

# Why is Wealth Inequality Rising?

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There is little question that the most salient attribute of the labor market in the last two decades has been a rapidly expanding income and wage inequality. Those whose wages were initially below the median suffered significant real wages losses while workers above the median enjoyed inflation adjusted wage increases. For example, since 1971, there was a 37% fall in wages of workers at the 20<sup>th</sup> percentile compared to workers wages at the 80<sup>th</sup> percentile. After the facts about rising wage inequality became generally accepted, debate moved on to identifying root causes of greater income dispersion. That debate has failed to achieve a consensus.

Yet, wages and income are but one index of the economic resources of households. While income remains the best basic measure, household wealth is an important complimentary index of their command over economic resources. Although we know a good deal about income differences across households, until recently, much less was known about how much personal wealth people have access to and how and why that wealth gets distributed. We know that there exists modest wealth holdings by the typical American household, large disparities in wealth, and very little evidence of any prior savings behavior by poor or even middle class households. However, opinion is deeply divided about the reasons for this wide dispersion in household wealth, a division which does not make the task of identifying the culprits in the secular rise in wealth inequality any easier.

This paper is divided into three sections. The first summarizes the principal facts about wealth inequality and how it has been changing during the last fifteen years. Section 2 examines the relation between wealth and income by illustrating how wealth is distributed within and across income groups. The third section attempts to uncover some reasons why wealth inequality has been expanding so rapidly. The reasons include the receipt of inheritances, rising income inequality, and capital gains, particularly those due to appreciation in equity markets. The subsequent impact of these capital gains on financial savings in other forms is also investigated. Throughout, I rely on two longitudinal surveys which have pioneered in the incorporation of household wealth modules into multi-purpose social science surveys--the Panel Study of Income Dynamics (PSID) and the Health and Retirement Survey (HRS).

### **The Facts about Wealth**

Figure 1, which plots the distribution of household wealth at selective percentiles, highlights some of its most salient attributes. These data are based on the Panel Study of

Income Dynamics (PSID)<sup>1</sup> which included household wealth modules in its 1984, 1989, and 1994 waves.<sup>2</sup> First, wealth distributions are quite unequally distributed. Counting all assets (including net home equity), the median household has about \$50,000 in net worth. In sharp contrast, the top 5% typically have more than ten times that amount while the bottom third have virtually nothing at all. If anything, reliance on the PSID substantially understates the extent of wealth inequality since this household survey excludes the super-rich.<sup>3</sup> For example, the top 1% of SCF households possess 34% of total household wealth while the upper one-in-a-thousand control 13%. These super-wealthy households are excluded from the analyses in this paper.

Second, household wealth inequality increased steadily between the mid-1980s and the mid-1990s. If across-year ratios of wealth at percentiles are used as the metric, wealth inequality did rise, but primarily--if not exclusively--within the upper half of the wealth distribution. Between 1984 and 1994, there was essentially no change below the median; median wealth increased by about 9%; while in the 80th percentile and above wealth increases averaged over 20%. Across these ten years, wealth disparities did rise, but, in addition, wealth dispersion among the well-to-do also increased.

Dispersion is even more dramatic in financial assets alone (see figure 2). Most American households have very few financial assets, but a few have a great deal more. Median financial wealth is only a few thousands dollars no matter which PSID wave is used; nor was there any change in the amount of financial assets held by the typical household. Again, the real story involves dispersion with relatively few households possessing most of these financial assets. The complimentary message involves the

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<sup>1</sup>The PSID has gathered almost 30 years of extensive economic and demographic data on a nationally representative sample of approximately 5000 (original) families and 35,000 individuals who live in those families.

<sup>2</sup>PSID non-housing assets are divided into seven categories: other real estate (which includes any second home); vehicles; farm or business ownership; stocks, mutual funds, investment trusts and stocks held in IRAs; checking, savings accounts, CD's, treasury bills, savings bonds and liquid assets in IRA's; bonds, trusts, life insurance and other assets; and other debts. These wealth modules also include transactions questions about purchases and sales so that in principal active and passive savings can be distinguished. See Juster, Smith and Stafford (1999) for a detailed examination of the PSID wealth module and how it compares with results from other surveys.

<sup>3</sup>In a recent paper, I demonstrated that the PSID excludes from its sampling frame the top six in one thousand wealthiest American households. However, these households are included in the Survey of Consumer Finances (SCF). See Juster, Smith and Stafford (1999) for details.

increase in inequality in financial assets, which was even more acute than it was in total household wealth. While there was no change in median financial assets, financial assets among the top one-in-twenty increased by fifty percent.

### **The Relation Between Wealth, Savings, and Income**

A basic place to start looking for an explanation for these wide and changing disparities in wealth rests in income differences across households. To what extent can income disparities account for the large and rising wealth disparities just seen? The relationship between savings, wealth, and income dominated the early consumption function literature. Indeed, a central part of Friedman's critique of the literature of his time is that the supposed greater savings (as a fraction of income) of the rich was due to a failure to control for differences between transitory and permanent income. Households whose current income is high are more likely to have positive transitory incomes, a fair amount of which will be saved. In a version of the permanent income hypothesis that became popular at least in exposition, savings rates were thought to be independent of permanent income, and consequently, asset to permanent income ratios would be independent of permanent income.

Household income and wealth (as well as all key components of wealth) are strongly positively related, albeit in a highly nonlinear way. The permanent income hypothesis implies that one reason for a non-linearity is that current household income is a poor proxy for longer-run resources. For example, some households in the lowest current income decile may have lots of wealth because their incomes may only be temporarily low. A symmetric statement applies among low wealth households whose income is temporarily high. To control for this possibility, figure 3 presents data stratified by averages of household incomes across all PSID waves in which the household participates.<sup>4</sup> Therefore, figures 3.a and 3.b plot median levels of total and financial assets at each decile of household *average* household income. These average incomes are defined as the arithmetic sum of all past household incomes for as long as the household was a member of the PSID. While average and permanent income are by no means identical concepts, this stratification by average income does help dampen the impacts of transitory income.

Financial assets and total net worth all increase *at a more rapid rate than income* as we move from lower income to higher income households. To illustrate, median values of total net worth of households in the median income decile is approximately \$37,000. Net

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<sup>4</sup>The complete data on which figures 3 and 4 are based are provided in appendix table A.

worth doubles between the 5<sup>th</sup> and 7<sup>th</sup> income deciles, doubles again between the 7<sup>th</sup> and 9<sup>th</sup> income deciles, and almost doubles once more between the 9<sup>th</sup> and 10<sup>th</sup>. At the same time, average household income was only twice as high in the ninth income decile compared to the median so that wealth to average income ratios rise steeply across income deciles. Households in the highest income decile have six times the wealth as the median average income household and almost 400 times as much wealth as those households in the lowest average income decile. This non-linearity is even stronger in financial assets, where median financial wealth at the highest income decile is fifty times as much as the amount of financial wealth possessed by the average household with the average income.

Yet, it is just as easy to over-emphasize the importance of income in determining household savings behavior and wealth. While less commented upon, the diversity in wealth holdings even among households with similar incomes is enormous.<sup>5</sup> This diversity is illustrated in figures 4.a and 4.b which plots total and financial wealth distributions among households all of whom reside in the median average income decile. While these are all median income households, 20% of them have accumulated more wealth than 37% of households in the 9<sup>th</sup> income decile and 10% of them have more wealth than 60% of households in the second highest income decile. Although average incomes for these households was slightly less than \$40,000, one-in-twenty of these households have almost \$300,000 in total household wealth. Among median income households, total net worth varies from \$285,000 among those in the top 5 percent to only \$8,400 among the bottom 20 percent. Similarly, variation in financial assets for median income households runs from \$105,000 (the top 5 percent) to \$0 or less among the lowest forty percent of such median income households.

The within income diversity of wealth holdings holds true even among households in the lowest income decile. About one-in-ten such households have more than \$80,000 in wealth while more than half of them have only a thousand dollars or less. At the other end of the spectrum, one in every five households in the top decile of average household income have accumulated less than \$15,000 in financial assets over their lifetimes.

### **Changes in Wealth**

The series of PSID wealth modules can be used to evaluate changes in household wealth between the mid 1980s and mid 1990s. Using a sample of PSID households who were in the survey in 1984, 1989, and 1994, the total change in household wealth between 1984 and 1994 was computed.<sup>6</sup> Table 1 highlights the distribution of wealth changes

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<sup>5</sup>For an important exception, see the excellent treatment by Venti and Wise (1999)

<sup>6</sup>One reason this change does not measure savings is that there are wealth increments

across households stratified by their 1984 average household income levels. The change in household wealth for the median household was about \$12,400 across these ten years, but once again, there was a great heterogeneity in wealth changes. The mean wealth increment was almost 60,000. But ten percent of households reported wealth increases of almost a quarter of a million dollars or more while about 40 percent of households actually reported a lost in household wealth over this period.

Similar to wealth levels, wealth changes also exhibit distinctly non-linear patterns across average income deciles. Using within-average income decile median wealth changes as the metric, the lowest income decile experienced no change in wealth while the wealth increase among median income households was \$10,300. These wealth increments rise sharply thereafter: expanding threefold between the 5<sup>th</sup> and 7<sup>th</sup> deciles and then fourfold between the 7<sup>th</sup> and 10<sup>th</sup> deciles. Expressing these median wealth changes as a percent of mean household incomes within decile provides a rough approximation to long-run savings rates by income strata. Computed in this fashion, the 'savings rate' of the median income household was about 3 percent per year. These computed wealth accumulation rates increase steadily across income deciles reaching 13.5 percent yearly for the median household in the top income decile.

Yet, one is again struck by how much variation lies within rather than between income groups. Among households in the median income decile, the amount of wealth change spans a plus \$253,000 to a minus \$88,000 (a range of \$341,000) between the 95<sup>th</sup> and 10<sup>th</sup> percentile. This compares to a range between the same percentiles for the full sample of households of a positive \$431,000 to a minus \$69,000 (a range of \$500,000). Therefore, the range of wealth change across percentiles is two-thirds of its overall value even when only median income households are examined.

The second panel of Table 1 indicates that there exists great dispersion in changes in financial wealth across these ten years. The increments in financial wealth are a decidedly more non-linear function of household income than are increments in changes in net worth. The median change in financial assets for the median income household was only fifteen hundred dollars compared to almost \$90,000 median increase in the top income

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when individuals originally outside the household join, and symmetrically, wealth decrements when some 1984 PSID family members left. The family may also receive inheritances in the form of new assets, and money may be withdrawn from pensions and added to household wealth. Net wealth transfers into the household are defined as the sum of money taken out of pensions, the value of inheritances received, and assets brought in by new family members minus any assets previous family members took with them when they left.

decile. While there remains enormous variation within income strata, the large financial wealth increases are concentrated in the lower right hand part of this panel.

