



UNITED STATES  
**DEPARTMENT OF  
THE TREASURY**



# **Income Mobility in the U.S. from 1996 to 2005**

## **Report of the DEPARTMENT OF THE TREASURY**

**November 13, 2007**  
Typographical revisions, March 2008

## Summary

This study examines income mobility of individuals over the past decade (1996 through 2005) using information reported on individual income tax returns.

While many studies have documented the long-term trend of increasing income inequality in the U.S. economy, there has been less focus on the dynamism of the U.S. economy and the opportunity for upward mobility. Comparisons of snapshots of the income distribution at points in time miss this important dimension and can sometimes be misleading.

Economic historian Joseph Schumpeter compared the income distribution to a hotel where some rooms are luxurious, but others are small and shabby. Important aspects of fairness are that those in the small rooms have an opportunity to move to a better one, and that the luxurious rooms are not always occupied by the same people. The frequency with which people move between rooms is a crucial aspect of the trends in income inequality in the United States.

The key findings of this study include:

- There was considerable income mobility of individuals in the U.S. economy during the 1996 through 2005 period as over half of taxpayers moved to a different income quintile over this period.
- Roughly half of taxpayers who began in the bottom income quintile in 1996 moved up to a higher income group by 2005.
- Among those with the very highest incomes in 1996 – the top 1/100 of 1 percent – only 25 percent remained in this group in 2005. Moreover, the median real income of these taxpayers declined over this period.
- The degree of mobility among income groups is unchanged from the prior decade (1987 through 1996).
- Economic growth resulted in rising incomes for most taxpayers over the period from 1996 to 2005. Median incomes of all taxpayers increased by 24 percent after adjusting for inflation. The real incomes of two-thirds of all taxpayers increased over this period. In addition, the median incomes of those initially in the lower income groups increased more than the median incomes of those initially in the higher income groups.

The degree of mobility in the overall population and movement out of the bottom quintile in this study are similar to the findings of prior research on income mobility.

## Income Mobility in the U.S. from 1996 to 2005

Many studies have documented the long-term trend of increasing income inequality in the U.S. economy. U.S. Census data, for example, show that the share of household income of the top 20 percent of households increased from 44.1 percent in 1980 to 50.4 percent by 2005, with the share of the bottom 20 percent decreasing from 4.2 percent to 3.4 percent.<sup>1</sup> Similarly, Piketty and Saez (1998, 2007) find that the share of income of the top 10 percent of taxpayers increased from 31.7 percent in 1960 to 44.3 percent in 2005, while the share of the top 1 percent increased from 8.4 percent to 17.4 percent. Economists have suggested a variety of factors as possible explanations for these trends, including increased returns to skill and education, greater globalization of labor markets, the decline in unionization, increased immigration, and changes in the supply of highly educated workers.

To get a broader perspective on these trends, one must look at the opportunity for upward mobility in the United States, which has sometimes been seen as a defining characteristic of the nation's economy.<sup>2</sup> Comparisons of snapshots of the income distribution at points in time miss this important dimension and can sometimes be misleading. Research shows that the distribution of lifetime incomes is more equal than a one-time snapshot implies because a household's relative position in the income distribution often changes over time. Concerns about income inequality at a particular point in time may be assuaged if low incomes are temporary and income mobility provides individuals and families with the opportunity to improve their economic situation over time. In addition, different policy prescriptions might be appropriate for assisting those who are persistently low-income as compared to those whose incomes are only temporarily low.

Economic historian Joseph Schumpeter compared the income distribution to a hotel where some rooms are luxurious, but others are small and shabby. The rooms are always occupied, but often by different people.<sup>3</sup> Important aspects of fairness are that those in the small rooms to have an opportunity to move to a better one, and that the luxurious rooms are not always occupied by the same people. Mobility means that over time people move between rooms. The frequency with which people move between rooms is a crucial aspect of the changing trends in income inequality in the United States.

Another aspect of discussions of income distribution is the extent to which all income rises over time with an expanding economy. Some have likened this process to an escalator where the opportunity for mobility means that no matter which step a person starts on, he or she can move up. With an escalator, while one can get ahead faster by walking up the steps, much of the movement is due to the escalator itself.<sup>4</sup> That is, the

---

<sup>1</sup> U.S. Census Bureau (2006).

<sup>2</sup> Litan and Slemrod (1999) state that "A defining ethic of America has long been that, no matter which step you first land on or how great the distance to the higher steps, you have a good shot at moving up if, as President Clinton has frequently said, 'you work hard and play by the rules.'"

<sup>3</sup> See Sawhill and Condon (1992) for more discussion of the hotel analogy.

<sup>4</sup> Litan and Slemrod (1999) use the escalator analogy, while McMurrer and Sawhill (1996b) use a similar analogy of moving up and down the economic ladder. In climbing a ladder, however, all the progress is due to individual effort. Holtz-Eakin, et al., (2000) connect mobility with Horatio Alger success stories.

real incomes of households can increase over time with the growth of the overall economy.

Using three different measures of income mobility that track changes in the incomes of a large sample of individual taxpayers over time, this study presents new evidence on income mobility over the decade from 1996 through 2005. Key findings include:

- There is considerable income mobility of individuals in the U.S. economy over the 1996 through 2005 period. More than half of taxpayers (56 percent by one measure and 55 percent by another measure) moved to a different income quintile between 1996 and 2005. About half (58 percent by one measure and 45 percent by another measure) of those in the bottom income quintile in 1996 moved to a higher income group by 2005.
- Median incomes of taxpayers in the sample increased by 24 percent after adjusting for inflation. The real incomes of two-thirds of all taxpayers increased over this period. Further, the median incomes of those initially in the lowest income groups increased more in percentage terms than the median incomes of those in the higher income groups. The median inflation-adjusted incomes of the taxpayers who were in the very highest income groups in 1996 declined by 2005.
- The composition of the very top income groups changes dramatically over time. Less than half (40 percent or 43 percent depending on the measure) of those in the top 1 percent in 1996 were still in the top 1 percent in 2005. Only about 25 percent of the individuals in the top 1/100<sup>th</sup> percent in 1996 remained in the top 1/100<sup>th</sup> percent in 2005.
- The degree of relative income mobility among income groups over the 1996 to 2005 period is very similar to that over the prior decade (1987 to 1996). To the extent that increasing income inequality widened income gaps, this was offset by increased absolute income mobility so that relative income mobility has neither increased nor decreased over the past 20 years.

### **Prior Studies of Income Mobility**

Previous research on income mobility over the past several decades has generally found that about half of those in the bottom quintile move to a higher quintile and also that more than half of households move to a different income quintile within about 10 years.<sup>5</sup> Sawhill and Condon (1992), for example, used the Panel Study of Income Dynamics (PSID) to examine the mobility of individuals between the ages of 25 and 54 for the periods 1967-1976 and 1977-1986. Using a measure of relative mobility that compares households within their sample, they found that over 60 percent of individuals were in a different family income quintile a decade later. Among individuals initially in the lowest income quintile, 44 percent moved to a higher quintile between 1967 and 1976 and 47

---

<sup>5</sup> McMurrer and Sawhill (1996a) summarize a number of the early mobility studies.

percent moved to a higher quintile between 1977 and 1986. Downward mobility from the top quintile was experienced by 47 percent and 50 percent in the two periods, respectively. A later study by McMurrer and Sawhill (1996b) concluded that mobility rates had remained unchanged during this 20-year period.

Two 1992 Treasury studies (1992a and 1992b) examined mobility during the period from 1979 to 1988 using a panel that followed 14,351 income tax returns over the period and controlled for changes in the definition of income due to changes in the tax law.<sup>6</sup> The Treasury data showed that 86 percent of taxpayers in the lowest income quintile in 1979 had moved to a higher quintile by 1988 and 15 percent of them had moved all the way to the top quintile. Among those who were in the top quintile in 1979, 65 percent remained in the top quintile in 1988, and only 1 percent had dropped to the lowest quintile. The high degree of mobility reported by this study resulted from several features of the analysis, most importantly the inclusion of taxpayers under age 25, the lack of data on Social Security benefits for older taxpayers, and comparison to the full taxpayer population. When the sample was limited to taxpayers age 25 to 64 and compared to taxpayers in the panel, rather than to all taxpayers aged 25 to 64, the Treasury study showed that 50 percent of the lowest income quintile had moved to a higher quintile after 10 years.<sup>7</sup> Thus, the results were very similar to Sawhill and Condon when a comparable sample and mobility measure were used.

