

The Transformation in Who is Expected to  
Work in the United States and How it Changed  
the Lives of Single Mothers and People with  
Disabilities

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# **The Transformation in Who is Expected to Work in the United States and How it Changed the Lives of Single Mothers and People with Disabilities**

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## **Abstract**

In the 1990s, social expectations of single mothers shifted towards the notion that most should, could, and would work, if given the proper incentives. This shift in expectations culminated in the passage of the Personal Responsibility and Work Opportunity Reconciliation Act in 1996, commonly known as welfare reform. As a result, AFDC/TANF caseloads fell along with cash transfers to single mothers who did not work. A decade later the earnings and household income of single mothers are significantly higher and moving more in synch with the U.S. economy.

In stark contrast and despite espoused goals to the contrary, public policies toward working age men and women with disabilities have remained imbued with the notion that most cannot and thus, would not work, no matter what incentives they faced. As a result, SSDI/SSI expenditures and caseloads have increased and the earnings and household income of working age men and women with disabilities have fallen, leaving them even further behind the average working age American than they were a decade ago.

Using data from the Current Population Survey we follow the economic well-being and employment of single mothers and working age men and women with disabilities over the past two major United States business cycles (1982-1993 and 1993-2004) and show that despite the dramatic decline in AFDC/TANF funding, single mothers' economic well-being, labor earnings and employment all have risen substantially. In contrast, despite the dramatic increase in SSDI/SSI funding, the economic wellbeing of working age men and women with disabilities remained stagnant, as their labor earnings and employment plummeted.

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Most Americans of working age (aged 25-59) are expected to work and their earnings from work are the most important source of their household's income.<sup>1</sup> While a public and private safety net provides some income protection for working age Americans who live in non-working households, their economic well-being is far below that of those in working households and the income gap between them has been growing over time.<sup>2</sup> Table 1, based on data from the March Current Population Survey (CPS), shows that the vast majority of working age Americans (about 94 percent) live in working households and that this share has not changed much over the trough years of the last two major business cycles (1982-1993 and 1993-2004).<sup>3</sup>

The importance of work to household income can be seen in the remaining columns of the table which show the median household size-adjusted real income of working age individuals living in working and non-working households in the three trough years and the income gap between them over these same years.<sup>4</sup> As the table shows, working households have higher incomes than non-working households. In 2004, the median household size-adjusted income of working age individuals in working households was \$39,777. In contrast, the median household size-adjusted income for working age individuals in non-working households was \$8,627 in 2004. Importantly, the income gap between working and non-working households has grown over time. In trough year 1982 the gap was \$24,415.

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<sup>1</sup> We define working age from 25-59 to exclude transitory changes in work and income associated with movements from school to work and work to retirement.

<sup>2</sup> We define a working household as one in which the total number of hours worked by all members is at least 200, approximately four hours per week. We choose 200 hours to balance the goal of identifying meaningful attachment to the labor market with the goal of measuring limited connections to the labor market. The analysis is robust to lower (52 hours per year) and higher thresholds (500 hours per year).

<sup>3</sup> The starting and ending years of a business cycle are somewhat arbitrary. Rather than define them directly by changes in macroeconomic growth, we use troughs in income which will, in general, lag macroeconomic growth. Ordinarily business cycles are defined by peaks but as we do not have information on disability status in 1979, the beginning peak of the 1980s business cycle, we were forced to begin with a trough year. An additional advantage of using troughs for this paper is that 2004 is a more recent year since we don't yet know what will be the peak of the latest business cycle. Our findings are not sensitive to reasonable changes to the trough years we choose to compare.

<sup>4</sup> Throughout the analyses we consider the individual as the unit of analysis and examine movements in his/her household size-adjusted income. Incomes are in 2006 dollars. Complete details of our methods are in the accompanying Data Appendix. Appendix Table 1A reports the values in Table 1 for all individuals in the CPS. Around 85 percent of all persons live in working households and the gap between those in working and non-working household in this broader population is smaller but also growing.

In trough year 1993 it was \$28,403. By trough year 2004 it had grown to \$31,149 as the returns to growth were increasingly captured by working households.

The striking gaps between the incomes of Americans living in working and non-working households are not surprising or even necessarily disturbing until one realizes that non-working households are disproportionately made up of vulnerable groups in the population—e.g., single mothers and people with disabilities—who have historically been the targets of benefits which severely restrict work.<sup>5</sup> For single mothers, federal funds have primarily come via Aid for Dependent Children (AFDC) and, since 1996, via Temporary Aid to Dependent Families (TANF). For working age men and women with disabilities they have come primarily via Social Security Disability Insurance (SSDI) and Supplemental Security Income (SSI). In the 1990s, public policies toward single mothers shifted based on the expectation that they should, could and would work, if given the proper incentives. As a result, ADFC/TANF funds to single mothers who did not work fell along with their caseloads. In contrast, and despite goals to the contrary, public policies toward working age people with disabilities continued to be based on the expectation that they could not and thus would not work, even if given incentives to do so. As a result, SSDI/SSI funding increased along with caseloads.

Using CPS data we follow the economic well-being and employment of single mothers and working age men and women with disabilities over the past two major United States business cycles (1982-1993 and 1993-2004) and show that despite the dramatic fall in AFDC/TANF funding, single mothers' economic well-being, labor earnings and employment have risen dramatically. In contrast, despite the dramatic increase in SSDI/SSI funding, the economic well-being of working age men and women with disabilities remained stagnant, as their labor earnings and employment plummeted.

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<sup>5</sup> The restrictions on work for benefit programs arise from the historical view that these groups are not expected to work. For single mothers market work was originally considered a disruption of their primary role of raising children; this expectation changed as the roles of women changed. For people with disabilities health was thought to prohibit work, but again, views on the abilities of people with disabilities have changed over time as demonstrated by the passage of the Americans with Disabilities Act of 1990 (ADA). For discussions of the goals and expectations behind the passage of the ADA see: West (1996), Krieger (2000), and Stapleton and Burkhauser (2003).

Hence we conclude that while current disability policies have succeeded in expanding the safety net for men and women with disabilities who cannot work, it has also sent anti-work signals to those men and women who with more appropriate policy could and would work. The result is a failure of policy to recognize the substantial heterogeneity within the working age population with disabilities with respect to their capacity to work.

### **Changes in Economic Well-Being among Working Age Adults**

Before discussing trends in the economic well-being of working age single mothers and men and women with disabilities it is useful to first see how the economic well-being of working age people more generally has changed and the extent to which these changes are tied to work. Figure 1 shows trends in median household size-adjusted income in 2006 dollars for all working age individuals and working age individuals living in working and non-working households.<sup>6</sup>

The middle line in the figure shows that the household size-adjusted income of the median working age person is directly linked to fluctuations in the general economy. As the economy expands and contracts the income of the median working age person rises and falls. Consequently, median income among working age people is highest in the business cycle peak years of 1979, 1989, and 2000 and lowest in the trough years of 1982, 1993, and 2004. Overall though, the progress made during economic expansions has outweighed the ground lost during contractions and the median income of working age people has risen significantly over time. Breaking up the working age population into those living in working and non-working households confirms the patterns implied in Table 1. For the 94 percent of working age individuals living in working households, their median income is higher and even more responsive to changes in the general economy. Overall, however, the patterns for working age individuals in working households look quite similar to the working age population as a whole.

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<sup>6</sup> As noted earlier, working households are those in which the total number of hours worked by all members is at least 200. In keeping with the literature we adjust income for household size throughout our analysis. The details of this adjustment are provided in the Data Appendix.

For working age people living in non-working households, the picture is quite different. First, and most importantly, their median income is dramatically lower than working age people living in working households. Second, their incomes are less responsive to business cycle fluctuations. Thus while there is little loss of income during economic downturns there also are minimal gains during expansions. As seen in the figure, after declining slightly in the 1980s recession, median income barely recovered over the next decade, so that the gap between their median income and that of working age persons living in working households increased. Over the 1990s business cycle median income of individuals in non-working households rose somewhat but not enough to catch up to the income growth experienced among working households during that period. Hence, as shown in Table 1, the economic divide between those of working age living in working and non-working households increased substantially over the last two business cycles.

Although the medians are compelling, they are just one part of a distribution of income that is important for evaluating population economic well-being. Kernel density estimation is a way to show more broadly how the entire working age population fares across business cycles. It is very similar to a traditional histogram except that in showing the distribution, the bin sizes—in this case household size-adjusted income levels—are infinitely small and the population contained within each income bin is adjusted proportionately to the total population so that they sum to 1.0. Hence for each level of income we can show what share of the population has that income. This is quite convenient since it allows us to compare distributions of people by income level over time.

In Figure 2, using kernel density estimation techniques, we distribute the entire population of working age people across household size-adjusted real income levels for the years 1982, 1993, and 2004, the trough years of the last two major business cycles (1982-1993 and 1993-2004). The figure confirms the well-known fact that income inequality increased between 1982 and 1993; this is captured by the greater spread in the density plot across income values in 1993 than in 1982. As others have noted, the greater spread in 1993 owed to the fact that far fewer people were in the middle of the distribution in 1993 than in 1982. This can be seen from the fact that the area under the 1982 curve is

fatter than the area under the 1993 curve in the middle range of incomes. Importantly though, the figure also shows that the vast majority of the lost middle moved up the income distribution (becoming richer), rather than down (becoming poorer); the right (richer) tail of the distribution in 1993 is much fatter than it was in 1982 past the intersection point, while the left (poorer) tail of the distribution is only slightly larger up to the point of intersection. Overall, a larger fraction of the lost middle moved right (became richer) than moved left (became poorer). Holding other things constant, a society that is more equal is better than one that is less equal; at least in the 1980s the vast majority of working age people became unequally richer rather than the rich getting richer at the expense of the poor.<sup>7</sup>

In the kernel density plots we include several lines to demarcate key income thresholds. The first is the U.S. poverty line. Each year the U.S. Office of Management and Budget determines a poverty line for those living in families of different sizes. The first perpendicular line in Figure 2 is set at the poverty income level in 2006 dollars.<sup>8</sup> However because we use the household rather than the family as our sharing unit and we use 0.5 to adjust for household size and not the values implicit in the official poverty scale, our poverty rates will not exactly match the ones reported using official OMB methods. Nonetheless they are qualitatively similar in levels and especially trends. Hence the distribution to the left of this line is officially considered to be in poverty. Among working age people, the poverty rate fell between 1982 and 1993.

Figure 2 also shows what happened over the 1990s business cycle and here the story is even better. Now the entire distribution moves to the right. Not only is the economic well-being of the median person in 2004 higher than the median person in 1982 and 1993, as we saw in Figure 1 and is shown here by the perpendicular lines, but so is the economic well-being of every person in 2004 compared to a person at the same given point in the income distribution in those earlier years. While

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<sup>7</sup> See Burkhauser, Crews, Daly, and Jenkins (1999) for a more technical treatment of kernel density analysis in the context of winners and losers over the 1980s business cycle.

<sup>8</sup> The official poverty line varies for families of different sizes and ages, since we report our income for a working-age person in household size-adjusted values, the appropriate poverty value for us to use is the one for a single person family where the individual is under 65 years of age. Because the poverty line is adjusted for inflation each year, in real terms, it is the same in 1982, 1993, and 2004.

income inequality rose slightly, it was only because the population got richer somewhat unequally.<sup>9</sup> And once again poverty rates fell. As can be seen in Figure 2, the medians are also moving further from the official poverty line which is increased each year only by changes in inflation and does not reflect real growth in the economy. So while the share of working age people in poverty declined between 1982 and 2004, those in poverty in 2004 are farther apart from the median person than was the case in 1982.

While Figure 2 shows that the real income of working age people in the United States improved not only when measured at the median but also across the distribution, Figure 1 shows that there was a large and growing gap between those who lived in working households and those who did not among this population. While the economic well-being of working age people who live in non-working household has risen slightly over the last two business cycles, the gap in their economic well-being compared to working age persons who live in working households has grown substantially. The strong correlation between work and economic well-being that we have shown raises concerns about how vulnerable populations like single mothers and people with disabilities have fared over this period.

