Five Years Older:
Much Richer or Deeper in Debt?[1]

Joseph Lupton and Frank Stafford
Survey Research Center - Institute for Social Research
University of Michigan

Five Years Older: Much Richer or Deeper in Debt?[1]

Joseph Lupton and Frank Stafford
Institute for Social Research
Department of Economics
University of Michigan

Introduction

Americans have taken on significant amounts of debt – both in the form of mortgage debt and credit card debt. Aggregate data show a rise in both credit card debt and mortgage debt during the 1990's. At the same time, household wealth at the upper end of the distribution has risen strongly. Microdata on families from the National Science Foundation sponsored Panel Study of Income Dynamics (PSID) confirm the pattern of indebtedness. Based on data from the wealth modules, sponsored by the National Institute on Aging, during the period, 1989 – 1994, non-collateralized debt rose from $3,653 to $6,339 per family (1996$) (Hurst, Luoh and Stafford, 1998). For 1999, our preliminary estimate of non-collateralized debt (1999$) is $5,500.

Over the same period equity in own main home for those owning fell from $84,832 in 1989 to $72,961 in 1994 (1996$). With modest rises in real median housing prices over this period (Juster, Lupton, Smith and Stafford, 1999), an implication is that loan to value ratios on owner occupied housing were rising. Many of the families who refinanced their homes in the mid 1990's were shown to be grasshoppers, drawing out equity to boost current consumption rather than simply reallocating assets within the overall portfolio (Hurst and Stafford, 2000). Part of this American rush to debt appears to have been stimulated by the great equity gains of some households, starting in the late 1980's (Juster, Lupton, Smith and Stafford, 1999). At the upper end of the wealth distribution, there have been strong gains in equity markets and small businesses have become more prevalent.

Events of the late 1990's suggest that more household level debt has been piling up. Lenders have aggressively marketed mortgage loans in excess of 100 percent of house value. Non-collateralized consumer debt has also been rising as access to credit cards make high interest borrowing easy. Along with this increase in debt, household bankruptcy rates continues to rise as it appears more financially advantageous and now socially acceptable to default (Fay, Hurst and White, 1999).

In this brief note we use a constructed wealth file from the just recently (December 14) completed 1999 wave of the Panel Study of Income Dynamics. We examine how an initially representative sample of U.S. families in 1994 fared in managing their overall wealth position and non-collateralized debt as they moved forward over the period 1994-1999[2].

---

[2] The sample is based on the early release data, the most recent of which just came in from the field in December 1999. The data have not been subject to editing of family composition or extensive checks for anomalous values of wealth or its components. No internal checks have been completed on these data other than examination for extreme outliers. Based on improved computer assisted interviewing for household wealth, only two cases were identified as obvious data entry and recording errors, and this were treated as missing data which were then imputed. No other editing was conducted. Imputations were done where bracketed information for the value of specific assets was obtained. For variable definitions and bracketing imputations see Hurst, Luoh and Stafford, 1998 (Appendix A). The data here are for what can be called household wealth – aside from pension wealth and Social Security 'wealth' (discounted streams of future private and public pensions) which are not included. One difference in definitions for 1999 is the treatment of IRAs. Also, since these are the same families (defined as having the same family head in both 1994 and

Wealth: Limited and Great

Hurst, Luoh and Stafford (1998) examine household wealth in the cross section for 1984, 1989 and 1994.[3] A result consistent in all years is that many families have zero assets and zero debt. Below this group are households with enough financial credibility to have had credit extended to them and enough bad luck or subsequent mismanagement to have negative net worth. The percentage of families with such negative net worth grew successively from 1984 (7 percent) to 1989 (9 percent) and then stabilized (to remain at about 9 percent by 1994).

The size of the overall deficit (net worth) for such families grew in value over these observation periods in 1996 deflated dollars from -$1,594 (1984) to -$4,282 (1989) to - $7,623 (1994) at the fourth percentile of household wealth (Hurst, Luoh and Stafford, 1998). Above this zero and negative household wealth group there is a wide group of families which have wealth below about $60,000. This level represents the approximate median family household wealth. The distribution extends upward so that household wealth at the 98th percentile was about $1.1 million in 1994 (1996$). The result is a highly skewed wealth distribution that became more skewed over the ten year period from 1984 to 1994. The results reported in this paper continue to indicate an increasing dispersion of household wealth as those in the highest 1994 percentiles saw the largest increases in wealth.

Here we examine the financial transitions of families with the same head in 1994 and 1999.[4] How did those in different initial financial categories fare as they progressed five years through the life course, 1994-1999? Using overall household wealth as a financial indicator, what were the transitions of families in four initial groups as of 1994: The bottom quartile (essentially those with limited wealth - under $11,300 1999 dollars, including negative net worth), the families in the second quartile range of modest positive

---

1994) the sample is over representative of stable families and, by definition, excludes young families which have formed in the interim period. Nonetheless, we feel the sample provides a meaningful picture of balance sheet transitions and can highlight the extent to which families adding to their debt are those with otherwise healthy balance sheets or not. This file can be used by those wishing to study structural models of wealth dynamics and can be soon obtained as a special family level file at our website (www.umich.edu/~psid/) under supplemental files. The 1999 (and 1994) Computer Assisted Telephone Interviewing software can be viewed at that site under 'Documentation'. Wealth and Active Savings are in Section W (Section G, Questions 115 to 150 for 1994).

