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Changes in the Consumption, Income, and Well-Being of Single Mother Headed Families

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ABSTRACT

We investigate well-being changes for single mother headed families targeted by recent tax and welfare reforms. Measured income changes sharply differ from consumption changes. We examine disaggregated consumption, time use, and health insurance coverage. Increases in housing and transportation spending mostly account for the rise in consumption in the bottom quintiles. We find modest improvement in housing quality, but the evidence is less strong at the very bottom. The consumption of non-market time for those in the bottom half of the consumption distribution falls sharply indicating a loss in utility for those families if non-market time is valued above $3/hour. (JEL D31, I31, I32, I38, J22)

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There is a long-standing debate over how the material well-being of the disadvantaged has changed over time in the U.S. This debate has intensified in light of notable increases in income inequality in the 1970s and 1980s and, during the 1990s, dramatic changes in welfare and tax policies that target poor families, including expansions in the Earned Income Tax Credit (EITC), welfare waivers, and the passage of the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA). While some championed these changes as catalysts for self-sufficiency, others predicted that reforms would lead to severe deprivation.[1] A large body of research has shown that these changes were associated with a dramatic fall in welfare receipt and increases in work and earnings.[2] However, there is little consensus on how the material well-being of these families has changed during this period, particularly for the most disadvantaged families such as those at the bottom of the income or consumption distribution.

In this paper, we analyze changes in material well-being between 1993 and 2003 for single mother headed families, a group that has been the target of these recent changes in tax and welfare policy. For these families, we analyze changes in income and total consumption, as well as changes in disaggregated consumption, time use, and health insurance coverage. We describe the underlying trends in well-being for disadvantaged families during this dynamic period, rather than identifying the causal effects of individual policies or macroeconomic conditions.

We begin by briefly documenting the recent trends in income and consumption for single mother headed families. For income, the trends differ sharply for different deciles of single

[1]For example, Daniel Patrick Moynihan predicted that welfare reform would lead to "children sleeping on grates, picked up in the morning frozen..." (Los Angeles Times, October 31, 1995).
[2]See Rebecca M. Blank (2002) and Jeffrey Grogger and Lynn A. Karoly (2005) for reviews of this literature. See Robert A. Moffitt (2003) or Moffitt and Michele Ver Ploeg (1999) for background and methods.

mothers. For example, between 1993-1995 and 1997-2000, reported income in the bottom decile falls by about 16 percent, while reported income rises by more than 17 percent in the third, fourth, and fifth deciles. The trends for reported consumption, on the other hand, tell a very different story; these data show neither the sharp decline at low percentiles nor the large increases at the remaining percentiles in the bottom half of the distribution of single mothers. Rather, we find a modest (about 7 to 12 percent) rise in consumption throughout the entire distribution. While we do not examine the reasons for the sharp differences in income and consumption changes in this paper, we do argue that consumption is a better measure of material well-being for those at the bottom of the distribution.

We then further analyze how well-being has changed in recent years by looking at components of consumption, time use, and health insurance coverage, showing that an analysis of changes in total consumption alone may result in misleading conclusions about changes in well-being. Patterns for components of consumption indicate that increases in spending on housing account for much of the increase in consumption in the bottom quintile, while increases in transportation spending account for much of the rise in the second quintile. Although spending on food away from home and child care also rises, these categories are too small, on average, to have an important effect on changes in total consumption. We present evidence that increases in housing consumption are associated with modestly improved housing conditions. The consumption of non-market time for those near the bottom of the consumption distribution falls as time spent at market work grows significantly. Evidence from time use surveys suggests that this change reflects a shift from shopping, food production, and house work to market work. The significant drop in non-market time suggests that utility has fallen for those in the bottom

half of the consumption distribution if this non-market time is valued at more than $3 per hour. Data on health insurance shows that private coverage increases, but a decline in public health insurance results in an increase in the fraction uninsured in the bottom three deciles of the consumption distribution.

In this study we emphasize the importance of examining change in well-being at different parts of the distribution of income and consumption, particularly the very bottom. Trends in mean outcomes may miss important differences across parts of the distribution, and policy changes are likely to have very different effects at different points in the distribution. While it is well known that welfare and tax reform were associated with increased work and decreased receipt of welfare, it is less known that these changes are most pronounced at the bottom of the income and consumption distribution.[3] For example, during the 1990s, reported receipt of cash welfare or Food Stamps drops by more than 20 percentage points in four of the bottom five deciles of the income distribution for single mothers, while hours worked more than doubles for three of these five deciles. Changes in welfare receipt and hours worked are much less evident in the top half of the income and consumption distribution (Meyer and Sullivan 2006).

The paper is organized as follows. Section I discusses income, consumption, and other measures of well-being. In Section II we describe the data and samples used in the analyses. Section III presents the basic trends for both income and consumption for different deciles of single mother families. In Section IV we examine changes in the components of consumption and measures of non-market time and time use. We also examine health insurance coverage to

[3]Marianne Bitler, Jonah Gelbach, and Hilary Hoynes (2006) show, using experimental data, that mean impacts miss much of the effect of welfare reforms, even for narrowly defined groups of single mothers.

provide further evidence on changes in well-being. In Section V we discuss the robustness of our results to alternative samples and variable definitions, and in Section VI we conclude with a brief summary of our findings and direction for future research.

I. Income and Consumption as Measures of Well-Being

Studies of material well-being in the U.S. often focus on income or, to a lesser extent, consumption. We summarize here some earlier research that has evaluated the merits of income and consumption as measures of well-being for those with few resources (Meyer and Sullivan 2003, 2007). This research has shown that other measures of material hardship or adverse family outcomes are more severe for those with low consumption than for those with low income, indicating that consumption does a better job of capturing well-being for disadvantaged families (Meyer and Sullivan 2003, 2007). In addition, conceptual arguments as to whether income or consumption is a better measure of the material well-being of the poor almost always favor consumption. Consumption captures permanent income, reflects the insurance value of government programs and credit markets, better accommodates illegal activity and price changes, and is more likely to reflect private and government transfers.[4]

Arguments regarding reporting accuracy for the two measures of well-being are more evenly split. Income data are easier to collect in household surveys, and therefore are often available for larger samples. For most respondents, income is easier to report than consumption given the likely availability of tax forms and a small number of sources of income. However, for

[4]For further discussion see David M. Cutler and Lawrence F. Katz (1991), Daniel T. Slesnick (1993), or James M. Poterba (1991). David S. Johnson and Timothy M. Smeeding (1998) argue that one should use both income and consumption to examine levels of and changes in economic well-being.

analyses of families with limited resources these arguments are less valid. Families with very low levels of income tend to have multiple income sources (such as transfers from family, friends, fathers of children, and boyfriends, multiple jobs, and multiple government transfer programs, Kathryn Edin and Laura Lein 1997), and income appears to be substantially under-reported for these categories. Weighted micro-data from commonly used household surveys, when compared to administrative aggregates, show that government transfers and other income components are severely understated (Marc I. Roemer 2000), and that this understatement has increased in recent years (Meyer, Wallace K.C. Mok, and Sullivan 2007).[5] Over the past decade, the fraction of single mothers in national surveys that report having no earnings and no cash welfare has increased noticeably. This puzzling trend may indicate increased deprivation, greater dependence on other income sources, and/or increased under-reporting of transfer income. In at least the latter two cases, consumption may provide a more consistent measure of well-being than income. In addition, consumption may be easier to report for families with few resources because a substantial fraction of their consumption spending is accounted for by expenditures on food and housing, as we will show in Section IV.

There is also some under-reporting of expenditure data in the Consumer Expenditure (CE) Survey that is used to calculate consumption (Thesia I. Garner et al. 2006). However, reported expenditures exceed reported income at low percentiles, a fact which suggests that the under-reporting at the bottom is less severe for expenditures than income (Meyer and Sullivan 2003). Orazio Attanasio, Erich Battistin, and Andrew Leicester (2006), Angus Deaton (2005)

[5] While faulty weighting could be partly responsible, comparisons of survey micro-data to administrative micro-data for the same individuals also indicate severe under-reporting of government transfers in survey data (Kent H. Marquis and Jeffrey C. Moore 1990).

and others have emphasized that the discrepancy between aggregates from CE Integrated data (Diary and Interview) and Personal Consumption Expenditure (PCE) data from the National Income and Product Accounts (NIPA) has grown in recent years, suggesting declining quality of the consumption survey data. However, the PCE numbers cover a different population than we examine, are defined differently from the CE, and are the product of a great deal of estimation and imputation that is subject to error. Moreover, Meyer and Sullivan (2007) show that ratios to PCE aggregates of components of consumption that are particularly important for those with few resources, such as food at home and rent, are much closer to one and do not decline nearly as much over time as do the ratios for other components.