### **Transfer Programs Growth**

Before discussing changes in the economic well-being of single mothers and people with disabilities it is important to review the changes in public policies targeted towards them. Table 2 provides the caseloads and program costs for the four major cash transfer programs available to prime working age (aged 25-59) Americans. Together these four programs provide the bulk of cash benefits to those of working age who do not work. We show values for 1982, 1993, and 2004. As before, we choose these three years because they approximate the trough years of the last two American business cycles (1982-1993 and 1993-2004) and hence best control for fluctuations in program costs that are related to business cycles.

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<sup>9</sup> See Burkhauser, Couch, Houtenville and Rovba (2003-2004) for a more technical treatment of kernel density analysis in the context of winners and losers over the 1990s business cycle.

The first program in the table, and arguably the most comprehensive, is the Unemployment Insurance (UI) program. UI is a social insurance program that provides cash benefits to those who are involuntarily dismissed from a job in covered employment. Benefit levels are a function of the previous job's wages up to some pre-determined maximum. Benefits are limited to 26 weeks but can be extended when general or specific economic conditions warrant. Extensions are generally granted by Congress. Benefits have been extended in nearly every U.S. recession.<sup>10</sup>

The next three programs are limited to individuals who meet the Social Security Administration's guidelines for disability. The first of these is Social Security Disability Insurance (SSDI), a social insurance program that provides cash transfers to working age men and women, based on their past labor earnings. Individuals who have contributed into the Social Security system sufficiently to be covered by SSDI and who demonstrate that they are unable to perform any substantial gainful activity because of a medical or functional limitation can receive benefits.<sup>11</sup>

The next two disability programs are the Supplemental Security Income programs (SSI) for adults and children. The SSI-disabled adults program is a categorical means tested welfare program that provides cash transfers to adults who meet the same substantial gainful activity test as SSDI but whose total family income and assets are below a certain maximum. The SSI-disabled children program, like the SSI-disability adults program, is a categorical means tested welfare program. However, it provides cash transfers to the family of a child who meets a substantial gainful activity test similar to that of SSDI if total income and assets of the child's family are below a certain maximum.<sup>12</sup>

The primary cash welfare program in the United States was Aid to Families with Dependent Children (AFDC) and is now Temporary Assistance for Needy Families (TANF). AFDC/TANF is a categorical welfare program that provides income tested cash benefits to single mothers with dependent

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<sup>10</sup>See: Anderson and Meyer (1993); Kruger and Meyer (2002) for a fuller discussion of this program and how it has changed over the period of this analysis.

<sup>11</sup>See: Autor and Duggan (2006) and Burkhauser, Daly and de Jong (2008), for a fuller discussion of this program and how it has changed over the period of this analysis.

<sup>12</sup>See: Daly and Burkhauser (2003); Burkhauser, Daly and de Jong (2008) for a fuller discussion of these programs and how they have changed over the period of this analysis.

children. As we will discuss below, in 1996 the AFDC program ended and was replaced with a fundamentally new program, TANF, as part of the more general Welfare Reforms of 1996 (The Personal Responsibility and Work Opportunity Reconciliation Act of 1996).<sup>13</sup>

In addition to cash transfers, recipients of disability and welfare benefits are also eligible for health benefits under Medicare and/or Medicaid. Medicare is available to those on SSDI after a two-year waiting period. Medicaid is available immediately to SSI beneficiaries and was available immediately to AFDC beneficiaries, but now must be separately applied for by TANF beneficiaries. UI beneficiaries are usually not eligible for these programs.

In 1982, UI was the largest and most costly of the four cash transfer programs. UI caseloads were greater than AFDC caseloads and both were greater than the caseloads for the two disability programs—SSDI and SSI. About ten years later, in the business cycle trough year 1993, UI caseloads had declined substantially and were exceeded by AFDC, SSDI, and SSI adults. While part of the reordering of caseloads owed to the decline in UI, all of the other cash transfer programs grew considerably over the period.<sup>14</sup> Growth in AFDC and the disability programs was partially the result of program rule changes that made it easier to move onto each of these programs.

Rising AFDC caseloads and program costs as well as a general change in social expectations with respect to whether mothers, including single mothers, should and would work if given appropriate incentives, led to fundamental changes in the provision of cash benefits to single mothers. In 1996, TANF dramatically changed the rules under which the Federal government provides funds to States to fund their welfare populations. The TANF rules provide much stronger incentives for States to reduce their welfare rolls and get or keep single mothers in the labor market. In contrast to the transformation of policies targeted to single mothers, the programs targeted toward people with disabilities were little changed. SSDI and SSI continue to provide cash benefits to those who do not work.

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<sup>13</sup> See: Blank (2002) and Moffitt (2003) for a fuller discussion of this program and how it has changed over the period of this analysis.

<sup>14</sup> Part of the decline in UI caseloads from 1982 to 1993 owed to the less severe recession in 1993 than in 1982, which reduced unemployment claims more generally and lessened the number of claims extended past 26 weeks.

The results of these two very different approaches to the vulnerable subpopulations of single mothers and people with disabilities can be seen in the 2004 data in Table 2. Less than a decade after the 1996 reform of welfare, and in the trough of the 1990s business cycle, TANF caseloads were significantly lower than their 1993 levels. They were below UI caseload levels and well below SSDI and SSI caseloads levels. In contrast, both SSDI and SSI caseloads were substantially larger than they had been in 1993. Program costs followed caseload patterns; SSDI was by far the most expensive, followed by UI, SSI and then TANF.

The effect of policy on the AFDC/TANF caseload and cost changes found in Table 2 can be seen more clearly in Figure 3, which shows caseloads over time. AFDC caseloads rose modestly between 1974 and 1989 and then rose substantially, peaking in 1994 before falling dramatically following welfare reform. The greatest drop was during 1996-2000, the period immediately following welfare reform and also during the major growth years of the 1990s business cycle. Since the 1990s business cycle peak year of 2000, and despite an overall weaker economy, caseloads have continued to fall modestly.

A very different picture can be seen for disability caseloads. Figure 4 provides a time series of caseloads for SSDI and for both the SSI-disabled adults and the SSI-disabled children programs. SSDI caseloads grew substantially in the 1970s before falling in the early 1980s. Caseload growth was modest over 1984-1989 before rising substantially thereafter. SSI-disabled adults program growth was also substantial since its start in 1974, with the greatest growth over 1984-1996 and more modest growth since then. The SSI-disabled children program had much less growth until 1989 when the Supreme Court decided the case of *Sullivan v. Zebley*. The court ruling required the broader eligibility criteria used for SSI-disabled adults to also be used for SSI-disabled children. This led to rapid program growth until 1996 when as part of welfare reform the eligibility criteria for SSI-disabled children was decoupled from the one used for SSI-disabled adults and tightened.<sup>15</sup>

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<sup>15</sup> For a more detailed analysis of caseload growth in SSDI see Bound and Burkhauser (1999); for a more detailed analysis of SSI caseload growth see Daly and Burkhauser (2003).

The differential trends in caseloads and program costs for the vulnerable populations of single mothers and people with disabilities underscore the effects that program design and incentives have on employment and benefit receipt. In what follows, we show that these choices also led to substantial differences in economic well-being, with single mothers doing far better than working age people with disabilities.

### **Changes in Economic Well-being among Single Mothers and Men and Women with Disabilities**

Table 1 showed a growing gap in economic well-being between working age people living in working and non-working households. Table 2 showed a waning role for benefits among single mothers and the growing role of benefits for men and women with disabilities. In what follows, we show how these two trends have played out in the outcomes for these vulnerable groups.

Specifically, we examine changes in median household size-adjusted income and employment for never married single mothers and men and women with disabilities. We choose never married single mothers because they represent a very vulnerable group that has been disproportionately represented, relative to their population proportion, in the AFDC/TANF caseloads.<sup>16</sup> Moreover, consistent with their lower earnings, they generally are thought to have had lower educational attainment, fewer skills, and less work experience than both the average working age person and other single mothers. As such, they are the most difficult among single mothers to integrate back into the labor market.<sup>17</sup> We compare their pre- and post-welfare reform economic well-being to that of working age men and women with disabilities.<sup>18</sup>

We begin by repeating the analysis of median household size-adjusted income reported in Table 1 for all working age people who live in working and non-working households over the trough years of the 1982-1993 and 1993-2004 business cycles and then report those same median values for

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<sup>16</sup> See Moffitt and Ver Ploeg (2001) for a detailed breakdown of the marital statuses of AFDC recipients.

<sup>17</sup> For complete details on how we capture our single mother population in the CPS data see the Data Appendix.

<sup>18</sup> For complete details on how we capture the working age population with and without disabilities see the Data Appendix.

working age single mothers, men with disabilities and women with disabilities living in working and non-working households (Table 3). We find the same economic divide that exists in the general working age population between those living in working households and those living in non-working households is also present within the populations of single mothers and men and women with disabilities. In fact, working age single mothers and men and women with disabilities who live in working households have median incomes that are closer to each other and to working age people in general who live in working households than to those in any of the non-working household populations. As with the total working age population, the gaps in income between the working and non-working households have been rising over time across all three vulnerable groups. In other words, single mothers and disabled men and women living in non-working households are falling further and further behind their respective counterparts in working households.

Looking at the experiences of each group separately reveals a few notable differences. Starting with those living in working households, in contrast to the substantial gains in median income of all working age persons living in working households over both business cycles, the income of the median single mother who lived in a working household was stagnant between 1982 and 1993, before rising rapidly between 1993 and 2004. The picture for both working age men and women with disabilities who lived in working households appears to be somewhat brighter. Their median income rose slightly between 1982 and 1993 and substantially between 1993 and 2004, just as it did for all working age people living in working households.

A bigger difference emerges between single mothers and people with disabilities living in non-working households. From 1982 to 1993 the median income of single mothers who lived in non-working households rose faster than the median income of all working age people living in non-working households but it then fell between 1993 and 2004. Hence while the gap between single mothers in working households and those in non-working households remained about the same in the 1980s, it widened dramatically in the 1990s. Unlike working age single mothers, the economic well-

being of men and women with disabilities who lived in non-working households improved. Median income remained about the same between 1982 and 1993 but rose modestly between 1993 and 2004.

This somewhat encouraging picture of men and women with disabilities masks a much more ominous trend. Unlike the working age population in general who over this period had no change in their shares living in working and non-working households, there were substantial changes in the shares of single mothers and men and women with disabilities who lived in non-working households. As can also be seen in Table 3, the share of single mother who live in working households increased substantially over this period—from 77.9 percent in 1982 to 80.8 percent and then to 88.8 percent in 2004 after welfare reform. In contrast, the share of men and women with disabilities who lived in working household fell over the same period.

These different trends suggest that the major change in the economic well-being of working age single mothers and men and women with disabilities is as related to changes in the percentage of each population actively participating in the labor market as it is to changes in median income for each group. The welfare reform of 1996 greatly increased the likelihood that a single mother would be found among the much better off population of working households in 2004. As we will see below, this accounts for the dramatic improvements among all single mothers between 1993-2004, despite the fact that the median income of single mothers living in non-working households fell between 1993 and 2004. The opposite occurred for working age men and women with disabilities. While the median income of those who lived in non-working household increases somewhat in the 1990s, the chance that a man or woman with disabilities would be in this much worse off group grew and hence accounts for the stagnation of their overall economic well-being over the past two business cycles.

Figure 5 plots trends in the household size-adjusted median income for each of these groups relative to the entire working age population and those living in working and non-working households. The figure provides a first look at how trends in the economic well-being of single mothers and working age men and women compare to the median income of working and non-working households that we first saw in Figure 1. Not surprisingly the median incomes of all three of these vulnerable

populations lie between the median incomes of the general population of working age persons living in working and non-working households. This reflects the fact that while all three vulnerable populations are more likely to live in a non-working household than the rest of the population, many single mothers and men and women with disabilities live in working households. In 1982, the real income of the median working age man with disabilities was \$18,594, about half way between the median income of those living and not living in a working household and well below \$30,302, the median of all working age people. The median income of women with disabilities in 1982 was \$16,852, somewhat below that of men with disabilities. The median income of single mothers was even lower at \$14,185, which is closer to that of the median of those in non-working households.