[3] Household wealth is defined to include: own or main home, second home; other rental real estate and land contract holdings; equity in cars, trucks, boats, motor homes ('wheel wealth'); farms or businesses; stocks, mutual funds, investment trusts, stocks in Individual Retirement Accounts (IRA); savings and checking accounts, money market funds, certificates of deposit, government savings bonds, Treasury bills; corporate bonds, cash value of life insurance policies, valuable collections for investment purposes, rights in a trust or estate; less mortgage; less credit card and other debt on such assets.

[4] The 1994 PSID family weights are used. By virtue of exclusion of newly formed families the sample was representative only as of 1994. However, it does provide a representative, national sample of families as of 1994 which carried forward in tact (same head of household) to 1999. The new sample families formed in the interim, as well as the supplementary sample of post-1968 immigrants and their adult children will be available for analysis at a later date.

amounts ($11,300 to about $65,200[5]), $65,200 to $192,400 (the next 25 percentiles – or up to the 75th percentile), and above $192,400, the upper quartile of families. How did the limited and negative worth families do? How many moved to positive territory and how far? Because of the normal life cycle growth of wealth, we expect positive transitions to outnumber negative transitions if we maintain the constant dollar values to define the categories. If we stick with percentiles there will be no net relative migration upward (except for residents of Lake Wobegone who all become better than average)!

Table 1 presents data on the quartile ranges of these household wealth categories in 1994 and 1999. The overall upward wealth growth for these families is evident. The 25th percentile point moves up a bit from $11,300 to $14,000, the median moves up from $65,200 to $82,000 and the 75th percentile point moves up from $192,400 to $235,000. For comparison purposes, between 1989 and 1994, the median for such a panel analysis of stable families rose from $54,300 to $70,090 (1996$) (Hurst, Luoh and Stafford, 1998, Table 7, p. 284). The 1989-1994 household wealth growth at the median was thus 29 percent net of inflation, and in 1994 –1999 the household wealth growth at the median was 26 percent net of inflation. On this basis the household wealth growth at the middle of the distribution was pretty much the same in these two time intervals. In 1994 to 1999, the wealth growth at the 75th percentile rose from $192,400 to $235,000 or 22 percent. In 1989 to 1994 the growth at the 70th percentile was 14 percent and at the 80th percentile was 12 percent[6]. On this basis the wealth growth in the upper percentiles was greater in the 1994-1999 period than in the 1989-1994 period.

The mobility of wealth positions can be seen across the four quartiles. The fraction moving out of their initial wealth quartile is lower in the bottom (32.5 % = 26.2 + 5.3 + 1.0) and the top quartile (26.7% = 2.2 + 5.7 + 18.8) than in the second (50.6% = 23.4 + 22.8 + 4.4) and third (46.8% = 6.2 + 19.9 + 20.7) quartiles. The pattern of persistently limited household wealth is also evident from the values in the lowest 'no change quartile' and comparisons with other values on the quartile diagonal. Of the families in the lowest quartile in 1994, over two thirds (67.5 percent) are still in the bottom quartile in 1999, and the median wealth of those persistently in the lowest quartile barely budges from a median of $0 (mean of -$3,100) to a median of $300 (mean of -$3,800) in 1999 dollars. In contrast to the bottom 'no change quartile,' looking at the top 'no change quartile', wealth increased from $404,400 to $563,000 (39.2 percent) at the median and from $675,600 to $1,042,500 (54.3 percent) at the mean.[7] Many of those families in the top quartile persisted in that range, and their wealth rose strongly.

---

[5] Note that this is a bit higher than the median reported for 1994 (1996$) in Hurst, Luoh Stafford, 1998, Table 4, p. 277. This is because the panel data sample necessarily selects in a sample of more stable families, and family stability is associated with greater wealth accumulation.

[6] Note that wealth growth tables of this sort are subject to mean reversion. Those near the very top have less room to move up and those at the very bottom can only move up or stay at a zero or small negative amount. By comparing successive panel growth rates at the same percentile points one can standardize for such effects to a substantial extent.

[7] As explained in Hurst, Luoh and Stafford (1998, p, 276-278), the mean wealth for the top upper end category has the problem that the very rich are not effectively included in a household survey. Studies of the PSID indicate that the household wealth measures are nonetheless very good up to about the 99th percentile of the family wealth distribution (Juster, Smith and Stafford, 1999).

To Fret Over Debt?