Bradbury and Katz (2002a, 2002b) used PSID data to examine relative income mobility in the 1970s, 1980s and 1990s. Their results also show that about half of households in the bottom quintile moved out after 10 years (51 percent for 1969-1979, 50 percent for 1979-1989, 47 percent for 1988-1998). They argue that relative mobility declined slightly in the 1990s as 40 percent of households remained in the same income quintile as compared to 36 percent in the 1970s and 37 percent in the 1980s.<sup>8</sup> They also show that the income gaps widened over this period, which would make mobility across quintiles more difficult, and may account for the small decline in relative mobility.<sup>9</sup>

---

<sup>6</sup> The 1992 Treasury studies limited the sample to non-dependent taxpayers who had filed in all 10 years from 1979 to 1988. Income was defined as real constant law adjusted gross income (AGI). Real constant law income includes capital gains, but excludes Social Security benefits because they were not taxable until 1984 and thus no data were available for earlier years. For a more detailed description of constant law AGI, see U.S. Treasury (1992a). Income percentiles for each year were computed using the IRS Statistics of Income cross-section samples, which represent the full population of income tax returns filed each year.

<sup>7</sup> See U.S. Treasury (1992b). Since Social Security benefits were not taxable prior to 1984, the Treasury income measure excluded Social Security benefits. Dropping the elderly from the sample eliminated spurious downward mobility when households stopped earning wages but were not credited with Social Security benefits. Similarly, dropping those under age 25 eliminated the effects of dramatic income increases when students leave school and get their first full-time jobs.

<sup>8</sup> Gittleman and Joyce (1999) also conclude that income mobility rates differed little between the 1970s and 1980s. Comparable data for the 1990s would not yet have been available for their 1999 study.

<sup>9</sup> It is unclear whether absolute mobility increased or decreased in these data as this study does not examine absolute income mobility. Table 1 in Bradbury and Katz (2002b) shows that average real incomes of families in the lowest quintile in 1988 increased from 1988 to 1998 after declining in the previous two decades, which may suggest some increase in absolute mobility.

## New Results on Income Mobility – 1996-2005

This study examines income mobility over the period from 1996 through 2005 using data from a large sample of individual income tax returns for these two years. The panel uses a large sample of approximately 96,700 tax returns with 169,300 primary and secondary (i.e., spouses on joint returns) taxpayers who filed for tax years 1996 and 2005.<sup>10</sup> The sample represents 117.1 million taxpayers on 76.9 million income tax returns. While the income data are as reported on tax returns, the analysis includes both primary and secondary taxpayers who are each followed separately. Thus, if a married couple filed a joint tax return in 1996, divorced, and then filed separate tax returns in 2005, each person is followed separately, even if one or both of them appear as a secondary taxpayer on another tax return. To avoid counting transitions from school to work as mobility, the analysis follows the common practice in previous research of excluding taxpayers who were under the age of 25 in 1996.<sup>11</sup> Income is defined as cash income as reported on individual income tax returns and supplemented by data on Social Security benefits reported on information returns filed with the Internal Revenue Service (IRS).<sup>12</sup> So as to remove the effects of inflation, cash income is adjusted to 2005 dollars using the Consumer Price Index Current Methodology Series.

In order to provide a more complete picture of the different dimensions of income mobility, the analysis provides three different measures: two measures of relative income mobility and one measure of absolute income mobility.<sup>13</sup> Relative income mobility shows how the income of households changes over time relative to the incomes of other households, while absolute income mobility measures show how the real incomes of households change over time.

Taxpayers are grouped by income quintiles (the lowest 20 percent, the second 20 percent, etc.). Results for the top 1 percent, 5 percent, and 10 percent of the population are also reported.<sup>14</sup> The two measures of relative income mobility are illustrated using a

---

<sup>10</sup> The sample is based on the IRS Statistics of Income Individual Income Tax Files. The sample used for the study excludes dependent filers and follows primary and secondary taxpayers separately. The construction of the panel sample used for the analysis is discussed in more detail in the Technical Appendix.

<sup>11</sup> For example, Sawhill and Condon (1992) examine individuals age 25 through 54 in the initial year, while Gittleman and Joyce (1999) limit their sample to individuals between age 25 and 64 in both the initial and ending years.

<sup>12</sup> The definition of cash income is discussed in more detail in the Technical Appendix.

<sup>13</sup> Other income mobility measures include income variance over time, the correlation between income in one year and income in another year, and the percentages of households that are in a top income class or fall below the poverty level at least once in a period of years as compared to the percentages in a single year. Instead of following the income of specific individuals or households over time, some studies compare similar population groups at different points in time. For example, a recent CBO study (May 2007) reported that the average income of households with children in the lowest income quintile in 2005 was 35 percent higher than the average income of comparable households in 1991 after adjusting for inflation. Since this approach does not follow the incomes of specific households over time, it does not measure income mobility as generally understood.

<sup>14</sup> Since primary and secondary taxpayers are followed separately, they are counted separately in determining the income quintiles of the taxpayer population. Thus, a married couple filing jointly is

transition matrix that shows the movement of individuals across the population quintiles. For individuals in each income quintile in 1996, the transition matrix shows the percentages that end up in each income quintile in 2005. The measure of absolute income mobility groups taxpayers by income quintile in 1996 and shows the distribution of percentage changes in real income by 2005.

The first measure of mobility considers how the incomes of taxpayers in each income group in 1996 changed relative to the incomes of all taxpayers in the filing population in 2005 (Table 1). The income thresholds in 1996 and 2005 for the income quintile groups in this measure are based on all taxpayers age 25 and over in the population of all tax return filers in these two years. The table shows a high degree of income mobility over this period. Nearly 58 percent of households (i.e.,  $57.6 = 100 - 42.4$ ) in the lowest income quintile in 1996 had moved to a higher quintile by 2005. While 29 percent moved up to the second quintile, the same percentage moved up at least two quintiles, and about 5 percent moved all the way to the top quintile.

**Table 1: More than 50 percent of taxpayers in the bottom quintile moved to a higher quintile within ten years**

Income Mobility Relative to the Total Tax Filing Population, 1996 to 2005

1996 Income Quintile	2005 Income Quintile								
	Lowest	Second	Middle	Fourth	Highest	Total	Top 10%	Top 5%	Top 1%
Lowest	42.4	28.6	13.9	9.9	5.3	100.0	2.3	1.3	0.2
Second	17.0	33.3	26.7	15.1	7.9	100.0	3.0	1.2	0.1
Middle	7.1	17.5	33.3	29.6	12.5	100.0	4.2	1.4	0.3
Fourth	4.1	7.3	18.3	40.2	30.2	100.0	8.6	2.7	0.3
Highest	2.6	3.2	7.1	17.8	69.4	100.0	43.4	22.5	4.4
Top 10%	2.6	2.2	4.9	11.8	78.6	100.0	61.1	37.6	8.3
Top 5%	2.6	1.8	3.9	8.6	83.1	100.0	71.6	54.4	15.2
Top 1%	3.2	1.3	2.2	4.9	88.4	100.0	82.7	75.0	42.6
All Income Groups	13.2	16.8	19.6	23.3	27.1	100.0	13.4	6.4	1.2

Notes: The rows sum to 100 percent across the five quintiles in the first five columns. The table uses the tax returns of primary and secondary non-dependent taxpayers who were age 25 or over in 1996 and filed for both 1996 and 2005. Income breaks for the quintiles and top percentiles are based on the full cross-sections of tax returns for each year, where the taxpayer is age 25 and over. Income is cash income in 2005 dollars as defined in the Technical Appendix.

Source: Tabulations by the U.S. Department of the Treasury, Office of Tax Analysis, using data from IRS Statistics of Income, Individual Income Tax Files for tax years 1996 and 2005.