The median income of both men and women with disabilities was flat over the 1980s business cycle, falling slightly to \$18,065 and \$16,517 respectively by 1993 before they both rose somewhat over the 1990s business cycle to \$19,845 and \$18,572 respectively in 2004, a very similar pattern to how the median income of those in non-working households moved over the period. Over this same period, the median income of all working age persons increased to \$34,111 in 1993 and to \$37,739 in 2004. So by the end of the period, the median income of both men and women with disabilities were closer to the median income of those living in non-working households than that of those living in working households.

In contrast, the median income of single mothers rose slightly to \$15,812 in 1993 and then rose dramatically to \$20,281 in 2004 with most of the increase coming between 1996 and 2000. Hence, the median income of single mothers which was closest to the median income of those living in non-working households in 1982 was by 2004 greater than the median income of men and women with disabilities. Since then the median incomes of all groups have been relatively flat.

To get a better sense of the income changes experienced by each of these subgroups over time, Figure 6 plots each group's median income normalized to 1982. That is, we divide median income in each year by its value in 1982 and multiply by 100 to show its growth from 1982 to any given year. This allows us to more easily compare changes in income across groups. The growth in median

income for all working age people has varied with the business cycle, rising in expansions and falling during contractions. Comparing trough to trough (1982 to 1993) their median income grew by 12.6 percent and over the trough years 1982 to 2004 it increased by 24.5 percent. Growth in median income of men and women with disabilities are much lower. Between 1982 and 1993 both men and women with disabilities experienced negative growth; over the period their median incomes declined to 97.1 and 98.0 percent, respectively, of what they had been in 1982. Over the entire period from 1982 to 2004 their incomes grew less than average, increasing by 6.7 and 10.2 percent respectively. The growth patterns of single mothers were much different. Real median income increased by 11.5 percent between 1982 and 1993, only slightly below the working age average. Following welfare reform and in the heat of the 1990s expansion, single mothers experienced very rapid gains in income, boosting their gains over the entire period from 1982 to 2004 to 43 percent, well above those of the working age population as a whole.

Just as we used kernel density estimation techniques to look at the changes in the distribution of the working age population across household size-adjusted income values over the trough years of business cycles (1982, 1993, 2004) we now use that same technique to show changes for working age single mothers and men and women with disabilities (Figures 7a, 7b and 7c.) The first perpendicular line in each of the figures is set at the poverty income level in 2006 dollars. We then show three lines representing the medians for the respective sub-populations in the three trough years 1982, 1993, and 2004. The last three vertical lines are the same yearly medians for the total working age population as shown in Figure 2.

Figure 7a extends the view of single mothers found in Figure 5 by expanding our comparisons from how the median single mother fared over this period to how the entire distribution of single mothers fared over the 1980s and 1990s business cycles. While single mothers are distributed over a wide range of incomes, in 1982 they were bunched (the area under the curve was greatest) far to the left of the middle mass of the entire working age population we observed in Figure 2. As can be seen, the fattest part of the 1982 curve is even to the left of the poverty line. Clearly single mothers are one of

the poorer sub-populations of the entire working age population. This is consistent with the comparison of their median values in Figure 5 reported here via the perpendicular lines.

The economic well-being of this population improved only slightly by 1993. The fattest part of the mass moved to the right and a greater share of the population was above the poverty line. While some parts of the rest of the distribution are also above their 1982 level at some higher income amounts, for the most part single mothers were only slightly better off in 1993 than they were in 1982. Also, as can be seen by comparing the distance between the perpendicular lines, they had lost ground to the average working age person.

By 2004 things had dramatically changed for single mothers. As the figure shows, the entire 2004 distribution lies to the right of those in either 1982 or 1993. Hence, not only was the median single mother better off in 2004 than in 1982 or 1993 as shown in Figure 5 (and confirmed here by comparing the median values for both the single mother population and the entire working age population as reported by the perpendicular lines) but this was the case at every point in the distribution, and especially at lower income levels. The massing of the population which in 1993 was still to the left of the poverty line shifted past the poverty line in 2004 and the population now is much more spread out across the income range. This major improvement in the entire distribution of single mothers over the 1990s business cycle is coincident with that of all working age persons and is in stark contrast to what happened to single mothers between 1982 and 1993.

And as can be seen in Figures 7b and 7c, it is also different from what happened to working age men and women with disabilities over the business cycles of the 1980s and 1990s. Like single mothers, working age men and women with disabilities are less well off than the total working age population shown in Figure 2. In 1982 the population with disabilities was spread across a wider range of incomes and was far less bunched near the bottom than single mothers. At the same time, men and women with disabilities had income distributions that were also fattest in the left tail.

Like the entire working age population in Figure 2 the middle mass of both the distribution of men and women with disabilities shrank in the middle but in their case the middle was closer to the

poverty line and a greater share shifted to the left. Hence both these populations remained about the same on average. But enough of this middle mass shifted to the left that their poverty rates increased over this period.

By 2004, things had also improved for both men and women with disabilities, as the entire distribution moved to the right. Hence the median man and woman with disabilities were better off in 2004 than in 1982 or 1993 as shown in Figure 5 (and confirmed here by comparing the median values for both the populations of men and women with disabilities with the entire working age population as reported by the perpendicular lines) and this was the case at every point in the distribution. But they were better off to a much smaller degree than was the case for either the working age population in general or single mothers, so they lost ground in relative terms. Nonetheless the bulge in their distributions moved substantially to the right and for men with disabilities was now to the right of the poverty line and for women it was closer to the poverty line than in previous years.

In the next section, we show that the rightward shift in incomes for single mothers and people with disabilities over the last decade was accounted for by very different sources of income, with single mothers increasing their labor earnings and people with disabilities increasing their benefit receipts.

### **Sources of Income of Single Mothers and Working Age Men and Women with Disabilities**

A key question that these figures raise is what accounts for the dramatic increase in the household income of single mothers and the relative stagnation of incomes for people with disabilities. We find that the change in the economic well-being of single mothers coincides with the shift away from benefits and towards labor earnings as components of their household income. For people with disabilities, the opposite occurred, benefit receipts increased and labor market activity decreased. We show that these differences in the labor market activity of single mothers and men and women with disabilities are a key component of their differential trends in household income over the last decade.

The greatest gains in median income for single mothers came between 1996 and 2000 when their increases in median income rivaled those of working households while the median income of

working age men and women with disabilities were flat like those of non-working households. As we have seen in Table 3 the flatness in the growth of median income in the households of men and women with disabilities is not due to the flatness in the median income of either those who do or do not live in a non-working household. The median income of men and women who live in these types of households increased. The flatness is accounted for by the shift of men and women with disabilities out of working households and into non-working households. Likewise, the median income of single mothers who live in working households is up and the median income of single mothers who live in non-working households is down. The rise in their overall median income is mostly accounted for by their shift from non-working to working households.

Figure 8 provides additional evidence of the relationship between growth in employment and increased income. It reports the employment rates of the entire working age population and the employment rates of the subsets of this population who are single mothers, and men and women with disabilities.<sup>19</sup> The vast majority of the working age population works. While there is some variation within business cycles there is less across business cycles, with 77.5 percent employed in 1982, 81.4 percent employed in 1993 and 81.0 percent employed in 2004. All three of our vulnerable populations have lower yearly employment rates. Single mothers consistently have employment rates above those of men or women with disabilities. But there was little movement in their employment rates over the 1980s business cycle. They increased only slightly, from 66.0 percent in 1982 to 70.0 in 1993. Over this same period the employment rate of men with disabilities drifted downward from 41.0 percent to 36.0 percent and the employment rate of women with disabilities rose slightly from 27.6 percent to 31.9. But beginning in 1993 and especially between 1996 and 2000 the employment rate of single mothers grew substantially, increasing to 79.5 percent in 2004. Since 1998 they are very near the overall average for the working age population. In contrast, the employment rates of both men and women with disabilities dropped substantially after 1993 and were at 27.0 and 25.0 respectively in 2004. In both cases, they were lower than their employment rates in 1982.

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<sup>19</sup> Employment is defined as having worked at least 200 hours in the previous year.

It is the rise in the employment of single mothers that accounts for the rise in their economic well-being despite the dramatic decrease in AFDC/TANF caseloads and expenditures over this period shown in Table 2. It is the decline in the employment of men and women with disabilities that accounts for the stagnation in their economic well-being over this period despite the dramatic increase in SSDI/SSI caseloads and expenditures over this period.

This is confirmed in Table 4 which, for each of the trough years (1982, 1993, and 2004), compares the prevalence of five different sources of income in the households of all working age persons with working age single mothers, men with disabilities, and women with disabilities. In 1982, 67 percent of single mothers provided some labor income to their households. This rose substantially to 76 percent in 1993 and increased to 81 percent in 2004, near that of all working households. On the other hand, 43 percent of single mother households received some public assistance income in 1982. This declined to 37 percent in 1993 and dropped to 13 percent in 2004. While this was offset to a small extent by an increase in DI/SSI payments to this group, the rise was small—from 6 percent in 1982 to around 10 percent in 1993 and 9 percent in 2004.

The story for working age men with disabilities is quite different—43 percent provided some labor earnings to their households in 1982, 38 percent did so in 1993, and only 29 percent did so in 2004. The prevalence of public assistance payments also fell for this group, from 33 percent in 1982 to 26 percent in 1993 to 18 percent in 2004. But in contrast to single mothers, this was offset by a substantial increase in SSDI/SSI payments, from 34 percent in 1982 to 41 percent in 1993 to 51 percent in 2004.

The story for working age women with disabilities is similar to that of working age men with disabilities. There was an overall decline in their likelihood of providing some labor earnings to the household over the entire period, from 31 percent in 1982 to 27 percent in 2004. But in 1993, 35 percent of women with disabilities provided some labor earnings to their households. The decline in their labor earning contribution between 1993 and 2004 is in starker contrast to the rise in the contribution of labor earnings to household income by single mothers over this period. Their receipt of

public transfers rose slightly from 20 to 23 percent between 1982 and 1993 but then fell to 14 percent in 2004. But this was more than made up for by an increase in SSDI/SSI receipts, which rose from 30 percent in 1982 to 38 percent in 1993 to 49 percent in 2004.

Table 5 provides even more evidence of the dramatic changes in the relative importance of these five sources of income in the household income of these three groups over the years 1982, 1993, and 2004. Here we also compare their relative shares of income with those of all working age persons. The household income of working age persons overwhelmingly comes from the labor earnings of the working age person or other members of the household. Over the entire period less than 2 percent came from SSDI/ SSI and public transfers combined and less than 10 percent from all other income.

This is not the case for our three vulnerable populations. For single mothers their own earnings made up about 44 percent of household income in 1982 and stayed at that level in 1993 before increasing to 50 percent by 2004. As their earnings rose, their own public transfers fell from 7.1 percent to 4.3 between 1982 and 1993 to 1.1 in 2004. Over the same period, SSI/SSDI rose only slightly from 1.7 percent in 1982 to 2.2 in 1993, before falling back to 1.7 by 2004.

For working age men with disabilities their own labor earnings contribution to household income fell from 30 to 22 to 19 percent while the contribution of their public assistance fell from 7 to 6 to 5 percent but this was offset by the rise in their SSDI/SSI contribution from 7.8 to 9.7 to 12.1 percent. The other noticeable change was an increase in others' labor earnings from 34 to 38 to 41 percent. For working age women with disabilities their contribution to household income rose from 11 to 15 percent before falling to 13 percent. Their public transfers fell from 6.3 to 5.0 percent to 2.9 percent. But their SSDI/SSI transfers increased from 5.6 to 8.0 to 10.7 over the period.

## **Discussion**

The vast majority of Americans of working age rely on labor earnings to support their households. Those who live in working households do far better than those who live in non-working households. Historically, a sizeable fraction of those living in non-working households have come

from vulnerable groups to whom the government has directed cash transfers in lieu of work. Over time the economic well-being of working age persons living in non- working households dependent on these cash transfers has fallen behind, since they have not been able to take advantage of the nation's economic growth.

This falling behind and staying behind situation changed for single mothers in 1996 with the passage of welfare reform. Whether measured by prevalence or by share in total household income, the story is the same for single mothers. A rise in their employment and the shift in the portion of household income coming from their own labor earnings, especially after 1996, has led to a substantial increase in their median income, despite the dramatic decline in the share of their household income provided by public assistance and SSDI/SSI.

