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Chestnut Hill, Mass.: Center for Retirement Research at Boston College, 2003

EMPLOYMENT, SOCIAL SECURITY, AND
FUTURE RETIREMENT OUTCOMES FOR SINGLE MOTHERS

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Abstract

Employment rates for single mothers with dependent children have risen steadily in recent years, due in part to welfare reform and expansions in the Earned Income Tax Credit. This paper examines this recent increase and analyzes the implications for future retirement security. The results show that increases in employment and earnings for single mothers during the late 1990s will translate into modestly higher Social Security benefits and better retirement outcomes when they reach later life, assuming these trends persist. Despite this improvement, however, most single mothers will continue to fare worse in retirement than other women, primarily because they generally earned low wages throughout their working lives and many lack financial support from spouses.

Employment, Social Security, and Future Retirement Outcomes for Single Mothers

Employment rates for single mothers with dependent children have risen steadily in recent years. Increasing numbers of unmarried women with children under 18 have entered the labor force since the early 1990s as expansions in the Earned Income Tax Credit (EITC) raised the returns to work for those with limited skills, welfare reform reduced the availability and generosity of public support for those with limited incomes, and the strong economy of the late 1990s increased job opportunities for all workers. Labor force participation rates are now higher for single women with dependent children than for married women or single women with no children. This rise in employment has reduced poverty rates and increased family incomes for many unmarried mothers and their children.

In addition to raising current standards of living, increases in labor supply by single women with children can also improve their future retirement security. In the current elderly generation, many women who raised children outside of marriage when they were young now receive only limited Social Security and employer-sponsored pension benefits, because they typically spent little time in the labor force and lack spousal or survivor benefits if they never married (or were married for only a short time). Many rely on Supplemental Security Income (SSI), the federal program that provides small monthly benefits to low-income elderly and disabled people. But single women with young children who move off welfare and into the labor market can accumulate rights to future Social Security retirement benefits, which are tied to lifetime earnings. As a result, they can achieve better economic outcomes later in life than unmarried mothers who came before them. The economic benefits of work can persist long after workers spend their paychecks.

This paper examines the recent increase in labor supply among single mothers and analyzes the implications for their retirement security. Using the most recent longitudinal data available, we model employment, hours of work, and wages for women raising children outside of marriage. We then incorporate the equations into DYNASIM3, a dynamic microsimulation model developed by the Urban Institute, to predict employment, earnings, and retirement outcomes through 2050. The results show that recent increases in labor supply by single mothers will lead to higher Social Security benefits, and better retirement outcomes, than women who raised children outside of marriage would receive if their employment and relative earnings remained at 1996 levels. Despite this improvement, however, most single mothers will continue to fare worse in retirement than other women, primarily because they generally earned low wages throughout their working lives and lack financial support from spouses.

Background

The number of women raising children outside of marriage has increased sharply over the past generation. In 2002, 25.9 percent of families with children under 18 consisted of a single mother and an absent father, up from 11.5 percent in 1970 (U.S. Census Bureau 2003a). Single motherhood grew rapidly during the 1970s, when the number of families with children headed by single mothers increased 83 percent. The growth rate slowed to 35 percent in the 1980s and to 15 percent in the 1990s. The share of families with children under 18 headed by single mothers has actually been slowly declining since 1997, when it reached a peak of 26.6 percent.

The principal factor behind the rise in single motherhood is the surge in nonmarital births, which increased as a share of total births from 10.7 percent in 1970 to 33.4 percent in 2001 (Martin et al. 2002b; Ventura and Bachrach 2000). Although nonmarital birth rates leveled

off in the 1990s, the share of all births to unmarried women continues to rise because marital fertility is falling. Between 1970 and 2002, the number of dependent children living in single-parent homes with their never married mothers increased by 1,116 percent. In 2002, 9.5 percent of all children lived in single-parent households with their never married mothers, up from 0.8 percent in 1970.

The rise in divorce was also an important factor in the growth in single motherhood. Between 1970 and 2002, the number of children under 18 living with both parents fell by 17 percent, while the number living with divorced or separated mothers increased by 56 percent (U.S. Census Bureau 2003a). The growth in the number of children living with divorced mothers was even higher during the 1970s and early 1980s, because the divorce rate stabilized, and even began to decline, beginning in the mid-1980s (Clarke 1995).

Rates of single motherhood, especially by never married women, are quite high among black Americans. In 2002, 54.4 percent of black families with children under 18 were headed by single mothers, and 30.7 percent of black children under 18 lived in single-parents homes with their never married mothers (U.S. Census Bureau 2003b). More than two-thirds (69 percent) of births to non-Hispanic black women were non-marital in 2000, compared with 43 percent of births for Hispanic women and 22 percent of births for non-Hispanic white women (Martin et al. 2002a).