Middle-income taxpayers also did well with respect to mobility across income quintiles in the population. A much larger portion moved up to a higher income quintile ( $42.1$  percent =  $29.6 + 12.5$ ) than dropped to a lower quintile ( $24.6$  percent =  $7.1 + 17.5$ ). About one-third of the taxpayers in the middle income quintile in 1996 were still in the middle quintile in 2005. While households in the top quintile had a higher probability of staying there in 2005, over 30 percent had dropped to a lower quintile, and 2.6 percent dropped all the way to the bottom quintile. While not shown directly in the table, 56 percent of

---

counted as two observations. Similar procedures have been followed in some prior studies, some of which count all members of a household (including children) separately in determining the population quintiles.

the households filing tax returns in 1996 had moved to a different income quintile in 2005.<sup>15</sup>

The mobility of the top 1 percent of the income distribution is also important. More than half (57.4 percent =  $100 - 42.6$ ) of the top 1 percent of households in 1996 had dropped to a lower income group by 2005. This statistic illustrates that the top income groups as measured by a single year of income (i.e., cross-sectional analysis) often include a large share of individuals or households whose income is only temporarily high. Put differently, more than half of the households in the top 1 percent in 2005 were not there nine years earlier. Thus, while the share of income of the top 1 percent is higher than in prior years, it is not a fixed group of households receiving this larger share of income. As suggested by the Schumpeter hotel analogy, many of the more luxurious rooms are occupied by different people at different times.

The second measure of income mobility shows how the incomes of taxpayers in each income quintile in 1996 changed relative to that same group of taxpayers in 2005 (Table 2). Note that unlike Table 1 in which the comparison is to all taxpayers age 25 and over in the filing population in 2005, the comparison in Table 2 is only to the other taxpayers included in the panel. Unlike Table 1, the construction of Table 2 means that in the bottom row showing all taxpayers, 20 percent of the 1996 taxpayers are in each of the 2005 quintiles.<sup>16</sup> Since no new lower-income households enter the comparison population in this table, there is no overall upward movement of these taxpayers within the overall income distribution. Thus, under this measure of income mobility, taxpayers in the bottom income quintile are less likely to rise in to a higher quintile because the only new entrants to the bottom quintile are taxpayers whose incomes have fallen. Nevertheless, almost half of the lowest income quintile (44.9 percent) moved to a higher quintile by 2005. Total mobility was approximately the same as in the first mobility measure, as 55 percent of taxpayers moved to a higher or lower income quintile compared to 56 percent in Table 1.<sup>17</sup> As compared to Table 1, this measure of relative income mobility also implies more downward mobility.<sup>18</sup> For example, a larger portion of taxpayers in the 1996 top quintile were in a lower income quintile in 2005: 39 percent ( $38.6 = 100 - 61.4$ ) as compared to 31 percent in Table 1. Nearly 60 percent of taxpayers in the top 1 percent in 1996 dropped out of the top 1 percent by 2005, although 87 percent of them remained in the top quintile.

---

<sup>15</sup> This figure is calculated by summing all of the non-diagonal cells and dividing this number by 5. The diagonal cells contain households in the same quintile in both years. Dividing by 5 adjusts for the fact that the percentages in each quintile row sum to 100 percent, or 500 percent for all five rows.

<sup>16</sup> This is because Table 2 is constructed by classifying the same group of tax households based on their 1996 income and then by income percentiles based on their 2005 income. There are no additional young or new immigrant taxpayers against which the incomes of these taxpayers are being compared as in Table 1.

<sup>17</sup> The 55 percent figure is calculated by summing all of the non-diagonal cells and dividing this number by 5 as was done previously for Table 1.

<sup>18</sup> Table 2 shows greater downward mobility because for every household that moves up another must move down. The table construction combined with the fact discussed previously that new entrants into the population have lower incomes on average results in more downward mobility using this measure.

**Table 2: The degree of mobility remains substantial after restricting the analysis to taxpayers included in the panel of tax returns**

Income Mobility Relative to the Panel Population, 1996 to 2005									
1996 Income Quintile	2005 Income Quintile								
	Lowest	Second	Middle	Fourth	Highest	Total	Top 10%	Top 5%	Top 1%
Lowest	55.1	23.7	10.8	6.9	3.6	100.0	1.7	0.9	0.1
Second	24.7	37.2	21.9	10.6	5.6	100.0	2.0	1.0	0.1
Middle	10.8	23.4	34.1	23.0	8.7	100.0	3.2	1.2	0.2
Fourth	6.0	11.0	24.2	38.1	20.8	100.0	6.4	2.1	0.3
Highest	3.5	4.7	9.0	21.5	61.4	100.0	36.7	19.8	4.3
Top 10%	3.5	3.4	6.5	13.9	72.8	100.0	54.4	33.5	7.9
Top 5%	3.2	2.8	5.0	9.6	79.4	100.0	67.2	49.7	14.4
Top 1%	3.9	1.7	3.0	4.9	86.5	100.0	80.3	73.0	40.3
All Income Groups	20.0	20.0	20.0	20.0	20.0	100.0	10.0	5.0	1.0

Notes: The rows sum to 100 percent across the five quintiles in the first five columns. The table uses the tax returns of primary and secondary non-dependent taxpayers who were age 25 or over in 1996 and filed for both 1996 and 2005. Income breaks for the quintiles and top percentiles are based on only the tax returns of the panel population. Income is cash income in 2005 dollars as defined in the Technical Appendix.

Source: Tabulations by the U.S. Department of the Treasury, Office of Tax Analysis, using data from IRS Statistics of Income, Individual Income Tax Files for tax years 1996 and 2005.

The third measure examines absolute income mobility, that is, the extent to which taxpayers' incomes rose or fell over time. Table 3 shows that median taxpayer income rose by 24 percent after adjusting for inflation.<sup>19 20</sup> Real income increased for two-thirds (67.5 percent = 17.7 + 14.3 + 15.8 + 19.7) of taxpayers between 1996 and 2005.

Percentage increases in real income were the largest for taxpayers with the lowest incomes in 1996. Among those taxpayers in the lowest income quintile in 1996, median income increased by 90 percent by 2005. Real incomes increased over the period for 82 percent (81.7 = 8.6 + 8.7 + 15.0 + 49.4) of these low-income taxpayers and at least doubled for nearly half of this group (49.4 percent).

Among taxpayers in the highest income quintile in 1996, real income increased for over half (54.7 percent = 19.5 + 14.0 + 12.7 + 8.5) and doubled for only 8.5 percent. The median real income of taxpayers in the top quintile in 1996 rose by 10 percent, while the median income of those in the top 1 percent in 1996 declined by 25.8 percent. While this study does not examine these results in detail, the likely causes include the typical life cycle of income and "mean reversion" in which the incomes of taxpayers whose incomes were temporarily high in 1996 revert to a level closer to their long-run average.<sup>21</sup>

<sup>19</sup> By comparison, in the U.S. Census data (2006), median household real income increased by 5.4 percent from \$43,967 to \$46,326 over this time period in 2005 dollars. One difference is that the Census data measures changes in the full cross-section population including new entrants, while the data in Table 3 show changes in incomes of individuals that filed income tax returns in 1996 and 2005.

<sup>20</sup> Median income refers to the income of the individual in the middle of the income distribution, with half having higher incomes and half having lower incomes. Mean or average income is the arithmetic average of the all taxpayers in the sample. In each case, the calculations are weighted to reflect the total tax-filing population.

<sup>21</sup> The results of Auten and Gee (2007) illustrate the effects of the life cycle of incomes. Taxpayers age 45 to 54 had the highest incomes of any age group in 1987, but the median inflation-adjusted income of these taxpayers declined by 1996. By comparison, taxpayers age 25 to 34 had the lowest incomes in 1987, but the most rapid increases in incomes between 1987 and 1996.

Among households in the middle income quintile in 1996, median income increased by 23.3 percent. Real income increased for about two-thirds of taxpayers in this group and at least doubled for 14.5 percent. The results reported in Table 3 demonstrate that over the 1996 to 2005 period, incomes rose for the majority of households, and that upward income mobility was the greatest among those that began the period in the lowest income groups.