In sharp contrast, whether measured by prevalence or by share in total household income, the story for both working age men and women with disabilities is that the rise in the share of SSDI/SSI in their household income has been offset by the decline in their own employment and labor earnings, especially over the 1990s. Together, these trends have led to very little change in median income for men and women with disabilities. Importantly, the stagnation in median incomes for those with disabilities was not the result of labor earnings for those who work falling or the SSDI/SSI benefits of those who don't work declining, but rather because the share of workers in this population has fallen.

It is unlikely that this decline in work is the result of an increase in the severity of the disabilities of working age men and women with disabilities over the last two business cycles.<sup>20</sup> It is far more likely that growth in SSDI and SSI caseloads and expenditures is the result of changes in those programs that have made entry easier. Whether or not these changes were warranted given the mission of these programs remains controversial. What is not controversial is the finding that the economic

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<sup>20</sup> There is a growing literature exploring the behavioral effects of public policies on the employment and economic well-being of working age men and women with disabilities. For a review of this literature, see: Bound and Burkhauser (1999) and Stapleton and Burkhauser (2003). Additional research since then includes: Acemoglu and Angrist 2001; Autor and Duggan 2003; Bound and Waidmann 2002; Burkhauser, Daly, and Houtenville 2001, Burkhauser, Daly, Houtenville, and Nargis 2002, Burkhauser, Houtenville, and Rovba 2005; Daly and Burkhauser 2003; Houtenville and Burkhauser 2005; Hotchkiss 2003; Hotchkiss 2004; Jolls and Prescott 2005.

well-being of working age men and women with disabilities has stagnated over this time period as they as a whole have become more dependent on cash transfer programs and less tied to the labor market.

We conclude that disability policies over the last two business cycles have succeeded in expanding the safety net for men and women with disabilities who cannot work, but this expansion has come at the expense of sending anti-work signals to those men and women with disabilities who with more appropriate policies could and would work. The result is a failure of policy to recognize the substantial heterogeneity within the working age population with disabilities with respect to their capacity to work. We suggest that the enormous success of the broad set of policy changes implemented for single mothers in the 1990s under the umbrella of welfare reform and based on the proposition that single mother could and would work, given the appropriate incentives, should give pause to those who contend that working age men and women with disabilities cannot and would not work with a more pro-work set of policy incentives.

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## Data Appendix

### *CPS sample definitions*

The sample we use includes all individuals in the March CPS data who do not have a household member in the military and who are not residing in group quarters. Working age individuals refer to all individuals between the ages of 25 and 59 inclusive. The working age population is often defined as persons aged 18 to 64 in published statistics. We use a narrower definition because of the large number of persons aged 18 to 24 whose primary activity is education and the large number of persons aged 60 to 64 who are retired. The “All Individuals” sample is restricted to individuals over the age of 15 whenever disability status is a variable of interest as the work limitations question is not asked of individuals under 15 years of age. Unless otherwise indicated, the sample used in all tables and figures is the working age sample.

In most cases, households in the CPS contain one family. For households that contain multiple families related by blood or marriage, we treat sub-families as separate families for the identification of family structure. Single mothers are defined as women who have never been married and who are subfamily heads who live with own never married child(ren) under 18. This accounts for important changes in living arrangements such as the rise in multi-generational families living in the same household, such as single mothers living with their own parents.

As noted by London (1998), prior to 1984 the CPS surveys did not properly account for the household relationships of children living in multi-generational households, producing an undercount of the number of single mothers due to misidentification of those who live with their parents. To reduce the impact of undercounting this key family type in the early portion of our sample, we applied London’s correction to the pre-1984 data. If there is a child in the household classified as “other relative of head” and a woman that meets London’s criteria (fifteen years older than the child and unmarried), then the woman will also be considered a single mother.

An individual is considered disabled if he/she has “a health problem or a disability which prevents work or which limits the kind or amount of work” he/she can do. While the use of a work limitation variable to capture the working age population with disabilities is controversial, the CPS is the only dataset that provides a consistent set of questions that allows long-term evaluations of this population. Hence it has been widely used in the economics literature to determine the employment and economic well-being of working age people with disabilities. See for example: Acemoglu and Angrist 2001; Autor and Duggan 2003; Bound and Waidmann 2002; Burkhauser, Daly, and Houtenville 2001, Burkhauser, Daly, Houtenville, and Nargis 2002, Burkhauser, Houtenville, and Rovba 2005; Daly and Burkhauser 2003; Houtenville and Burkhauser 2005; Hotchkiss 2003; Hotchkiss 2004; Jolls and Prescott 2005.

The vulnerable populations compared in this paper are: never married single mothers, men with disabilities, and women with disabilities. Disabled single mothers are double counted, being included in both the single mothers and the women with disabilities groups.

Table A1 shows that disabled single mothers only make up a very small proportion of the working age population and their number has grown steadily with no sudden jump around 1996. In addition, the percentage of single mothers who are disabled has remained fairly stable over time.

### *CPS household income measures, household size adjustment*

Household income is the sum of income for each household member age 15 and older in the household unit. Negative household income values are recorded as \$1.

It should be noted that income statistics in the CPS refer to receipts during the preceding calendar year, while demographic characteristics, such as age and family or household composition, and work limitation status, are as of the survey date. Therefore, those who just became disabled during the survey year may be reporting their current disability status while reporting income for the previous year when they were not work limited, potentially biasing our measure of the income for the disabled upwards.

The income of the family/household does not include amounts received by people who were members during all or part of the income year if these people no longer resided in the family/household at the time of interview. However, the CPS collects income data for people who are current residents but did not reside in the household during the income year.

All income values are calculated using the extended cell-mean series to adjust for topcoding. This series extends the Census provided cell means back to 1975. See Larrimore, Burkhauser, Feng, Zayatz (2008) for details on the series. Income is adjusted for inflation using an Urban Consumer Price Index (CPI-U) estimated by the BLS. Unless otherwise indicated, all incomes reported are pre-tax, post-transfer income adjusted for household size and adjusted for inflation to 2006 dollars.

To determine size-adjusted household income of each individual in the household, the total household income is divided by the square root of the number of household members. This is a standard way of controlling for differences in household size in the economic well-being literature. It assumes that the income needed to achieve a level of economic well-being is lower for those who live in the same household than it is to live in separate households. That is, by sharing housing and other resources, less income is needed to achieve a certain level of economic well-being. See Burkhauser, Smeeding, and Merz (1996) for a discussion of the sensitivity of measures of economic well-being to changes in this measure of returns to scale.

An individual is considered to be living in a working household if the total number of hours worked by all members of the household in the previous year exceeds 200 hours.

### *Sources of income*

Labor earnings include wages and salary, self-employment, and farm income. An individual is considered to have “own labor income” if he/she has positive labor earnings. An individual is considered to have “others’ labor income” if any other household member has positive labor earnings.

SSDI/SSI income is the sum of all Social Security benefits and Supplemental Security Income. It does not include other disability income that individuals may receive, which is reported as its own category after 1987. An individual has own SSDI/SSI income if the individual has positive Social Security and/or Supplemental Security Income. Because we are looking at working age persons aged 25-59, we assume that all the Social Security income they receive is from SSDI. However, this will overstate SSDI income to the degree they are receiving widows’ or mothers’ benefits.

Own Public Assistance income only includes income specifically reported as public assistance and welfare. It does not include items such as unemployment income or workers compensation income. An individual is considered to have own Public Assistance income if he/she has positive Public Assistance income.

An individual has positive “all other income” if his/her household receives income from sources other than labor income, own SSDI/SSI, or own Public Assistance. In other words, an individual will be reported as receiving other income if his/her household receives income from other household

members' Public Assistance and/or SSDI/SSI, or if the household receives income from any other non-labor income sources regardless of who in the household received that income.

#### *Employment and economic well-being measures*

An individual is considered employed if he/she has worked at least 200 hours during the previous year. The employment rate is the percentage of individuals who were employed. An individual is defined as working full-time, full-year (FTFY) if he worked at least 35 hours per week and at least 50 weeks in the previous year.

The Census Bureau calculates the poverty rate based on family income rather than household income. The poverty threshold is derived from family income and family composition (size, number of children, and number of elderly family members). The poverty threshold for single person families under 65 in 2006 dollars is \$10488.

The kernel density graphs are generated using the `kdensity` command in Stata. The default options are used: the default kernel is the Epanechnikov kernel; the default bandwidth is the optimal width that would minimize the mean integrated squared error if the data were Gaussian and a Gaussian kernel was used.

#### *Measuring program caseloads*

UI caseloads data are obtained from Handbook 394 of the US Department of Labor Employment and Training Administration and are defined as the weekly average number of insured unemployed.

SSDI caseloads data on disabled workers are obtained from the Social Security Administration's Office of the Chief Actuary. The numbers are based on the number of beneficiaries on the program on December 31 of the report year. By definition, a disabled-worker beneficiary worked in covered employment long enough to be insured and had been working recently in covered employment prior to disability onset. They are all under the full retirement age (FRA), as they are automatically transferred to the retirement program when they reach FRA.

SSI caseloads data are obtained from Table 3 of the 2006 SSI Annual Statistical Report, which tabulates recipients of federally administered payments. The numbers are based on the number of recipients on the program in December. We define SSI children as the recipients of federally administered payments who are under the age of 18 and SSI adults as those who are between 18 and 64.

AFDC/TANF caseloads data are obtained from Table 9.G1 of the SSA's 2005 Annual Statistical Supplement.

Medicare caseloads include all enrollees under the age of 65 (who must be disabled and/or have End Stage Renal Disease in order to qualify) and include both Hospital Insurance (HI) and Supplementary Medical Insurance (SMI) enrollees. The data come from Centers for Medicare & Medicaid Services, Office of Information Services. For 2004, the data are from the 100 percent Denominator File; for years prior to 2004 a 5-percent sample was used. Data for each year reflect information recorded in the Health Insurance Master File or Enrollment Database through March of the year following the report year.

Medicaid caseloads data are only available by basis of eligibility, but not by age group. The numbers reported in this paper include all low income disabled recipients, regardless of age, so both disabled

children under 18 and disabled elderly over 65 are included. They are obtained from the Health Care Financing Review's 2008 Statistical Supplement, which reports data from the Centers for Medicare & Medicaid Services.

### *Estimating program costs*

UI program cost combines both federal and states' shares of benefits and administrative costs. States pay for regular benefits and a share of Extended Benefits, while the federal government only pays for a share of Extended Benefits. Extended Benefits are only available to workers who have exhausted regular unemployment insurance benefits during periods of high unemployment. Data on regular state benefits (both taxable and reimbursable) and total extended benefits are obtained from Handbook 394 of the US Department of Labor Employment and Training Administration. Data on UI administrative grants are obtained from Federal Unemployment Tax Act (FUTA) Reports from the Department of Labor's Office of Workforce Security.

SSDI program costs include benefit payments to disabled workers and their dependents and administrative expenses. Data on benefit payments are obtained from the SSA's Office of the Chief Actuary and do not reflect adjustments that were made for earlier periods. An alternative source of data on benefit payments is the 2006 Annual Statistical Report on the Social Security Disability Insurance Program (Table 3). Using that source, annual benefit payments can be calculated by multiplying the total monthly benefits paid by 12. The data from the two sources do not match exactly. Data from the first source are reported in this paper.

Data on administrative expenses are also obtained from the SSA's Office of the Chief Actuary.

SSI program costs are borne by both the federal government and state governments. Federal costs include federal benefit payments, administrative costs and costs of beneficiary services. Payments data by age group are available from the 2008 Annual Report of the SSI Program (Table IV.C2). Administrative costs, also obtained from the 2008 Annual Report of the SSI Program (Table IV.E1), are allocated to SSI-disabled adults and SSI-disabled children according to their caseloads shares. The costs of beneficiary services, such as Vocational Rehabilitation and the Ticket to Work Program, are all allocated to SSI-disabled adults.

State costs include state supplementation payments that are either federally administered or state administered. For federally administered state payments, the data are obtained from the 2007 Annual Report of the SSI Program (Table IV.C4); for state administered payments, the data are obtained from the 2004 SSI Annual Statistical Report (Table 14). Data on state supplementation is available by eligibility category (aged, disabled, and blind), but not by age group. The disabled and blind categories include beneficiaries over the age of 65 who are blind or disabled, so the total state payments to the disabled and blind are an overestimate of the combined total state payments to SSI-disabled adults and SSI-disabled children.