Restricting the sample to those (64.9% of the weighted sample) with some non-collateralized debt (credit cards, student loans, medical debt) in either 1994 or 1999, Table 2 presents the same type of table for non-collateralzed debt (NCD). Here we add a conditional distribution on total wealth for those in the upper and lower categories of NCD. This allows us to identify who had high NCD and added to it, but had 'sufficient' other wealth versus those families which had a high level of NCD initially, added to it and as of 1999 had modest or negative levels of total wealth. For these families one would wonder if such levels of NCD are supportable. Would small income declines precipitate a financial crises and financial distress, including bankruptcy?

Table 2 breaks the sample into high/low NCD and high/low NW (net worth or household wealth) groups where 'high' and 'low' are defined by being above or below the respective median of NCD and NW *for that year*.[8] The dollar values of the medians are in parentheses below (or next to) the 'low' and 'high' phrase. To control for households that are highly leveraged versus just in debt, each cell is broken into upper and lower household wealth groups (including the debt). Of the high-NCD/high-NW households, 40.1% stayed in the high wealth group and were able to decrease their debt. Another 40.8% of such families with such high-NCD/high-NW maintained higher levels of debt but persisted as upper wealth families. For such persistent high-NCD/high-NW, non-collateralized debt may largely be for transaction convenience and not a financial crisis. That is, one could say that over 80% of households who had high (above median) debt but also high (above median) household wealth were able to 'keep their heads well above water'.

On the other hand, high-NCD/low-NW families did not fare so well. Of the 23.1% of the sample with high debt and low wealth in 1994, only 36.9% were able to move into the low-NCD category and only 8% actually migrated to the low-NCD/high-NW group. The majority of the high-NCD/low-NW group (50.2%) stayed in debt and had little in the way of wealth – or persisted as five years older and still in debt (unleveraged and non-collateralized). In fact, within this group, mean wealth fell from -$2,900 to -18,500. Once again, this large fall in overall wealth (a 537% decrease) includes life cycle factors which should generally lead to a better financial position over five years. This troubled group comprises 11.6% (weighted) of the Table 2 sample (or 7.5% of the stable families from 1994 to 1999).

---

[8] To wit, the median value of NCD is first determined separately for 1994 and 1999. In Table 2, the median value of NW is determined for 1994 for households below the NCD median and then for those above the NCD median. This is repeated for 1999. Note that is possible for a family to increase their wealth from 1994 to 1999 but still *fall* from high NW to low NW if wealth did not increase by enough. Also note that although NCD appears to decrease from a 1994 median of $3,300 to a 1999 median of $2,500, this is due primarily to life-cycle factors involved in this sample.

We now examine the wealth dynamics of households that transitioned from low (high) non-collateralized debt into high (low) debt. Of the approximately one-quarter of the sample that makes up the low NCD/low NW group in 1994, 49.2% stayed in that position reflecting either their financial prudence or the reluctance of lenders to extend credit, while 32.4% stayed in the low wealth group but moved into the high debt group. This group makes up 8.7% of the Table 2 sample (or 5.6% of the stable families from 1994 to 1999). On the other hand, some households made progress in reducing their NCD even though their wealth was persistently low. Of the households with high-NCD/low-NW in 1994, 28.9% maintained low wealth but had improved from high to low NCD by 1999 (6.7% of the Table 2 sample). So it is possible to have persistently modest wealth but pay down balances of NCD.

A Picture of Wealth and Limited Net Worth

Persistence in illiquidity and growth in illiquidity at the bottom of the distribution can be seen in Figure 1a. Despite the fact that there should be life cycle wealth growth in such a sample of panel families[9], the 1999 distribution lies at or below the 1994 distribution below the 8th percentile point. The 1999 distribution is basically coincident with the 1994 distribution in the range of the 9th to the 20th percentile. As suggested by the discussion of the quartile value results from Table 1, the upper part of the household wealth distribution (Figure 1b) shifts up strongly, from about $700,000 to just short of $1,000,000 at the 95th percentile.

Figures 2a and 2b present the household wealth distribution for African-American families compared to white families. The prior pattern of rising household wealth from a low base does not appear to have continued. From 1984 to 1994, the median wealth in such a panel-based sample of African-American families rose from $4,519 (1996$) in 1984 to $10,786 in 1994 (Hurst, Luoh and Stafford, 1998). From Figure 2a, it can be seen that the median wealth of about $10,000 for such (five year) stable African-American families remained virtually unchanged between 1994 and 1999. In fact, the entire 1999 distribution is virtually coincident with the 1994 distribution. One would expect some growth from both a general upward shift in the household wealth distribution and life cycle growth, so the apparent constancy of the distribution deserves a more complete analysis. The only segment of growth is near the very top, in the 97th to 99th percentiles (see appendix A).

For the full panel sample, how did families fare in terms of percentage wealth growth? To see this it is convenient to examine the logarithmic wealth distributions in 1994 and 1999, excluding those families with zero and negative wealth (and the top percentile to avoid data outliers). This is portrayed in Figure 3. The logarithmic growth for the panel sample wealth holders is essentially constant throughout the resulting distribution (a parallel upward shift). Of course, such a proportionate shift would be consistent with, for example, those at the $10,000 wealth position in 1994 rising to $15,000 in 1999, while those at the $1,000,000 position in 1994 rose to $1,500,000 in

---

[9] This assumes that wealth accumulation of younger households dominates any decumulation of older households over the five year period.