**Table 3: Were taxpayers better off in 2005 than in 1996?**

Absolute Income Mobility, 1996 to 2005

1996 Income Quintile	Distribution of Percentage Changes in Income from 1996 to 2005 in \$2005							Total	Percent Change in:	
	Decreased			Increased					Mean Income	Median Income
	more than 50%	Decreased 25 to 50%	Decreased up to 25%	Increased up to 25%	Increased 25 to 50%	Increased 50 to 100%	100% or more			
Lowest	6.8	4.6	6.9	8.6	8.7	15.0	49.4	100.0	232.5	90.5
Second	6.7	7.8	12.6	16.6	14.7	17.5	24.1	100.0	70.6	34.8
Middle	6.6	10.1	14.8	20.2	15.5	18.3	14.5	100.0	43.1	23.3
Fourth	7.9	10.6	17.3	21.7	17.6	15.8	9.1	100.0	28.3	16.6
Highest	14.0	14.0	17.3	19.5	14.0	12.7	8.5	100.0	26.2	10.0
Top 10%	18.6	15.6	16.4	17.1	10.9	12.0	9.6	100.0	27.6	2.9
Top 5%	25.0	16.3	15.4	13.3	9.4	9.6	11.1	100.0	29.5	-6.8
Top 1%	38.9	13.8	12.1	8.6	6.0	7.6	13.0	100.0	12.5	-25.8
All Income Groups	8.6	9.7	14.2	17.7	14.3	15.8	19.7	100.0	38.0	24.2

Notes: The table uses the tax returns of primary and secondary non-dependent taxpayers who were age 25 or over in 1996 and filed for both 1996 and 2005. Income breaks for the quintiles and top percentiles are based on the full cross-sections of tax returns for each year, where the primary taxpayer is age 25 and over. Income is cash income in 2005 dollars as defined in the Technical Appendix.

Source: Tabulations by the U.S. Department of the Treasury, Office of Tax Analysis, using data from IRS Statistics of Income, Individual Income Tax Files for tax years 1996 and 2005.

## Income Dynamics of the Top 1/100, 1/10, and 1 Percent of the Population

One of the advantages of using data from income tax returns to examine income mobility is that these data include a very detailed and complete sample of the very highest income taxpayers. In contrast, most survey data used to study income dynamics, such as the PSID, include only a few high-income households and exclude the very highest income households altogether. This section examines the income mobility of the top 1 percent of the population in detail.

Approximately 117 million taxpayers who filed tax returns for 1996 and 2005 are represented in the sample for this study. Thus, the top 1 percent included about 1.17 million taxpayers, the top 0.1 percent was about 117,000 thousand taxpayers and the top 0.01 percent was about 11,700 taxpayers. Table 4 below shows the income mobility of the top 1 percent compared to the total tax filing population in 2005. This table uses the same measure of relative income mobility as Table 1, but shows the top 1 percent in greater detail.

The central theme that emerges from an examination of the very highest income taxpayers is that the composition of this group changes dramatically over time (Table 4). The vast majority of taxpayers in this group at the beginning of the 10 year period are

absent from this group 10 years later; that is, the very top of the income distribution is highly transient. Among those in the top 0.01 percent in 1996, only 25 percent remained in this group in 2005. While over 80 percent ( $82.4 = 24.2 + 32.9 + 25.3$ ) of these taxpayers remained within the top 1 percent in 2005, 6 percent dropped out of the top income quintile. Similarly, about 25 percent of those who were in the top 0.1 percent in 1996, but below the top 0.01 percent, remained in this group in 2005. About 3.8 percent of these taxpayers moved to the top 0.01 percent and over 70 percent moved further down in the income distribution.

**Table 4: How did the incomes of the top 1 percent of taxpayers in 1996 change relative to the total population?**

1996 Income Percentile	Income Mobility of the Top 1 Percent Relative to the Total Population							
	Percent Distribution by 2005 Income Percentile							
	Below top 20%	10 to 20%	5 to 10%	1 to 5%	0.1 to 1%	0.01 to 0.1%	Top .01%	All
0.1 to 1%	12.0	6.0	8.1	34.2	35.1	4.2	0.3	100.0
0.01 to 0.1%	8.4	2.9	4.3	16.8	39.1	24.7	3.8	100.0
Top .01%	6.0	1.1	1.6	9.1	24.2	32.9	25.3	100.0
All Income Groups	72.9	13.7	7.0	5.2	1.0	0.1	0.0	100.0

Notes: The table includes taxpayers age 25 or over and in the top 1 percent of tax returns in 1996 who filed for both 1996 and 2005. Income breaks for the quintiles and top percentiles are based on the full cross-sections of tax returns for each year, where the primary taxpayer is age 25 and over. Income is cash income in 2005 dollars as defined in the Technical Appendix.

Source: Tabulations by the U.S. Department of the Treasury, Office of Tax Analysis, using data from IRS Statistics of Income, Individual Income Tax Files for tax years 1996 and 2005.

The data also indicate that the incomes of many taxpayers at the highest income levels are very volatile. Table 5 shows that real incomes increased for about 26 percent ( $25.6 = 4.8 + 3.5 + 4.9 + 12.4$ ) of taxpayers in the top .01 percent in 1996. On the other hand, 59 percent of taxpayers in the top 0.01 percent experienced declines in real income of at least 50 percent. Similarly, 52 percent of those in the top 0.1 percent, but below the top 0.01 percent, experienced income declines of at least 50 percent. These results illustrate that the incomes of a significant portion of those in the very highest income classes in a given year are transitory and not maintained over time.

**Table 5: Absolute Income Mobility of the Top 1 Percent in 1996: Distribution of Changes in Income by 2005**

1996 Income Percentile	Distribution of Percentage Changes in Income in \$2005							Total
	Decreased more than 50%	Decreased 25 to 50%	Decreased up to 25%	Increased up to 25%	Increased 25 to 50%	Increased 50 to 100%	Increased 100% or more	
0.1 to 1%	37.4	14.1	12.6	8.9	6.2	7.9	13.0	100.0
0.01 to 0.1%	51.9	10.8	8.1	6.0	4.4	5.6	13.2	100.0
Top .01%	59.1	9.3	6.2	4.8	3.5	4.9	12.4	100.0
All Income Groups	8.6	9.7	14.2	17.7	14.3	15.8	19.7	100.0

Notes: The table includes taxpayers age 25 or over and in the top 1 percent of tax returns in 1996 who filed for both 1996 and 2005. Income breaks for the quintiles and top percentiles are based on the full cross-sections of tax returns for each year, where the primary taxpayer is age 25 and over. Income is cash income in 2005 dollars as defined in the Technical Appendix.

Source: Tabulations by the U.S. Department of the Treasury, Office of Tax Analysis, using data from IRS Statistics of Income, Individual Income Tax Files for tax years 1996 and 2005.

Table 6 shows the mean and median incomes of taxpayers in the top 1 percent in 1996 and 2005 and the percentage changes over time. As in Table 5, this table shows that the real incomes of the majority of those in the very top income classes in a given year are likely to be lower in a later year. Thus, the median income of those in the top 0.01 percent of taxpayers in 1996 fell by 64.6 percent from \$11.6 million to \$4.1 million. The pattern was similar, if less dramatic, for the other subgroups of the top 1 percent in 1996. The basic result is that the income of many of the highest-income taxpayers is transitory. Thus, for the majority of this group at least, the rich do not get richer. Instead, their income drops to a lower level, albeit generally to a level well above average.

**Table 6: How did the Absolute Incomes of the Top 1 Percent in 1996 Change by 2005?**

1996 Income Percentile	Mean Income			Median Income		
	1996	2005	% Change	1996	2005	% Change
0.1 to 1%	654,953	801,672	22.4	557,503	412,433	-26.0
0.01 to 0.1%	2,854,752	3,150,686	10.4	2,375,946	1,180,878	-50.3
Top 0.01%	17,518,043	14,391,130	-17.8	11,592,130	4,102,806	-64.6
All Income Groups	70,420	97,206	38.0	48,684	60,487	24.2

Notes: The table includes taxpayers age 25 or over and in the top 1 percent of tax returns in 1996 who filed for both 1996 and 2005. Income breaks for the quintiles and top percentiles are based on the full cross-sections of tax returns for each year, where the primary taxpayer is age 25 and over. Income is cash income as defined in the Technical Appendix.

Source: Tabulations by the U.S. Department of the Treasury, Office of Tax Analysis, using data from IRS Statistics of Income, Individual Income Tax Files for tax years 1996 and 2005.