Unlike income, consumption data can be disaggregated into components that are informative about changes in material well-being that might be missed by changes in the aggregate.[6] For example, changes in transportation and child care spending can shed light on the degree to which total consumption changes are the result of increased work expenses. Similarly, a shift from food at home to food away from home may result in greater food spending even if food consumption does not increase. A closer look at housing consumption can provide information on whether increases in rent are associated with increases in housing quality. The well-documented shift towards increased employment for single mothers may have other important effects on well-being for this group. For example, this shift resulted in significant decreases in non-market time. Also, while employment may provide greater access to private health insurance, increased earnings may result in a loss of eligibility for public health insurance.

[6]Another advantage of looking at the components of consumption is that we can discern, in part, whether changes in total consumption reflect changes in the relative prices of different components. See Section V.

Analyses of consumption components, time-use, and health insurance will provide evidence on whether recent increases in consumption among single mothers reflect improved well-being.[7]

II. Data

Our analyses of trends in well-being for the disadvantaged draw on income and consumption data from the Consumer Expenditure (CE) Interview Survey from 1993 to 2003. In addition, we will present recent trends for housing characteristics from both the CE Survey and the American Housing Survey (AHS), and data on time use from the 1992-1994 National Time Use Survey (NTUS) and the 2003 American Time Use Survey (ATUS). For more information on these surveys see the Data Appendix.

Although we examine trends for a number of different samples, the results that follow focus on single mother families for the period between 1993 and 2003. We concentrate on this sample for several reasons. First, selecting the sample based on demographic characteristics is preferable to restricting attention to families that report limited resources, because the latter approach will cause the sample to depend too much on the specific method used to measure income and/or consumption in each dataset. In addition, it is easier to adjust for differences in family size within a demographic group. In fact, equivalence scale adjustments have little impact on our results for single mothers. Second, this restriction allows us to concentrate on families with children that are particularly disadvantaged. Single mother families, broadly

[7] Other studies of changes in the well-being of the poor have looked at health insurance coverage (Robert Kaestner and Neeraj Kaushal 2003; Bitler, Gelbach and Hoynes 2005; Thomas DeLeire, Judith Levine, and Helen Levy 2006), food pantry use (Scott Winship and Christopher Jencks 2004), housing conditions, crowded housing, crime, and doctor visits (Jencks, Susan E. Mayer, and Joseph Swingle 2004) and disaggregated expenditures (Qin Gao, Kaushal, and Jane Waldfogel 2007).

defined, account for about 60 percent of all families with children living in poverty in the U.S.[8] Third, this group was the primary target of tax and welfare reforms during the 1990s.

Our main sample consists of families (consumer units, or CUs, in the CE Survey) headed by a single woman between the ages of 18 and 54 who lives with her own children only and at least one of these children is under the age of 18. This excludes single mothers living with other related or unrelated adults unless the adult is a child of the female head. We also restrict our sample to include only complete income reporters—excluding those with missing data for primary sources of income (about 17 percent of lone single mothers).[9] We use sample weights from each survey so that all results reported in the following section are representative of the U.S. population of primary families headed by single mothers. We discuss changes in the composition of the single mother population and alternative definitions of single mothers in Section V.

To simplify the analysis of changes in well-being, we group the data into three separate periods: 1993-1995, 1997-2000, and 2001-2003. The first period begins after the end of the recession in the early 1990s, and ends prior to the passage of PRWORA legislation in 1996. The second period starts after PRWORA was implemented in most states. The final period includes data for two years after the recession of 2001.[10] Changes between the first two periods are informative about the immediate effects of welfare reform, and are less likely to be influenced by any changes in the characteristics of the pool of single mothers, which changes slowly over time. Changes between the first and third periods are informative about medium term effects, but are

[8] U.S. Census Bureau (2004).
[9] The results are not sensitive to this restriction, as described in Section V.
[10] Originally, we selected these periods to facilitate comparisons with previous research. Our analyses are not sensitive to the precise specification of these periods.

more likely to be influenced by any changes in the pool of single mothers. Stacking the quarterly CE Surveys yields 3,098 family-quarter observations in the first period, 4,483 in the second period, and 4,137 in the third period. Because we have multiple observations for the same family, we correct all standard errors for within household dependence.

We measure income as after-tax money income plus Food Stamps for all members of the family. See the Data Appendix for more details. To construct a consumption measure, we subtract from total expenditures spending on individuals or entities outside the family, such as charitable contributions and spending on gifts to non-family members. Also, consumption does not include spending that is better interpreted as an investment such as spending on education and health care and outlays for retirement including pensions and social security. Finally, reported expenditures on durables tend to be lumpy because the entire cost of new durable goods is included in current expenditures. To smooth these large and infrequent durable expenditures, we convert reported housing and vehicle spending to service flow equivalents.[11] As explained in the Data Appendix, vehicle and housing flows are calculated using values imputed by regression for some observations (when vehicle purchase price is missing and when public or subsidized housing is received). To these imputed values, we randomly add residuals in order to fit the distribution of consumption better than would be the case with just the regression predicted mean. Rather than using a single draw from the residual distribution, which would add additional randomness and be more difficult to reproduce, we take 100 draws from the distribution, replicating the sample accordingly. We then adjust the standard errors.

[11]We have also examined measures of consumption that include service flows for the main household appliances. Converting spending on these appliances to service flows has little effect on the level of total consumption, or changes in total consumption over time for our sample of single mothers. See Table A.6 in the online appendix.

All income and consumption measures discussed below are expressed in 2005 dollars using the CPI-U. In addition, all measures of income, consumption, and number of rooms reported below are adjusted for differences in family size using the equivalence scale recommended by Constance F. Citro and Robert T. Michael (1995): (number of adults + (number of children*0.7))$^{0.7}$. We standardize this scale to a family with one adult and two children by multiplying by 1.8456.

III. Changes in Income and Total Consumption

A few recent studies examine patterns for income or consumption during the 1990s for single mothers. Using data from the Current Population Survey (CPS), both Kasia O. Murray and Wendell E. Primus (2005) and Blank and Robert Schoeni (2003) show that income falls sharply at the very bottom of the income distribution during the latter part of the 1990s. Blank and Schoeni state that income at such low levels may be reported with substantial error and they are wary of conclusions based on observed movements in the bottom few percentiles of the distribution. Rather, they emphasize changes in pre-tax money income for the remaining part of the bottom half of the distribution of single mothers, noting that "strikingly, many poor families have increases in their income of around 30 percent." Meyer and Sullivan (2004) find that the level of total consumption for single mothers increases in real terms during the 1990s. However, because the study does not examine consumption below the 15th percentile, the results do not provide information on single mothers at the very bottom of the consumption distribution.

In this section we extend this literature by exploring changes in consumption throughout the distribution, and highlighting how these changes differ from those for income. Table 1

shows how average income and consumption have changed for each decile of the two distributions. For those in the bottom consumption decile (Column 1), average consumption increases by 7.4 percent between 1993-1995 and 1997-2000, and we can reject the hypothesis that consumption falls for this group.[12] By contrast, average income in the bottom income decile falls by 16.3 percent (Column 4). The difference between these changes–23.7 percentage points (Column 7)–is statistically significant. In the fourth, fifth, and sixth deciles increases in income exceed increases in consumption, and the differences are significant.

It is important to note that the trends in Columns 1 and 4 reflect changes in various deciles when the observations are sorted by the material well-being measure in question. Thus, for example, a family at the 10th percentile of income is not necessarily the same family at the 10th percentile of consumption. To verify that the differences at the bottom are not due to some peculiar sorting of individuals over time, we also examine the trends for average income by decile of consumption (Column 2) and vice versa (Column 3). These results indicate that reported income and consumption move in opposite directions for those in the bottom deciles between 1993-1995 and 1997-2000. The difference in the changes for average income and average consumption in the bottom consumption decile is 14.3 percentage points, while the difference for those in the bottom income decile is 19.6 percentage points, and both of these are statistically significant. By contrast, no matter how the observations are sorted, there is little

[12] Mean consumption by decile for the 1993-1995 period (the denominators of the ratios in Column 1) is $8,624 for the first decile, and $12,191, $14,797, $17,335, $20,289, $23,371, $27,098, $31,366, $38,244, and $55,923 for then next nine deciles. The analogous means for income by decile (the denominators of the ratios in Column 4) are $4,895, $8,502, $10,854, $13,380, $17,266, $21,240, $24,967, $30,296, $37,979, and $60,379. As explained in Section II, these numbers are expressed in 2005 dollars and are equivalence scale adjusted with the scale standardized to a family with one adult and two children.

evidence that the trends for income and consumption differ significantly in the top four deciles between 1993-1995 and 1997-2000. Differences between the trends for income and consumption are also evident for the period from 1993-1995 to 2001-2003 (Panel B). Over this longer period we again see that consumption increases while income falls in the bottom deciles of the respective distributions (Columns 1 and 4). Also, at higher deciles increases in income exceed increases in consumption. However, for this longer term change, the patterns differ noticeably depending on how individuals are sorted. If one examines those in the bottom consumption decile (Panel B, Columns 1 and 2), the change in income is almost the same as the consumption change. But in the bottom income decile (Panel B, Columns 3 and 4), the change in income is significantly smaller than the consumption change. While changes in income for those in the bottom of the consumption distribution are interesting, changes for one measure when sorting by a second measure are not emphasized in the literature (and differences between these measures appear only for this longer period) so we do not further explore this issue here.