1999. Changes of this sort clearly still spread out the wealth distribution - in most interpretations.

The factors shaping these constant percentage changes in Figure 3 are certainly diverse. Rates of active saving differ (Hurst, Luoh and Stafford, 1998), and the returns to different assets differ. Rising equity gains have on that account boosted wealth variance and account for some of the Black - white (and other) wealth differences. On the other hand, part of the wealth gains have been translated into current consumption via wealth effects (Juster, Lupton, Smith and Stafford, 1999). Such wealth induced consumption could act to lower the percentage wealth growth at upper wealth levels, particularly if older individuals are responding to anticipated future taxes on their overall wealth, such as estate taxes. At the lower end, modest wealth growth - even just breaking into positive territory - may be still very important. Improving financial viability by paying off some NCD may have large benefits, even if, as we saw above, the result is only a modest boost in wealth.

CONCLUSION

This paper has offered a preliminary look at the wealth dynamics of American families from 1994 to 1999. There is great heterogeneity in wealth dynamics. The wealth gains in the upper part of the wealth distribution appear stronger from 1994 to 1999 than from 1989 to 1994. Some families have fared very well, with non-collaterlized debt being no more than a persistent transaction convenience, while others have added to their NCD and have seen their wealth fall. After overall improvements in wealth holdings from 1984 to 1994, African-American families as a group have seen their wealth stagnate throughout most of the wealth distribution, although there has been some modest growth in the 97th to 99th percentile range.

This paper is offered more in the way of an initial look at recent wealth dynamics. Many questions remain. To what extent have those with high NCD and low wealth been the families going bankrupt? What other circumstances led to the bankruptcy? Have people put themselves in precarious equity positions via mortgage borrowing based on wealth gains in the stock market or in their pension accounts? Some families have no assets or debts or even transaction bank accounts (Hurst, Luoh and Stafford, 1998). What events could lead them to become participants in financial markets? Has the proliferation of electronic access to financial markets led to greater ranges of participation in different kinds of financial assets by more families? A closer examination of the data is required to answer these and other questions.

REFERENCES

Fay, Scott, Erik Hurst and Michelle J. White, "The Bankruptcy Decision: Does Stigma Matter?," working paper, Department of Economics, university of Michigan July, 1999.

Hurst, Erik, Ming Ching Luoh and Frank P. Stafford, "Wealth Dynamics of American Families, 1984-1994," *Brookings Papers on Economic Activity*, Volume I, 1998, p. 267-337.

Hurst, Erik and Frank P. Stafford, "Grasshoppers and Ants: Mortgage Refinancing and Financial Distress," working paper, January, 2000 (revised).

Juster, F. Thomas, James P. Smith and Frank P. Stafford, "The Measurement and Structure of Hosehold Wealth," *Labour Economcs*, Vol. 6, No. 2, June, 1999, p.253-275.

Juster, F. Thomas, Joseph Lupton, James P. Smith and Frank P. Stafford, "Wealth and Savings, Then and Now," working paper, December, 1999.

Table 1: PSID Net Worth Transitions from 1994 to 1999 (Thousands of 1999 dollars)

Quartiles	1 (<14.0)					2 (14.0, 82.0)					3 (82.0, 235.0)					4 (>235.0)				
1999	%	Mean		Median		%	Mean		Median		%	Mean		Median		%	Mean		Median	
1994		1994	1999	1994	1999		1994	1999	1994	1999		1994	1999	1994	1999		1994	1999	1994	1999
1 (<11.3)	16.8 / 67.5	-3.1	-3.8	0.0	0.3	6.5 / 26.2	-0.3	34.2	2.8	30.0	1.3 / 5.3	-6.8	139.7	0.0	123.0	0.2 / 1.0	-36.9	725.8	-3.8	418.1
2 (11.3, 65.2)	5.9 / 23.4	27.7	-25.0	24.0	3.0	12.4 / 49.4	34.2	44.9	32.6	42.0	5.7 / 22.8	41.2	128.1	42.0	117.5	1.1 / 4.4	39.6	664.9	40.2	385.0
3 (65.2, 192.4)	1.5 / 6.2	106.8	-7.1	104.4	1.0	5.0 / 19.9	100.9	54.4	90.2	58.1	13.3 / 53.2	119.8	146.0	114.6	139.0	5.2 / 20.7	131.6	422.6	134.8	320.4
4 (>192.4)	0.5 / 2.2	394.0	-352.5	293.5	-2.3	1.4 / 5.7	404.9	50.7	300.0	50.0	4.7 / 18.8	324.8	169.2	260.9	175.0	18.3 / 73.3	675.6	1042.5	404.4	536.0

