0.404	−0.395	2.10
$15,000-24,999	26	39,342	35.7	11,664	5.7	−2,313	41.44	0.344	−0.426	2.10
$25,000-49,999	64	96,853	54.5	20,907	9.3	−4,380	63.81	0.254	−0.301	2.10
$50,000-99,999	70	396,261	54.2	35,129	14.5	−7,670	68.67	0.112	−0.092	1.00
$100,000 or more	35	819,234	43.9	57,119	26.8	−23,333	70.63	0.112	−0.075	1.00
All units	17	22,829	13.6	4,358	3.3	−1,823	16.88	0.238	−0.406	—
Mean for all Units	—	3,881	—	591	—	−60				

[a]Projector and Weiss (1966), Table A.8.

[b]Includes partnership income.

TABLE A.6

RECONCILIATION OF SFCC TRUST FUND EQUITY AND SOI TRUST INCOME

1962 Family Income Class	SFCC[a] Trust Fund Equity		SOI[b] Income from Estates and Trusts			Adjustment Factors	
	Percent of Units Owning Asset	Mean for Owners	Percent of Units Reporting Income	Mean for Recipients	Estimated Yield	Percent of Units	Value
Under $3,000	—	$6,200	0.4	$ 547	0.088	—	1.10
$3,000-4,999	1	500	0.5	1,149	2.298	—	1.10
$5,000-7,499	1	111,800	0.5	1,000	0.001	—	1.10
$7,500-9,999	1	11,400	0.6	940	0.082	—	1.10
$10,000-14,999	3	7,400	1.3	1,462	0.198	—	1.10
$15,000-24,999	5	48,320	3.7	2,019	0.042	—	1.10
$25,000-49,999	4	1,285,300	7.1	2,737	0.002	+3.19	1.10
$50,000-99,999	5	262,140	11.5	4,929	0.018	+6.5	1.10
$100,000 or more	15	465,713	22.3	8,333	0.018	+7.3	1.10
All units	1	33,700	0.7	1,474	0.016	—	—
Mean for all Units	—	937	—	—			

[a]Projector and Weiss (1966), Table A9.

[b]Reported losses are very small so that profits and losses are combined into net income.

The pension value computed with the regression equation is then adjusted by a factor of 0.087 to align with the Ruggles' cash surrender value of pensions.

(15) Mortgage debt is proportionately adjusted by a factor of 1.118 to reconcile the result with the Ruggles' estimate.

(16) Insurance debt is a liability not included in the SFCC tape estimates. Some estimates appear in Table A14 of Projector and Weiss (1966). An estimate is developed through regression analysis. Mean insurance debt is regressed on the midpoint of the income classes of Table A14 (taking $200,000 for the highest class). The regression equation is:

$$\underset{(5.01)}{\text{INSDT} = 148.147 + 0.0152\ \text{INC62}}$$

where INSDT ≡ insurance debt.

The R-square of this regression is 0.782 and the F-statistic is 25.1.

(17) Other debt is added to the regression-estimated insurance debt.

This sum needed to be reconciled with the Ruggles' estimate and is scaled up by a factor of 1.070.

Appendix 2

Construction of the 1983 Household Balance Sheets from the 1983 Survey of Consumer Finances

Table A.7 shows estimates of the 1983 household balance sheet based on aggregate data from published sources and corresponding totals from the Survey of Consumer Finances (SCF). All calculations are made from the May, 1985, version of the SCF tape. Imputations for missing asset and liability are based on mean value of asset holders by income class. Details on the technical definitions of each entry are as follows:

1. *Owner-occupied Housing and Other Real Estate.* Current market values of both single-family houses owned and occupied by individual families and of multiple housing units owned and occupied, in part, by the family are provided in the SCF. These are based on estimates provided by the family. In the case of multiple housing units partially occupied by the family, the value of the owner-occupied portion is estimated as the ratio of the value of the building to the total number of housing units in the building. The value of the non-owner-occupied portion is included in the "other real estate" category. To this category is also added the value of all other real estate owned by the family.

2. *Automobiles and Vehicles.* Information is provided in the SCF on the number of vehicles owned (up to three), the original cost of the vehicle, the date the vehicle was purchased, and whether the car was new when purchased. From Young and Musgrave (1976), a 10-year service life is assumed and straight-line depreciation is used to obtain the current value of the vehicle in dollars of the year of purchase. (In the case where the vehicle is over 10 years old, its current value is estimated as $1/(n+1)$ multiplied by its original purchase price, where n is the age of the vehicle). The (undepreciated) value of the vehicle is then inflated to 1983 prices. For vehicles purchased when new, the price index used is that

TABLE A.7

AGGREGATE BALANCE SHEET OF HOUSEHOLD WEALTH FOR THE U.S., 1983, BY ITEM, BASED ON PUBLISHED SOURCES AND THE SURVEY OF CONSUMER FINANCES[a]