### **Has Income Mobility Increased or Decreased Over Time?: Comparing 1996-2005 to 1987-1996**

Some studies have argued that income mobility decreased in the 1990s as compared to earlier periods.<sup>22</sup> The income tax data used for this study can be used to compare income mobility in the 1996 to 2005 period with income mobility in the 1987 to 1996 period.<sup>23</sup> Both time periods begin and end roughly during the middle of periods of economic expansion and thus should allow for comparisons that are not greatly affected by the business cycle.

Table 7 shows comparable mobility data for the two time periods using the first measure of relative income mobility that compares each initial period sample to the total population in the ending year. While the mobility measure in this table is comparable to that in Table 1, the sample population follows tax households as measured by the tax

<sup>22</sup> See, for example, Bradbury and Katz (2002a, 2002b). Kopczuk, Saez and Song (2007) conclude that both short-term and long-term earnings mobility among all workers has been fairly constant since about 1950.

<sup>23</sup> The mobility data for the 1987 to 1996 period are taken from Auten and Gee (2007) who examined income mobility for that period using a large panel sample of individual income tax returns and income and mobility measures similar to those in this study.

return of the primary taxpayer.<sup>24</sup> This sample restriction is necessary in order to allow comparable analysis for the two time periods.<sup>25</sup>

For each initial income quintile, the upper row shows the income mobility over the 1987 to 1996 period and the lower row shows the income mobility over the 1996 to 2005 period. Thus, one can examine how income mobility changed by comparing the upper and lower rows for the various initial and final income quintile combinations. For example, the upper left part of the table shows that 38.9 percent of taxpayers in the lowest income quintile in 1987 remained in the lowest quintile in 1996, while 37.8 percent of those in the lowest quintile in 1996 were in the lowest quintile in 2005. Thus, the degree of upward mobility from the lowest quintile periods is essentially the same in the two time periods: 61.1 percent from 1987 to 1996 and 62.2 percent from 1996 to 2005.

The 1.1 percentage point difference (37.8 percent versus 38.9 percent) for the upper left cells is neither economically nor statistically meaningful, nor are other differences of a few percentage points. The reason is that each cell of the table is based on a sample, albeit a very large one, and the values are subject to sampling error, as well as measurement error from misreported incomes. An examination of the various cells suggests that income mobility was approximately the same in almost all income groups during these time periods. This result may seem surprising given that other studies have reported widening income gaps over time. However, it may indicate that increases in absolute mobility have been able to offset any effects of wider income gaps.

A few differences, however, may be large enough for further analysis. For example, the percentage of households in the top income quintile that remained there increased from roughly 68 percent to 73 percent. Interestingly, the percentage of the top 1 percent that remained in the top 1 percent stayed the same, about 45 percent to 46 percent in both periods. This result suggests that the decrease in downward mobility occurred among households in the top 20 percent, but below the top 1 percent of the population.<sup>26</sup> In addition, the percentage of households in the middle-income quintile that moved to a higher income quintile increased by 4.8 percentage points ( $4.8 = (31.1 - 28.4) + (16.3 - 14.2)$ ), a change that may suggest slightly greater upward mobility among middle-income households. While these differences are interesting, more careful analysis is needed to understand them, such as whether they represent changes among certain income or

---

<sup>24</sup> The analysis in this section is based on households as defined for income tax purposes, which differs in some cases from households as defined for Census studies and in various surveys. Since the definitions of “income tax units” and “households” are the same in most cases, this section uses the term “households” in describing the family units reflected on the income tax returns.

<sup>25</sup> Auten and Gee (2007) examined the income mobility of tax households, following the primary taxpayer. The sample for Tables 7 and 8 differs from the sample used for the prior sections of the current study in that secondary taxpayers are not followed if they file separately in the ending year. An extension of the analysis would be to apply the analytical framework of the current study by tracking primary and secondary taxpayers separately in the data for the earlier period.

<sup>26</sup> The more detailed version of this table provided in the Technical Appendix (Table A.4) shows that the percentages of households remaining in the top 5 percent and top 10 percent of households increased. Thus, the decrease in downward mobility occurred for all but the top 1 percent of households.

occupational groups. The basic finding of this analysis is that relative income mobility is approximately the same in the last 10 years as it was in the previous decade.

**Table 7: Income Mobility Relative to the Total Tax Filing Population, Age 25 and Over, 1987-1996 and 1996-2005**

Initial Income Quintile	Time Period	End of Period Income Quintile (1996 or 2005)						
		Lowest	Second	Middle	Fourth	Highest	Total	Top 1%
Lowest	1987-1996	38.9	28.3	14.9	10.6	7.3	100.0	0.3
	1996-2005	37.8	27.1	16.1	11.8	7.2	100.0	0.3
Second	1987-1996	14.2	33.8	26.4	16.4	9.3	100.0	0.2
	1996-2005	15.8	30.1	28.0	17.2	9.0	100.0	0.2
Middle	1987-1996	6.1	17.4	33.9	28.4	14.2	100.0	0.3
	1996-2005	5.9	14.0	32.6	31.1	16.3	100.0	0.3
Fourth	1987-1996	3.0	7.5	19.4	40.1	30.0	100.0	0.5
	1996-2005	3.1	5.7	15.5	41.9	33.8	100.0	0.3
Highest	1987-1996	1.8	2.5	7.3	20.6	67.8	100.0	5.4
	1996-2005	2.0	2.0	5.7	17.2	73.2	100.0	4.8
Top 1%	1987-1996	2.1	0.9	2.5	4.7	89.9	100.0	46.0
	1996-2005	2.7	1.0	1.5	4.5	90.3	100.0	44.7
All Income Groups	1987-1996	11.3	16.5	20.1	24.1	28.0	100.0	1.5
	1996-2005	11.7	14.7	19.1	24.4	30.0	100.0	1.3

Notes: For each initial income quintile, the upper row shows the 1987-1996 period and the lower row shows the 1996-2005 period. Each row sums to 100 percent across the five quintiles. The table includes returns of households where the primary taxpayer filed in both years and is age 25 or over in the initial year. Income breaks for the quintiles and top percentiles are based on the full cross-sections of tax returns for each year, where the primary taxpayer is age 25 and over. Income is cash income in 2005 dollars as defined in the Technical Appendix.

Source: U.S. Treasury Department, Office of Tax Analysis, 1987-1996 Family Panel, Tax Year 1996 and 2005 Individual Income Tax Files.

An important related question is whether absolute income mobility changed over this time period. As shown in Table 8 below, absolute income mobility increased at all income levels in the 1996 to 2005 time period as compared to the 1987 to 1996 time period. For example, median incomes of taxpayers in the lowest income quintile increased by 81 percent in the 1987 to 1996 period, but by 109 percent in the more recent period. Similarly, median incomes of taxpayers in the middle quintile increased by 9 percent in the earlier period and 26 percent in the more recent period. Median incomes of taxpayers in the top quintile declined nearly 2 percent in the earlier period, but increased nearly 9 percent in the more recent period. Finally, the median income of taxpayers initially in the top 1 percent for each period declined by about 23 percent to 24 percent in each time period. The percentages of each initial income group whose real incomes doubled also increased for every income group. The percentage of taxpayers initially in the lowest income quintile whose income doubled increased from 47.3 percent to 53.5 percent, for example. Overall, the table shows that upward absolute income mobility increased in the most recent decade as compared to the previous decade.