Notes:
[1] Means and Medians are of total net worth.
[2] Sample is restricted to same head of household in 1994 and 1999. (4938 observations)
[3] PSID 1994 weights are used in all calculations.
[4] The top percent value is the fraction of the total weighted sample. The bottom percent is the fraction in that row.
Source: Lupton & Stafford (2000)

Table 2: PSID Noncollateralized Debt (NCD) and Net Worth (NW) 1994 to 1999 Transitions: NCD holders in 1994 or 1999 (Thousands of 1999 dollars)

1999 NCD →		Low (<2.5)										High (>2.5)									
1999 NW →		Low (<75.5)					High (>75.5)					Low (<49.0)					High (>49.0)				
1994		%	Mean		Median		%	Mean		Median		%	Mean		Median		%	Mean		Median	
NCD	NW		1994	1999	1994	1999		1994	1999	1994	1999		1994	1999	1994	1999		1994	1999	1994	1999
Low (<3.3)	Low (<50.0)	13.3 / 49.2	14.5	19.9	10.9	11.8	2.0 / 7.4	27.3	182.1	29.3	121.3	8.7 / 32.4	12.2	1.1	8.1	1.3	2.9 / 10.9	23.5	166.0	26.1	96.3
Low (<3.3)	High (>50.0)	3.4 / 12.8	127.1	30.8	71.3	47.0	12.2 / 45.4	282.2	371.3	169.9	197.0	1.9 / 7.1	143.2	9.6	96.2	12.3	9.3 / 34.7	281.1	536.5	158.7	200.0
High (>3.3)	Low (<41.0)	6.7 / 28.9	2.1	22.5	2.2	17.5	1.8 / 8.0	9.0	304.4	14.1	125.0	11.6 / 50.2	-2.9	-18.5	0.0	3.4	3.0 / 13.0	8.2	142.2	16.3	94.5
High (>3.3)	High (>41.0)	1.9 / 8.4	226.3	35.8	95.7	46.5	9.3 / 40.1	327.9	772.3	166.3	258.0	2.5 / 10.7	121.1	-17.0	84.8	12.9	9.4 / 40.8	264.0	346.2	155.4	181.4

Notes:
[1] Means and Medians are of total net worth.
[2] Sample is restricted to same head of household in 1994 and 1999. Also, household must have held NCD in either 1994 or 1999. (3129 observations)
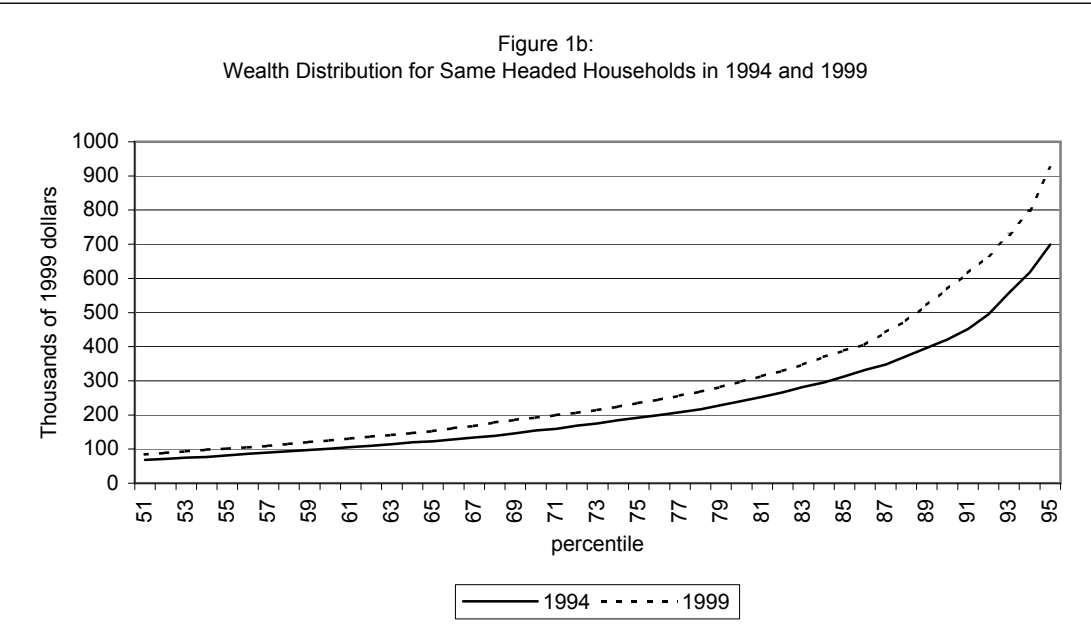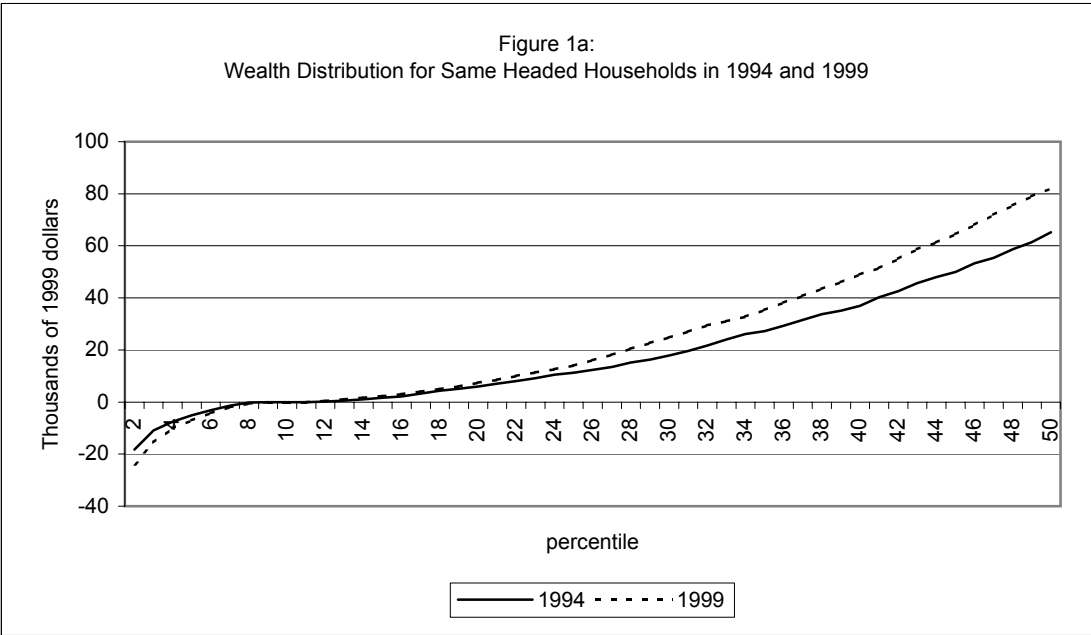[3] PSID 1994 weights are used in all calculations.
[4] The top percent value is the fraction of the total weighted sample. The bottom percent is the fraction in that row.
Source: Lupton & Stafford (2000)