In Meyer and Sullivan (2006) we confirm that income changes since 1993 for single mother headed families in the CPS are remarkably similar to those from the CE Survey. Both show the drop in the bottom decile and substantial increases centered around the fourth decile. We should also note that the sharp differences between recent trends for income and consumption across deciles are unique to single mothers. We do not see this pattern in samples that exclude single mothers. See Section V for discussion of income and consumption changes for other samples and methods.

Although we do not address the reasons for the differences between income and consumption in this paper, we explore some potential explanations in Meyer and Sullivan

(2006). We find that in both the CE and CPS changing demographics can explain much of the rise in income centered around the 4th decile. However, the fall in income at the bottom is unaffected by demographic controls, as is the consumption pattern. The sharp differences between income and consumption patterns at the bottom remains a puzzle. Saving and borrowing, including the use of credit cards, is one potential explanation for the different patterns at the very bottom, but these disadvantaged families tend to have very few assets and debts (Thomas Shapiro and Edward Wolff 2001; Meyer and Sullivan 2003). Changes in income reporting, particularly the increased under-reporting of transfers is another potential explanation for these differences. As discussed in Section I, there is evidence that under-reporting of government transfers has increased in major household surveys in recent years. These and other potential explanations are topics for future research.[13]

IV. Disaggregated Consumption and Non-market Time

As explained in Section I, changes in total consumption may mask important changes in the components of consumption. By examining these components and related data we can determine the degree to which total consumption changes are the result of increased work expenses, or the extent to which increases in rent are accompanied by increases in housing quality. In addition, data on changes in work hours and time use together with changes in consumption can provide evidence on whether recent increases in consumption among single

[13]In a recent paper, Richard Bavier (2008) argues that differences between income and consumption are only due to poor CE Survey income data. However, we have shown (Meyer and Sullivan 2007) that problems with income data are more widespread as CE Survey and CPS income data are remarkably similar for single mothers, both for percentiles at a point in time and for changes over time.

mothers reflect improved well-being. Health insurance coverage provides another important dimension of well-being.

Table 2 decomposes consumption, showing the overall change in consumption for each decile, as well as the contribution to the overall change from various components of consumption. This decomposition weights the percentage change in a given consumption category by its average share over the two periods. We see that food falls in the bottom decile, but total consumption does not fall because housing goes up sharply. Overall, housing pulls total consumption up sharply in the bottom two deciles, while increases in transportation account for much of the increase in total consumption for deciles three and four, and to a lesser extent for higher deciles.[14] Many of the changes for these components are consistent with the trend toward increased work for single mothers during this time. Food at home falls while transportation spending increases for every decile of the consumption distribution.[15] Over this same period, food away from home (above the first decile) and child expenses also increase, but these

[14]While we often refer to housing and transportation consumption as spending, these components include both spending and imputed service flows. In the bottom decile of total consumption, housing and transportation service flows are 2.9 percent of total consumption. In this decile, housing service flows are 2.2 percent of total housing consumption, and vehicle service flows are 37.9 percent of total transportation consumption. In the second decile, these shares are 4.8, 4.4, and 36.9 percent respectively. See Table A.5 of the online appendix for these results.

[15]Food spending also falls at the bottom for all others in the CE Survey, so spending on food at home for single mothers does not fall in relative terms. Similarly, studies using CE Diary data (DeLeire and Levy 2005) have shown that food consumption for low-educated single mothers does not fall relative to single women without children during this period. Other data sets such as the PSID show that food consumption changes very little during this period at all points of the distribution (Meyer and Sullivan 2006).

components account for only a small fraction of total consumption.[16] In the bottom five deciles, spending on food away from home averages about 2.7 percent of consumption and child care averages about 1.6 percent of consumption. Thus, even substantial percentage increases in these categories of spending do not have a very important effect on changes in total consumption.

This decomposition demonstrates that an analysis of changes in total consumption alone may result in misleading conclusions about changes in well-being. For example, for the bottom five deciles, transportation accounts for about 45 percent (3.6 percentage points) of the change in total consumption, but this increase may not reflect improvements in material well-being if a substantial share of this increase in transportation spending is work related. The difference in average transportation shares within decile between those with substantial work hours (more than 500 hours/year) and those with lower hours or who do not work at all is about 3.6 percentage points for the bottom five deciles. Given that the fraction with substantial work hours increased by about 25 percentage points in the bottom half of the consumption distribution after welfare reform, about 0.9 percentage points, or 11 percent, of the average change in total consumption for the bottom five deciles may be due to increased work.[17]

This decomposition also indicates the importance of increases in housing consumption, the largest category of consumption for single mothers, accounting for about half of total

[16]DeLeire and Levy (2005) also report a shift from food at home to food away from home among single mothers during the 1990s. One of the reasons child care expenses do not account for a large share of the level or changes in consumption is that child care is often provided informally or received as an in-kind transfer either from friends and family, through PRWORA, or through other government provision or subsidies.

[17]The change in total consumption that results from increased work is slightly larger because there are other work expenses included in categories such as clothing, child care, and food away from home. However, these components are much smaller than transportation or change little, as shown in Table 2.

consumption (Table 2). To analyze changes in housing consumption more closely we examine a number of characteristics of housing spending from the CE Survey (Table 3). A large share of single mothers live in public or subsidized housing, and this fraction has increased in recent years, particularly at the bottom of the consumption distribution, as can been seen in Panel A. The increase in housing consumption in the bottom two deciles is not driven by increases in home ownership. Rates of home ownership are very low at the bottom, though they have risen over time as reported in Panel B. As shown in Panels C and D, much of the increase in housing consumption in the bottom two deciles reflects higher rent. The rental equivalent value for those in public or subsidized housing increased by 14.7 percent in the bottom decile and by 22.1 percent in the second decile between 1993-1995 and 1997-2000 (Panel C). Because we examine an imputed rental value based on the characteristics of the living unit (see Data Appendix) rather than reported out of pocket rent for these families, this increase does not result from a decrease in rent subsidies that may occur as earnings increase. For those in private housing (Panel D) there is a significant increase in out of pocket rent in the bottom two consumption deciles.

Increases in housing spending may not indicate improved living conditions if greater out-of-pocket spending on housing is not accompanied by increases in housing quality. To discern whether this increase in rents reflects improved living quarters we turn to data on housing characteristics from two datasets. The CE Survey provides data on the number of rooms, the number of bedrooms, air conditioning, and the presence of major appliances. The trends for these characteristics are presented separately by decile of the consumption distribution in Table 4. The number of rooms and number of bedrooms (adjusted for family size) fall somewhat between 1993-1995 and 1997-2000 for those in the bottom decile, and then rise slightly after

2000. However, none of these changes is significant. For the bottom decile, between the first two periods we see modest but insignificant increases in the number of bathrooms as well as the likelihood of having air conditioning, a washing machine, or a dryer. We do find significant improvements between 1993-1995 and 2000-2003 in the bottom decile in the likelihood of having air conditioning and a dryer. Overall, the evidence from the CE Survey suggests that the quality of housing for those in the bottom half of the consumption distribution has improved modestly.

Additional evidence on housing quality is available in the AHS, which has the advantage of a larger sample size than the CE Survey. Although we cannot examine housing conditions in the AHS at different points of the consumption distribution, we can examine these characteristics for the worst off single mothers by looking at those without a high school degree. These low-educated single mothers are over-represented in the bottom of the consumption distribution in the CE Survey; more than three-quarters are located in the bottom half of the distribution. The trends from the AHS are summarized in Table 5. As with those from the CE Survey, the point estimates suggest a slight improvement in housing conditions, although many of the changes are not statistically significant. Between 1993-1995 and 1997-1999, we see significant increases in the fraction of units with a clothes dryer or air conditioning. Looking at outcomes that we expect to affect disproportionately the worst off among this already disadvantaged group of single mothers, we see declines in the frequency of inoperative toilets and external leaks, and the latter decrease is significant. Improvements are somewhat more noticeable when comparing the 1993-1995 and 2001-2003 periods. Thus, while housing spending does rise, it appears that single mothers with low consumption are receiving more or better housing on average for their money.