Item	(1) Flow of Funds and Other Published Sources[b]	(2) 1983 SCF[c]	(3) Ratio: (2)/(1)
I. Assets	$11,106.7	$9,568.2	—
A. Tangible Assets	4,681.7	3,845.8	—
1. Owner-occupied Housing	3,263.3	3,363.2	1.03
2. Vehicles	413.7	482.6	1.17
3. Other Consumer Durables	760.6	—	—
4. Inventories	244.1	—	—
B. Fixed Claim Assets	2,693.3	1,233.6	0.46
1. Demand Deposits and Currency	334.2	137.8	0.41
2. Time Deposits, CDs, IRAs and Keoghs, and Money Market Funds	1,744.8	776.0	0.44
3. Financial Securities	614.3	319.8	0.52
C. Equities Held	3,731.7	4,506.8	—
1. Corporate Stock	1,143.3	906.9	0.79
2. Unincorporated Business Equity, including other real estate	2,225.1	2,710.0	1.22
3. Trust Fund Equity	NA	461.3	—
4. Insurance (Cash Surrender Value)	213.1	102.8	0.48
5. Pensions (Cash Surrender Value)	60.9	40.1	0.66
6. Miscellaneous Assets	89.3	285.7	3.20
II. Liabilities	1,749.6	888.2	0.51
1. Mortgage Debt	1,116.0	704.1	0.63
2. Other Debt	633.6	184.1	0.29
III. Net Worth	9,357.1	8.698.0	—

[a]All figures in billions of dollars and valued as of midyear, 1983.

[b]The figures are averages of end year 1982 and 1983 totals. Sources and methods by component are as follows:

(1) Data on owner-occupied housing, household inventories, unincorporated business equity, and miscellaneous assets are from: Board of Governors of the Federal Reserve System, *Balance Sheets for the U.S. Economy*, Washington, D.C., October, 1985. The value of owner-occupied housing includes the value of both structures and land. The category unincorporated business equity also includes the value of real estate held for investment and income purposes.

(2) Data on vehicles and other consumer durables are from: John C. Musgrave, Fixed Reproducible Tangible Wealth in the United States: Revised Estimates, *Survey of Current Business*, 66 (1), January 1986, 51-75.

(3) Fixed claim assets, corporate equities, life insurance reserves, pension reserves, and all liabilities are from: Board of Governors of the Federal Reserve System, *Flow of Funds Accounts, Second Quarter 1985*, Washington, D.C., September, 1985, p. 63. The Flow of Funds data refer to the household, personal trust, and non-profit sector. From Ruggles and Ruggles (1982, Table 2.40), data are obtained for holdings by the household sector exclusively for 1980. The ratios of the Ruggles' data to the Flow of Funds data for 1980 are then used to adjust the 1982 and 1983 Flow of Funds data. Moreover, following Ruggles and Ruggles (1982), I value the cash surrender value of life insurance at 90 percent of its reserves and the cash surrender value of pensions at 5 percent of its reserves.

[c]SCF totals are based on sample means and sample weights from the May, 1985, version of the SCF tape. The tabulations are based on only non-missing values. It should be noted that SCF weights add to 79.8 million households, compared to the U.S. census figure of 83.9 million households (families and unrelated individuals).

for new vehicles, and for vehicles purchased when used, the price index is that for used vehicles. Both indices are obtained from the *Economic Report of the President, 1984*, Table B-53. If information on the original cost of the vehicle is not available, the vehicle is valued at the average current market value as follows:

Vehicle 1: $5,615
Vehicle 2: 3,784
Vehicle 3: 3,189

3. *Other Consumer Durables.* These are imputed to each household based on the regression shown in Table A.8. These results are obtained from the 1969 MESP databased and based on 1969 values for consumer durables and income. For the imputation, SCF family income is deflated to 1969 based on the change in the CPI. Consumer durable values are then inflated to 1983 values based on the consumer price index for durables. The resulting consumer durable figures are then aligned to the aggregate household balance sheet total by multiplying each entry in the SCF by a constant adjustment factor.

TABLE A.8

REGRESSION OF THE STOCK OF OTHER CONSUMER DURABLES ON HOUSEHOLD VARIABLES[a]

Independent Variables	Coefficient	*t*-Statistic
Constant	2871.4	—
Income	0.08644	32.51
Income**2	−0.3271E−6	17.26
Agehead	−7.1401	5.57
Married[b]	811.32	11.12
Femhead[c]	−240.31	2.99
Urbanres[d]	189.51	3.95
R^2	0.261	
Standard Error	1659.2	
No. of Observations	6345	

[a]Regressions run on 1969 MESP database. Stock of durables and income variables are both in 1969 dollars.
[b]Dummy variable: 1 if married (spouse present or absent).
[c]Dummy variable: 1 if head of household is female.
[d]Dummy variable: 1 if urban residence.

4. *Household Inventories.* These imputations are based on Table A.9, which shows the ratio of household inventory expenditures to (before-tax) family income in 1972–73. These same ratios are applied to corresponding 1983 income classes, where the 1972–73 income figures are inflated to 1983 dollars using the Consumer Price Index. The resulting household inventory figures are then aligned to the aggregate household balance sheet total in Table A.7 by multiplying each entry in the SCF by a constant adjustment factor.