Figure 1a:
Wealth Distribution for Same Headed Households in 1994 and 1999

Figure 1b:
Wealth Distribution for Same Headed Households in 1994 and 1999

Source: Lupton & Stafford (2000)

Figure 2a:
Wealth Distribution for Same Headed Households in 1994 and 1999:
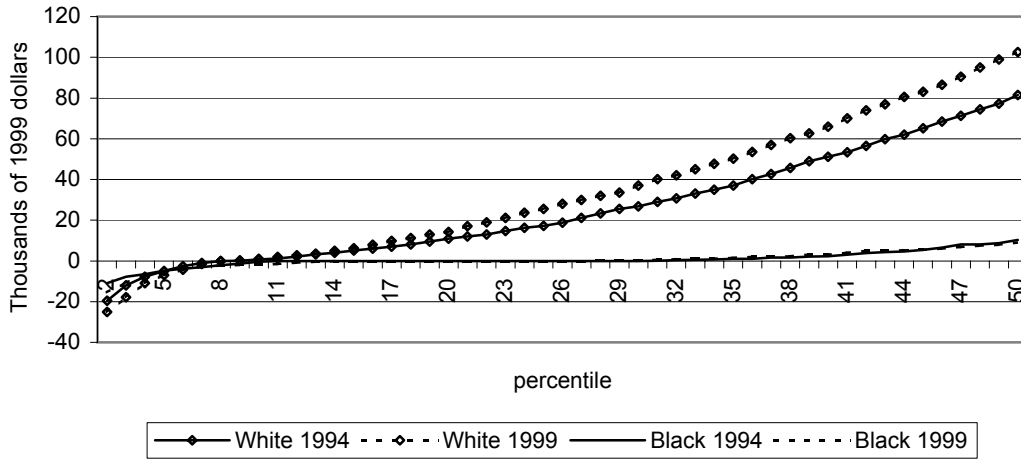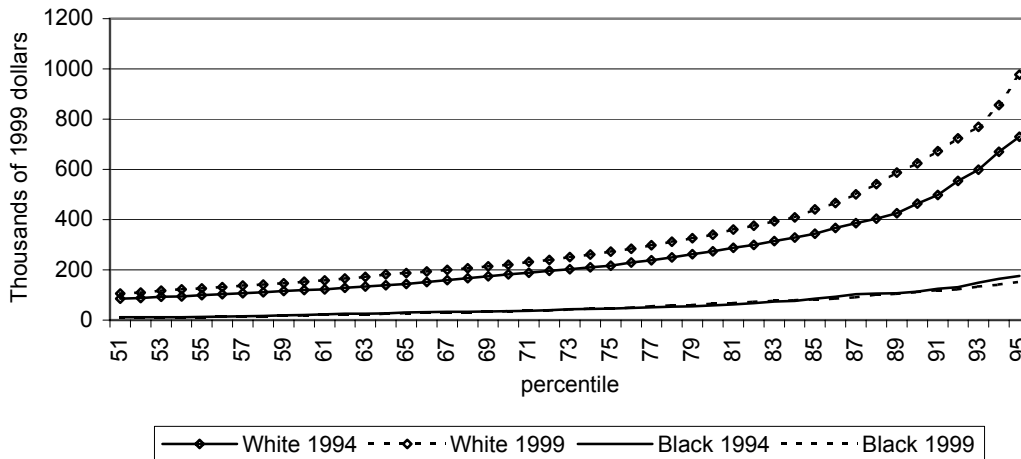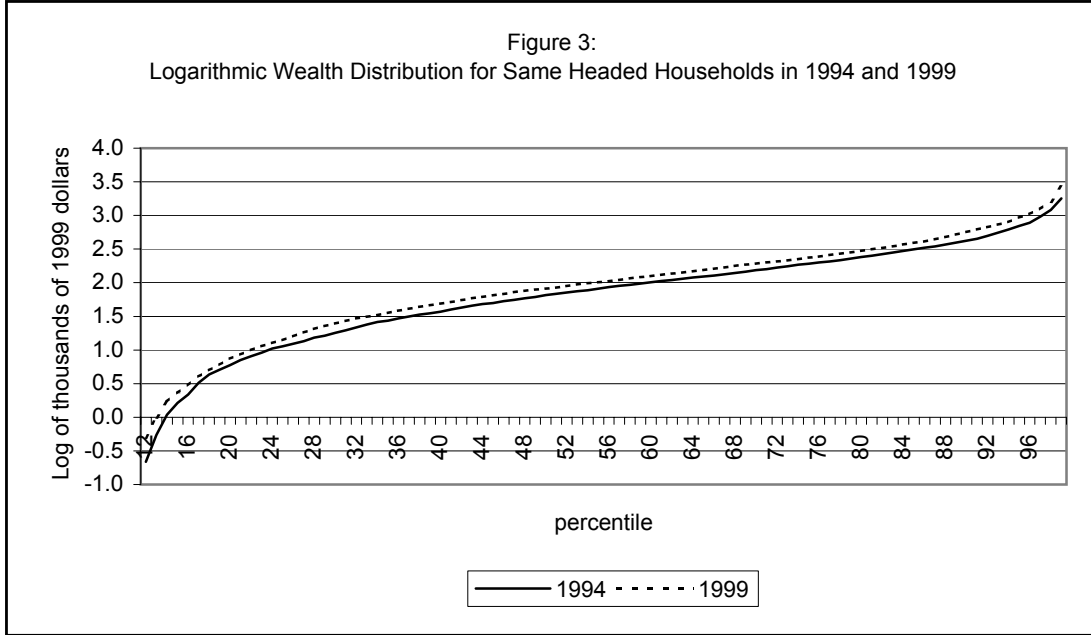Black and White Households