Overall, the evidence from disaggregated consumption, particularly transportation and housing, suggests that the increases in well-being are only slightly smaller than that suggested by aggregate consumption.[18]

While the trends discussed above indicate that consumption rises somewhat for single mothers during the 1990s, non-market time falls sharply for this group given the rise in market work (Meyer and Sullivan 2006, Table 1), especially for those in the low deciles of the income and consumption distribution. How one evaluates this loss of non-market time is crucial to any utility-based analysis of the effects of welfare reform on material well-being. To evaluate recent changes in well-being for single mothers, we calculate the ratio of changes in mean annual consumption to changes in average hours worked per year. While well-being reflects disaggregated consumption and time use, as well as other indicators, for simplicity let utility of single mothers be U(C,L), where C is consumption of goods and L is non-market time. A representative single mother's consumption bundle goes from (C_0, L_0) before welfare reform to (C_1, L_1) after, with $C_1 > C_0$, but $L_1 < L_0$. We calculate $w^* = (C_1 - C_0)/(L_0 - L_1)$. Then w^* is the per hour valuation of the loss in non-market time needed to make the representative single mother indifferent about the consumption bundle change. If the mother values non-market time

[18] Research that considers different outcome measures suggests that material well-being among the disadvantaged has changed little or improved slightly in recent years. Jencks, Mayer and Swingle (2004) find evidence of improved well-being during the 1990s for children in the bottom income quintile based on outcomes such as housing conditions, crime, and doctor visits. Rates of food pantry use and gifts of food from others reported in Winship and Jencks (2004) do not suggest that there has been increased hardship among the poor. However, without data on any changes in the supply of assistance, this evidence is not conclusive.

greater than w* she is worse off after welfare reform.[19]

These non-market time values are reported in Table 6 for each of the bottom five deciles of the consumption and income distribution. These results indicate that if single mothers value non-market time on the margin at a substantial fraction of the market wage, those in the bottom half of the distribution are likely to be worse off after welfare reform than before. For example, a single mother in the bottom decile of the consumption distribution would have to value her non-market time at $1.82 per hour in order to be indifferent between her bundle of consumption and non-market time in 1993-1995 as compared to her bundle of consumption and non-market time in 1997-2000. The interpretation of these results depends on how one values non-market time. On the one hand, if this time is valued near the market wage then these results suggest many single mothers are worse off. On the other hand, if little value is assigned to the non-market time of single mothers (as implicitly was the case in some political debates over welfare reform which emphasized the importance of work; see Moffitt 2006), recent consumption trends suggest that single mothers are better off.

To explore further the nature of the reduction in non-market time among single mothers, we examine data on time use from two national surveys. The patterns for hours per week spent in market work, non-market work, and non-work time for single mothers and comparison groups

[19]More precisely, $U(C_1, L_1)$ must be less than $U(C_0, L_0)$ if $(\partial U/\partial L)/(\partial U/\partial C)$ evaluated at (C_0, L_0) is greater than w*. This condition is sufficient, but not necessary for a single mother to be worse off after welfare reform. Since the marginal rate of substitution rises as L declines, even if $(\partial U/\partial L)/(\partial U/\partial C)$ is slightly below w* at (C_0, L_0) the discrete change may make the single mother worse off. Similarly, $(\partial U/\partial L)/(\partial U/\partial C)$ evaluated at (C_1, L_1) being greater than w* is a necessary condition for a representative single mother to be worse off after welfare reform.

(single women without children, married mothers) are presented in Table 7.[20] These data indicate that the increase in time spent in market work is associated with declines in non-market work rather than declines in non-work time. There is evidence of less time spent in food preparation, housework, and shopping. The drop in time spent shopping and obtaining goods and services is statistically significant both in absolute terms and relative to married women or single childless women. This decline in shopping time raises the question as to whether increases in expenditures overstate changes in true consumption, because, for example, single mothers spend less time shopping for bargains. Recent research has shown that market expenditures can be a poor proxy for consumption if individuals substitute market expenditures for time (Aguiar and Hurst 2005).

The increase in market work for single mothers has also increased their access to private health insurance. As we see in Table 8, the fraction of individuals in single mother families who are covered by private health insurance increases by between 7 and 13 percentage points for those in the bottom four consumption deciles from 1993-1995 to 1997-2000 or 2001-2003. However, the decline in Medicaid coverage is usually even greater for these families. Consequently, the fraction of individuals in these families that are uninsured increases after 1995, particularly for those in the bottom three consumption deciles.[21] These findings are

[20]The 1992-1994 NTUS does not include income or consumption data, so we cannot examine time use patterns for those at the bottom of the distribution. Also, because of small sample sizes, we do not restrict the sample to low educated single mothers. Our time use categories follow Mark Aguiar and Erik Hurst (2007).

[21]The fraction of individuals that are uninsured in the CE Survey is likely to be overstated because we are not able to distinguish between individuals without insurance and individuals who do not respond to the insurance questions. Although the fraction uninsured in the CE Survey is about four percentage points higher than that of the CPS, changes in uninsured rates between 1993 and 2003 are quite similar across these surveys.

consistent with other studies (Kaestner and Kaushal, 2003; Bitler, Gelbach and Hoynes 2005; DeLeire, Levine, and Levy 2006), but our results emphasize that the decreases in health insurance coverage are concentrated in the bottom three consumption deciles. Table 8 also shows that health expenditures, which include both out of pocket health related spending as well as spending on health insurance, rise noticeably for those in the bottom four consumption deciles. However, the level of spending on health, which is excluded from our measure of total consumption, is small relative to total consumption–about 2.2 percent for the bottom four deciles of the consumption distribution–and changes in the level of health spending are small relative to changes in total consumption.

V. Robustness of the Results

The results presented above are for a sample of families headed by a single mother living with her own children only. It is important to note that changes in the characteristics of this group might bias these comparisons over time. CPS data indicate that the fraction of all women between the ages of 18 and 54 that are single mothers is roughly similar in 1993 and 2003. As reported in Meyer and Sullivan (2006), the fraction of women that are lone single mothers—those living with their own children only—falls by 1.5 percentage points between 1993 and 2001, and then rises somewhat after 2001. This pattern is similar to that for the broader sample of all single mothers (including those living with other adults), which experiences a fall of 1.1 percentage points, and then rises somewhat after 2001. The fraction of women that are married with children also falls slightly in the late 1990s, indicating a more general trend of falling fertility during this period. Similarly, data from the CE Survey show a small decline in single

mother and married parent families relative to other family types. There is some evidence that the fraction of people living in single mother families that include cohabiting partners or other adults increased between 1993 an 2000, but this group is small relative to lone single mother families.[22]

We verify that the trends reported in Sections III and IV are not sensitive to the precise definition of our sample of single mothers. For example, we find that the patterns reported above hold for the larger population of single parents that includes those who live with other adults, cohabiting parents, single fathers, and families that include a single mother subfamily.[23] There is some evidence that consumption falls in the bottom decile for the narrow sample of single mother headed families living with a cohabiting partner. However, this group is small relative to our main sample, so including these families does not alter the trends for single mothers significantly.

We also verify that the results reported above are similar for other alternative samples and spending or consumption measures. Changes in consumption and housing characteristics are similar for a sample of single mothers that includes incomplete income reporters. Consumption patterns are also quite similar for annual measures of consumption that are

[22]Results reported in Meyer and Sullivan (2006) show that controlling for a large number of observable characteristics of single mothers has little effect on the estimated changes in consumption, providing additional evidence that our results are not sensitive to the changing pool of single mothers.

[23]Depending on the year, our sample of lone single mothers accounts for between 47 and 58 percent of all families that include an unmarried women with at least one child under 18 (see Table A.1 in the online appendix). We focus on lone single mothers because many of the welfare and tax reforms during our sample period targeted this group, and because lone single mother families are, on average, more disadvantaged than most other types of families that include single parents. We also confirm that all of our main analyses hold for broader definitions of single parents.

constructed by linking quarterly observations across four consecutive waves of the CE Survey. The patterns for other spending measures, such as total expenditures, are very similar to those reported for consumption. Also, adjusting major components of consumption by their respective CPI does not affect our consumption trends. Finally, the results are very similar for alternative equivalence scale adjustments such as that embodied in the official poverty line. These estimates discussed in this section for alternative single parent samples, including incomplete income reporters, for other spending measures, and with alternative price and equivalence scale adjustments can be found in our online appendix.

VI. Conclusions

Trends in income and consumption can tell very different stories about changes in the well-being of disadvantaged families in recent years. On the one hand, income data suggest a noticeable fall for a subgroup of single mothers with incomes well below the poverty line, while income increases sharply for single mothers at higher points in the distribution. On the other hand, consumption data suggest that the material circumstances of single mother families improved modestly between 1993 and 2003 for most parts of the distribution. We argue that consumption data better reflect recent changes in well-being. However, explaining the difference in the trends for income and consumption is an interesting question for future research.

Our analysis of the components of consumption for low-resource single mothers suggests change in total consumption is an insufficient summary of their circumstances. Increased housing consumption accounts for much of the increase in total consumption in the bottom

quintile, and we present evidence that housing conditions do improve modestly for this group. Some of the increases in consumption are potentially the result of the increased market work by single mothers during the 1990s; expenditures on transportation, food away from home, and child care all rise, although the latter two categories are, on average, too small to have an important effect on changes in total consumption. Overall, the evidence from disaggregated consumption, particularly transportation and housing, suggests that the increase in well-being is slightly smaller than that suggested by aggregate consumption. In addition, changes in aggregate consumption do not fully capture other factors such as health insurance coverage, which declines for those at the bottom of the consumption distribution during this period. Moreover, even though changes in consumption indicate that material well-being has improved for single mothers, it is important to note that the level of consumption is quite low–in 2003 average annual consumption in the bottom decile of single mothers with two children was just over $9,000.