### **Why is Wealth Inequality Rising?**

Why is wealth inequality so large and, more particularly for the question raised in this paper, why has wealth inequality been increasing so rapidly? Some wealth changes displayed in Table 1 are sufficiently large that they must reflect measurement error in wealth. If measurement error is not perfectly correlated across time periods, changes in wealth will necessarily contain significant amounts of measurement error.<sup>7</sup> However, measurement error alone cannot explain expanding inequality unless the error was growing over time. Since these are the same PSID households in all three waves and the methodology underlying collecting the wealth data did not change, measurement error seems an unlikely explanation for a secular increase in wealth inequality.

While important, measurement error can not fully explain the patterns highlighted to this point. Table 2 lists wealth levels averaged over the three PSID waves. To the extent that errors in measurement are yearly idiosyncratic, such averaging should mitigate its impact. There remains sufficient variation within and between income deciles in net worth and financial assets so that patterns described in figs.1-4 are essentially left unchanged. Implications of measurement error for first differences in wealth are explored below.

There are three other explanations for this increase in household wealth inequality that I will explore. The first is that it reflects the unequal receipt of financial inheritances from previous generations, a phenomenon that may be increasing over time due to generational increases in wealth. Second, individuals may save at different rates from their income. If so, the secular expansion in income inequality may have ripple effects on wealth inequality.<sup>8</sup> Finally, households may experience very different ex-post rates of return on their wealth. Variances in rates of return, even if these returns are uncorrelated over time, will produce heterogeneity in wealth holdings over time.

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<sup>7</sup>Another manifestation of this perennial problem is that almost all models of wealth and wealth change are characterized by single digit  $R^2$  (see Avery-Kennickell (1991), Browning-Lusardi (1996)).

<sup>8</sup>This begs the question of why households, even with the same income, save such different amounts. This question is on the frontier of current research, and a full consensus on what the reasons are has not been reached. Risk aversion, rates of time preference, liquidity constraints have all been prominently mentioned (see Deaton (1992)). Another promising recent explanation is the dis-incentives to private savings provided by social insurance programs, especially those with asset limits for program eligibility (see Hubbard, Skinner, and Zeldes (1995)).

## **Inheritances**

What role do financial inheritances play in shaping wealth distributions and how wealth distributions change over time? The PSID provides some answers to that question since, as part of its wealth modules, respondents were asked about the value of all past financial inheritances received. This information was updated in each new wealth module. The first panel of Table 3 lists the total value of all financial inheritances received at the time of the 1984 PSID wealth module while the second panel of this table lists the additional inheritances received between 1984 and 1994.<sup>9</sup> Percentile values of inheritances are displayed within PSID average income deciles.

Financial inheritances received represent but a fraction of total net worth so that levels and distributions of wealth would be largely the same even if the maximum contribution of financial inheritances are taken into account. In the PSID, only one-in-five households had received any financial inheritances as of 1984, and only one-in-nine households received additional inheritances between 1984 and 1994. Table 3 measures the maximum contribution since it assumes that all inheritances are saved. Smith (1999) estimates that thirty percent of inheritances are used to finance household consumption. Applying this estimate implies that inheritances would account for only 13% of 1984 wealth values as well 13% of the increment in wealth between 1984 and 1994.

The receipt and value of inheritances are related to levels of household income. For example, one in every nine PSID households in the lowest income decile received some financial inheritance by 1984 with a mean value of \$9,700. In contrast, a third of households in the highest income decile had received some inheritance by 1984 (mean value of \$67,400). A similar gradient characterizes the incremental inheritances (between 1984 and 1994) panel of this table. While significant, these gradients in inheritances across average income deciles are actually not as pronounced as either wealth levels or wealth changes across the same income deciles. Consequently, inheritances explain a somewhat greater fraction of household wealth in the lowest average income decile than in the highest income decile. However, no matter which income decile is examined, financial inheritances appear not to be quantitatively important in explaining wealth levels or wealth changes.

## **Did Rising Income Inequality Cause Rising Wealth Inequality?**

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<sup>9</sup> We also know the date of receipt. To make these values comparable across respondents, all financial inheritances were converted into 1996 dollars and were permitted to earn a three percent real return.



A natural question is whether the sharp expansion in wealth inequality over the last two decades is largely a consequence of the much documented increase in income inequality that took place over the same period. Rising income inequality within the bottom half of the income distribution would have no implication for wealth inequality as there was little savings or wealth accumulation going on below median income levels in any case. However, greater dispersion above the median could lead to additional savings for two reasons-- directly due to any savings flowing from the additional income and indirectly since these households may save greater fractions of their incomes. Given the convex function that relates savings to income, rising income inequality could produce additional savings by the well-to-do which eventually should produce larger wealth disparities across income classes.

While appealing, the reasons for greater wealth inequality appear most likely to be independent of rising income inequality. First, theory is not that clear-cut on the implications for household savings from rising income dispersion, as it depends in part on the extent to which rising inequality is viewed as either temporary or permanent. If individuals believe that income dispersion will be even higher in the future, their current incomes may be seen as low relative to the future, and their savings may fall

In addition, there are a few key facts that are inconsistent with a simple translation from income inequality to wealth inequality through savings. Given the non-linear savings income function, the most direct implication from rising income inequality would be that aggregate household savings rates should have risen over this period. Instead, private savings rates apparently were lower in 1994 than in 1984. Second, wealth inequality should have increased by less than income inequality rose, but once again precisely the opposite occurred. Wealth is a stock, savings and incomes are flows and the sum of the additional savings between 1984 and 1994 is the wealth increase attributable to new household savings. If household income grows at  $g$  percent per year and  $s$  percent of income is saved each year, then the percentage wealth growth across  $T$  years is

$$\Delta W / W_0 = (s I_0 / W_0) * ((1/g) (e^{gt} - 1)) - T$$

The percentage growth in wealth depends on the fraction of income saved, the rate at which income grows, the number of years involved, and the baseline ratio of wealth to income. If income grows at one percent per year and households save twelve percent of their incomes each year, then wealth will grow over ten years by

$$\Delta W / W_0 = (.12 I_0 / W_0) * .5171$$

Even if baseline income-wealth ratios were unity, a one percent yearly growth in income would translate into a six percent increase in household wealth (or equivalently a decline in

wealth income ratios of about 4%). However, mean baseline mean current income wealth ratios were about .5 which implies only a two percent wealth growth in household wealth or a fall in wealth/income ratios of about eight percent due to the impact of rising inequality induced wealth inequality. Baseline wealth/income ratios are even larger among the well-to-do (five or more) so that the implied increase in wealth would be only one percent.

Table 4 lists ratios of wealth percentiles to income percentiles in both 1994 and 1984. In both years, these ratios rise as percentiles increase, a reflection of the much greater dispersion in wealth compared to household income. More importantly, these ratios are much higher in 1994 than in 1984 indicating that there was a much greater *increase* in dispersion in household wealth than in household income. More importantly, these ratios are much higher in 1994 than in 1984 indicating that there was a much greater *increase* in dispersion in household wealth than in household income. The increase in wealth-income ratios is particularly large in the upper tails of the distribution. Growing wealth-income ratios is evidence that some other mechanism is driving wealth inequality besides the additional savings forthcoming from rising income equality.

### **Equity Markets and the Distribution of Wealth**

The next potential reason for increasing wealth inequality concerns distributional impacts of capital gains--especially those that are a consequence of the accelerating stock market boom of the last fifteen years. Table 5 lends some plausibility to this explanation by describing time-series changes in sub-components of household wealth as revealed in the PSID. Mean wealth increased significantly (17%) between the 1984 and 1989 waves, after which there was a slight 3% decline between the 1989 and 1994 waves. But the dramatic trend concerns the almost three-fold rise in stock equity over these ten years, a period which coincided with the recent boom in the American stock market. For example, the Standard and Poors Index of 500 stocks increased in real terms two and one half fold between 1984 and 1994.<sup>10</sup> The large increases in wealth that are due to capital gains in the equity market offer an important opportunity to test the role of capital gains in affecting household savings.

To address this question, I use data from the Health and Retirement Survey, a national sample of 7,600 households with at least one person in the household 51-61 years old. At baseline, an in-home face-to-face interview was conducted in the fall of 1992 and

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<sup>10</sup>A less well known trend is that stock ownership was also increasing rapidly at the same time, a trend apparently captured by the PSID. In 1984, one in every four American households owned stock directly; by 1994 this had increased to more than one in three.

winter of 1993. Follow-ups of HRS respondents were fielded approximately two years after the baseline so that three HRS waves are available for this research.<sup>11</sup> The HRS has a number of advantages for this issue. Since it follows specific cohorts of households, the results are unlikely to be contaminated by other demographic factors known to affect household wealth accumulation, such as the age and marital status distributions of the population (see Juster, Lupton, Smith, and Stafford (1999)). Second, the three waves of HRS were fielded during a time period when equity prices were rising at a very fast clip. Third, it allows an empirically critical distinction among capital gains in different financial assets.

Table 6 lists values of assets of households who were in the HRS for its first three waves. Total household wealth (after adjusting for inflation) grew by 9.4 % between the first and third HRS survey waves. There was quite uneven growth among the major components of wealth. For example, financial assets expanded by thirty percent while there was actually a slight decline in all non-financial assets combined. The unevenness of this wealth growth extends to sub-categories within financial assets. There was essentially no change in financial assets other than IRA's, Keoghs, and stocks while those components together increased by 55%.

The bulk of this increase in HRS household net worth was concentrated in two financial assets--(1) stocks (presumably reflecting the stock market expansion) and IRA and Keoghs (reflecting the same equity expansion and perhaps an increased popularity of Keoghs).<sup>12</sup> Figure 5 plots real equity prices relative to a 1980 base. Equity prices exhibit sharp swings. Real equity prices almost doubled between 1955 and 1969, lost virtually all of that gain by 1975, languished at this level until 1983, and then started a steady uphill climb until inflation adjusted prices had doubled again by 1994. Then, it got really interesting as real equity prices basically doubled subsequently. The end result is that since 1983 there has been a quadrupling of prices in the American stock market.