**Table 8: Absolute Income Mobility of Households Age 25 and Over, 1987-1996 and 1996-2005**

Initial Income Quintile	Time Period	Percent Distribution of Changes in Income in 2005 Dollars						% Change in:	
		Decreased more than 50%	Decreased 5 to 50%	No change	Increased 5 to 50%	Increased 50 to 100%	Increased 100% or more	Mean Income	Median Income
Lowest	1987-1996	8.7	10.3	4.0	17.0	12.8	47.3	247.5	80.6
	1996-2005	6.8	9.3	2.6	14.2	13.7	53.5	284.6	108.7
Second	1987-1996	6.0	22.0	8.7	28.0	14.8	20.6	53.9	22.1
	1996-2005	6.6	17.1	5.3	28.4	15.9	26.8	82.6	38.0
Middle	1987-1996	7.0	29.2	10.7	28.7	13.2	11.2	30.9	9.1
	1996-2005	6.0	20.2	7.6	31.0	17.0	18.3	52.5	26.2
Fourth	1987-1996	8.1	34.5	10.2	30.9	9.6	6.6	15.6	2.3
	1996-2005	6.7	25.1	7.9	34.1	15.6	10.7	15.6	17.0
Highest	1987-1996	14.2	36.3	9.1	25.6	7.4	7.5	9.6	-1.8
	1996-2005	12.5	28.9	8.3	30.2	11.9	8.2	25.0	8.7
Top 1%	1987-1996	37.0	26.7	4.8	14.3	6.6	10.7	1.6	-23.8
	1996-2005	36.7	25.8	4.3	13.3	7.3	12.6	13.6	-23.4
All Income Groups	1987-1996	9.0	27.6	8.8	26.4	11.3	17.0	24.1	11.1
	1996-2005	7.9	20.8	6.5	28.1	14.7	22.0	41.0	30.2

Notes: For each initial income quintile, the upper row shows the distribution of changes over the 1987-1996 period and the lower row shows the 1996-2005 period. Each row sums to 100 percent across the first six columns. The table includes returns of households where the primary taxpayer filed in both years and is age 25 or over in the initial year. Income breaks for the base year quintiles and top percentiles are based on the tax returns of primary taxpayers whose age is 25 and over. Income is cash income in 2005 dollars as defined in the Technical Appendix.

Source: U.S. Treasury Department, Office of Tax Analysis, 1987-1996 Family Panel, Tax Year 1996 and 2005 Individual Income Tax Files.

## Conclusions

This study examined income mobility of individual taxpayers age 25 and over for the period from 1996 through 2005 using information reported on individual income tax returns. The key findings are that there was considerable income mobility of individuals in the U.S. economy during the 1996 through 2005 period and that the degree of income mobility among income groups is unchanged from the prior comparable period (1987 through 1996).

The analysis found that more than half of taxpayers (56 percent by one measure and 55 percent by another measure) moved to a different income quintile between 1996 and 2005. About half (58 percent by one measure and 45 percent by another measure) of those in the bottom income quintile in 1996 moved to a higher income group by 2005.

Economic growth resulted in rising incomes for most taxpayers over the period from 1996 to 2005. Median incomes of all taxpayers increased by 24 percent after adjusting for inflation. In addition, the real incomes of two-thirds of all taxpayers increased over this period. Further, the median incomes of those initially in the lower income groups increased more than the median incomes of those in the higher income groups.

The analysis also found that the composition of the very top income groups changes dramatically over time. Less than half (40 percent or 43 percent by different measures) of those in the top 1 percent in 1996 were still in the top 1 percent in 2005. Only about 25 percent of individuals in the top 0.01 percent in 1996 remained in the top 0.01 percent in 2005.

## References

- Ackerman, Deena, James Cilke, Julie-Anne Cronin, Janet Holtzblatt, Gillian Hunter, Emily Lin, Janet McCubbin and James R. Nunns. "Treasury's Panel Model for Tax Analysis," U.S. Department of the Treasury, OTA Paper, forthcoming 2007.
- Auten, Gerald and Geoffrey Gee. "Income Mobility in the U.S.: Evidence from income Tax Returns for 1987 and 1996," OTA Paper 99, U.S. Treasury Department, May 2007.
- Bradbury, Katherine and Jane Katz. "Are Lifetime Incomes Growing More Unequal? Looking at New Evidence on Family Income Mobility" *Regional Review*, No. 4, Federal Reserve Bank of Boston, September, 2002a.
- \_\_\_\_\_. "Women's Labor Market Involvement and Family Income Mobility When Marriages End," *New England Economic Review*, No. 4, 2002b.
- Carroll, Robert, David Joulfaian and Mark Rider, "Income Mobility: The Recent American Experience," Andrew Young School of Policy Studies, Georgia State, Working Paper 06-20, July 2006.
- Cilke, James, Julie-Anne M. Cronin, Janet McCubbin, James R. Nunns, and Paul Smith. "Distributional Analysis: A Longer Term Perspective," in *Proceedings of the Ninety-Third Annual Conference on Taxation*, 248-258. Washington, D.C.: National Tax Association, 2001.
- Congressional Budget Office. "Changes in the Economic Resources of Low-Income Households with Children," Congressional Budget Office Paper, May 2007.
- Congressional Budget Office. "Trends in Earnings Variability Over the Past 20 Years," Congressional Budget Office Paper, April 2007.
- Gittleman, Maury and Mary Joyce. "Have Family Income Mobility Patterns Changed?," *Demography* 36, No. 3, August 1999, 299-314.
- Holtz-Eakin, Douglas, Harvey Rosen and Robert Weathers. "Horatio Alger Meets the Mobility Tables," *Small Business Economics* 14, No. 4, June 2000, 243-274.
- Kopczuk, Wojciech, Emmanuel Saez, and Jae Song. "Uncovering the American Dream: Inequality and Mobility in Social Security Earnings Data Since 1937," NBER Working Paper 13345, August 2007.
- McMurrer, Daniel and Isabel Sawhill. "Economic Mobility in the United States," No. 6722, Urban Institute, 1996a.

- McMurrer, Daniel and Isabel Sawhill. "How Much Do Americans Move Up and Down the Economic Ladder?," in the Opportunity in America Series, No. 3. Washington, D.C.: Urban Institute November 1996b.
- Piketty, Thomas and Emmanuel Saez, "Income Inequality in the United States, 1913-1998," *Quarterly Journal of Economics*, CXVIII, No. 1, February 2003.
- Piketty, Thomas and Emmanuel Saez, "Income Inequality in the United States, Tables and Figures Updated to 2005", website: <http://elsa.berkeley.edu/~saez/> , March 2007.
- Stewart, Kenneth and Stephen Reed "CPI research series using current methods, 1978-98," *Monthly Labor Review*, June 1999, pp. 29-38.
- Sawhill, Isabel and John E. Morton, *Economic Mobility: Is the American Dream Alive and Well?* Washington, D.C.: The Pew Charitable Trusts website [economicmobility.org](http://economicmobility.org), May 2007.
- Sawhill, Isabel and Mark Condon. "Is U.S. Income Inequality Really Growing?: Sorting Out the Fairness Question," Policy Bites. Washington, D.C.: Urban Institute, 1992.
- Sawhill, Isabel V., "Still the Land of Opportunity?," Urban Institute web site.
- U.S. Census Bureau. *Income, Poverty, and Health Insurance Coverage in the United States, 2005*, Current Population Reports P60-231. U.S. Government Printing Office, Washington, DC, 2006.
- U.S. Treasury Department, Office of Tax Analysis. "Household Income Changes over Time: Some Basic Questions and Facts," *Tax Notes* 56, August 24, 1992a, 1065-1074.
- U.S. Treasury Department, Office of Tax Analysis. "Household Income Mobility During the 1980s: A Statistical Assessment Based on Tax Return Data," Special Supplement, *Tax Notes* 55, June 1, 1992b.

## Technical Appendix

The data for this study are based on income reported on individual income tax returns, supplemented by data on Social Security benefits from Form SSA-1099 for lower-income households that are not required to report this information on their income tax returns. The 1996 base year sample uses income tax data for the 1996 tax year from the 1996 IRS Statistics of Income (SOI) Individual Income Tax File and from late-filed returns included in the 1997 and 1998 income tax files. Tax returns for which the primary taxpayer is under age 25 or a dependent filer in 1996 are excluded. In order to obtain the maximum number of matches for 2005, the corresponding data for 2005 were obtained from the IRS Individual Returns Master File at the IRS Computer Data Warehouse. Data for 2005 were obtained for both primary and secondary taxpayers in cases where taxpayers who filed jointly in 1996 filed separately or were a secondary taxpayer in a different tax unit for 2005. Since the data for late-filed tax returns are not yet available for tax year 2005, the analysis does not include such returns. Late-filed tax returns are generally 1 percent or 2 percent of tax returns filed, and are generally more complex tax returns of high-income tax households. Matches were found for 88 percent of the primary and secondary taxpayers in the 1996 sample. This attrition rate is relatively low for this time period, and is likely primarily accounted for by the death of the taxpayer.