Figure 2b:
Wealth Distribution for Same Headed Households in 1994 and 1999:
Black and White Households

Source: Lupton & Stafford (2000)

Figure 3:
Logarithmic Wealth Distribution for Same Headed Households in 1994 and 1999

Note: Distribution begins with positive wealth values (the 12th percentile)   Source: Lupton & Stafford (2000)

Appendix A:
Wealth Distribution for Same Headed Households in 1994 and 1999
(Thousands of 1999 dollars)

Percentile	Full Sample		Black		White	
	1994	1999	1994	1999	1994	1999
1	-31.0	-44.0	-23.7	-23.9	-33.7	-48.5
2	-18.3	-23.9	-12.1	-15.6	-19.6	-25.1
3	-10.9	-15.6	-9.7	-10.6	-12.0	-17.8
4	-7.6	-10.0	-6.5	-7.6	-7.8	-11.0
5	-5.1	-7.0	-5.2	-5.0	-5.0	-7.0
6	-3.1	-4.2	-3.8	-3.5	-2.6	-4.5
7	-1.4	-2.0	-3.2	-3.0	-0.9	-1.5
8	-0.2	-0.6	-2.2	-2.3	0.0	0.0
9	0.0	0.0	-1.6	-2.0	0.1	0.3
10	0.0	0.0	-0.9	-1.8	0.7	1.0
11	0.0	0.0	-0.2	-1.5	1.2	2.0
12	0.2	0.5	0.0	-1.0	2.2	2.8
13	0.5	1.0	0.0	-0.5	3.3	3.5
14	1.1	1.7	0.0	-0.2	3.9	5.0
15	1.6	2.3	0.0	0.0	5.0	6.2
16	2.2	3.0	0.0	0.0	6.0	8.0
17	3.3	4.0	0.0	0.0	7.1	9.7
18	4.3	5.0	0.0	0.0	8.0	11.3
19	5.1	6.0	0.0	0.0	9.5	12.7
20	6.0	7.4	0.0	0.0	10.9	14.2
21	7.1	8.6	0.0	0.0	12.0	17.0
22	8.1	10.0	0.0	0.0	13.0	19.0
23	9.1	11.4	0.0	0.0	14.7	21.1
24	10.5	12.7	0.0	0.0	16.2	23.7
25	11.3	14.0	0.0	0.0	17.2	25.5
26	12.4	16.0	0.0	0.0	18.7	28.0
27	13.5	18.1	0.0	0.0	21.1	30.0
28	15.2	20.5	0.0	0.0	23.4	31.9
29	16.3	22.7	0.0	0.1	25.5	33.5
30	17.9	24.8	0.0	0.3	26.8	37.0
31	19.7	27.0	0.0	0.5	28.9	40.0
32	21.7	29.5	0.3	0.8	30.8	42.0
33	24.0	31.0	0.5	1.0	33.2	45.0
34	26.1	32.8	0.5	1.1	35.0	47.5
35	27.2	35.4	0.8	1.5	37.0	50.2
36	29.3	38.1	1.1	2.0	40.2	53.5
37	31.5	40.7	1.1	2.0	42.6	57.0
38	33.7	43.5	1.6	2.2	45.7	60.3
39	35.1	46.0	2.2	2.6	48.9	62.6
40	37.0	49.0	2.2	3.0	51.1	66.0
41	40.2	51.5	2.4	4.0	53.4	70.0
42	42.6	55.0	3.2	4.4	56.5	73.9
43	45.7	58.7	3.9	5.0	59.8	76.8
44	48.1	61.2	4.3	5.0	62.0	80.2
45	50.0	64.5	5.0	5.5	65.2	83.0
46	53.3	68.0	5.5	6.0	68.5	86.5
47	55.4	72.0	6.5	6.6	71.3	90.5
48	58.7	75.5	8.2	7.1	74.5	95.0
49	61.4	79.0	8.2	8.0	77.2	99.0