The size of these price fluctuations in the equity market could have important consequences for trends in aggregate household wealth as well as the distribution of wealth

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<sup>11</sup>In HRS, a very comprehensive and detailed set of questions were asked to measure household wealth. In addition to housing equity, assets were separated into the following eleven categories; other real estate; vehicles; business equity; IRA or Keogh; stocks or mutual funds; checking savings or money market funds; CD's, government savings bonds or treasury bills; other bonds; other assets; and other debt.

<sup>12</sup>There was also a the sharp fall in business equity over these years. This most likely reflects the sale of business assets as individuals in this age range retire or partially retire from the labor force.

across households. The PSID wealth modules were collected in 1984, 1989, and 1994 so that during the time period of its data collection equity prices doubled. The first three waves of the HRS were fielded in late 1992, 1994, and 1996. During these four years alone, stock prices doubled again.<sup>13</sup> The magnitude of the capital gains attributable to rapidly rising equity prices is quite large. Since little is known either about its distributional consequences or the subsequent behaviors it induced, we turn to that subject now.

Table 7 lists the distribution of HRS total assets, all financial assets, and stocks, IRAs and Keoghs combined within and across income deciles for the first and third wave of the data. Generally speaking, the patterns displayed in this table are similar to those presented earlier for the PSID--a pronounced income gradient for average total and financial holdings, substantial dispersion within and across income deciles, and a significant rise in mean levels between the first and third HRS wave. The expansion in financial assets (and particularly corporate equity) appear to be quite skewed toward higher income groups, gradients that rose sharply between the first and third wave

### **New Investments in Corporate Equity**

There are two reasons why the value of household accounts in stocks, IRAs and Keoghs could change over time. On net, households could be adding (by buying) or subtracting (by selling) stocks. Similarly, money could be flowing into or out of IRA and Keogh accounts as additional contributions are made, 'rollovers' from firm pension funds take place, or withdrawals (for retirement) occur. At least in principle, the HRS allows computation of these amounts so that the changes in value that represent true capital gains can be computed. For example, there is a "capital gains" module in waves 2 and 3 that requested information about new purchases and sales of stocks. Similarly, the value of new contributions, withdrawals, and 'rollovers' to IRAs and Keoghs were asked of all respondents.<sup>14</sup> Deleting these new contributions from increases in account values is appropriate since they are conceptually more akin to 'active' than to 'passive' savings.

Most households do not directly have any investments in corporate equities, a generalization that still pertains among the largely pre-retirement HRS households.

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<sup>13</sup>Figure 5 indicates that the increase in equity prices was particularly large between the second and third wave of HRS, a pattern also reflected in the data on stock values in table 6

<sup>14</sup>HRS inadvertently failed to ask the IRA and Keogh contribution questions in HRS wave 3. For this paper, I assumed that the contributions between waves 2 and 3 were the same as those made between waves 1 and 2. These contributions were quite small so as a practical matter this should have little impact on any conclusions of this paper. The impact of 'rollovers' from firm pensions has also not been included in the analysis in this draft.

Table 8 lists the percent of households who own stocks and IRAs and Keoghs within each average income decile. Thirty-one percent of all HRS households were stockholders at the time of the baseline interview, a fraction that rose by about two percentage points by the third HRS wave. A somewhat greater proportion of HRS households have investments in IRAs and Keoghs (about 43%), a fraction that also rose marginally between the first and third wave. Both types of assets exhibit pronounced positive ownerships gradients with household income--only 4 percent of households in the lowest income decile were stockholders at baseline compared to 63% of those within the highest income decile. The increase in ownership of these assets between the HRS waves was smallest in the lowest income deciles.

New money into the stock market follows the same general pattern (see Table 9). About one in every five HRS households on net added new money to their stock investments between the first and third wave. These new investments are positively associated with household income--virtually no households in the lowest income decile to almost half in the highest HRS income decile placed new money into the stock market.

While not trivial, the amount of new money in these investment vehicles can not account for the substantial increase in the value of these accounts. Between the first and third wave of HRS, there was a net addition of \$4,400 of new stock investments compared to a total value increase in stock accounts of \$13,800. Consequently, approximately two-thirds of the mean increase in stock values was due to capital gains and one-third to new investments. The size of new investments in stock was relatively modest with the exception of the top income decile where they were almost \$18,000. With the caveat of the HRS measurement problems for these assets, new investments in IRA and Keogh accounts are even more modest--one net only \$300 between the first and second survey wave.

These net investments were used to compute real capital gains in stocks and IRA and Keogh accounts, the size and distribution of which are listed in Table 10. Relatively few households received any capital gains at all, but some realized a very large sum. While the median HRS household had no capital gain (since they don't own any stocks), one-in-twenty households gained almost \$100,000 or more in stocks alone. The mean capital gain in stocks among households at the 70 percentile of household income or below was quite modest. But even within these middle and lower income deciles, about ten percent of households registered double digit capital gains. Similar levels of capital gains exist in IRA and Keogh accounts, but the magnitude of capital gains in these accounts were significant even for modest income households.

The size of the combined capital gains in all these accounts are strongly positively related to household income reaching a mean of about \$136,000 in the highest income

decile. One in five households in the top income decile had at least three quarter of a million dollars in total financial capital gains in the highest income decile. While both gradients are strongly positive, the income gradient for capital gains is much smaller in IRA and Keogh accounts than in stock accounts. Combined, however, capital gains are clearly an important source of widening wealth inequality both across and within income classes. Households in the highest income decile had ten times as much capital gains as the median income household and about three times as much as those households in the 2<sup>nd</sup> highest income decile. Within-income group impacts on wealth inequality are even larger. The range of wealth inequality increased by over \$800,000 in the highest income decile. While the tilt is strongly in the positive direction, the data in Table 10 also record large negative changes in the values of shares in corporate equity for about ten percent of households. To some extent, this may reflect the fact that there are always losers as well as winners even during a booming stock market. However, the size of some these losses are more likely another reflection of (positive) measurement error in baseline values--a subject to which we return in the next section.

The size and distribution of these capital gains had a major impact on levels and distribution of household wealth across these three waves. Table 11 documents the changes in total household net worth and total financial assets between the first and third wave of the HRS. This table also contains levels and distributions of household net worth and financial assets net of capital gains in stocks, IRAs and Keoghs. The impact of capital gains is dramatic. The \$27,000 increment in total household net worth is converted to a \$7,000 decrement once capital gains are excluded. Similarly, all increases in financial assets are attributable to capital gains. The quite skewed distribution of capital gains also changes the distribution of wealth changes over this time period. Increments in household net worth and financial assets were both positively correlated with household income. That relationship disappears and may even reverse when capital gains are excluded. Most noticeably, household assets other than capital gains actually fell in the top income decile. This may suggest that there are behavioral reactions in household savings and portfolio choice to the realization of large capital gains, a reaction that may vary across income classes.

### **Do Capital Gains Affect Household Savings?**

The size of the capital gains achieved by some households may subsequently induce other behaviors that will impact on the amount and composition of household wealth both immediately and over the longer run. Especially among the pre-retirement population in HRS, households who have experienced capital gains may decide to increase consumption

by saving less in other financial assets. Given the coincident stock market boom, this recent period may be an ideal one in which to estimate the impact of capital gains on household savings

To test this idea, a set of models were estimated predicting between wave changes in other household financial assets. The dependent variables in these models were first differences of household financial assets excluding any capital gains received in stocks, IRAs or Keoghs. A familiar list of covariates were used to predict these changes including standard demographic attributes of the household--race, ethnicity, schooling, marital status transitions, baseline health, new health onsets, and region of residence. Of particular interest in this application, the models included regressors measuring average household income and between wave capital gains in stocks and in IRAs and Keoghs. Separate estimates are provided for capital gains in these two types of assets as they should and may well substitute at different rates for other household financial savings. Capital gains in either asset could eventually be taxed (at different short term and long term rates) so that the substitution with other financial assets should not be one for one in any case. However, penalties for early withdrawal are considerably more severe for IRAs and Keoghs. The extra money in these accounts achieved through capital gains may be much less substitutable with other forms of household savings.

Separate models are presented for changes in other financial asset accumulation between adjacent HRS waves as well as between the first and third wave. Given the previous discussion about the possibility of varying rates of substitution among different types of financial assets, separate coefficients were estimated for capital gains in stocks and capital gains in IRAs and Keoghs for coincident and one period lagged values of capital gains. Finally, models were also estimated that constrain the impact of capital gains to be the same across asset type (even though the data would soundly reject such a model).

The principal results in Table 12 are relatively easy to summarize. First, the receipt of capital gains in stocks lowers between wave accumulation in other financial assets. Since these other financial assets correspond to what is often called 'active savings', the implication is that capital gains in the stock market may have contributed to the declining savings rates among American households. This effect of stock capital gains is statistically significant and negative in all specifications in Table 12. The estimated size of the coefficient varies across waves; if a single summary number is desired, the coefficient of -.183 for the wave 1 to wave 3 model would seem a reasonable choice. That estimate implies that for every dollar of capital gains received, HRS households would reduce their other financial savings by about eighteen cents. Given the magnitude of the capital gains received through stock market appreciation, this would translate into a numerically large

reduction in total household active savings.<sup>15</sup> Measurement error in capital gains implies that these estimates may well understate the amount of substitution among assets.

The estimated coefficients are quite different when capital gains reside in IRA or Keogh accounts. Here, my current estimates imply either no impact or a small positive effect of capital gains on other financial savings. Less negative impacts of capital gains in these assets are not surprising, but it is more of a puzzle why the effects would be positive. One reason is that (in this draft of the paper) ‘rollovers’ from firm pensions to IRA accounts have not yet been excluded from capital gains. Such ‘rollovers’ show up in other financial assets in addition to IRAs and impart a positive bias to this coefficient. Moreover, the age group represented by HRS in one which such ‘rollovers’ are becoming quantitatively important.<sup>16</sup>

Table 13 lists results obtained from models where capital gains are interacted with permanent household income. The statistically significant negative interaction between capital gains in stocks and household income suggests that the negative offsets are largest among the higher income households. The estimated coefficients from the main and interacted variables indicate capital gains in stocks have negative impacts on other household financial savings at income levels above \$10,400 which constitutes a large majority of HRS households. Substitution against other financial savings also prevails for capital gains in IRA and Keoghs until average household income exceeds \$56,000. This positive interaction of capital gains in IRA and Keoghs with household income is consistent with our hunch that rollovers from firm pension plans account for the positive correlation for these types of capital gains.