Lacking data on state payments by age group, state supplementation for the disabled under 65 (i.e. SSI-disabled children and SSI-disabled adults combined) can be estimated by multiplying the total amount of state payments by the proportion of disabled recipients of federally administered payments who are under the age of 65. This estimation is based on the following assumptions: (1) the proportion of disabled recipients under the age of 65 is the same for recipients of federally administered payments and recipients of state payments; and (2) the state payments for the disabled under the age of 65 is the same as or very similar to the payments for the disabled over 65. As it is unclear whether these

assumptions are satisfied, this paper reports the actual state payments to the disabled and blind instead of the estimated payments to those under the age of 65.

AFDC/TANF program costs are shared by the federal government and state governments. Federal and states' costs are reported separately, and each includes both payments and administrative costs. Data on all four components of total program costs are available from the US Department of Health and Human Services, Administration for Children and Families.

Medicare costs for the disabled are defined as the total HI and SMI expenditures for disabled enrollees, including both benefit payments and administrative expenses. Data on total expenditures on disabled enrollees only is not available, but data on program payments is available by type of entitlement (aged vs. disabled). Total expenditures on disabled enrollees are estimated by multiplying total expenditures on all enrollees by the proportion of program payments paid for disabled enrollees. Data on program payments are obtained from the Centers for Medicare & Medicaid Services, Office of Information Services. Data on total expenditures come from the 2005 Annual Report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds (Tables III.B4 and III.C1), and analogous tables from earlier annual reports.

Medicaid costs are defined as medical vendor payments spent on all disabled recipients (including those under 18 and those over 65) and do not include administrative expenses. Data on vendor payments by eligibility category are obtained from the 2005 Annual Statistical Supplement (Table 8.E2), which reports data from HCFA-Form 2082 for the years before 1998 and data from the Medicaid Statistical Information System from 1998 onwards.

Table A1 Unweighted sample sizes for the working age population

Year	Disabled single mothers	All single mothers	Total working age population
1980	25	244	76843
1981	23	276	69671
1982	22	355	70403
1983	30	385	70312
1984	37	400	71079
1985	39	407	70167
1986	38	449	69775
1987	40	452	70458
1988	31	412	65578
1989	40	552	72175
1990	46	595	72619
1991	46	580	71982
1992	59	633	71692
1993	59	659	69668
1994	58	590	69645
1995	41	559	60828
1996	64	638	61782
1997	52	645	62167
1998	45	621	62660
1999	56	655	63420
2000	59	606	61267
2001	101	1248	102387
2002	116	1282	101938
2003	116	1252	100339
2004	131	1281	98755
2005	124	1250	97994
2006	118	1307	97348

**Table 1. Work and size-adjusted household income of working age persons**

	<b>Median size-adjusted household income*</b>			
	<b>Percent in working households</b>	<b>In working households</b>	<b>In non-working households</b>	<b>Income Gap</b>
<b>1982</b>	93.90%	31,679	7,264	24,415
<b>1993</b>	93.49%	35,790	7,387	28,403
<b>2004</b>	93.59%	39,777	8,627	31,149

\* in 2006 dollars

Source: Authors' calculations using CPS data; numbers may not add up due to rounding.

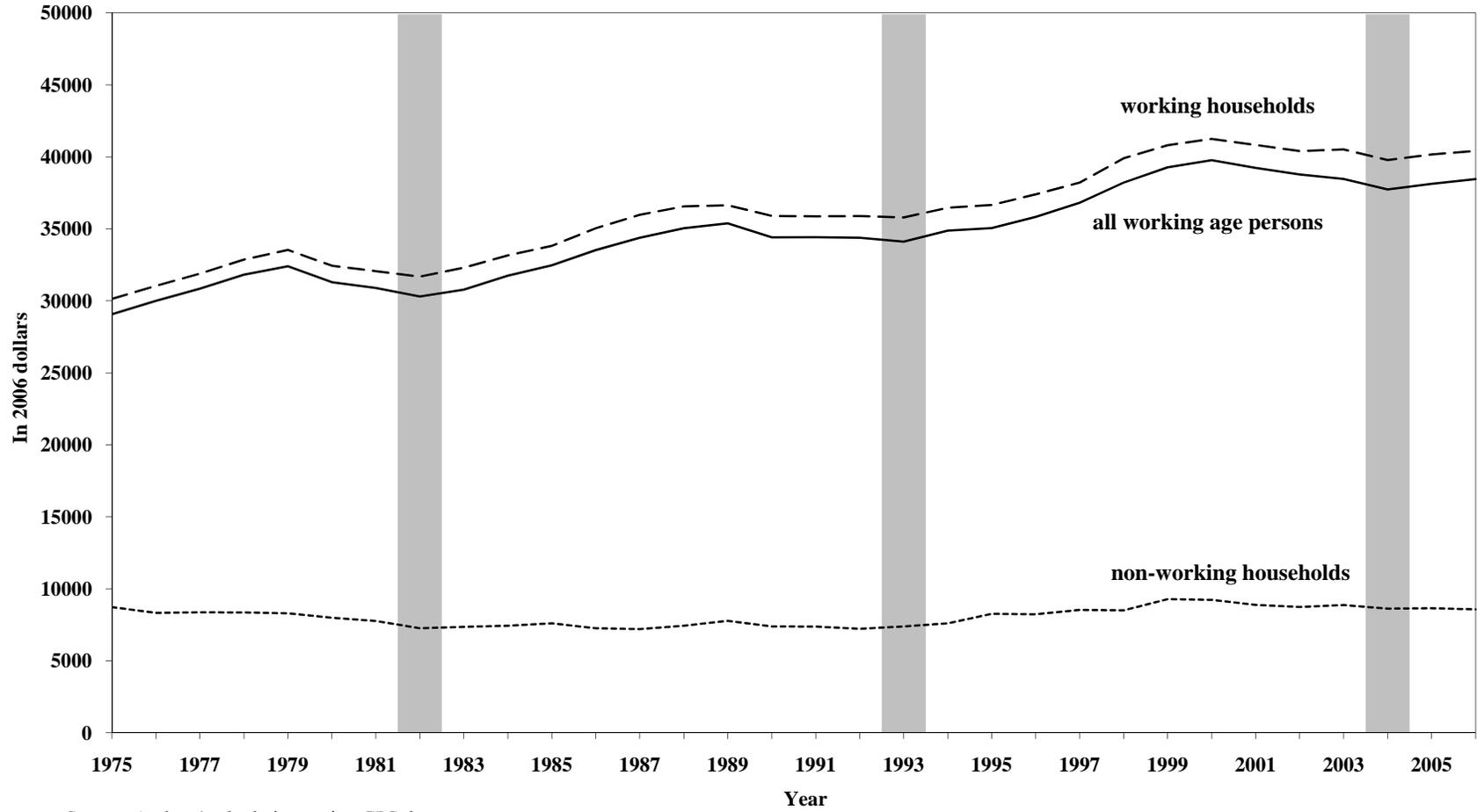
**Appendix Table 1A. Work and size-adjusted household income of all individuals**

	<b>Percent in working households</b>	<b>Median size-adjusted household income*</b>		
		<b>In working households</b>	<b>In non-working households</b>	<b>Income Gap</b>
<b>1982</b>	84.94%	28,667	11,046	17,621
<b>1993</b>	84.09%	31,890	12,048	19,843
<b>2004</b>	85.52%	35,871	14,224	21,647

\* in 2006 dollars

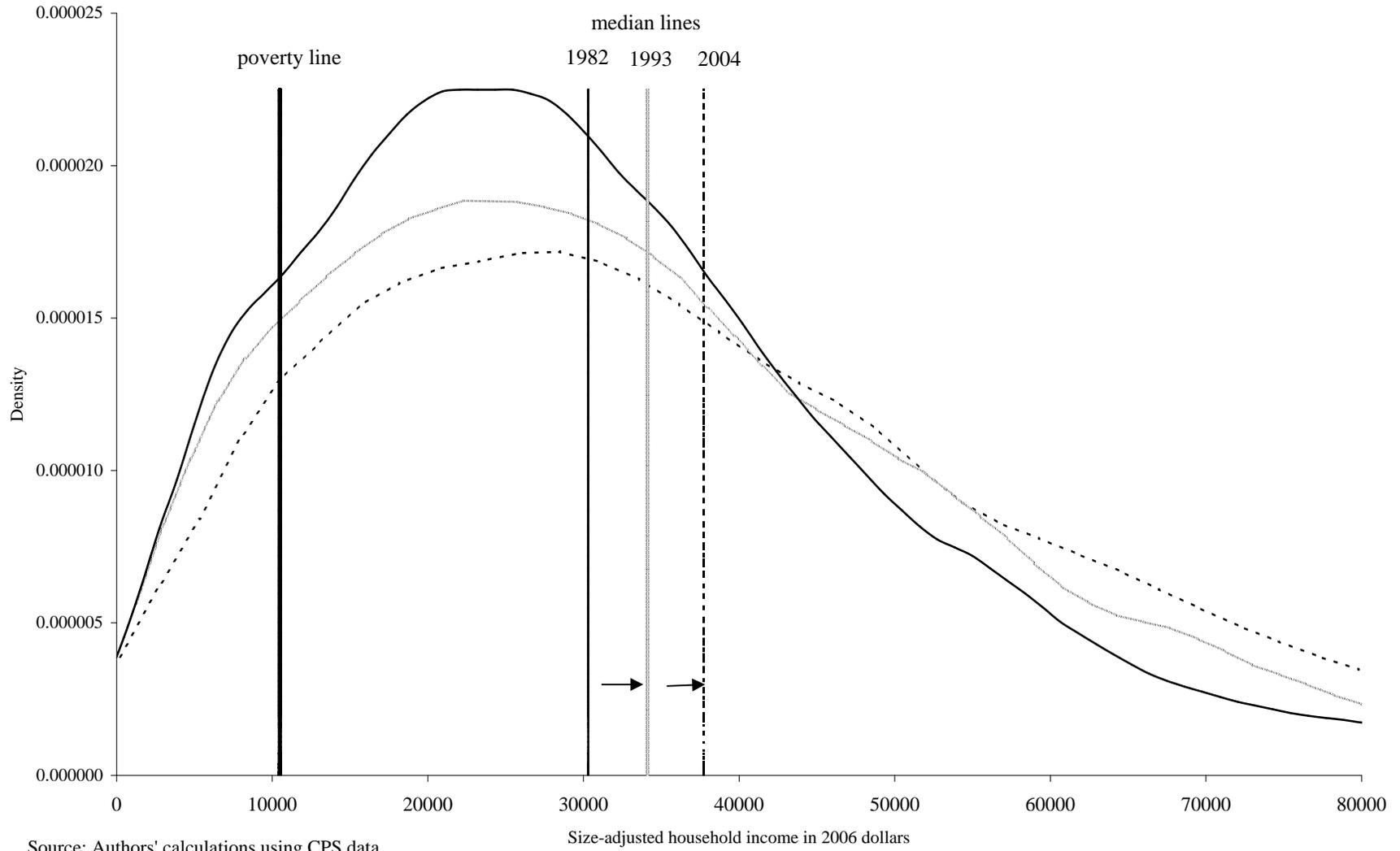
Source: Authors' calculations using CPS data; numbers may not add up due to rounding.

**Figure 1. Trends in median size-adjusted household income of working age persons**



Source: Authors' calculations using CPS data.

**Figure 2. Kernel density plots of size-adjusted household income for working age persons**



**Table 2. Caseloads and program costs of transfer programs in three trough years of the business cycle**

	Caseloads			Program Costs					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	1982	1993	2004	1982		1993		2004	
			federal	state	federal	state	federal	state	
<b>Employment-based</b>									
UI	4.059	2.751	2.950	54.582		33.786		39.569	
<b>Disability</b>									
SSDI	2.604	3.726	6.198	37.909	N/A	49.654	N/A	85.924	N/A
SSI-disabled adults	1.655	3.148	4.017	8.371	--	18.418	3.301	24.213	3.301
SSI-disabled children	0.192	0.723	0.993	1.137		5.577		6.746	
<b>Welfare</b>									
AFDC/TANF	3.542	5.012	1.978	16.493	14.404	19.251	15.992	15.390	9.980
<b>Non-cash health</b>									
Medicare	--	4.151	6.401	14.602	N/A	26.099	N/A	54.445	N/A
Medicaid	2.891	5.016	7.933	--		54.010		119.319	

Notes:

All caseload figures in millions.