5. *Demand Deposits and Currency.* This category is defined as the average balance of all checking accounts.

6. *Time and Savings Deposits and Money Market Funds.* This category includes time and savings accounts, money market funds, IRA and Keogh account balances, and short-term and long-term certificates of deposits.

TABLE A.9

EXPENDITURES ON HOUSEHOLD INVENTORY ITEMS AS A PERCENT OF FAMILY INCOME BY FAMILY-INCOME CLASS IN 1972-73[a]

1972-73 (Before-Tax) Income Class	Ratio of Inventory Purchases to Family Income
1. Under $3,000	0.491
2. $3,000-$3,999	0.318
3. $4,000-$4,999	0.282
4. $5,000-$5,999	0.265
5. $6,000-$6,999	0.238
6. $7,000-$7,999	0.222
7. $8,000-$9,999	0.204
8. $10,000-$11,999	0.184
9. $12,000-$14,999	0.170
10. $15,000-$19,999	0.152
11. $20,000-$24,999	0.136
12. $25,000 and over	0.097
Mean: $11,419	0.172

[a] *Source*: U.S. Bureau of Labor Statistics, *Consumer Expenditure Survey: Integrated Diary and Interview Survey Data, 1972-73*, Bulletin 1992, 1978. Household inventory items are defined as (1) food purchased for home use, (2) tobacco, (3) alcoholic beverages, and (4) clothing and clothing matetials.

7. *Financial Securities.* This includes the following components:

(a) Federal and state and local government bonds, including U.S. savings bonds.

(b) Corporate, foreign, and other bonds.

(c) Mortgage assets held by the family on property sold by the family.

8. *Stocks.* This includes publicly traded stocks (including investment clubs), mutual funds, and call money accounts at stock brokerage firms.

9. *Unincorporated Business Equity.* This is the reported total dollar value of unincorporated business, farms, partnerships, and professional corporations owned by the family. Also included here is the net amount of money the unincorporated business owes to the family.

10. *Trusts.* This component is defined as the family's interest in trust or investment accounts.

11. *Insurance Cash Surrender Value.* This is directly provided in the SCF.

12. *Pension Cash Surrender Value.* This is defined as the total dollar amount accumulated in individual pension accounts that can be withdrawn as of the survey date.

13. *Miscellaneous Assets.* This has two components: (i) other investments, consisting of boats, money lent to friends and relatives, antiques, precious metals, jewelry, and art; and (ii) the cash surrender value of company savings plans, including thrift, profit-sharing, stock options, ESOPs, annuity plans, and credit unions.

14. *Mortgage Debt.* This is defined as the total mortgage loans outstanding on housing and other real estate. This was estimated from mortgage tables based

on the following information provided in the SCF: (i) original mortgage loan; (ii) payment amount and schedule; (iii) date of original loan; and (iv) interest rate.

15. *Other Debt.* This includes the following components:

(a) Total loans outstanding on all vehicles owned.

(b) Money owed on other investments.

(c) Installment loans outstanding on durables (except vehicles) and other large purchases. Information in the SCF is provided on the following: Total number of payments to be made on the loan (N_1); number of payments made to date (N_2); and the value of the original loan (L). The outstanding loan is approximated by: $L(1 - N_2/N_1)$.

(d) Debt remaining on all other loans.

Comparison of Balance Sheet Totals

SCF totals for both owner-occupied housing and vehicles are very close to the published data. Indeed, the owner-occupied housing totals are almost identical. For fixed claim assets, the SCF totals are considerably lower than the corresponding totals from the Flow of Funds data. For the category as a whole, the SCF total is only 46 percent of the Flow of Funds total and this ratio ranges from 0.41 to 0.52 over the three asset classes in this group.

For corporate stock, the SCF coverage is better, with 79 percent of the Flow of Funds figure captured. For unincorporated business equity, the SCF total is higher, by 22 percent, than the Flow of Funds number. The reason is that the SCF includes all non-owner-occupied real estate (such as vacant land and partially owner-occupied multiple housing units) in this category. Trust fund coverage also seems complete. Ruggles and Ruggles report a total value for trust funds of 280.3 billion dollars in 1980, or 3 percent of total assets. If this percentage remained constant over the 1980–83 period, the total value of trust funds would equal 376.8 billion dollars by mid-year, 1983, compared to the SCF total of 461.3 billion.

The SCF captures only about half of pension cash surrender value and about two-thirds of the cash surrender of life insurance. Miscellaneous assets are considerably higher in the SCF than in the Flow of Funds, most likely because the category includes different items in the two sources. Liabilities are poorly covered in the SCF. Only 63 percent of mortgage debt and 29 percent of other debt are captured in the survey.

Adjustment Procedures

For tangible assets, unincorporated business equity, and trust fund equity, SCF coverage appears quite adequate. For other components, there appears to be significant underreporting. Since *Statistics of Income* for 1983 is not yet available, there is no independent way of assessing the relative degree of underreporting by income class or shortfalls in the percentage of households reporting ownership of particular items. As a result, propositional adjustment factors are used for each of the underreported items in the balance sheet.