The consumption of non-market time for those near the bottom of the consumption distribution falls sharply over the period, while time spent at market work increases sharply, doubling for those in the bottom two consumption deciles between 1993 and 2003. Evidence from time-use surveys suggests that this change reflects a shift from shopping, food preparation, and other housework to market work. If single mothers value this lost non-market time at more than $3 per hour, most of those in the bottom half of the consumption distribution are worse off after 1996 than they were before welfare reform. It is important to note that this drop in utility does not arise from increases in material deprivation as some observers had predicted and some analysts have concluded. Rather, this drop results from the fact that increases in consumption do not sufficiently offset reductions in non-market time.

This study emphasizes the importance of examining the entire distribution of income and consumption, rather than focusing on summary measures, in studies of the well-being of disadvantaged families. We have also shown how disaggregated measures, health insurance coverage, non-market time, and time use can be used to capture well-being when work and consumption bundles change.

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Data Appendix

Consumer Expenditure (CE) Interview Survey Data

The CE Interview Survey is a rotating panel survey of approximately 7,500 families each quarter (5,000 prior to 1999). A family, or consumer unit (CU), can remain in the survey for up to five consecutive quarters. The first interview collects demographic and expenditure data for bounding purposes, but these data are not made publicly available. Detailed information on both income and expenditures from a number of different sources is reported in interviews two through five. The survey also collects information on the characteristics of the housing unit as well as detailed data on demographic characteristics and employment for each CU member 14 and over. A CU consists of either: all related family members; a financially independent individual; or two or more persons living together who use their income to make joint expenditure decisions. Expenditure data are reported at the CU level only. The reference period for expenditures in the CE Interview Survey is the previous three months and for income it is the previous twelve months. Thus, for example, for the 1993-1995 period we include data from the second quarter of 1993 survey through the first quarter of 1996 survey. Respondents in the CE Survey generally report income only in the second and fifth interviews. Income reported at the second interview is carried over to the third and fourth interviews unless a member 14 or older is new to the CU, or a member of the CU that was not working at the time of the second interview is working in a subsequent interview. In these cases new values for family income are reported. For more information on the CE see Bureau of Labor Statistics (1997).

Family Income: Income is measured as after-tax money income plus Food Stamps for all members of the CU. This measure is constructed using reported pre-tax money income for the 12 months prior to the survey for each CU designated as a complete income reporter. This includes all money income as defined by the U.S. Census Bureau, including: wages, salary, and self-employment income; Social Security; Supplemental Security Income; public assistance or welfare payments; investment income, income from estates or trusts, and net rental income; veterans' payments; unemployment insurance; workers' compensation; pension income; alimony or child support; regular contributions from persons not living in the household; and other periodic income. We then add to pre-tax money income the face value of Food Stamps and other money receipts such as lump sum payments and money received from the sale of personal items. We count Food Stamps at face value as suggested by past work (Smeeding 1982; Moffitt 1989; and Diane Whitmore 2002). Taxes are calculated as explained below.

Taxes: State and federal income tax liabilities and credits and FICA taxes are calculated using TAXSIM (Daniel Feenberg and Elisabeth Coutts 1993). Dependent status for each member of the CU is based on federal tax laws for each year using information on the relationship to the head, age, employment or student status, and individual income. For 16 percent of the observations in our sample, the true state of residence is either suppressed or recoded. For each observation with a suppressed (recoded) state, we use TAXSIM to calculate the CU's state tax for all states that have some suppressed (recoded) observations. The state tax value is then calculated as the state-population weighted average value across all states with some suppressed

(recoded) observations. Comparisons of reported taxes in the CE Survey and taxes calculated using TAXSIM indicate that taxes and credits are significantly under-reported in the CE Survey. This has a substantial effect on estimates of changes in after-tax income over time, but only for the bottom three deciles of the income distribution. For example, between 1993-1995 and 1997-2000 average income in the bottom income decile falls by 16.3 percent (Table 1), but if respondent reported taxes are used, the drop is closer to 30 percent.

Total Family Consumption: Consumption includes all spending by all CU members (total expenditures) less spending on health care, education, pension plans, and cash contributions to others. In addition, housing and vehicle expenditures are converted to service flows as explained below.

Housing Flows: For homeowners the rental equivalent of owned dwellings is used instead of spending on mortgage interest, property taxes, and maintenance, repairs, and insurance. For renters that do not reside in public or subsidized housing, reported out of pocket rent is used. For those that do reside in public or subsidized housing we predict a rental value as follows. For a sample of renters who are not living in public or subsidized housing and have positive rent we regress log rent on year dummies, characteristics of the living unit including those listed in Table 4, location characteristics including region, urbanicity, MSA status, and indicators for living in each of the 8 largest states, and characteristics of the CU including a quadratic in expenditures (less spending on rent and health), family size, and the age and education of the head. The estimates from this regression are used to calculate predicted values of the full market rent for subsidized or public housing units. To each of these out of sample predicted values we add a randomly assigned residual from the regression. Rather than using a single draw from the residual distribution which would add additional randomness and be more difficult to replicate, we take 100 draws from the distribution, copying the sample accordingly. We adjust the standard errors. We then compute a market rent for those in public or subsidized housing equal to the maximum of 85 percent of this predicted value plus residual or reported out of pocket rent. The 85 percent of the mean figure corresponds in our data to the 40th percentile that is used in fair market rent calculations. As a check on this adjustment, we compared the reported rental equivalent of public or subsidized housing in the Panel Study of Income Dynamics to the mean predicted value for these units using parameters estimated from those outside public or subsidized housing and found a ratio just under 80 percent. Using predicted rental values for those in public or subsidized housing increases the level of housing consumption for those at the bottom of the consumption distribution, but it does not affect changes in consumption over time noticeably.

Vehicle Flows: For each vehicle owned by the CU we calculate a service flow (S) based on the purchase price of the vehicle (V) assuming a constant geometric vehicle depreciation rate (δ) of 5 percent per quarter for a vehicle that has been owned for t quarters: $S = V*\delta(1-\delta)^t$. If the purchase price of the vehicle is not observed (just over half of all vehicles), we impute a value as follows. For a sample of new and used cars purchased within 12 months of the survey date, we regress purchase price on survey year dummies, characteristics of the CU including a quadratic in total expenditures (less spending on vehicle purchases and health), family size, number of cars

owned by the CU, and age and education of the head, as well as an indicator for whether the car was purchased used. We also include interactions of all of these variables with the indicator for a used car. The estimates from this regression are used to calculate a predicted value for vehicles when purchase price is missing. As with housing, we add randomly assigned residuals from the regression to these predicted values. Again, we take 100 draws from the distribution, copying the sample accordingly. The predicted values reflect the predicted price that the CU would pay for a new or used car. We then use the amount of time the vehicle has been owned by the CU to calculate a service flow assuming a constant geometric vehicle depreciation rate of 5 percent per quarter. Converting vehicle spending to flows does not affect changes in consumption over time noticeably.

American Housing Survey Data (AHS)

AHS gathers data through personal interviews of occupants of apartments, single-family homes and mobile homes. Questions concerning housing quality, available appliances and facilities, building quality, neighborhood quality, and housing costs are included. We use the data from the surveys for the years 1993 through 2003. Household members are also asked about personal characteristics such as age, gender, race, marital status, education, and income. A national sample of roughly 60,000 housing units is conducted biennially. The AHS changed from a paper questionnaire to computer assisted interviewing between 1995 and 1997. At the same time the content of the questionnaire changed slightly. We verify that these changes do not affect the trends we report for our subsamples by examining the full sample for evidence of trend breaks occurring around the survey changes.

National Time Use Survey (NTUS) and American Time Use Survey (ATUS)

Our time use data come from two nationally representative surveys. The NTUS is a single cross-sectional survey that was conducted for the Environmental Protection Agency by the Survey Research Center at the University of Maryland between 1992 and 1994. Survey respondents report all activities, and where they were during those activities, for the previous day. The NTUS includes 9,386 completed surveys–7,514 adult interviews and 1,872 child interviews. The NTUS also includes a limited number of demographic variables. We do not observe the marital status of the respondent, but we do know the number of adults living in the household. The ATUS is a random sample drawn from households that have completed their final interview in the CPS. One individual is randomly chosen from each selected household, and this respondent is interviewed once about how she spent her time on the previous day. The ATUS also collects information on where the respondent was during each activity and whom she was with. More than 20,000 respondents completed the ATUS survey in 2003.