All costs measured in billions of 2006 dollars.

Medicare 1993 disabled caseload data not available; substituted with data from 1994.

Sources:

UI US Department of Labor: ET Financial Handbook 394; FUTA Reports.

SSDI Social Security Administration, Office of the Chief Actuary, Statistical Tables.

SSI Social Security Administration, Supplemental Security Record (Characteristic Extract Record format), 100 percent data.  
Social Security Administration, Office of Financial Management, Division of Finance.  
2008 Annual Report of the SSI Program.

AFDC/TANF US Department of Health and Human Services, Administration for Children and Families, Office of Program Systems.

Medicare/Medicaid Centers for Medicare & Medicaid Services, Office of Information Services.

Figure 3. AFDC/TANF benefit roll populations by year

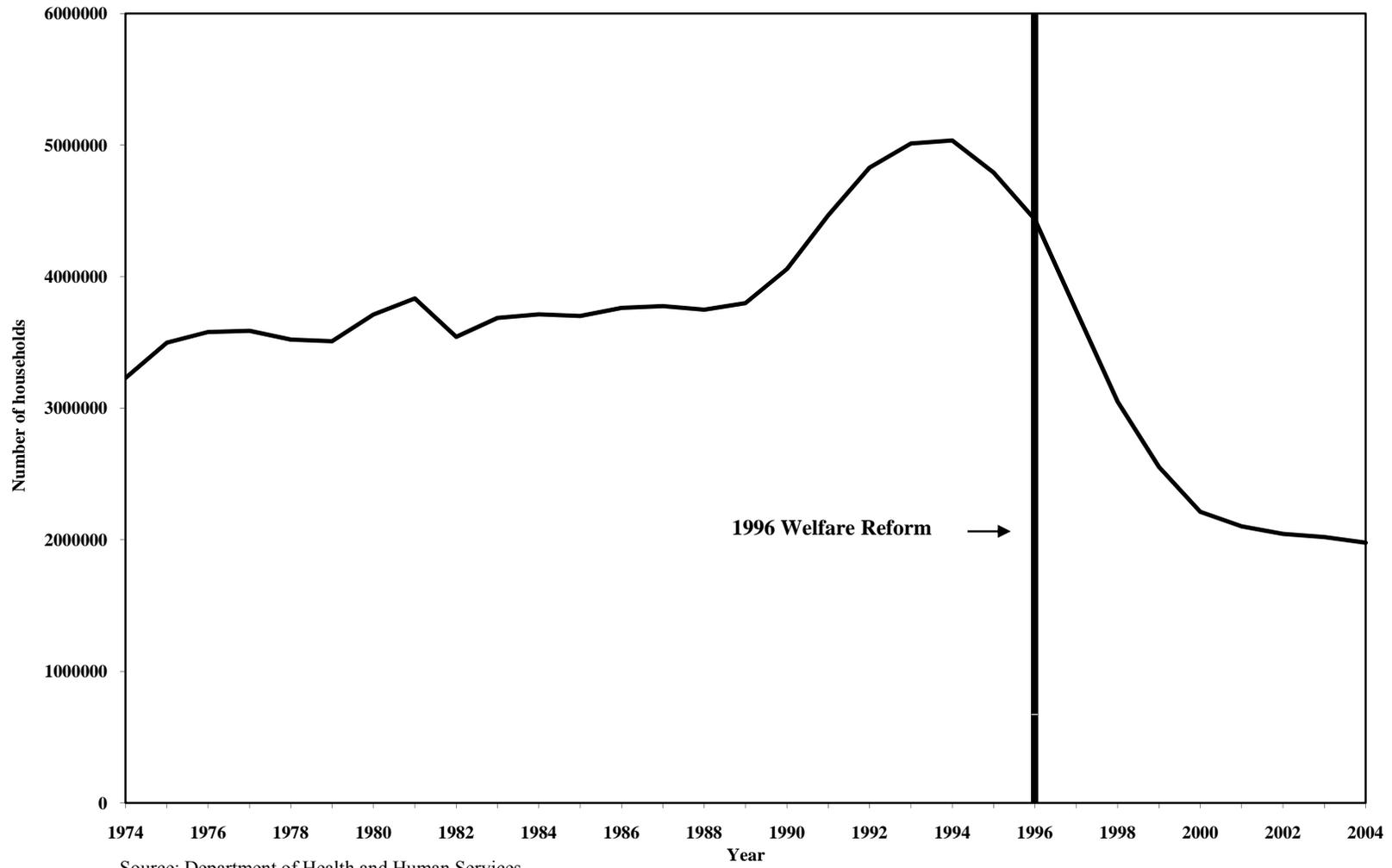
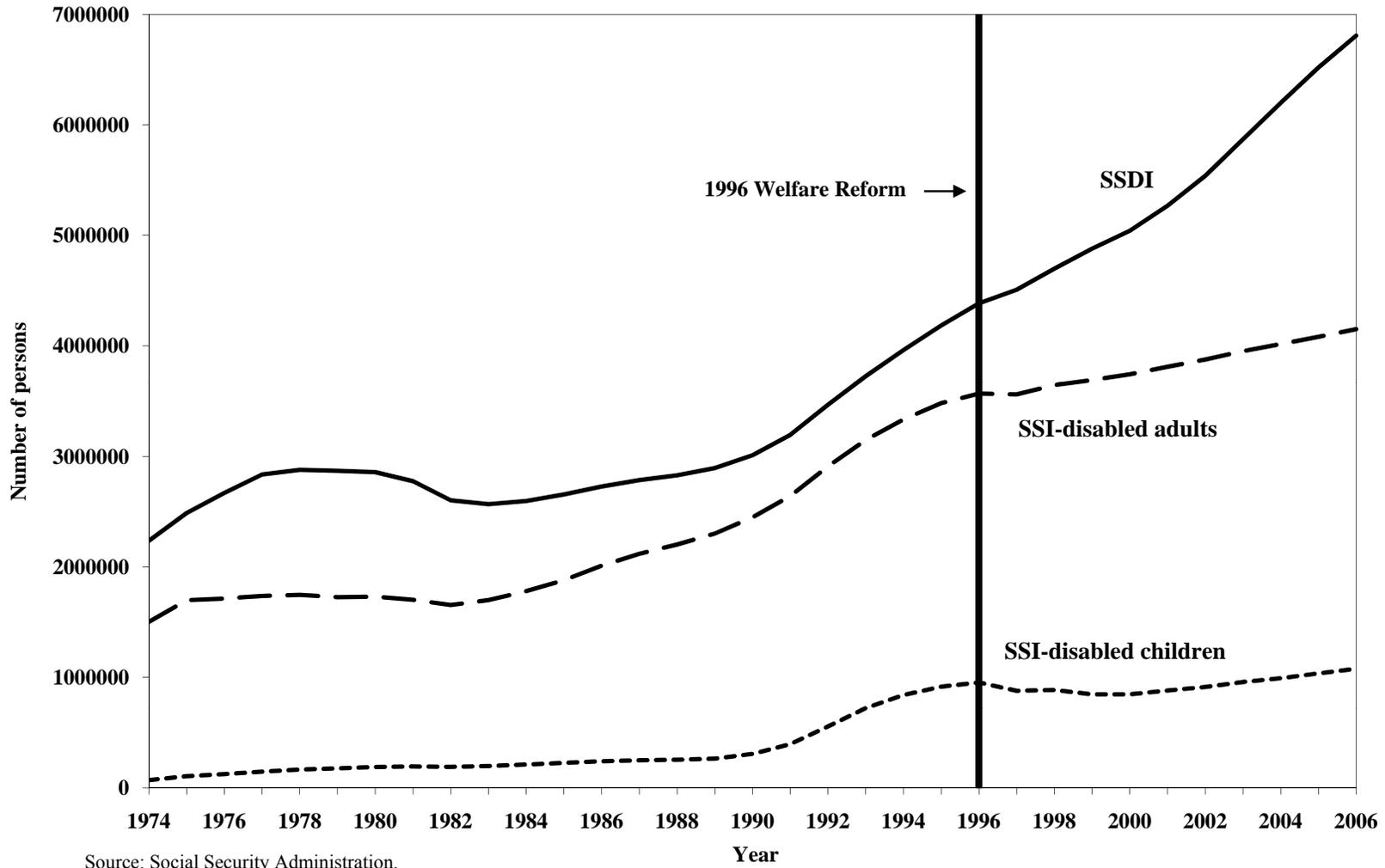


Figure 4. SSDI, SSI-disabled adults, and SSI-disabled children benefit roll populations by year



Source: Social Security Administration.

**Table 3. Work and size-adjusted household income of vulnerable working age persons**

**All working age persons**

	<b>% in working HH</b>	<b>Median size-adjusted household income*</b>		
		<b>Working HH</b>	<b>Non-working HH</b>	<b>Income Gap</b>
<b>1982</b>	93.90%	31,679	7,264	24,415
<b>1993</b>	93.49%	35,790	7,387	28,403
<b>2004</b>	93.59%	39,777	8,627	31,149

**Single mothers**

	<b>% in working HH</b>	<b>Median size-adjusted household income*</b>		
		<b>Working HH</b>	<b>Non-working HH</b>	<b>Income Gap</b>
<b>1982</b>	77.86%	18,441	4,670	13,771
<b>1993</b>	80.84%	18,472	5,215	13,257
<b>2004</b>	88.80%	22,254	5,108	17,145

**Men with disabilities**

	<b>% in working HH</b>	<b>Median size-adjusted household income*</b>		
		<b>Working HH</b>	<b>Non-working HH</b>	<b>Income Gap</b>
<b>1982</b>	70.30%	23,487	9,877	13,609
<b>1993</b>	66.19%	25,476	9,851	15,625
<b>2004</b>	61.84%	27,639	10,917	16,722