## **Conclusions**

This paper documented--and then searched for reasons that might explain--the sharply rising inequality in household wealth that has taken place at least since the mid 1980s. Household and financial wealth has always been extremely unevenly distributed, but that dispersion has expanded dramatically during the last two decades. Three reasons

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<sup>15</sup>Portfolio models represent an alternative framework in which to interpret these results. There are at least two aspects worth considering. Households who accumulated large capital gains may now have a larger fraction of their portfolio in the ‘riskier’ assets. They may then adjust by selling stocks and accumulating other financial assets. HRS data would not support this view. Alternatively, households may now see the rate of return to stocks as high and adjust their portfolio toward stocks and away from other financial assets.

<sup>16</sup>Heterogeneity in savings behavior among individuals will bias both capital gains variables upwards. Individuals who are savers will save more each period and will have accumulated more stocks and IRAs and Keoghs giving them more exposure to these capital gains.



that might have explained this rising wealth inequality were examined. Two of the possible explanations--the receipt of inheritances and the uneven savings generated by the simultaneous rise in income inequality--were rejected as likely to be quantitatively unimportant. The principal culprit lies instead in the third reason--the uneven receipt both within and across income classes of capital gains particularly those due to sharp price appreciation in equity markets. Capital gains in stocks then induced households to reduce their financial savings in other assets and therefore may have contributed to the recent secular decline in household savings.

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Table 1  
Wealth Change from 1984 to 1994 (Thousands of 1996 Dollars)

Average Income Deciles	1984 Average Income		Change in Wealth		Percentiles						
	Mean	Stand Dev	Mean	Stand Dev	10	20	30	50	70	90	95
1	9.3	2.83	12.1	71.2	-29.3	-9.8	-3.9	0.0	4.5	60.3	116.1
3	23.6	1.81	15.9	109.3	-39.6	-13.3	-4.2	5.0	22.1	97.8	152.2
5	35.4	1.66	41.6	255.8	-87.6	-33.0	-11.4	10.3	50.6	125.4	252.8
7	47.3	1.92	73.2	217.1	-67.7	-28.6	-0.7	33.1	88.9	266.4	436.2
9	66.9	4.65	105.0	287.7	-73.0	-29.7	1.1	79.4	147.9	353.4	554.6
10	103.1	38.28	191.2	505.0	-269.7	-101.0	-14.4	139.1	314.1	753.2	923.5
Full Sample	42.9	28.8	59.3	239.8	-69.0	-25.2	-4.6	12.4	65.6	244.3	420.9

Financial Wealth Change from 1984 to 1994 (Thousands of 1996 Dollars)

Deciles	Mean	Stand Dev	Mean	Stand Dev	10	20	30	50	70	90	95
1	9.3	2.83	5.6	37.5	-9.3	-2.8	-0.8	0.0	0.6	11.0	39.5
3	23.6	1.81	5.7	74.4	-18.8	-8.1	-3.1	0.1	5.3	37.1	83.2
5	35.4	1.66	14.2	160.8	-40.7	-11.1	-3.6	1.5	15.2	55.3	124.3
7	47.3	1.92	33.1	117.8	-30.2	-8.0	-1.3	14.3	36.9	118.8	190.6
9	66.9	4.65	84.2	162.2	-25.3	-10.0	6.4	42.7	92.3	257.8	392.2
10	103.1	38.28	48.0	302.5	-90.4	-25.1	7.3	89.1	208.4	544.1	676.2
Full Sample	42.9	28.8	35.2	143.0	-28.7	-8.2	-2.1	2.5	24.8	132.4	246.1

Table 2  
Average Wealth Over 1984, 1989 and 1994 (Thousands of 1996 Dollars)

Average Income Deciles	1984 Average Income		Wealth		Percentiles						
	Mean	Stand Dev	Mean	Stand Dev	10	20	30	50	70	90	95
1	9.3	2.83	27.2	51.5	-1.0	0.0	0.2	6.7	27.1	78.5	116.1
3	23.6	1.81	58.7	104.0	1.2	5.9	11.4	28.1	58.8	147.0	235.1
5	35.4	1.66	106.7	146.9	9.5	24.3	41.6	63.4	105.3	226.9	326.2
7	47.3	1.92	167.8	159.6	28.1	57.7	77.3	128.1	193.9	343.0	497.8
9	66.9	4.65	261.8	243.2	57.2	105.1	146.4	220.2	304.0	464.3	623.5
10	103.1	38.28	848.3	1,275.1	162.9	245.9	317.3	492.4	770.3	1,604.9	2,883.6
Full Sample	42.9	28.8	194.6	492.2	3.2	15.1	34.3	82.8	171.3	407.9	652.0

Average Financial Wealth Over 1984, 1989 and 1994 (Thousands of 1996 Dollars)

Deciles	Mean	Stand Dev	Mean	Stand Dev	10	20	30	50	70	90	95
1	9.3	2.83	7.8	25.9	-3.0	-0.6	-0.1	0.0	1.9	31.3	39.0
3	23.6	1.81	16.3	62.1	-3.3	-1.6	-0.2	2.2	12.1	43.3	69.9
5	35.4	1.66	23.0	62.5	-4.3	-0.3	0.9	8.0	20.6	64.8	97.8
7	47.3	1.92	46.2	69.0	-0.1	3.9	8.5	24.7	54.4	118.3	186.8
9	66.9	4.65	82.9	104.7	6.1	14.6	25.2	54.0	99.9	183.1	229.0
10	103.1	38.28	286.8	660.2	17.5	41.6	76.9	146.7	247.8	525.6	823.3
Full Sample	42.9	28.8	58.8	231.1	-2.1	0.0	1.7	13.5	42.5	140.4	214.6

Table 3

## The Impact of Inheritances

## A. Real Value of Inheritances as of 1984 (Thousands of 1996 Dollars)

Average Deciles	Inheritance Mean	Percentiles								Percent Non-Zero
		10	20	30	50	70	90	95		
1	9.7	0.0	0.0	0.0	0.0	0.0	2.8	35.2	11.0	
3	8.3	0.0	0.0	0.0	0.0	0.0	8.1	32.1	14.8	
5	9.9	0.0	0.0	0.0	0.0	0.0	13.1	50.4	17.3	
7	30.9	0.0	0.0	0.0	0.0	0.0	30.1	98.6	19.5	
10	67.4	0.0	0.0	0.0	0.0	3.8	129.4	301.4	32.5	
Full Sample	26.0	0.0	0.0	0.0	0.0	0.0	28.9	91.4	19.2	

## B. Real Value of Inheritances from 1984 to 1994 (Thousands of 1996 Dollars)

Average Deciles	Inheritance Mean	Percentiles								Percent Non-Zero
		10	20	30	50	70	90	95		
1	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	
3	2.2	0.0	0.0	0.0	0.0	0.0	0.0	17.3	6.8	
5	8.4	0.0	0.0	0.0	0.0	0.0	0.0	39.7	8.4	
7	10.4	0.0	0.0	0.0	0.0	0.0	17.2	58.4	11.5	
9	17.8	0.0	0.0	0.0	0.0	0.0	46.7	96.6	17.7	
10	32.5	0.0	0.0	0.0	0.0	0.0	81.7	193.2	21.9	
Full Sample	10.8	0.0	0.0	0.0	0.0	0.0	14.0	51.8	11.1	

Table 4  
Percentile Ratios of Wealth to Income

	30 <sup>th</sup>	40 <sup>th</sup>	50 <sup>th</sup>	70 <sup>th</sup>	80 <sup>th</sup>	90 <sup>th</sup>	95 <sup>th</sup>
1994	.52	.88	1.39	2.27	3.04	4.06	5.33
1984	.49	.93	1.25	2.00	2.35	3.05	3.86

Table 5  
**Household Wealth by Sub-components: PSID**  
**(Thousands of 1996 Dollars)**

	PSID		
	1984	1989	1994
Home Equity	43.4	51.6	46.2
Farm / Business	24.9	29.0	22.9
Other Real Estate	20.5	29.2	25.0
Vehicle	8.3	9.8	11.2
<i>Sub-total Tangible Assets</i>	53.8	68.0	59.0
Stocks and Mutual Funds	10.7	16.4	29.6
Liquid Assets	18.3	22.4	20.1
Other Financial Assets	15.3	7.4	9.9
Other Debts	2.8	3.7	6.3
<i>Sub-total Financial Assets</i>	41.6	42.5	53.3
Total Net Worth	138.7	162.2	158.5

Table 6  
HRS Mean Asset Values  
(Thousands of 1998 dollars)

	Wave 1	Wave 2	Wave 3
Housing Equity	90.1	92.1	95.3
Other Real Estate	44.4	45.7	49.6
Vehicles	15.3	15.3	15.1
Business Equity	39.3	30.4	24.2
IRA and Keoghs	22.7	32.7	38.5
Stocks	23.3	29.8	41.4
Other Financial	43.8	42.8	42.6
All Real Assets	184.9	180.0	179.2
All Financial	89.8	105.3	122.5
Assets-All Corporate Equity	228.6	223.8	222.8
All Assets	274.6	285.3	301.7



Table 7  
Asset Levels in HRS

## A. NET WORTH

### Wave One

Average Income Deciles	Percentiles							Mean
	10	20	30	50	70	90	95	
1	-0.4	0	0	3.6	28.7	95.2	142.7	34.8
3	0.6	8	24.9	61.4	121.4	286.7	402.1	119.6
5	8	30.2	55.6	112.4	191	390.9	569.2	181
7	22	58.5	91.4	154.9	272.9	493.7	760.5	260.7
9	48.2	96.3	128.5	211	361.3	771.2	1,128.1	350.4
10	118.9	195.7	263.8	464.4	860.2	2,086.2	3,234.4	933.9
Full Sample	1.7	21.8	49.3	118.9	236.3	597.8	981.1	274.6

### Wave Three

Average Income Deciles	Percentiles							Mean
	10	20	30	50	70	90	95	
1	0	0	0	5.2	30.7	93.3	155.1	34.3
3	0.1	8.9	25.4	68.2	134.4	314.3	443	122.2
5	15.1	40.3	68.2	135.2	209.4	420.3	652	198.5
7	34.3	72.4	96.5	175.8	315.3	558.3	863.3	293.4
9	75.8	118.9	157.2	248.1	400.1	891.9	1,188.0	392.8
10	154.6	269.1	362.6	614	1,059.9	2,116.4	3,252.5	1,037.9
Full Sample	1.7	24.8	57.7	137.5	271.6	677.8	1,091.0	301.7