Table 1
Changes in Mean Consumption and Income by Decile of Consumption and Income, Single Mothers, Consumer Expenditure Survey, 1993-2003

	Families Sorted By Consumption Decile		Families Sorted By Income Decile		Consumption - Income		
Consumption or	Consumption	Income	Consumption	Income	(1) - (2)	(3) - (4)	(1) - (4)
Income Decile	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Ratio of Mean in 1997-2000 to Mean in 1993-1995							
First	1.074	0.931	1.033	0.837	0.143	0.196	0.237
	(0.038)	(0.058)	(0.057)	(0.063)	(0.072)	(0.091)	(0.070)
Second	1.088	1.117	1.155	1.042	-0.029	0.113	0.046
	(0.031)	(0.102)	(0.074)	(0.049)	(0.089)	(0.092)	(0.047)
Third	1.084	1.181	1.114	1.177	-0.097	-0.064	-0.093
	(0.028)	(0.068)	(0.078)	(0.052)	(0.074)	(0.081)	(0.044)
Fourth	1.088	1.150	1.151	1.247	-0.063	-0.096	-0.160
	(0.029)	(0.095)	(0.064)	(0.055)	(0.085)	(0.066)	(0.044)
Fifth	1.072	1.113	1.111	1.174	-0.041	-0.063	-0.102
	(0.030)	(0.088)	(0.073)	(0.051)	(0.081)	(0.074)	(0.038)
Sixth	1.080	1.121	1.118	1.133	-0.041	-0.015	-0.053
	(0.031)	(0.099)	(0.069)	(0.035)	(0.086)	(0.058)	(0.026)
Seventh	1.094	1.104	1.079	1.128	-0.010	-0.049	-0.034
	(0.027)	(0.058)	(0.063)	(0.038)	(0.058)	(0.052)	(0.027)
Eighth	1.114	1.213	1.077	1.100	-0.098	-0.023	0.014
	(0.031)	(0.122)	(0.051)	(0.035)	(0.113)	(0.051)	(0.029)
Ninth	1.119	1.138	1.073	1.098	-0.019	-0.025	0.021
	(0.031)	(0.074)	(0.041)	(0.043)	(0.057)	(0.042)	(0.031)
Tenth	1.112	1.234	1.114	1.237	-0.122	-0.123	-0.125
	(0.042)	(0.106)	(0.061)	(0.104)	(0.092)	(0.095)	(0.093)
Panel B: Ratio of Mean in 2001-2003 to Mean in 1993-1995							
First	1.126	1.124	1.074	0.838	0.002	0.236	0.288
	(0.041)	(0.072)	(0.053)	(0.063)	(0.082)	(0.090)	(0.074)
Second	1.124	1.219	1.172	1.107	-0.095	0.065	0.017
	(0.034)	(0.080)	(0.075)	(0.052)	(0.071)	(0.088)	(0.052)
Third	1.114	1.267	1.203	1.278	-0.153	-0.075	-0.164
	(0.031)	(0.080)	(0.084)	(0.055)	(0.081)	(0.075)	(0.048)
Fourth	1.119	1.277	1.140	1.345	-0.158	-0.205	-0.226
	(0.032)	(0.107)	(0.062)	(0.056)	(0.099)	(0.082)	(0.046)
Fifth	1.093	1.117	1.067	1.233	-0.023	-0.166	-0.140
	(0.030)	(0.090)	(0.083)	(0.054)	(0.082)	(0.069)	(0.041)
Sixth	1.075	1.061	1.124	1.182	0.014	-0.058	-0.107
	(0.031)	(0.095)	(0.064)	(0.035)	(0.081)	(0.070)	(0.027)
Seventh	1.069	1.113	0.976	1.175	-0.045	-0.199	-0.107
	(0.026)	(0.061)	(0.066)	(0.037)	(0.060)	(0.046)	(0.027)
Eighth	1.066	1.202	1.029	1.142	-0.136	-0.113	-0.077
	(0.030)	(0.071)	(0.044)	(0.038)	(0.063)	(0.051)	(0.029)
Ninth	1.056	1.199	1.040	1.165	-0.144	-0.125	-0.109
	(0.030)	(0.066)	(0.042)	(0.043)	(0.055)	(0.042)	(0.032)
Tenth	1.076	1.299	1.103	1.241	-0.223	-0.138	-0.165
	(0.042)	(0.104)	(0.062)	(0.082)	(0.078)	(0.065)	(0.062)

Notes: Income is after tax. See the Data Appendix for definitions of income and consumption. The standard errors, which are corrected for within family dependence, are calculated by applying the delta method (see Meyer and Sullivan 2006) to bootstrapped standard errors for the means within decile. See Table 3, Panel A for the number of observations for each period.

Table 2
Decomposition of Total Consumption Change into its Components by Consumption Decile, Single Mothers, Consumer Expenditure Survey, 1993-1995 to 1997-2000

Consumption Decile	Percent Change	Mean Share	Contribution to Total Change	Percent Change	Mean Share	Contribution to Total Change
	(1)	(2)	(3) = (1)*(2)	(4)	(5)	(6) = (4)*(5)
	Total Consumption			Food at Home		
First	0.074	1.000	0.074	-0.108	0.325	-0.035
Second	0.088	1.000	0.088	-0.061	0.269	-0.016
Third	0.084	1.000	0.084	-0.056	0.228	-0.013
Fourth	0.088	1.000	0.088	-0.023	0.205	-0.005
Fifth	0.072	1.000	0.072	-0.081	0.184	-0.015
Top Half	0.107	1.000	0.107	-0.036	0.143	-0.005
	Food Away from Home			Housing		
First	-0.044	0.020	-0.001	0.202	0.463	0.093
Second	0.195	0.024	0.005	0.128	0.494	0.063
Third	0.527	0.024	0.013	0.045	0.512	0.023
Fourth	0.336	0.031	0.010	0.049	0.502	0.024
Fifth	0.199	0.033	0.006	0.104	0.497	0.052
Top Half	0.127	0.040	0.005	0.136	0.474	0.064
	Transportation			Entertainment		
First	0.323	0.060	0.019	0.175	0.032	0.006
Second	0.357	0.081	0.029	0.098	0.035	0.003
Third	0.600	0.097	0.058	0.294	0.038	0.011
Fourth	0.489	0.113	0.055	0.366	0.041	0.015
Fifth	0.151	0.138	0.021	0.392	0.042	0.017
Top Half	0.209	0.166	0.035	0.070	0.058	0.004
	Child Care			Other		
First	0.726	0.006	0.004	-0.133	0.095	-0.013
Second	0.160	0.013	0.002	0.024	0.084	0.002
Third	1.230	0.014	0.018	-0.302	0.087	-0.026
Fourth	0.462	0.021	0.010	-0.260	0.086	-0.022
Fifth	0.504	0.026	0.013	-0.271	0.080	-0.022
Top Half	0.012	0.032	0.000	0.042	0.087	0.004

Notes: Columns 1 and 4 report the percentage change in spending by consumption category between 1993-1995 and 1997-2000. Columns 2 and 5 report the average share by consumption category over the two periods. Entertainment includes admission fees to movies, shows, etc. as well as expenditures on television, radio, and other entertainment equipment. Transportation includes a service flow from owned vehicles as well as other transportation expenses. Child Care includes spending on babysitting and child care services. See the Data Appendix for the definition of Housing. See Table 3, Panel A for the number of observations for each period.

Table 3

Changes in the Share of Single Mothers in Public or Subsidized Housing, Homeownership, and Rent by Consumption Decile, Single Mothers, Consumer Expenditure Survey, 1993-2003

Consumption Decile	1993-1995 (1)	1997-2000 (2)	2001-2003 (3)	(2) - (1) (4)	(3) - (1) (5)	1993-1995 (6)	1997-2000 (7)	2001-2003 (8)	(7) - (6) (9)	(8) - (6) (10)
	Panel A: Share in Public or Subsidized Housing, All Single Mothers					Panel B: Homeownership Rate, All Single Mothers				
First	0.436	0.459	0.513	0.023	0.078	0.028	0.046	0.038	0.018	0.010
Second	0.366	0.413	0.402	0.047	0.036	0.070	0.078	0.093	0.009	0.024
Third	0.351	0.367	0.367	0.016	0.016	0.124	0.161	0.136	0.038	0.012
Fourth	0.267	0.313	0.307	0.046	0.040	0.168	0.195	0.230	0.027	0.062
Fifth	0.229	0.225	0.245	-0.003	0.016	0.172	0.262	0.270	0.090	0.098
Top Half	0.086	0.093	0.114	0.007	0.028	0.471	0.536	0.541	0.066	0.070
N	3,098	4,483	4,137			3,098	4,483	4,137		
	Panel C: Imputed Rental Value, Non-Home Owning Single Mothers in Public or Subsidized Housing					Panel D: Out of Pocket Rent, Non-Home Owning Single Mothers Not in Public or Subsidized Housing				
First	2,755	3,160	3,579	1.147	1.299	2,313	2,921	3,044	1.263	1.316
Second	3,803	4,643	4,719	1.221	1.241	3,695	4,369	4,339	1.183	1.175
Third	4,861	5,386	5,692	1.108	1.171	5,551	5,224	5,571	0.941	1.004
Fourth	6,070	6,032	6,486	0.994	1.069	5,805	6,005	6,537	1.034	1.126
Fifth	6,776	6,857	7,237	1.012	1.068	6,394	6,813	7,308	1.066	1.143
Top Half	8,457	9,387	9,710	1.110	1.148	8,704	9,757	9,867	1.121	1.134
N	592	959	890			1,606	1,965	1,750		

Notes: Panel A reports the fraction of all single mothers that report either living in public housing or receiving assistance from the government for housing costs. See the Data Appendix for a description of how rental values are imputed in Panel C. Dollar figures are in 2005 dollars.