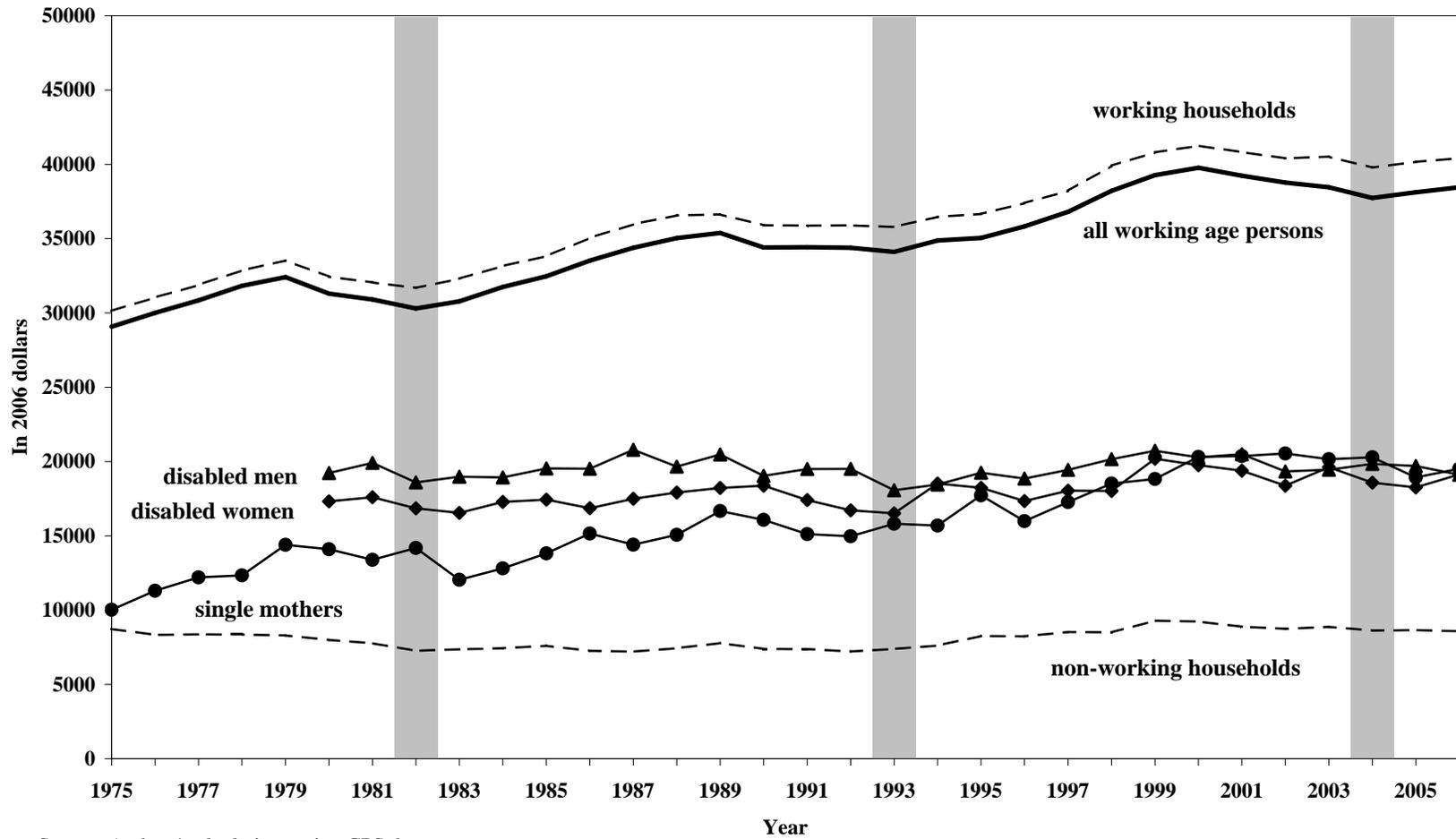
**Women with disabilities**

	<b>% in working HH</b>	<b>Median size-adjusted household income*</b>		
		<b>Working HH</b>	<b>Non-working HH</b>	<b>Income Gap</b>
<b>1982</b>	67.38%	23,025	7,966	15,058
<b>1993</b>	64.59%	25,385	8,049	17,335
<b>2004</b>	61.06%	28,016	9,244	18,772

\* in 2006 dollars

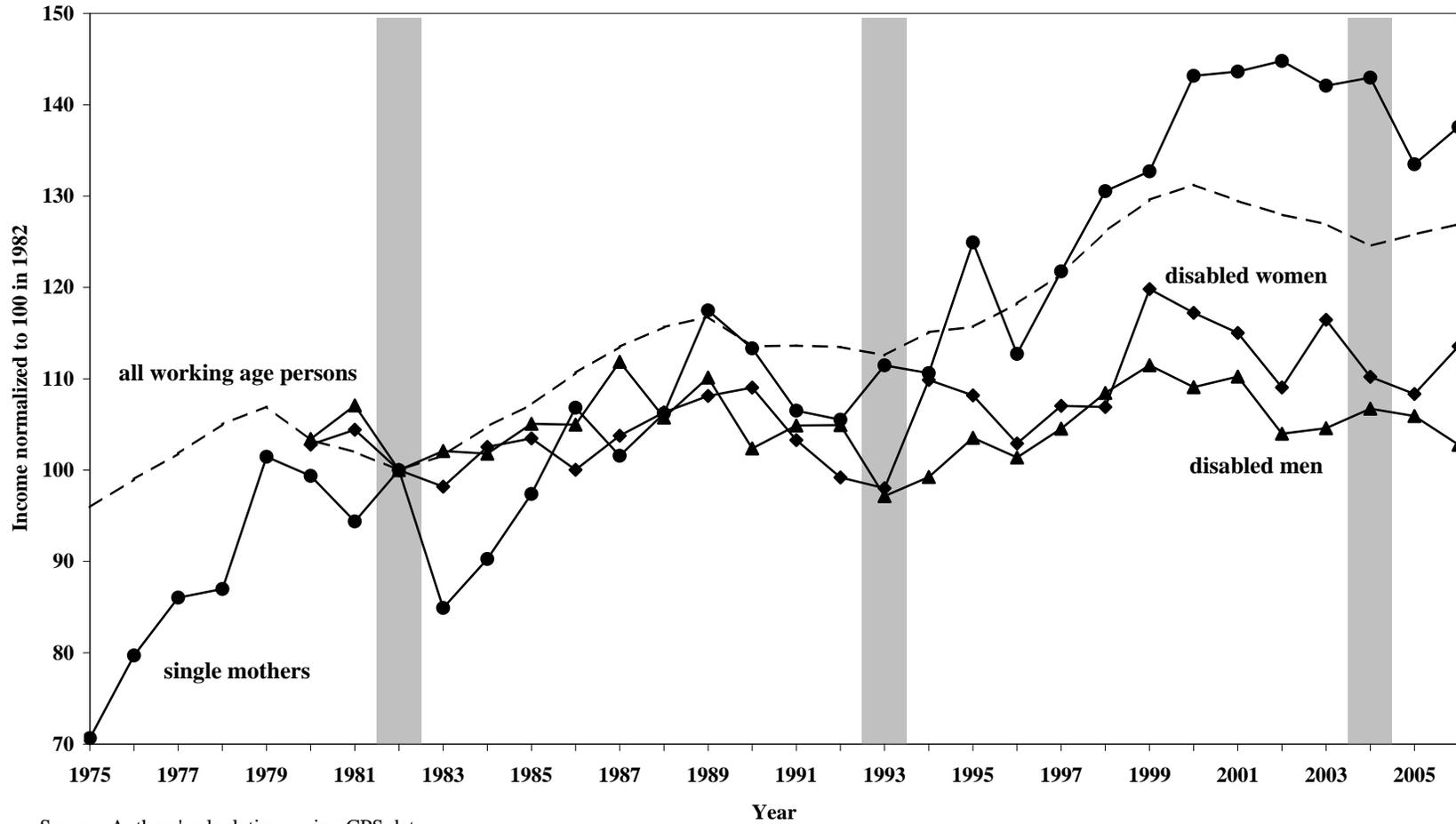
Source: Authors' calculations using CPS data; numbers may not add up due to rounding.

Figure 5. Trends in household size-adjusted income for vulnerable working age persons



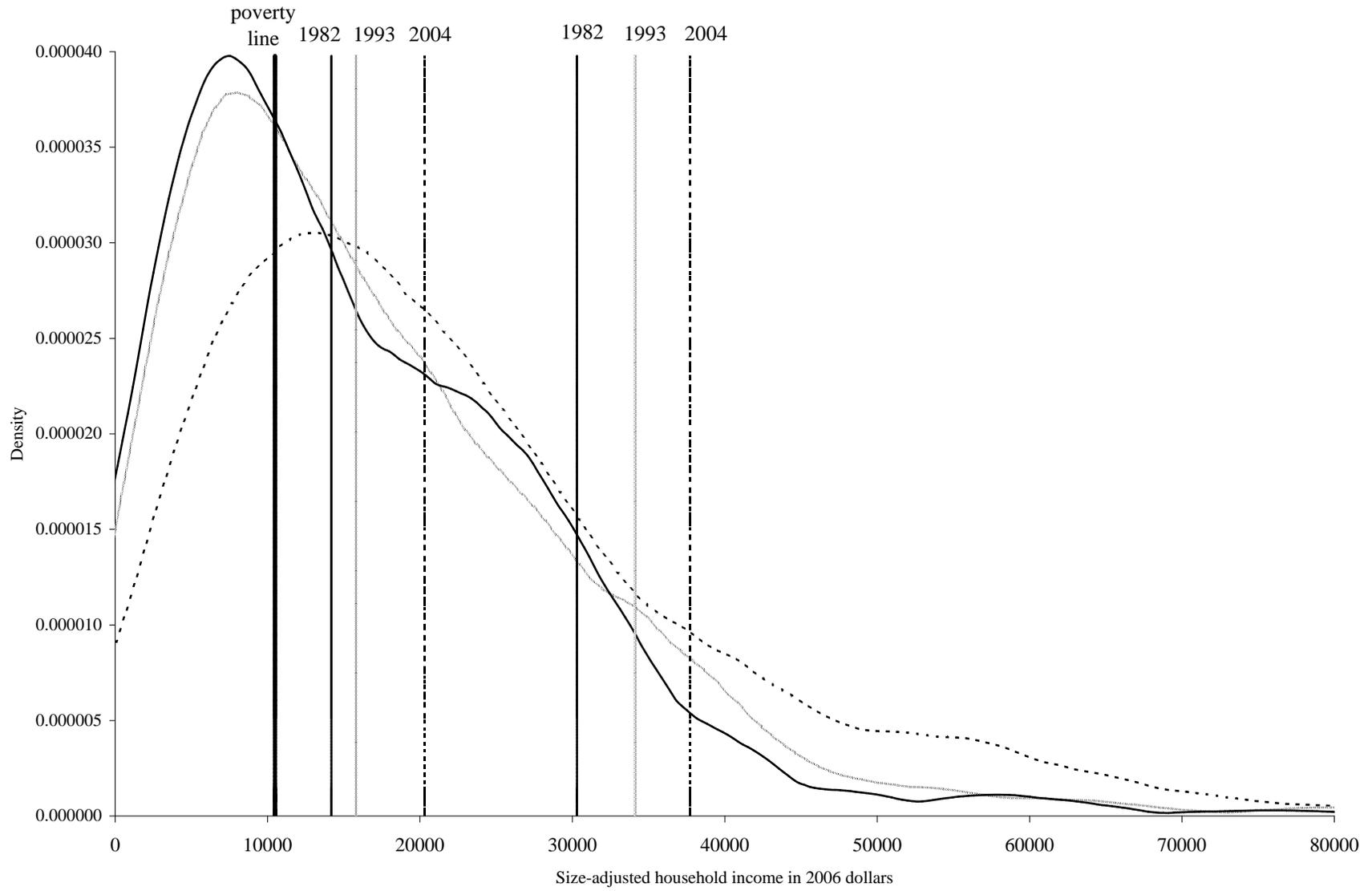
Source: Authors' calculations using CPS data.

Figure 6. Changes in income of the median vulnerable working age person



Source: Authors' calculations using CPS data.

Figure 7, Panel A. Kernel density plots of size-adjusted household income for working age single mothers



Source: Authors' calculations using CPS data.

Figure 7, Panel B. Kernel density plots of size-adjusted household income for working age men with disabilities