Cash income is defined to include wages and salaries, tip income, taxable and tax-exempt interest, dividend income, alimony, net income from business (sole proprietorships, partnerships, and S corporations), farm income, net rental income, royalty income, net capital gain or loss in adjusted gross income (AGI), other gain or loss, unemployment compensation, taxable and non-taxable pension and annuity income, Social Security benefits (including the non-taxable portion), and other income included in AGI. Net operating losses carried over from prior years are added back. Alimony payments are subtracted to reflect cash income. These sources of income are as reported on individual income tax returns and supplemented by data from information returns on Social Security benefits received but not subject to tax. The inclusion of tax-exempt interest and Social Security benefits are important improvements to income as generally measured on income tax returns. The inclusion of Social Security benefits is particularly important because it is the main source of income of many older households. Transfer payments subject to tax and thus included in income tax return data accounted for about 84 percent of all cash transfer payments in 1995, the closest year to 1996 for which data were available. (See Technical Appendix A in Auten and Gee, 2007).

Overall, the income measure used in this study should generally provide a good measure of cash income for most households, though it may understate income for households receiving significant amounts of tax-exempt income from workers' compensation, Supplemental Security Income, family assistance, or certain veterans disability programs. In addition, the refundable portion of the Earned Income Tax Credit is not included because cash income is a before-tax measure. Cash income can be affected by changes in financial and compensation arrangements. For example, in recent years many mutual funds have altered how they manage their portfolios so as to reduce currently taxable capital gains of investors (i.e., capital gains distributions), even though the market values

of the mutual fund shares have been increasing. This change could reduce the incomes of households that owned mutual funds in 2005 compared to the income that would have been reported absent the change.

The definition of cash income used in this analysis is similar, but not identical, to measures used in other studies. For example, the definition used here includes capital gains income, while the Census measure of money income does not include capital gains. Some CBO and Treasury analyses have used measures of income that include employer-paid payroll taxes such as the employer share of Social Security taxes and unemployment insurance taxes. These employer-paid taxes are considered to be part of the economic income of households, but are not included in cash income in this study as households are unlikely to regard such items as part of their cash income. Income is adjusted for inflation using the Consumer Price Index Research Series Using Current Methods (CPI-U-RS).

Table A.1 shows the cash income levels for the income quintiles and the top 10 percent, 5 percent, and 1 percent of the taxpayer population.

**Table A.1: Income Breaks for Population Quintiles for 1996 and 2005 (in 2005 dollars)**

Income Quintile or Percentile	1996 Income Cutoff	2005 Income Cutoff
Bottom	Under 15,326	Under 19,488
Second	15,326	19,488
Middle	25,787	33,120
Median	31,785	41,242
Third	38,881	51,257
Fourth	60,897	83,138
Top 10%	85,387	120,211
Top 5%	116,425	171,856
Top 1%	284,603	463,615

Source: IRS, Statistics of Income 1996 and 2005 Individual Income Tax Files.

Since the data for this study is based on income tax returns, an important question is the extent to which the sample accurately represents the total population. The sample includes individuals who are either primary or secondary non-dependent taxpayers on tax returns filed in 1996. Table A.2 shows that as of 1996, the population of income tax filers used in this study included 85.5 percent of the population age 25 and over and 90.7 percent of the resident population age 25 to 64. Thus, the sample is highly representative of the population aged 25 to 64. In addition, to low-income individuals, the 9.1 percent of individuals in the non-filing population includes non-compliant taxpayers who should have filed returns, late filers, individuals who filed but were claimed as dependents on other tax returns, and individuals who retired and began collecting Social Security benefits prior to age 65. Representation of younger and older individuals was not as complete. About 69 percent of individuals age 20 to 24 and 56 percent of individuals age

65 and over were represented on tax returns. The filing rate for older households declines because Social Security benefits constitute a large portion of the incomes of many older households, but are not subject to tax until modified adjusted gross income exceeds \$32,000 for married couples filing jointly and \$25,000 for non-married individuals.

**Table A.2: Comparison of the Adult Tax Filing Population with the U.S.**

Age in 1996	Resident Population, July 1, 1996	1996 Primary and Secondary Taxpayers	Taxpayers as Percent of Resident Population
20-24	17,508	12,604	72.0
25-64	158,675	143,856	90.7
55-64	21,353	18,831	88.2
65 and over	33,956	20,893	61.5
25 and over	192,631	164,749	85.5

Notes: Secondary taxpayer refers to the spouse of the taxpayer on joint tax returns filed by married taxpayers. Dependent taxpayers who are claimed as dependents on other tax returns are excluded from the numbers of primary and secondary taxpayers.

Source: Resident population from *Resident Population Estimates of the United States by Age and Sex: April 1, 1990 to July 1, 1999*, U.S. Census Bureau. Numbers of taxpayers from U.S. Treasury Department, IRS Statistics of Income, Individual Income Tax Files.

As shown in the table below, overall attrition in the panel was 16.2 percent. Of the 18,646 returns for which no tax return was found for 2005, information returns for Social Security benefits were found in 4,161 instances or 22 percent. These 4,161 individuals are not included in the analysis because of the lack of information about other potential sources of income such as interest, dividends, wages and self-employment income. While information on the deaths of taxpayers is not available for this panel, based on experience with the tax panel for the 1987-1996 period, it is likely that as many as half of the missing returns are attributable to the death of the taxpayer. This is suggested by the fact that of 14,485 not accounted for by Social Security recipient non-filers, 6,251 or 43 percent were accounted for by taxpayers over age 65 in 1996. It is likely that several thousand additional late-filed 2005 returns could be found in later years. After accounting for these factors, the remaining attrition due to factors including non-compliance and income falling below the filing threshold appears to be relatively small.

**Table A.3: Attrition in the 1996-2005 Panel of Tax Returns**

1996 Income Quintile	Numbers of Non-Dependent Returns				Percent Attrition From 1996 Sample		
	1996 Sample	Only Social Security	No 2005 Match	1996-2005 Panel	Only Social Security	No 2005 Match	Total Attrition
Lowest	11,295	925	2,137	8,233	8.2	18.9	27.1
Second	8,851	889	1,493	6,469	10.0	16.9	26.9
Middle	9,977	636	1,493	7,848	6.4	15.0	21.3
Fourth	11,418	415	1,421	9,582	3.6	12.4	16.1
80-90th pct	6,725	165	776	5,784	2.5	11.5	14.0
90-95th pct	4,867	106	496	4,265	2.2	10.2	12.4
95-99th pct	14,795	257	1,900	12,638	1.7	12.8	14.6
99-99.9 pct	18,700	309	2,045	16,346	1.7	10.9	12.6
99.9-99.99 pct	19,022	297	1,821	16,904	1.6	9.6	11.1
Top .01 pct	9,666	162	903	8,601	1.7	9.3	11.0
Total	115,316	4,161	14,485	96,670	3.6	12.6	16.2
1996 Age							
25-34	13,251	82	1,568	11,601	0.6	11.8	12.5
35-44	25,574	160	2,529	22,885	0.6	9.9	10.5
45-54	31,134	349	2,538	28,247	1.1	8.2	9.3
55-64	22,732	1,316	1,599	19,817	5.8	7.0	12.8
65 and over	22,625	2,254	6,251	14,120	10.0	27.6	37.6
Total	115,316	4,161	14,485	96,670	3.6	12.6	16.2

Notes: The column labeled "Only Social Security" shows the numbers of cases in which Form SSA-1099 information returns were found for 2005 but no income tax return was filed. The column labeled "No 2005 Match" shows the numbers of cases for which neither Form SSA-1099 nor a tax return were found for 2005.

Source: IRS, Statistics of Income 1996 and 2005 Individual Income Tax Files.

The following tables provide the complete mobility comparisons between the 1987-1996 period and the 1996-2005 period. These more detailed tables show the results for the top 5 percent and top 10 percent as well as the results for the second measure of relative income mobility.