## B. FINANCIAL ASSETS

### Wave One

Average Income Deciles	Percentiles							Mean
	10	20	30	50	70	90	95	
1	0	0	0	0	0.4	18.4	59.1	9.7
3	0	0.1	0.6	5.7	27	120.4	207.2	42.5
5	0.2	1.1	4.6	17.8	42.4	135.3	234.3	53.6
7	1	4.6	11.5	34.2	86.7	220.6	308.9	82.7
9	3.4	10.1	18.7	45.9	96.3	321.1	476	117.5
10	13.8	35	51.6	114.9	247.3	759.2	1,146.9	309.3
Full Sample	0	0.6	3.4	19.5	63.1	216	369.3	89.8

Table 7 (continued)

Wave Three								
Average Income Deciles	Percentiles							Mean
	10	20	30	50	70	90	95	
1	0	0	0	0	0.3	15.5	41.4	10.8
3	0	0	0.4	5.7	34.5	153	226.4	47.1
5	0	1	3.6	26.9	69	179.5	326.3	73.3
7	1	5.2	12.7	42.4	111.1	294.5	396.5	111
9	6.2	19.6	35.2	88	168.6	430.1	627.6	165.7
10	23.8	62	109.5	222.5	417.7	1,013.2	1,654.3	450.8
Full Sample	0	0.4	3.1	28.4	97.7	307.6	498.3	122.5

**C. STOCKS AND IRAs**

Wave One								
Average Income Deciles	Percentiles							Mean
	10	20	30	50	70	90	95	
1	0	0	0	0	0	0	9.2	4.1
3	0	0	0	0	4.6	51.9	95.8	19.2
5	0	0	0	0	17.2	68.8	114.7	25.3
7	0	0	0	11.5	39.8	136.9	229.4	47.6
9	0	0	0.6	17.2	50.2	172	258.1	59.3
10	0	8	17.2	51.7	131.9	458.8	665.2	161.3
Full Sample	0	0	0	1.1	25.2	114.7	222.5	46

Wave Three								
Average Income Deciles	Percentiles							Mean
	10	20	30	50	70	90	95	
1	0	0	0	0	0	0	4.4	4.8
3	0	0	0	0	8.3	76.6	122	24.2
5	0	0	0	2.2	27.4	103.4	215.1	41.8
7	0	0	0	14.2	58.9	196.4	312.8	72
9	0	0	4.4	37.2	103.4	321.5	466.9	107.3
10	0	13.4	46.5	125.1	274	775	1,078.4	318.9
Full Sample	0	0	0	3.1	47.6	206.8	381.3	79.9

Table 8  
% Owners of Stocks, IRAs and Keoghs and % New Investors

Average Income Deciles	1	3	5	7	9	10	All
Stocks-W1	4.3	18.1	25.7	40.6	40.8	63.1	30.7
Stocks-W3	3.4	18.4	28.5	41.1	48.6	66.8	33.0
IRA-Keogh-W1	6.2	30.0	38.8	50.0	58.1	76.9	42.8
IRA-Keogh-W3	6.1	29.5	44.4	52.2	61.8	78.7	44.4
+Stock Money W3-W1	0.5	7.4	12.4	21.6	32.2	46.5	18.6

Table 9

**A. ADDITIONAL NET DOLLARS TO STOCK MARKET**

Wave One to Wave Three (Thousands of April 1998 Dollars)

Average Income Deciles	Percentiles				Mean
	50	70	90	95	
1	0	0	0	0	-0.1
3	0	0	0	2	0.6
5	0	0	1.7	19.5	3.7
7	0	0	11.5	33.5	4.5
9	0	1.1	21.5	39	5.1
10	0	14	57.9	139.7	17.9
Full Sample	0	0	11.5	32.2	4.4

**B. ADDITIONAL IRA/KEOGH INVESTMENTS**

Wave One to Wave Two (Thousands of April 1998 Dollars)

Average Income Deciles	Percentiles				Mean
	50	70	90	95	
1	0	0	0	0	0
3	0	0	0	2.2	-0.2
5	0	0	2.2	4.5	-0.3
7	0	0	2.5	4.5	-0.3
9	0	0	4.5	7.8	0.6
10	0	1.3	8.9	24.6	3.8
Full Sample	0	0	2.2	4.5	0.3

Table 10  
Capital Gains

Stock Capital Gains–Wave 1 to Wave 3

Average Income Deciles	Percentiles							Mean
	10	20	30	50	70	90	95	
1	0	0	0	0	0	0	0	-1.2
3	-1.1	0	0	0	0	2.5	13.6	-1.2
5	-8.2	0	0	0	0	17.5	47.5	3
7	-19	-3.7	0	0	0	44.6	77.5	6
9	-24.4	-1.2	0	0	7.2	82.6	187.2	21.7
10	-77.1	-22.9	-5.9	0	36.2	205	448.5	79.8
Full Sample	-14	0	0	0	0	38.2	95.7	13.8

IRA/Keogh Capital Gains–Wave 1 to Wave 3

Average Income Deciles	Percentiles							Mean
	10	20	30	50	70	90	95	
1	0	0	0	0	0	0	1.6	2
3	-2.5	0	0	0	0	18.4	43.4	5.8
5	-8.4	0	0	0	2.2	32.8	64.6	10.1
7	-16.4	-2.3	0	0	6	64	135.3	14.1
9	-12.8	-0.9	0	0.2	19	77.6	143.6	20.7
10	-39.4	-4.1	0	9.9	44.8	222.8	391.9	56.2
Full Sample	-10	0	0	0	2.9	52.3	108.6	15.5

Combined Stock and IRA/Keogh Capital Gains--Wave 1 to Wave 3

Average Income Deciles	Percentiles							Mean
	10	20	30	50	70	90	95	
1	0	0	0	0	0	0	1	0.8
3	-6.4	0	0	0	0	25.7	64.1	4.6
5	-15.7	-1.1	0	0	6.3	50.2	103.5	13.1
7	-33.5	-5.7	0	0	13.3	86.1	199	20.1
9	-32	-2.3	0	4.5	42.6	153.7	296.4	42.4
10	-91.6	-20.7	-0.2	23.9	87.9	403.1	733.7	135.9
Full Sample	-21.9	-1.2	0	0	7.6	87.2	192.6	29.2

Table 11  
Wealth Changes Waves 1-3

<b>Net Worth</b>								
Average Income	Percentiles							Mean
Deciles	10	20	30	50	70	90	95	
1	-28.4	-10.7	-3.7	0.0	2.6	34.6	72.0	-0.5
3	-78.0	-29.5	-12.3	0.5	21.8	112.2	192.4	2.6
5	-94.5	-44.6	-15.9	12.1	57.7	165.5	247.4	17.5
7	-110.3	-47.2	-13.8	20.2	71.6	227.8	312.2	32.7
9	-168.9	-48.9	-14.9	33.1	110.8	325.4	457.5	42.4
10	-460.4	-120.4	-49.0	76.2	237.8	668.9	1216.6	104.0
Full Sample	-113.1	-40.9	-12.9	6.4	54.0	226.2	379.9	27.1
<b>Financial Assets</b>								
Average Income	Percentiles							Mean
Deciles	10	20	30	50	70	90	95	
1	-6.5	-0.4	0	0	0	2.8	16.5	1.1
3	-28.4	-7.6	-2	0	3.5	51.0	104.5	4.6
5	-33.4	-11	-2.3	2.1	21.3	93.5	169.1	19.7
7	-51.7	-12.7	-3.9	2.6	30.7	132.2	204.3	28.2
9	-54.4	-12	0	23.2	74.3	221.4	369.8	48.2
10	-98.0	-31.9	-1.1	56.8	143.6	496.6	765.1	141.5
Full Sample	-39.3	-9.7	-1.3	0.6	23.9	135.3	251.1	32.8
<b>Net Worth Without Stocks &amp; IRAs</b>								
Average Income	Percentiles							Mean
Deciles	10	20	30	50	70	90	95	
1	-28.0	-10.3	-3.7	0	2.4	32.9	67.5	-1.2
3	-72.7	-29.5	-12.3	0.0	14.1	84.2	156.5	-2.4
5	-85.7	-42.4	-17.0	5.4	30.6	115.1	172.5	1.0
7	-101.4	-44.6	-20.7	7.8	41.1	147.9	219.8	8.3
9	-181.3	-79.5	-38.9	11.6	53.6	217.5	298.4	-5.6
10	-514.2	-171.1	-75.3	19.8	122.5	410.8	827.7	-53.6
Full Sample	-115.1	-46.0	-19.1	1.3	29.8	142.8	244.4	-6.9
<b>Bonds, Checking/Savings, CDs, Other</b>								
Average Income	Percentiles							Mean
Deciles	10	20	30	50	70	90	95	
1	-5.0	-0.4	0.0	0.0	0.0	2.1	10.3	0.4
3	-18.4	-6.3	-2.1	0.0	1.3	28.0	66.7	-0.4
5	-28.0	-10.0	-3.7	0.0	7.3	50.7	83.7	3.3
7	-39.0	-12.9	-5.6	-0.1	7.0	51.2	89.6	3.9
9	-53.3	-14.8	-4.0	4.0	21.6	89.2	133.2	0.2
10	-106.1	-33.8	-10.7	6.9	32.4	128.1	230.0	-16.1
Full Sample	-34.2	-10.1	-3.0	0.0	6.1	54.2	99.4	-1.2

Table 12  
Effects of Capital Gains on Other Financial Asset Accumulation  
("t" statistics in parentheses below coefficients)

	Change in Other Financial Assets					
	) 1-2	) 1-2	) 2-3	) 2-3	) 2-3	) 1-3
Sk-Cap1-2	-.325 (15.4)		-.140 (10.2)			
Sk-Cap2-3			-.051 (6.07)			
Sk-Cap1-3				-.072 (9.51)		-.118 (9.01)
IK-Cap1-2	.012 (0.45)		.089 (4.86)			
IK-Cap 2-3			.034 (1.79)			
IK-Cap1-3				.059 (3.86)		.128 (4.80)
Cap 1-2		-.191 (12.0)				
Cap 2-3						
Cap 1-3					-.045 (6.72)	-.068 (5.82)

Table 13  
Estimated Capital Gains Effects Across Income Groups  
("t" statistics in parentheses below coefficients)

	) 1-3
Sk-Cap1-3	.0055 (0.37)
Sk-Cap1-3 * Aver Income	-.0044 (17.1)
IK-Cap1-3	-.0886 (2.13)
IK-Cap1-3 * Aver Income	.0116 (5.71)
Aver Income	624.0 (1.56)

Income measured in ten of thousands of April 1998 dollars.