Table 4
Changes in Housing Characteristics by Consumption Decile, Single Mothers, Consumer Expenditure Survey, 1993-2003

Consumption Decile	1993-1995 (1)	1997-2000 (2)	2001-2003 (3)	(2) - (1) (4)	(3) - (1) (5)	1993-1995 (6)	1997-2000 (7)	2001-2003 (8)	(7) - (6) (9)	(8) - (6) (10)
	Panel A: Number of Rooms					Panel B: Number of Bedrooms				
First	4.379	4.156	4.203	-0.223	-0.177	2.240	2.078	2.133	-0.162	-0.107
	(0.138)	(0.101)	(0.089)	(0.170)	(0.164)	(0.084)	(0.046)	(0.050)	(0.096)	(0.098)
Second	4.419	4.373	4.438	-0.045	0.019	2.214	2.203	2.232	-0.011	0.018
	(0.083)	(0.097)	(0.085)	(0.128)	(0.119)	(0.056)	(0.051)	(0.049)	(0.075)	(0.074)
Third	4.579	4.723	4.637	0.145	0.058	2.225	2.306	2.335	0.081	0.110
	(0.091)	(0.099)	(0.097)	(0.135)	(0.133)	(0.054)	(0.054)	(0.056)	(0.077)	(0.078)
Fourth	4.758	4.815	4.917	0.057	0.159	2.348	2.365	2.421	0.017	0.072
	(0.093)	(0.102)	(0.101)	(0.138)	(0.138)	(0.065)	(0.060)	(0.054)	(0.089)	(0.084)
Fifth	5.068	5.064	5.274	-0.003	0.206	2.452	2.465	2.527	0.013	0.074
	(0.132)	(0.100)	(0.122)	(0.166)	(0.180)	(0.061)	(0.047)	(0.063)	(0.077)	(0.088)
Top Half	5.978	6.134	6.309	0.157	0.331	2.820	2.972	2.990	0.152	0.170
	(0.097)	(0.069)	(0.082)	(0.119)	(0.127)	(0.041)	(0.039)	(0.040)	(0.057)	(0.057)
	Panel C: Number of Bathrooms					Panel D: Air Conditioning				
First	1.025	1.052	1.076	0.027	0.051	0.449	0.534	0.657	0.085	0.208
	(0.031)	(0.025)	(0.026)	(0.039)	(0.040)	(0.053)	(0.036)	(0.034)	(0.064)	(0.062)
Second	1.085	1.115	1.144	0.031	0.059	0.478	0.557	0.608	0.079	0.130
	(0.034)	(0.024)	(0.031)	(0.041)	(0.046)	(0.051)	(0.032)	(0.030)	(0.061)	(0.060)
Third	1.169	1.195	1.191	0.025	0.022	0.468	0.588	0.665	0.120	0.198
	(0.037)	(0.037)	(0.053)	(0.053)	(0.065)	(0.044)	(0.036)	(0.041)	(0.057)	(0.060)
Fourth	1.220	1.215	1.302	-0.005	0.082	0.524	0.644	0.681	0.120	0.157
	(0.033)	(0.030)	(0.037)	(0.045)	(0.049)	(0.046)	(0.032)	(0.045)	(0.056)	(0.065)
Fifth	1.310	1.314	1.371	0.004	0.061	0.563	0.673	0.724	0.110	0.162
	(0.046)	(0.036)	(0.050)	(0.058)	(0.068)	(0.050)	(0.030)	(0.049)	(0.058)	(0.070)
Top Half	1.635	1.742	1.788	0.107	0.153	0.661	0.723	0.790	0.063	0.129
	(0.033)	(0.027)	(0.029)	(0.042)	(0.044)	(0.020)	(0.018)	(0.015)	(0.027)	(0.025)
	Panel E: Central Air					Panel F: Dishwasher				
First	0.220	0.268	0.390	0.048	0.170	0.133	0.113	0.161	-0.020	0.028
	(0.042)	(0.032)	(0.035)	(0.053)	(0.055)	(0.030)	(0.019)	(0.024)	(0.036)	(0.039)
Second	0.228	0.329	0.347	0.101	0.119	0.139	0.190	0.201	0.050	0.062
	(0.044)	(0.027)	(0.035)	(0.051)	(0.056)	(0.027)	(0.027)	(0.025)	(0.038)	(0.037)
Third	0.203	0.386	0.401	0.183	0.197	0.159	0.215	0.231	0.055	0.072
	(0.031)	(0.037)	(0.052)	(0.048)	(0.061)	(0.033)	(0.027)	(0.033)	(0.043)	(0.047)
Fourth	0.288	0.419	0.472	0.131	0.184	0.193	0.234	0.342	0.041	0.149
	(0.043)	(0.034)	(0.047)	(0.055)	(0.064)	(0.036)	(0.035)	(0.031)	(0.051)	(0.048)
Fifth	0.351	0.449	0.476	0.097	0.124	0.240	0.292	0.361	0.051	0.121
	(0.044)	(0.033)	(0.048)	(0.055)	(0.065)	(0.040)	(0.040)	(0.056)	(0.057)	(0.069)
Top Half	0.474	0.527	0.570	0.052	0.096	0.505	0.593	0.604	0.088	0.100
	(0.024)	(0.020)	(0.017)	(0.031)	(0.030)	(0.026)	(0.018)	(0.018)	(0.032)	(0.031)
	Panel G: Washing Machine					Panel H: Dryer				
First	0.395	0.427	0.487	0.032	0.091	0.219	0.280	0.371	0.061	0.153
	(0.046)	(0.035)	(0.034)	(0.058)	(0.057)	(0.034)	(0.032)	(0.031)	(0.047)	(0.046)
Second	0.544	0.540	0.560	-0.004	0.016	0.431	0.369	0.474	-0.062	0.042
	(0.042)	(0.040)	(0.032)	(0.058)	(0.053)	(0.046)	(0.034)	(0.032)	(0.058)	(0.056)
Third	0.555	0.569	0.572	0.015	0.017	0.439	0.439	0.514	0.001	0.075
	(0.041)	(0.034)	(0.036)	(0.054)	(0.055)	(0.044)	(0.038)	(0.039)	(0.058)	(0.059)
Fourth	0.556	0.570	0.644	0.014	0.088	0.472	0.479	0.571	0.007	0.099
	(0.055)	(0.038)	(0.031)	(0.067)	(0.063)	(0.053)	(0.035)	(0.036)	(0.064)	(0.064)
Fifth	0.610	0.621	0.683	0.010	0.073	0.518	0.554	0.621	0.036	0.103
	(0.045)	(0.033)	(0.034)	(0.056)	(0.056)	(0.044)	(0.035)	(0.039)	(0.057)	(0.059)
Top Half	0.753	0.789	0.812	0.036	0.059	0.701	0.747	0.778	0.046	0.077
	(0.022)	(0.016)	(0.014)	(0.027)	(0.026)	(0.024)	(0.017)	(0.015)	(0.029)	(0.029)

Notes: Between 1 and 2 percent of the sample have missing values for the number of rooms, bedrooms, and bathrooms. Otherwise, sample sizes are the same as those reported in Panel A of Table 3. All measures of rooms are equivalence scale adjusted. Number of rooms excludes bathrooms. The bootstrapped standard errors in parentheses are corrected for within family dependence.