**Table A.4: Income Mobility Relative to the Total Tax Filing Population, Age 25 and Over, 1987-1996 and 1996-2005**

Initial Income Quintile	Time Period	End of Period Income Quintile (1996 or 2005)								
		Lowest	Second	Middle	Fourth	Highest	Total	Top 10%	Top 5%	Top 1%
Lowest	1987-1996	38.9	28.3	14.9	10.6	7.3	100.0	3.4	1.7	0.3
	1996-2005	37.8	27.1	16.1	11.8	7.2	100.0	2.9	1.5	0.3
Second	1987-1996	14.2	33.8	26.4	16.4	9.3	100.0	3.2	1.2	0.2
	1996-2005	15.8	30.1	28.0	17.2	9.0	100.0	3.5	1.5	0.2
Middle	1987-1996	6.1	17.4	33.9	28.4	14.2	100.0	5.6	2.3	0.3
	1996-2005	5.9	14.0	32.6	31.1	16.3	100.0	5.8	2.0	0.3
Fourth	1987-1996	3.0	7.5	19.4	40.1	30.0	100.0	10.3	3.8	0.5
	1996-2005	3.1	5.7	15.5	41.9	33.8	100.0	11.2	3.8	0.3
Highest	1987-1996	1.8	2.5	7.3	20.6	67.8	100.0	42.6	23.9	5.4
	1996-2005	2.0	2.0	5.7	17.2	73.2	100.0	46.7	24.6	4.8
Top 10%	1987-1996	1.8	1.5	4.4	13.6	78.7	100.0	60.6	38.9	9.9
	1996-2005	2.2	1.2	2.9	7.4	86.3	100.0	75.1	58.3	15.7
Top 5%	1987-1996	1.9	1.4	3.2	8.2	85.2	100.0	73.3	56.3	17.3
	1996-2005	2.7	1.0	1.5	4.5	90.3	100.0	85.0	77.7	44.7
Top 1%	1987-1996	2.1	0.9	2.5	4.7	89.9	100.0	83.3	75.8	46.0
	1996-2005	2.7	1.0	1.5	4.5	90.3	100.0	85.0	77.7	44.7
All Income Groups	1987-1996	11.3	16.5	20.1	24.1	28.0	100.0	14.4	7.3	1.5
	1996-2005	11.7	14.7	19.1	24.4	30.0	100.0	15.3	7.3	1.3

Notes: For each initial income quintile, the upper row shows the 1987-1996 period and the lower row shows the 1996-2005 period. The table includes returns of households where the primary taxpayer filed for both years and is age 25 or over in the initial year. Income breaks for the quintiles and top percentiles are based on the full cross-sections of tax returns for each year, where the primary taxpayer is age 25 and over. Income is cash income as defined in the Technical Appendix.

Source: U.S. Treasury Department, 1987-1996 Family Panel, Tax Year 1996 and 2005 Individual Income Tax Files.

**Table A.5: Income Mobility Relative to the Base Year Population, Age 25 and Over, 1987-1996 and 1996-2005**

Initial Income Quintile	Time Period	End of Period Income Quintile (1996 or 2005)								
		Lowest	Second	Middle	Fourth	Highest	Total	Top 10%	Top 5%	Top 1%
Lowest	1987-1996	54.6	22.1	11.1	7.5	4.7	100.0	2.2	1.1	0.2
	1996-2005	54.1	22.8	11.1	7.8	4.3	100.0	2.0	1.1	0.2
Second	1987-1996	25.5	36.5	20.3	12.0	5.7	100.0	2.0	0.6	0.2
	1996-2005	27.1	36.7	19.7	10.9	5.7	100.0	2.2	1.1	0.2
Middle	1987-1996	12.0	24.6	32.9	19.9	10.6	100.0	4.2	1.7	0.3
	1996-2005	10.6	26.0	33.1	20.5	9.7	100.0	3.5	1.4	0.3
Fourth	1987-1996	5.1	12.3	25.0	37.0	20.5	100.0	6.8	2.7	0.3
	1996-2005	5.4	10.4	26.7	37.7	19.9	100.0	6.7	2.3	0.3
Highest	1987-1996	2.7	4.6	10.8	23.5	58.4	100.0	34.8	18.9	4.1
	1996-2005	2.8	4.1	9.6	23.1	60.4	100.0	35.7	19.1	4.1
Top 10%	1987-1996	2.5	3.0	6.7	14.9	72.9	100.0	52.9	31.5	7.6
	1996-2005	2.7	2.7	6.0	14.0	74.7	100.0	54.1	33.0	7.6
Top 5%	1987-1996	2.5	2.4	4.6	9.6	80.9	100.0	67.1	47.5	13.5
	1996-2005	2.9	2.3	4.6	8.9	81.4	100.0	68.5	50.6	14.0
Top 1%	1987-1996	2.5	1.6	3.5	6.1	86.3	100.0	80.0	71.6	38.1
	1996-2005	3.4	1.2	2.9	4.7	87.8	100.0	81.9	74.5	40.4
All Income Groups	1987-1996	20.0	20.0	20.0	20.0	20.0	100.0	10.0	5.0	1.0
	1996-2005	20.0	20.0	20.0	20.0	20.0	100.0	10.0	5.0	1.0

Notes: For each initial income quintile, the upper row shows the 1987-1996 period and the lower row shows the 1996-2005 period. The table includes returns of households where the primary taxpayer filed in both years and is age 25 or over in the initial year. Income breaks for the quintiles and top percentiles use only the tax returns where the primary taxpayer is age 25 and over in the base year and filed in both years. Income is cash income as defined in the Technical Appendix.

Source: U.S. Treasury Department, 1987-1996 Family Panel, Tax Year 1996 and 2005 Individual Income Tax Files.

**Table A.6: Absolute Income Mobility of Households Age 25 and Over, 1987-1996 and 1996-2005**

Initial Income Quintile	Base Year	Distribution of Percentage Changes in Income in \$2005						Percent Change in:	
		Decreased more than 50%	Decreased 5 to 50%	No change	Increased 5 to 50%	Increased 50 to 100%	Increased 100% or more	Mean Income	Median Income
Lowest	1987-1996	8.7	10.3	4.0	17.0	12.8	47.3	247.5	80.6
	1996-2005	6.8	9.3	2.6	14.2	13.7	53.5	284.6	108.7
Second	1987-1996	6.0	22.0	8.7	28.0	14.8	20.6	53.9	22.1
	1996-2005	6.6	17.1	5.3	28.4	15.9	26.8	82.6	38.0
Middle	1987-1996	7.0	29.2	10.7	28.7	13.2	11.2	30.9	9.1
	1996-2005	6.0	20.2	7.6	31.0	17.0	18.3	52.5	26.2
Fourth	1987-1996	8.1	34.5	10.2	30.9	9.6	6.6	15.6	2.3
	1996-2005	6.7	25.1	7.9	34.1	15.6	10.7	15.6	17.0
Highest	1987-1996	14.2	36.3	9.1	25.6	7.4	7.5	9.6	-1.8
	1996-2005	12.5	28.9	8.3	30.2	11.9	8.2	25.0	8.7
Top 10%	1987-1996	18.0	34.7	8.1	22.6	7.6	8.9	10.3	-4.0
	1996-2005	16.4	29.6	7.8	26.0	11.2	8.9	25.8	4.0
Top 5%	1987-1996	23.2	31.7	6.5	20.3	8.0	10.2	9.4	-8.2
	1996-2005	22.6	29.6	6.8	20.3	10.3	10.4	27.7	-3.7
Top 1%	1987-1996	37.0	26.7	4.8	14.3	6.6	10.7	1.6	-23.8
	1996-2005	36.7	25.8	4.3	13.3	7.3	12.6	13.6	-23.4
All Income Groups	1987-1996	9.0	27.6	8.8	26.4	11.3	17.0	24.1	11.1
	1996-2005	7.9	20.8	6.5	28.1	14.7	22.0	41.0	30.2

Notes: For each initial income quintile, the upper row shows the distribution of changes over the 1987-1996 period and the lower row shows the 1996-2005 period. Each row sums to 100 percent across the first six columns. The table includes returns of households where the primary taxpayer filed in both years and is age 25 or over in the initial year. Income breaks for the base year quintiles and top percentiles are based on the tax returns of primary taxpayers whose age is 25 and over. Income is cash income in 2005 dollars as defined in the Technical Appendix.

Source: U.S. Treasury Department, 1987-1996 Family Panel, Tax Year 1996 and 2005 Individual Income Tax Files.