Appendix A: (continued)

Percentile	Full Sample		Black		White	
	1994	1999	1994	1999	1994	1999
50	65.2	82.0	8.7	8.5	81.5	102.5
51	68.5	84.1	10.3	9.0	85.9	106.1
52	71.3	88.7	10.9	10.0	88.0	110.0
53	75.0	94.0	10.9	10.5	92.4	117.0
54	77.2	98.0	11.6	11.5	94.6	121.7
55	81.5	101.7	12.0	12.0	98.9	125.8
56	86.4	105.0	13.3	13.0	103.2	131.2
57	89.9	109.5	13.6	13.8	106.6	137.0
58	93.5	115.5	15.2	15.0	110.9	141.5
59	97.3	121.0	16.8	15.6	115.4	146.0
60	101.1	125.5	19.0	18.0	119.9	152.3
61	105.7	131.0	21.7	20.0	122.8	158.4
62	109.8	137.0	22.8	21.0	128.3	166.0
63	114.1	141.5	25.0	22.2	133.7	172.4
64	119.6	147.0	26.1	25.0	139.1	182.0
65	123.0	153.2	27.2	27.0	144.2	187.0
66	128.3	161.5	30.4	28.2	152.2	193.0
67	133.7	167.8	31.7	30.5	158.7	200.0
68	139.1	178.0	32.7	32.4	166.3	206.8
69	146.2	186.0	33.3	33.0	173.9	213.5
70	154.4	192.0	35.4	35.4	181.5	221.0
71	159.8	199.7	36.1	37.0	189.1	232.0
72	168.5	206.0	37.8	37.6	195.2	239.4
73	175.0	214.5	40.5	41.8	202.2	251.0
74	184.8	224.0	43.5	44.8	209.8	261.0
75	192.4	235.0	44.8	47.0	216.9	271.9
76	199.6	245.0	47.0	49.9	228.8	284.0
77	207.6	257.0	49.4	52.5	238.1	298.0
78	216.3	268.0	53.3	57.0	250.0	312.0
79	228.8	282.0	54.4	60.3	262.0	325.0
80	240.9	298.0	57.1	63.0	273.9	340.0
81	252.7	314.0	60.7	67.4	287.9	360.0
82	265.8	329.0	66.2	72.4	298.9	376.0
83	282.1	347.8	70.7	75.0	314.1	393.6
84	295.7	370.6	73.9	79.1	328.8	409.0
85	313.1	389.0	82.6	82.2	344.6	440.5
86	331.5	406.0	92.1	85.0	366.3	465.7
87	347.8	442.0	99.0	89.8	386.4	500.0
88	371.8	476.0	103.3	98.1	404.4	542.0
89	396.8	522.2	107.1	103.5	426.1	587.0
90	421.2	568.8	112.0	110.0	464.1	624.0
91	452.2	616.0	122.8	119.0	497.8	669.8
92	494.6	666.5	126.1	121.3	554.4	723.2
93	557.6	728.6	148.9	133.4	598.9	769.0
94	617.4	797.3	164.4	138.0	665.2	856.0
95	699.5	924.0	174.4	153.0	730.5	977.0
96	782.6	1045.0	179.4	183.9	841.7	1102.1
97	959.8	1252.0	195.7	227.4	1059.8	1320.1
98	1201.1	1600.0	244.6	270.8	1271.8	1684.1
99	1793.6	2743.2	442.4	533.5	1951.2	2950.0