Table 5
Changes in Housing Characteristics, Single Mothers without a High School Degree, American Housing Survey, 1993-2003

	1993-1995	1997-1999	2001-2003	(2) - (1)	(3) - (1)
	(1)	(2)	(3)	(4)	(5)
Number of rooms	4.609	4.582	4.589	-0.026	-0.019
	(0.042)	(0.047)	(0.045)	(0.063)	(0.062)
Number of bathrooms	1.087	1.108	1.117	0.022	0.030
	(0.013)	(0.015)	(0.015)	(0.020)	(0.020)
Number of bedrooms	2.253	2.327	2.301	0.075	0.049
	(0.027)	(0.030)	(0.028)	(0.040)	(0.038)
Unit has a working stove or range	0.989	0.990	0.993	0.000	0.004
	(0.003)	(0.004)	(0.003)	(0.005)	(0.004)
Unit has a working dishwasher	0.140	0.153	0.187	0.013	0.047
	(0.011)	(0.012)	(0.015)	(0.016)	(0.018)
Unit has working washer	0.520	0.526	0.576	0.006	0.056
	(0.015)	(0.017)	(0.018)	(0.023)	(0.024)
Unit has working clothes dryer	0.309	0.366	0.420	0.057	0.111
	(0.014)	(0.017)	(0.018)	(0.022)	(0.023)
Unit has working garbage disposal	0.198	0.175	0.250	-0.023	0.051
	(0.012)	(0.013)	(0.016)	(0.018)	(0.020)
Unit has central air or room air	0.549	0.650	0.739	0.101	0.190
	(0.015)	(0.017)	(0.016)	(0.022)	(0.022)
All toilets not working at some point	0.110	0.091	0.070	-0.018	-0.040
in last 3 months	(0.009)	(0.010)	(0.010)	(0.014)	(0.013)
Water leak from inside in last 12	0.178	0.183	0.154	0.004	-0.024
months	(0.012)	(0.013)	(0.013)	(0.018)	(0.018)
Water leak from outside in last 12	0.150	0.118	0.127	-0.032	-0.022
months	(0.011)	(0.011)	(0.012)	(0.016)	(0.016)
N	1,086	833	718		

Notes: Data are from the 1993-2003 waves of the American Housing Survey, which is biennial. All measures of rooms are equivalence scale adjusted.

Table 6
The Value of a Representative Single Mother's Non-Market Time that Equates Utility Before and After Welfare Reform

Consumption Decile	Change in Mean Consumption (1)	Hours Change (2)	(1)/(2) (3)
Panel A: 1993-1995 to 1997-2000			
First	$ 640	351.21	$ 1.82
Second	$ 1,071	427.80	$ 2.50
Third	$ 1,245	477.31	$ 2.61
Fourth	$ 1,522	486.94	$ 3.13
Fifth	$ 1,463	360.72	$ 4.06
Top Half	$ 3,769	129.85	$ 29.02
Panel B: 1993-1995 to 2001-2003			
First	$ 1,089	574.80	$ 1.89
Second	$ 1,508	625.47	$ 2.41
Third	$ 1,685	525.40	$ 3.21
Fourth	$ 2,056	492.01	$ 4.18
Fifth	$ 1,894	313.37	$ 6.04
Top Half	$ 2,403	61.41	$ 39.13

Notes: Column 1 reports the real change (2005 dollars) in mean consumption between two periods. Column 2 reports the change in the average hours worked by single mothers during the 12 months prior to the survey.

Table 7
Hours per Week Spent in Market and Non-Market Work Among Women, Time Use Surveys, 1993 and 2003

	Single Mothers			Single Women without Children			Married Mothers			Difference-in-Differences	
	1993	2003	(2) - (1)	1993	2003	(5) - (4)	1993	2003	(8) - (7)	(3) - (6)	(3) - (9)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Total Market Work	24.457	27.454	2.997	33.815	33.493	-0.322	23.467	23.095	-0.372	3.319	3.369
	(2.704)	(1.109)	(2.923)	(1.349)	(1.019)	(1.691)	(1.338)	(0.580)	(1.458)	(3.377)	(3.266)
Direct Market Work	21.775	25.339	3.564	30.916	31.022	0.106	20.998	21.366	0.368	3.458	3.196
	(2.448)	(1.034)	(2.657)	(1.246)	(0.959)	(1.573)	(1.200)	(0.539)	(1.316)	(3.088)	(2.965)
Total Non-Market Work	23.701	17.756	-5.945	15.898	15.178	-0.720	23.101	23.905	0.804	-5.225	-6.749
	(1.806)	(0.610)	(1.907)	(0.732)	(0.495)	(0.883)	(0.805)	(0.360)	(0.882)	(2.101)	(2.101)
Food Prep & Housework	13.665	11.384	-2.281	8.899	8.253	-0.646	15.520	16.104	0.583	-1.635	-2.864
	(1.335)	(0.476)	(1.417)	(0.518)	(0.344)	(0.622)	(0.633)	(0.306)	(0.703)	(1.548)	(1.582)
Shopping & Obtaining	9.272	5.780	-3.492	6.180	6.352	0.173	6.513	7.179	0.666	-3.664	-4.158
Goods & Services	(1.152)	(0.323)	(1.197)	(0.469)	(0.345)	(0.582)	(0.462)	(0.196)	(0.502)	(1.331)	(1.298)
Total Non-Work Time	119.8	122.8	2.948	118.3	119.3	1.042	121.4	121.0	-0.432	1.906	3.380
	(2.419)	(0.997)	(2.616)	(1.204)	(0.943)	(1.529)	(1.237)	(0.507)	(1.336)	(3.030)	(2.938)
Leisure	111.5	108.9	-2.664	113.0	113.6	0.654	112.7	107.2	-5.414	-3.318	2.750
	(2.484)	(0.992)	(2.675)	(1.190)	(0.931)	(1.511)	(1.242)	(0.505)	(1.341)	(3.072)	(2.992)
Child Care	5.189	9.434	4.246	1.781	0.799	-0.982	5.469	10.274	4.805	5.227	-0.559
	(0.696)	(0.432)	(0.819)	(0.250)	(0.159)	(0.296)	(0.379)	(0.234)	(0.446)	(0.871)	(0.933)
Education	0.964	1.481	0.516	1.603	1.099	-0.504	1.427	0.661	-0.766	1.020	1.282
	(0.639)	(0.292)	(0.702)	(0.344)	(0.203)	(0.400)	(0.332)	(0.089)	(0.343)	(0.808)	(0.782)
N	128	772		628	1,090		540	2,586			

Notes: Time use data are from the NTUS (1992-1994) and ATUS (2003). Samples include women between the ages of 18 and 65 inclusive who are not retired and are not full-time students. The single mother sample includes those without any other adults present (also excludes single mothers living with own children older than 17). Single women without children sample includes only those living alone. Total Market Work includes Direct Market Work (time working in main job) plus other work related activities and travel time related to work. Total Non-Market Work includes food preparation, both indoor and outdoor housework, shopping, and obtaining goods and services. Total Non-Work Time includes time spent in Leisure, Education, and Child Care as well as other activities such as job search while unemployed. Leisure includes leisure time as well as time spent on eating, sleeping, civic activities, religious activities, volunteering, pet care, gardening and personal care.

Table 8

Changes in Health Spending and Health Insurance Coverage by Consumption Decile, Single Mother Families, Consumer Expenditure Survey, 1993-2003

Consumption Decile	1993-1995 (1)	1997-2000 (2)	2001-2003 (3)	(2) - (1) (4)	(3) - (1) (5)	1993-1995 (6)	1997-2000 (7)	2001-2003 (8)	(7) - (6) (9)	(8) - (6) (10)
	Panel A: Fraction of Individuals Covered by Private Health Insurance					Panel B: Fraction of Individuals Covered by Medicaid				
First	0.037	0.144	0.162	0.106	0.124	0.663	0.598	0.525	-0.065	-0.138
Second	0.130	0.201	0.232	0.071	0.102	0.660	0.535	0.462	-0.125	-0.198
Third	0.170	0.303	0.284	0.132	0.113	0.591	0.447	0.411	-0.144	-0.180
Fourth	0.318	0.421	0.412	0.103	0.094	0.450	0.353	0.311	-0.097	-0.139
Fifth	0.441	0.481	0.474	0.040	0.033	0.279	0.259	0.285	-0.020	0.006
Top Half	0.673	0.702	0.663	0.029	-0.011	0.127	0.089	0.122	-0.039	-0.006
N	3,098	4,483	4,137			3,098	4,483	4,137		
	Panel C: Fraction of Individuals that are Uninsured					Panel D: Health Expenditures				
First	0.220	0.275	0.279	0.055	0.059	96.4	157.7	219.1	1.636	2.273
Second	0.165	0.263	0.277	0.098	0.112	159.5	307.9	478.0	1.930	2.997
Third	0.202	0.269	0.282	0.067	0.080	207.7	492.9	501.6	2.373	2.414
Fourth	0.238	0.256	0.264	0.018	0.026	493.5	706.0	698.8	1.431	1.416
Fifth	0.278	0.288	0.243	0.010	-0.035	780.2	922.5	765.2	1.182	0.981
Top Half	0.199	0.213	0.220	0.014	0.020	1716.0	1808.2	1834.3	1.054	1.069
N	3,098	4,483	4,137			3,098	4,483	4,137		

Notes: Health Expenditures include annual out of pocket spending on health insurance, medical services, prescription drugs, and medical supplies. Insurance categories do not always sum to 1 because some individuals are insured through Medicare, CHAMPUS, military health care, or other programs. Panel D reports health expenditures in 2005 dollars. N reflects the number of family observations.