Appendix Table A  
Wealth Distribution within Income Deciles (Thousands of 1996 Dollars)

A. 1994 Current Income

Current Income Deciles	Current Income		Total Wealth		Total Wealth Percentiles						
	Mean	Stand Dev	Mean	Stand Dev	10	20	30	50	70	90	95
1994											
1	4.6	4.11	49.5	155.5	-0.4	0.0	0.0	1.7	25.3	137.0	257.2
3	20.6	2.16	71.9	154.2	-1.6	0.9	4.2	22.7	78.1	198.2	271.9
5	34.8	2.22	122.5	412.5	-2.0	2.1	7.9	36.9	101.2	323.6	432.1
7	52.8	3.14	137.2	263.0	3.0	14.8	29.5	64.3	121.2	323.6	524.2
10	175.5	139.35	576.6	1,087.1	48.5	91.7	143.3	282.5	540.7	1,176.3	2,003.7
Full Sample	52.3	64.7	158.5	456.5	0.0	3.2	12.1	51.1	123.3	363.6	601.8

A. Average Income

1984											
Deciles	Mean	Stand Dev	Mean	Stand Dev	10	20	30	50	70	90	95
1	8.0	2.28	19.1	52.3	-0.9	0.0	0.0	0.8	8.7	63.7	87.2
3	19.6	1.55	45.2	160.6	-0.8	0.3	2.3	8.9	35.3	122.6	191.0
5	30.8	1.82	69.7	120.7	0.6	4.8	10.5	31.6	70.6	181.9	248.0
7	43.2	1.94	132.6	401.8	6.0	18.8	34.6	64.9	117.2	302.1	487.0
10	97.8	38.91	615.1	1,380.9	81.8	133.5	180.4	289.3	481.7	1,209.9	1,959.9
Full Sample	38.9	28.2	138.7	503.0	0.0	3.0	10.8	47.0	112.7	300.6	481.0
1989											
1	7.9	2.34	16.1	39.1	-0.9	0.0	0.0	0.6	8.2	50.4	87.6
3	20.8	1.67	37.6	74.7	-2.3	0.0	1.9	10.0	36.0	112.5	169.5
5	32.5	1.80	80.1	154.9	1.5	7.2	14.9	36.5	78.4	200.3	277.2
7	45.7	2.01	132.6	270.6	6.3	18.9	37.5	72.5	131.4	298.0	414.5
10	106.0	51.20	768.2	1,543.6	92.9	161.3	220.5	374.9	597.2	1,544.4	2,509.9
Full Sample	41.3	31.9	162.2	559.9	0.0	2.8	11.3	47.9	122.1	358.5	573.3

Appendix Table A (continued)

1994

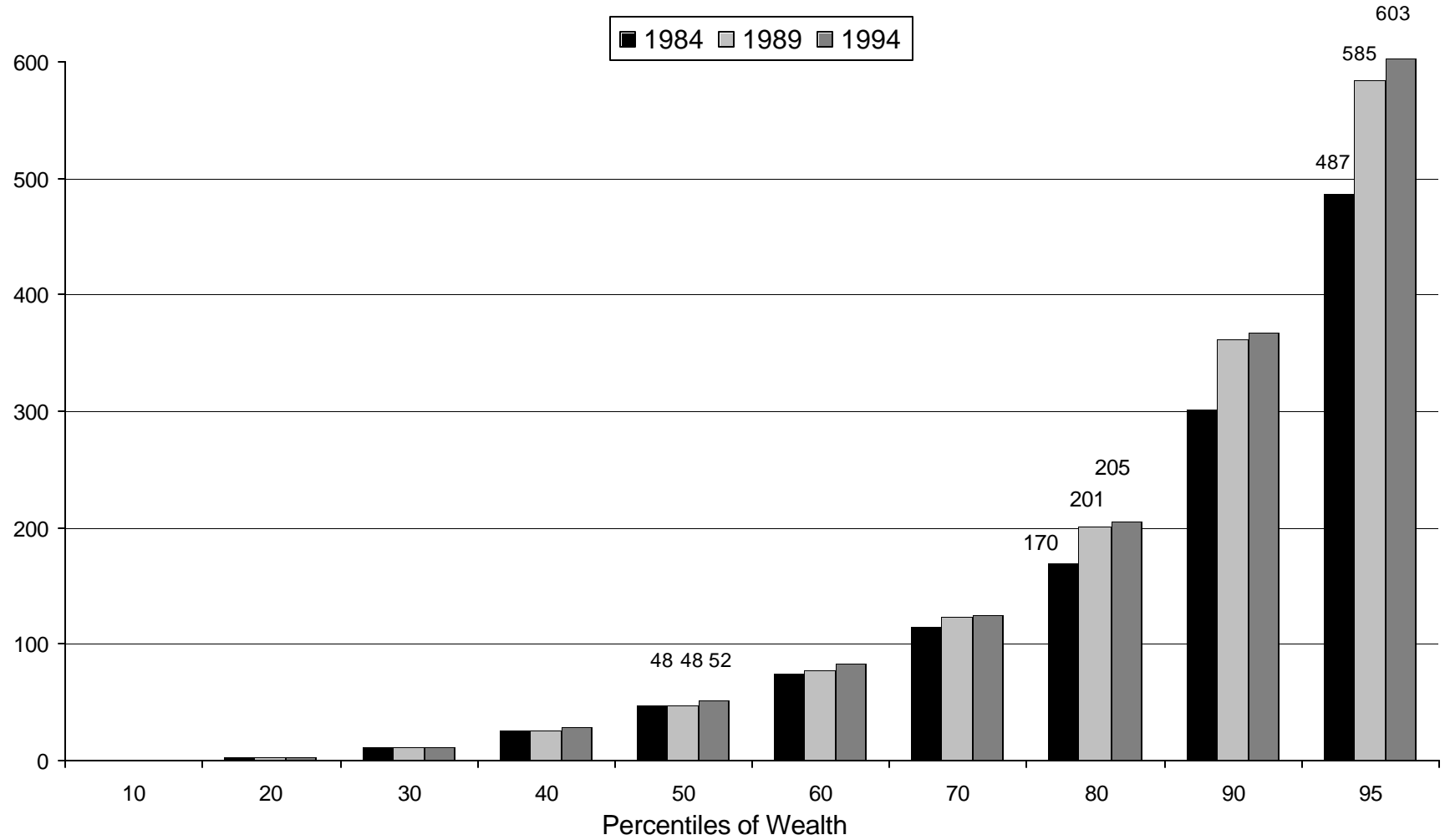
Deciles	Mean	Stand Dev	Mean	Stand Dev	10	20	30	50	70	90	95
1	8.7	2.86	21.4	61.0	-1.6	0.0	0.0	0.7	9.9	72.7	126.5
3	23.1	1.68	42.9	85.9	-2.3	0.5	3.2	11.6	42.4	111.9	181.9
5	35.3	1.79	95.3	385.5	-1.5	5.3	12.2	36.4	88.3	200.3	327.8
7	48.8	2.08	137.1	227.7	5.3	19.0	34.8	76.9	146.5	316.2	451.1
10	115.3	53.07	668.8	1,084.4	70.6	135.4	210.3	383.7	650.3	1,323.8	2,088.0
Full Sample	44.7	34.1	158.5	456.5	0.0	3.2	12.1	51.1	123.3	363.6	601.8

## A. 1994 Financial Wealth

Current Income Deciles	Average Income		Financial Wealth		Financial Wealth Percentiles						
	Mean	Stand Dev	Mean	Stand Dev	10	20	30	50	70	90	95
1	8.7	2.86	5.7	39.3	-2.3	0.0	0.0	0.0	0.0	7.4	26.4
3	23.1	1.68	14.5	55.6	-6.9	-2.4	-0.8	0.0	3.3	49.5	98.5
5	35.3	1.79	24.6	74.4	-10.5	-3.7	-0.7	2.1	14.2	79.1	131.8
7	48.8	2.08	39.6	119.0	-10.1	-1.1	1.6	11.6	31.4	114.9	194.9
10	115.3	53.07	267.0	668.4	2.1	20.0	52.7	121.2	247.7	627.1	955.5
Full Sample	44.7	34.1	53.3	237.6	-6.3	-1.1	0.0	4.2	27.4	145.5	257.2

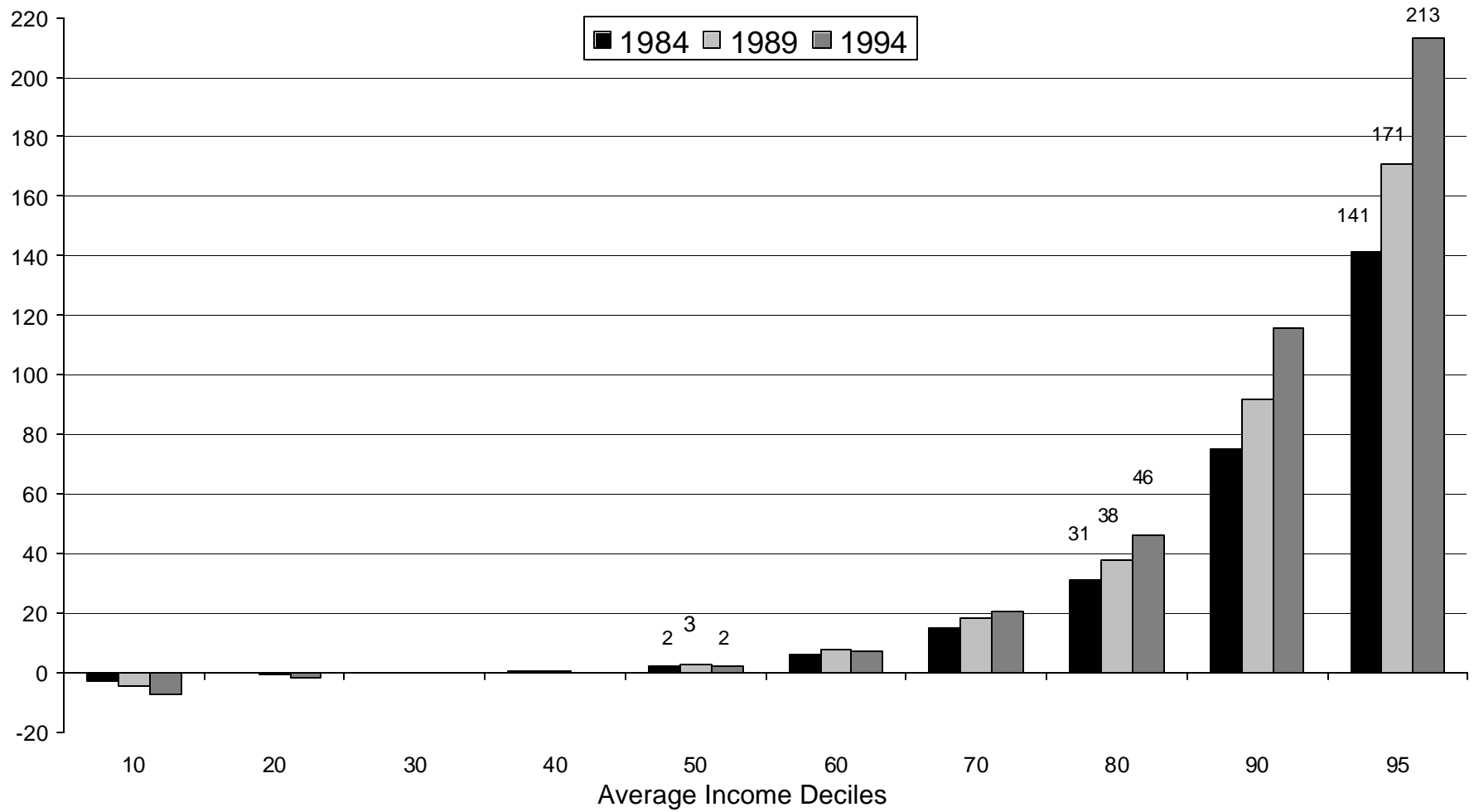
## Household Wealth Becoming More Unevenly Distributed (All Ages)