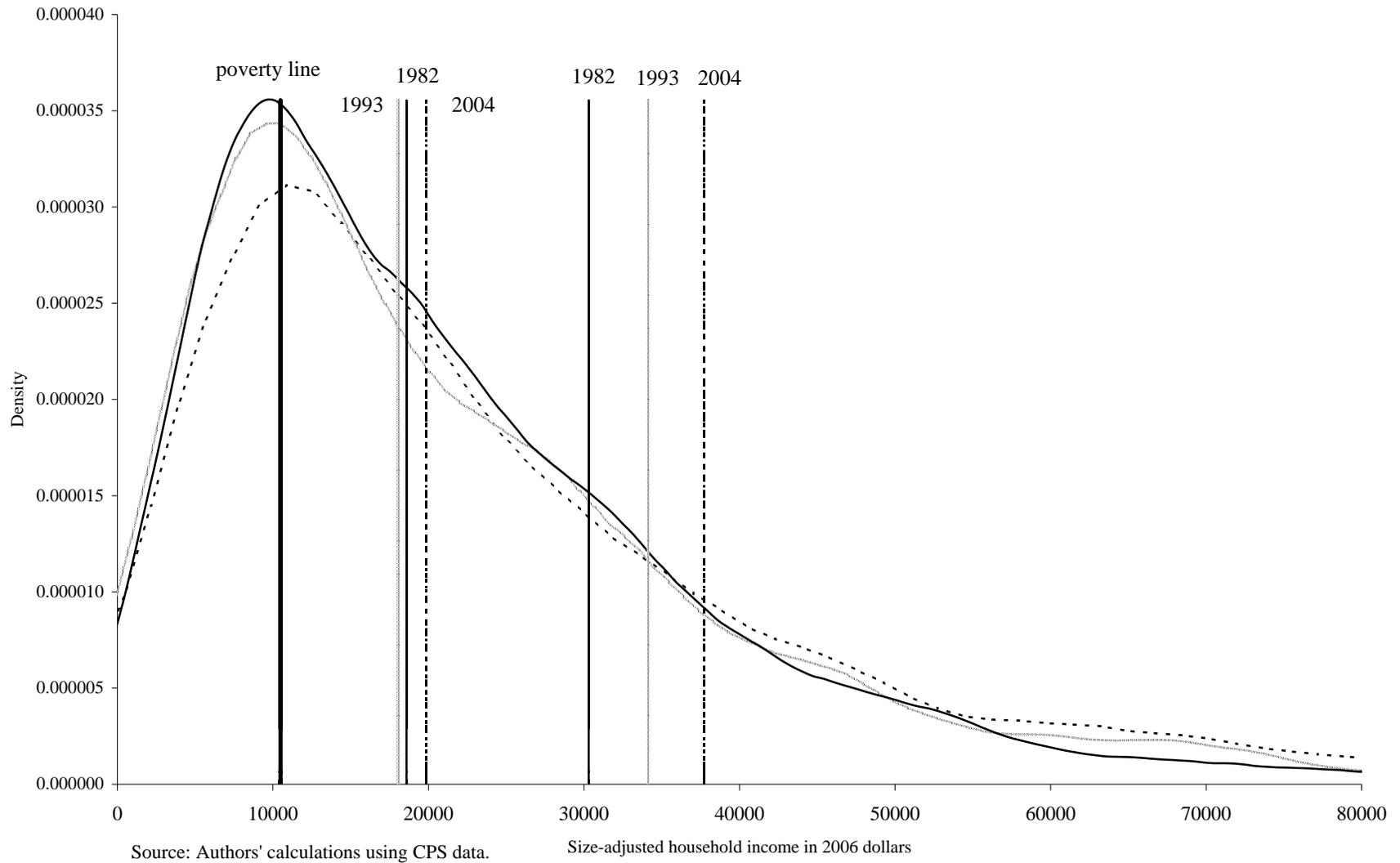
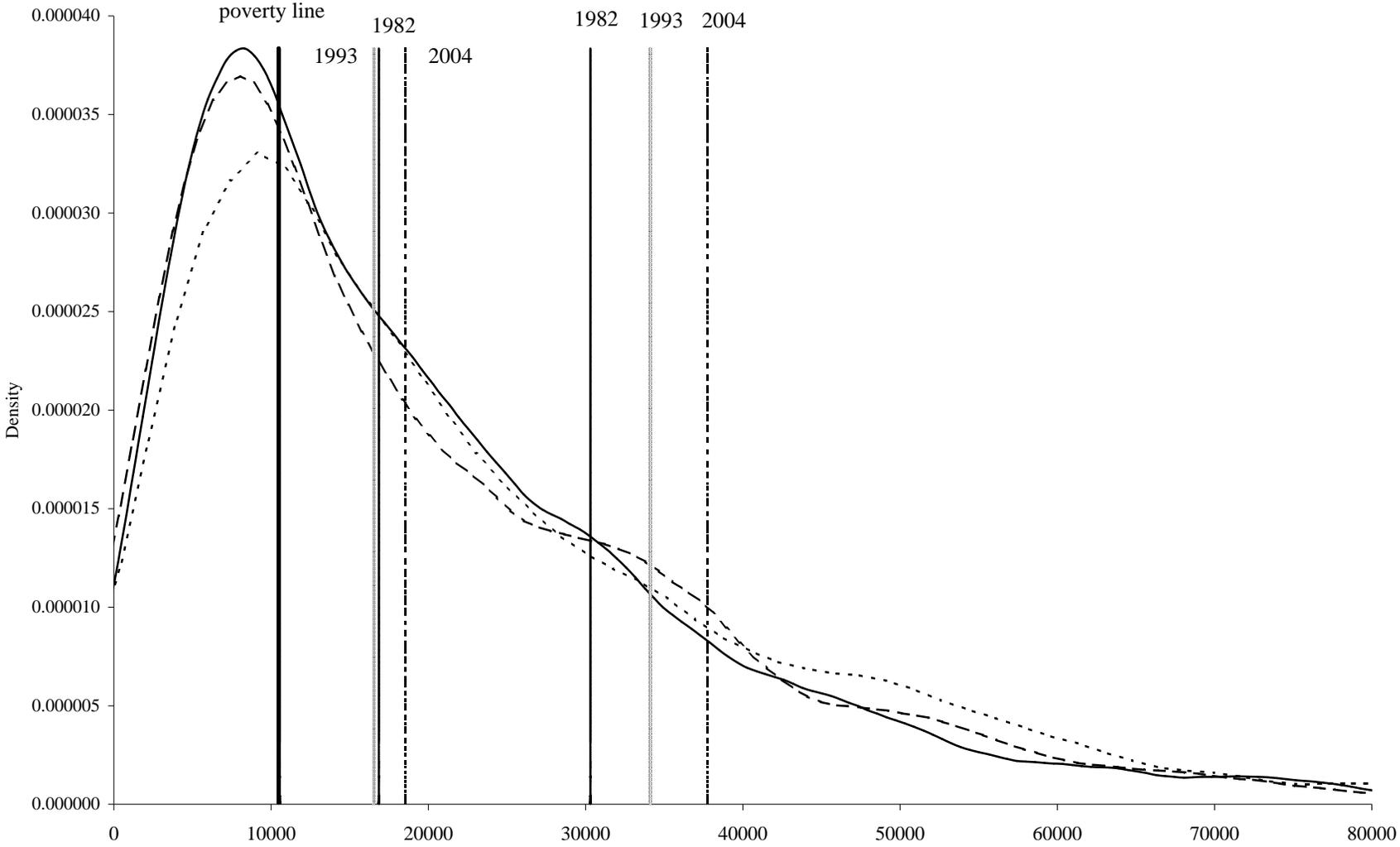


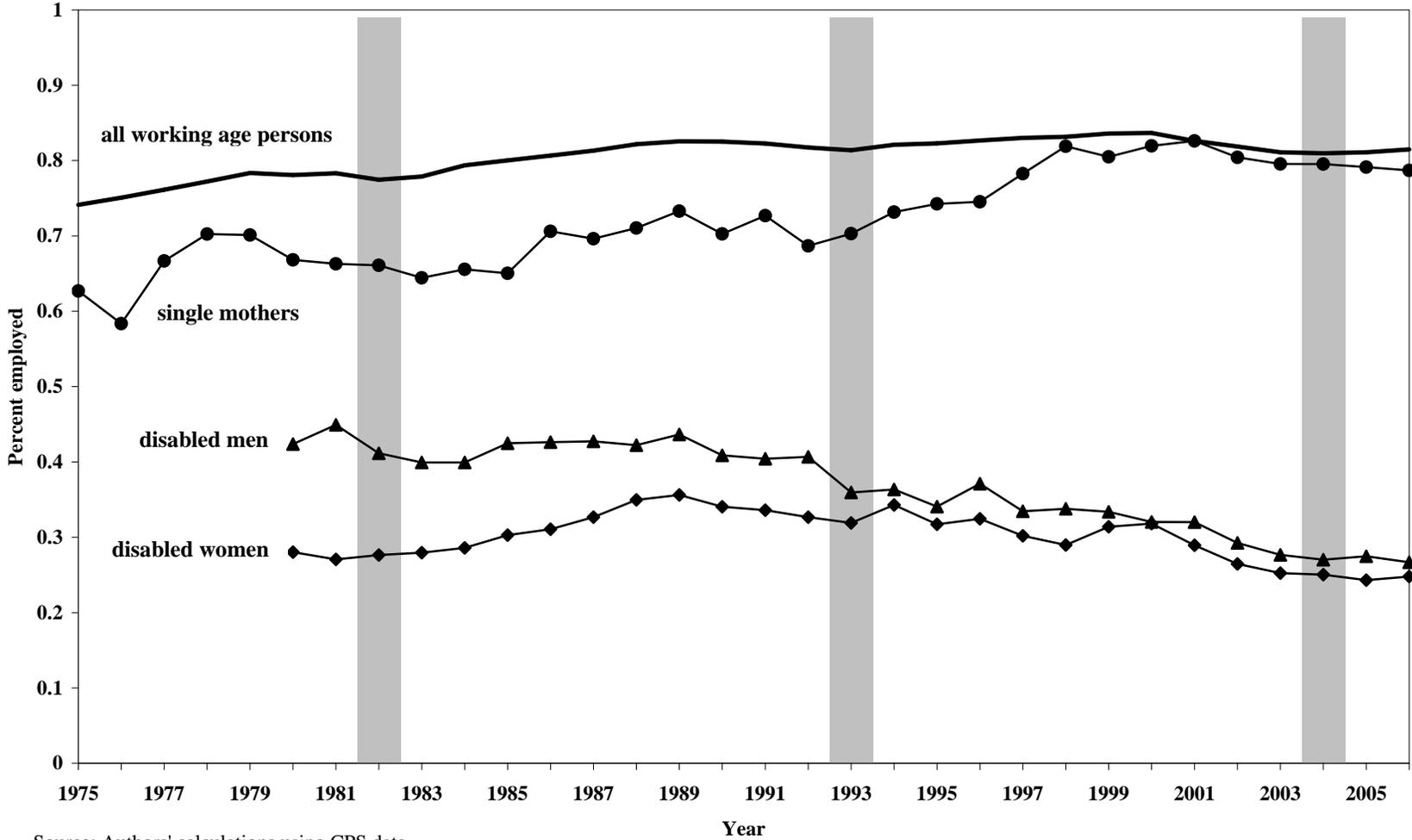
Figure 7, Panel C. Kernel density plots of size-adjusted household income for working age women with disabilities



Source: Authors' calculations using CPS data.

Size-adjusted household income in 2006 dollars

Figure 8. Employment rates for vulnerable populations



Source: Authors' calculations using CPS data.

**Table 4. Prevalence of household income by source for vulnerable working age persons**

	<b>All Working Age</b>			<b>Single Mothers</b>			<b>Disabled Men</b>			<b>Disabled Women</b>		
	<b>1982</b>	<b>1993</b>	<b>2004</b>	<b>1982</b>	<b>1993</b>	<b>2004</b>	<b>1982</b>	<b>1993</b>	<b>2004</b>	<b>1982</b>	<b>1993</b>	<b>2004</b>
<b>Own Labor Income</b>	0.788	0.827	0.818	0.674	0.756	0.808	0.432	0.385	0.294	0.310	0.353	0.274
<b>Others' Labor Income</b>	0.726	0.731	0.706	0.408	0.417	0.407	0.572	0.555	0.514	0.612	0.557	0.512
<b>Own SSI/SS</b>	0.036	0.047	0.054	0.058	0.100	0.088	0.337	0.412	0.507	0.297	0.381	0.487
<b>Own Public Assistance</b>	0.142	0.116	0.063	0.429	0.373	0.126	0.326	0.257	0.177	0.203	0.225	0.140
<b>All other Income</b>	0.782	0.790	0.697	0.507	0.592	0.609	0.761	0.769	0.694	0.758	0.723	0.692

Source: Authors' calculations using CPS data.

**Table 5. Share of total household income by each source for vulnerable working age persons**

	<b>All Working Age</b>			<b>Single Mothers</b>			<b>Disabled Men</b>			<b>Disabled Women</b>		
	<b>1982</b>	<b>1993</b>	<b>2004</b>	<b>1982</b>	<b>1993</b>	<b>2004</b>	<b>1982</b>	<b>1993</b>	<b>2004</b>	<b>1982</b>	<b>1993</b>	<b>2004</b>
<b>Own Labor Income</b>	0.439	0.449	0.460	0.442	0.442	0.499	0.297	0.222	0.185	0.109	0.152	0.127
<b>Others' Labor Income</b>	0.448	0.444	0.444	0.383	0.388	0.371	0.342	0.385	0.410	0.607	0.531	0.544
<b>Own SSI/SS</b>	0.005	0.006	0.007	0.017	0.022	0.017	0.078	0.097	0.121	0.056	0.080	0.107
<b>Own Public Assistance</b>	0.011	0.008	0.005	0.071	0.043	0.011	0.070	0.063	0.050	0.029	0.033	0.020
<b>All other Income</b>	0.096	0.093	0.084	0.087	0.104	0.102	0.213	0.232	0.233	0.198	0.204	0.202

Source: Authors' calculations using CPS data.

Note: All values are based on means; share = (mean income from source) / (mean household income).