Thousands  
of Dollars



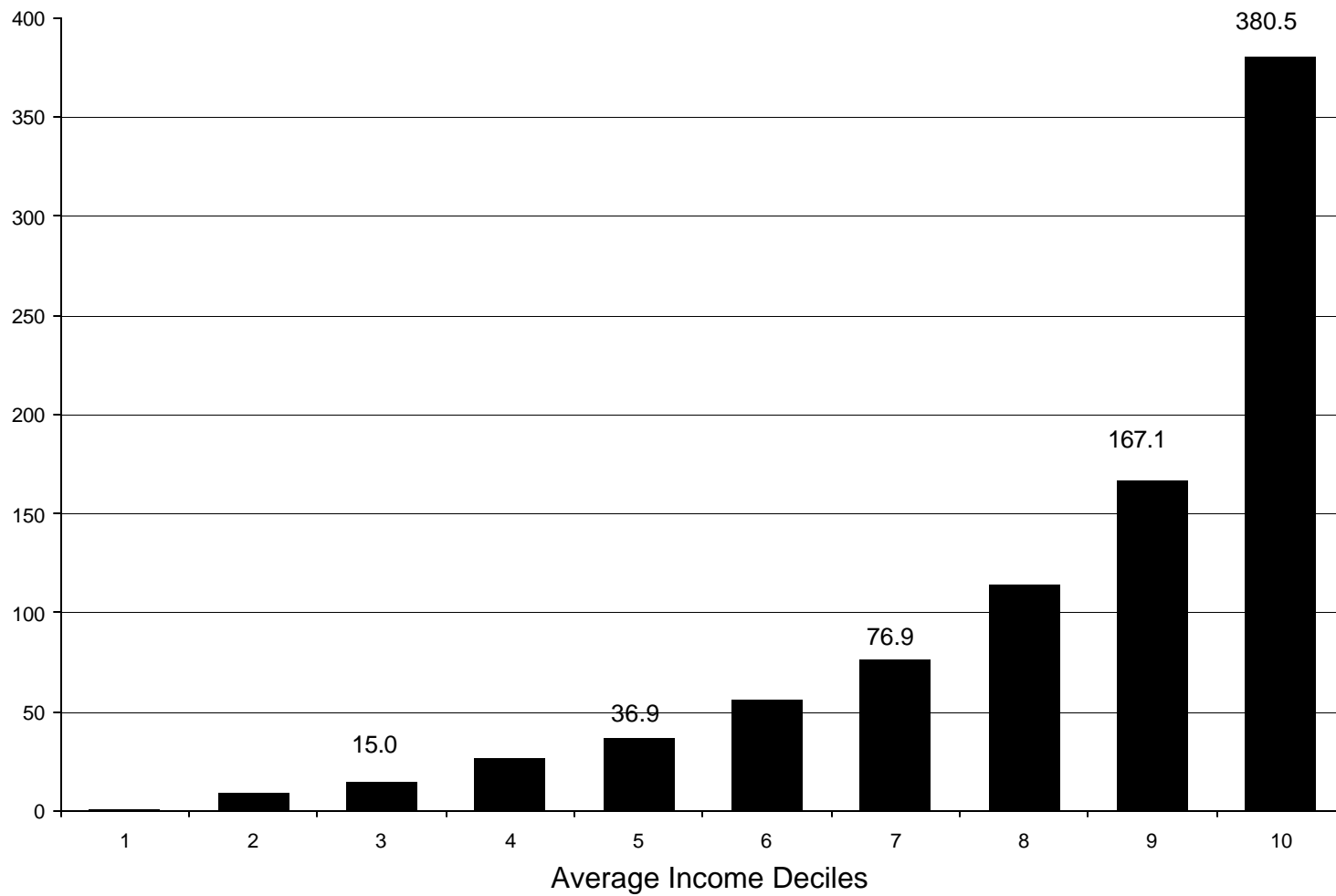
**Figure 1**

## Financial Wealth Growing Even More Unequal (All Ages)



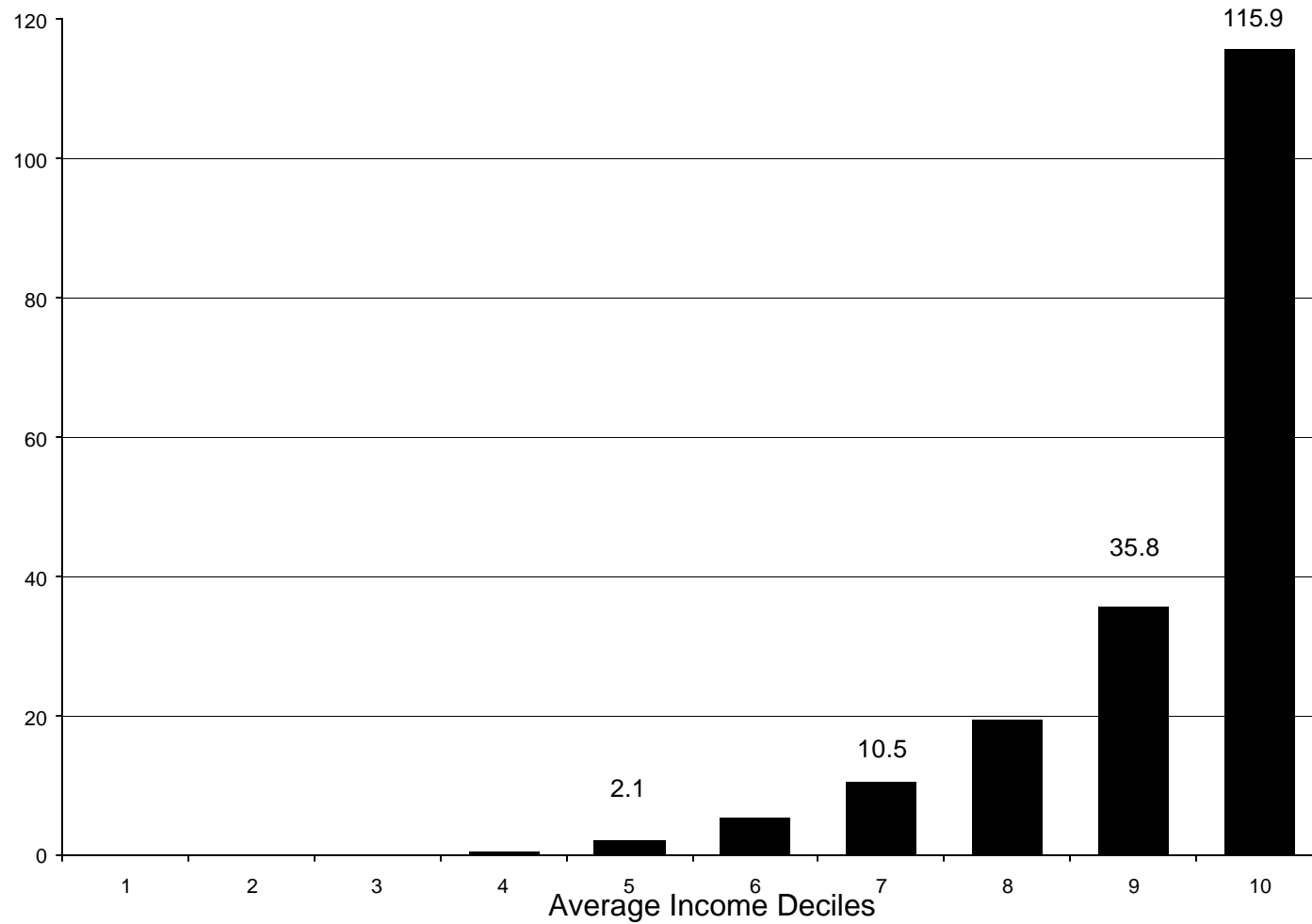
**Figure 2**

### Median Wealth Holdings by Average Income Class--Total Wealth 1994



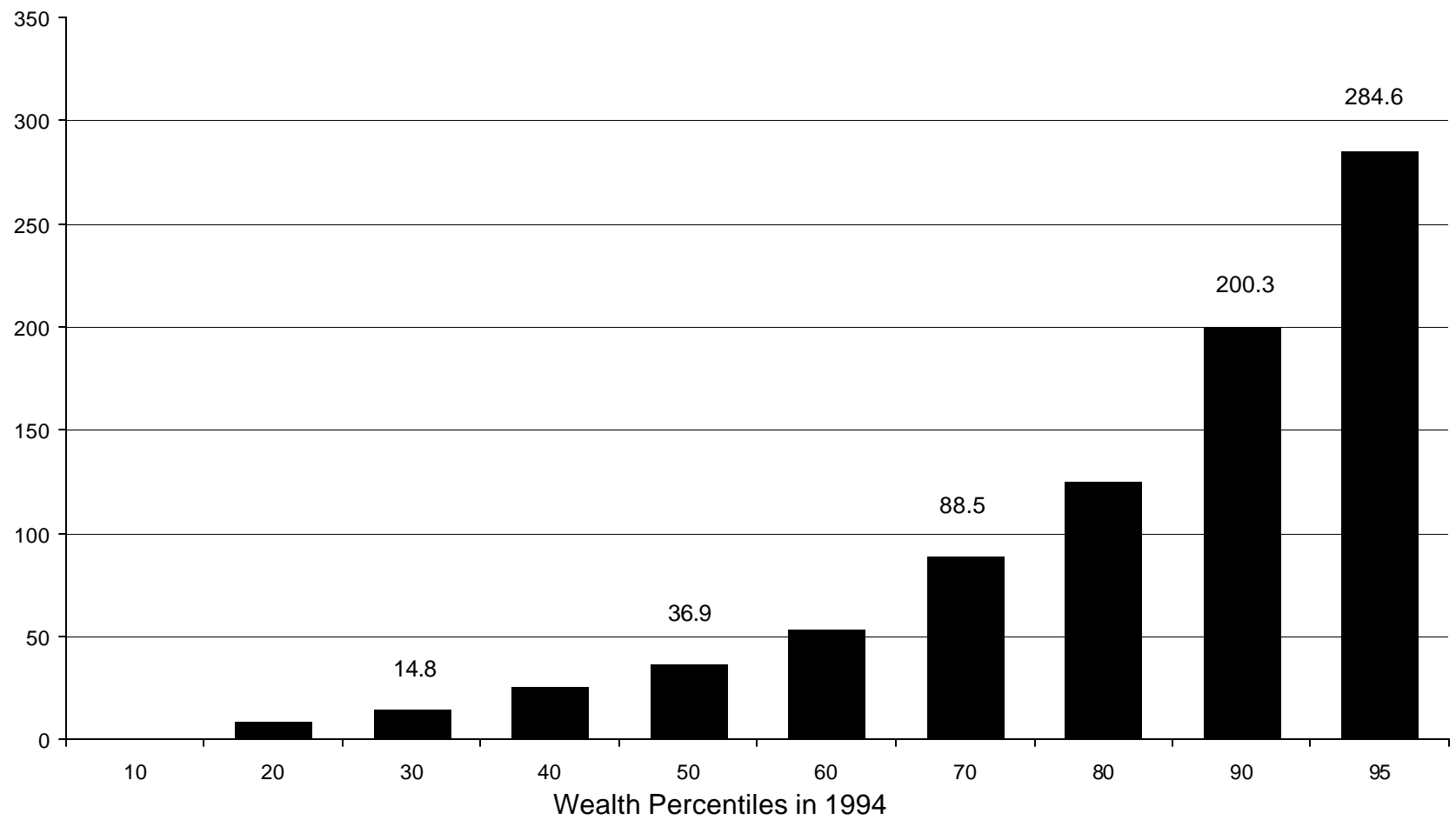
**Figure 3a**

**Median Wealth Holdings by Average Income Class--Financial Wealth 1994**



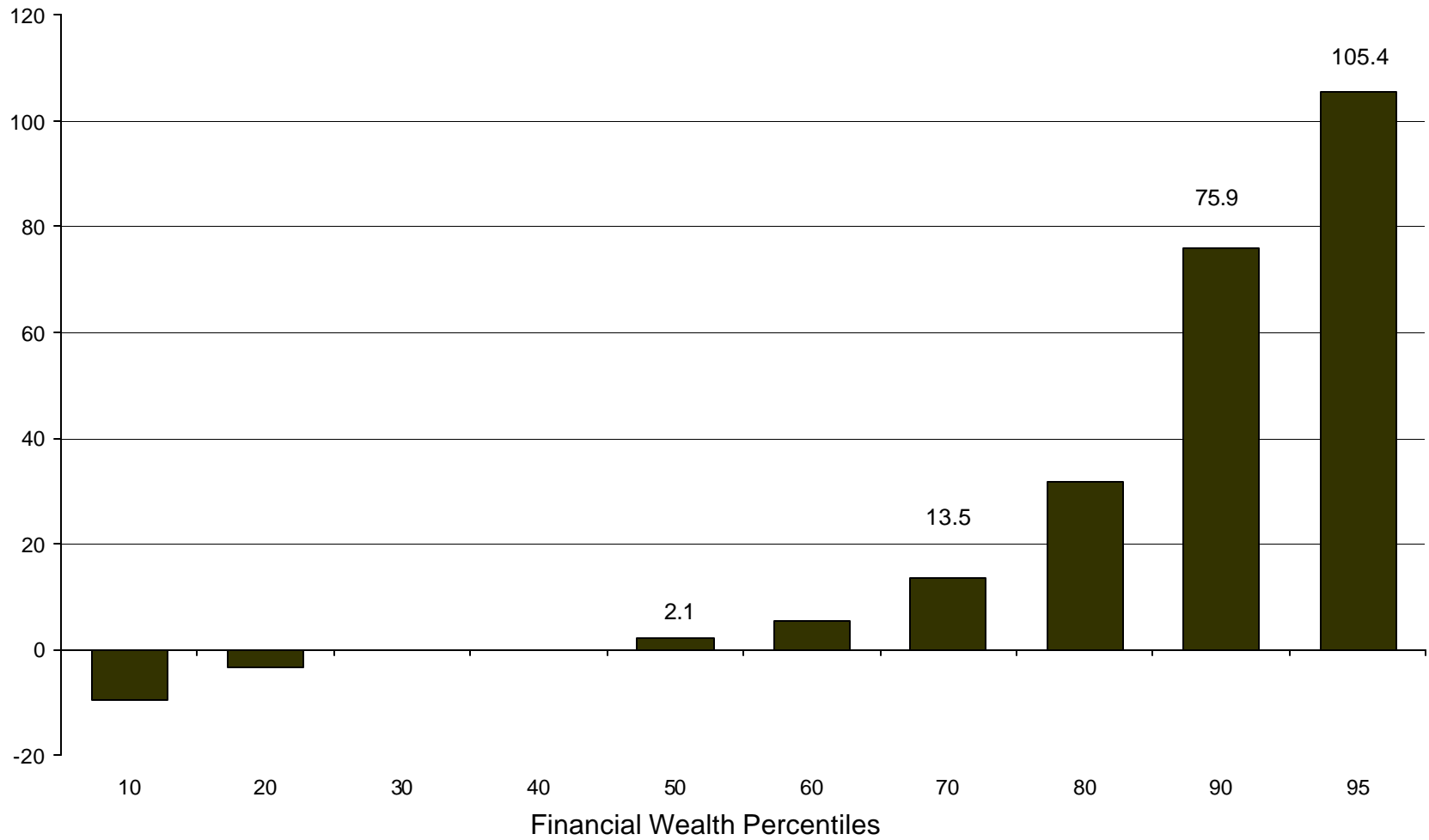
**Figure 3b**

## Wealth Distribution for Average Income Families--Total Wealth



**Figure 4a**

## Wealth Distribution for Average Income Families--Financial Wealth



**Figure 4b**



**Real Relative Stock Prices**  
**Standard and Poor's Index of Common Stocks (1941-43 =10)**  
**(1980 base)**

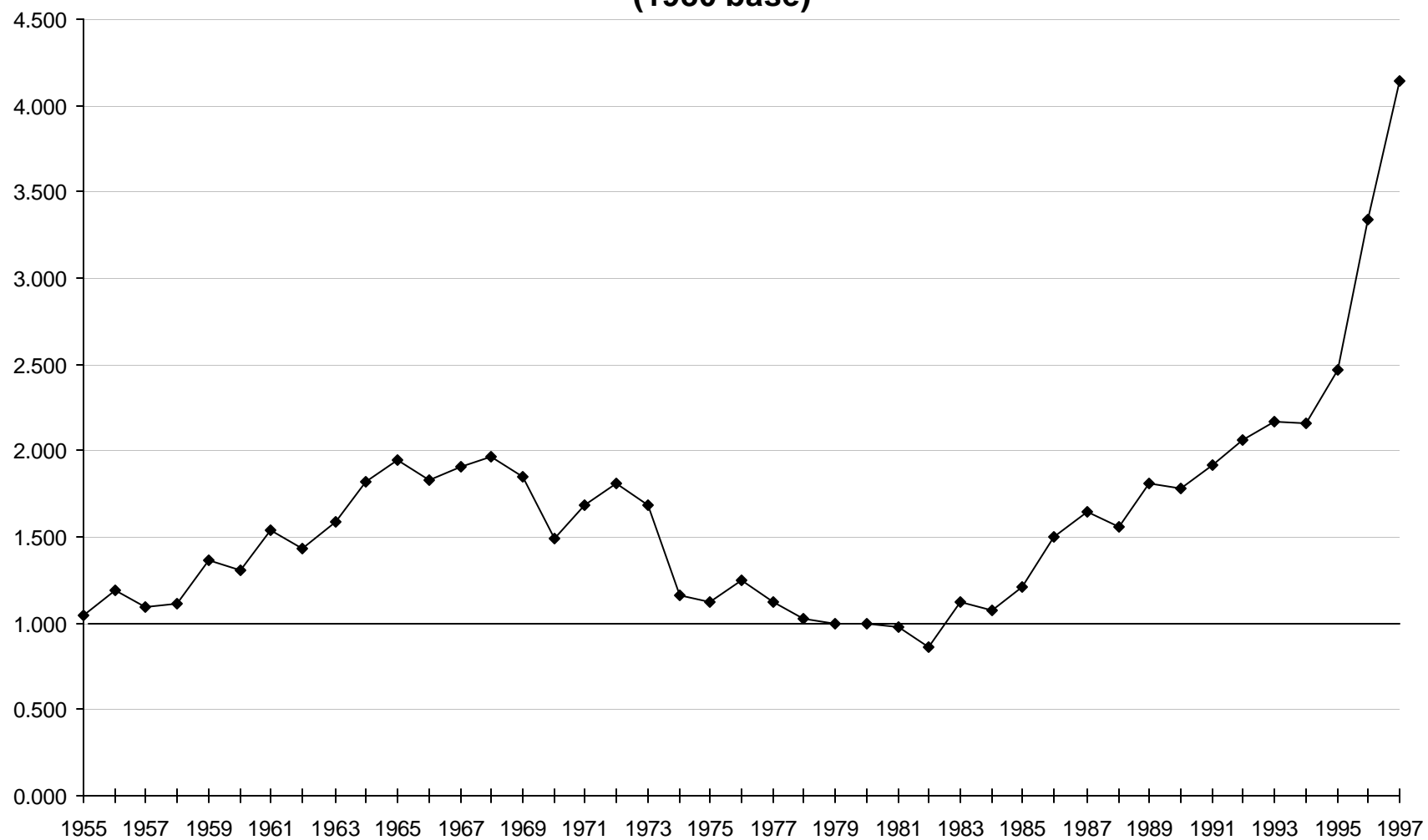


Figure 5