Economic Status of Single Mothers with Dependent Children

Concern about the growth in female-headed households stems from their high poverty rates. Table 1 compares the economic status of unmarried women and married couples, for households with children under 18 headed by adults ages 18 to 54. The differences are striking. In 2001, mean income for female-headed households with dependent children was $36,300,

compared with $82,000 for married couple households with dependent children, according to data from the March 2002 Current Population Survey (CPS). In addition, 27 percent of households headed by unmarried women were poor in 2001 (with incomes below the federal poverty line), and more than one-third were poor or near poor (with incomes less than 125 percent of the poverty line). By comparison, only 6 percent of married couple households with dependent children were poor and only 9 percent were poor or near poor. The economic situation was even more grim for mothers who never married than for those who had been married in the past. In 2001, 32 percent of never married mothers were poor and 42 percent were poor or near poor. Primarily because many single mothers command so few economic resources, children tend to fare worse in female-headed households than in two-parent households (McLanahan and Sandefur 1994; Waite and Gallagher 2000).

Although single mothers and their children continue to struggle financially, they are better off today than they were 10 years ago, especially single mothers who never married. Between 1991 and 2001, real mean household income for adults ages 18 to 54 with dependent children increased 41 percent for never married mothers, 32 percent for divorced mothers, and 30 percent for married couples, as reported in Table 1. In addition, the poverty rate for never married mothers dropped 39 percent over this period. In 1991, among households headed by adults ages 18 to 54 with dependent children, 49 percent of unmarried female-headed households and 61 percent of never-married female-headed households were in poverty or near poverty, compared with only 12 percent of married couple households.

Recent Increases in Labor Supply Among Single Mothers

The increase in labor supply by single mothers during the second half of the 1990s drove the improvement in their economic status. Between 1995 and 2002, labor force participation

rates increased by 16 percentage points (from 58 percent to 73 percent) for never married women with children, and by 8 percentage points (from 75 percent to 84 percent) for divorced, separated, and widowed women with children, according to U.S. Census Bureau (1997) estimates and our estimates from the December 2002 CPS. The labor force participation rates for other groups of women, however, remained virtually unchanged during the period. As a result, unmarried women with dependent children are now more likely to participate in the labor force than married women or unmarried women with no children.

The increase in labor force participation rates by unmarried women with children appears to have resulted from the strong economy of the late 1990s, which raised wages and employment opportunities for low-skilled workers, and changes in welfare and tax policy, which increased the incentives to work (Blank and Schmidt 2001; Dickert, Houser, and Scholz 1995; Eissa and Liebman 1996; Grogger 2001; Meyer and Rosenbaum 1999; Schoeni and Blank 2000). In 1996, President Clinton signed into law the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA), which imposed mandatory time limits on welfare benefits to single mothers and required most recipients to work within two years of receiving assistance. Many states began to redesign their welfare programs even before the enactment of PRWORA, under special waiver programs approved by the federal government. Most reforms included provisions encouraging single mothers to work, such as time limits on program participation, expanded work requirements, and increases in the level of earnings that welfare recipients could receive. The EITC, which provides a refundable tax credit to low-income workers, also increases the financial incentive to work for single mothers. It has grown substantially since 1986, and is now the largest cash transfer program for low-income parents (Ross Phillips 2001). In addition to raising current family incomes and reducing welfare rolls, increases in labor

supply by single mothers can also improve their future retirement security, by enabling people to accumulate additional Social Security credits and earn sizable retirement benefits.

Retirement Prospects of Women Who Were Single Mothers

The economic deprivation of women who raised children outside of marriage tends to persist long after their children are grown, at least for the current generation of older women. Table 2 reports the economic status of mothers ages 65 to 74, separately for women who spent at least 10 years caring for dependent children while unmarried, women who spent between one and nine years caring for dependent children while unmarried, and mothers who were always married while caring for children under age 18. The estimates are based on data from the Health and Retirement Study. In 1999, women with substantial histories of single motherhood received only 72 percent as much per capita income in the early years of retirement as mothers who were married when raising their children ($19,000 vs. $26,400). In addition, poverty rates in retirement were more than four times as high for women who had been single mothers as for married mothers. As a result, 14 percent of women ages 65 to 74 who spent at least 10 years as single mothers of dependent children received SSI benefits in 1999, compared with only 3 percent of mothers who were married when their children were young. Women who spent less than 10 years as single mothers of dependent children appear to fare better in retirement than long-term single mothers, but not as well as continuously married mothers.

Single motherhood often leads to poor retirement outcomes because women with little work experience do not accumulate many Social Security or private pension rights, and women who never marry are not eligible for spousal or survivor benefits.[1] But increases in labor supply can significantly raise retirement income, because Social Security benefits are tied to lifetime

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[1] To receive spousal or survivor benefits through Social Security, divorced individuals must remain married for at least 10 years. In most cases, survivors qualify for benefits after nine months of marriage.

earnings. Workers who begin collecting Social Security retirement benefits at the normal

retirement age receive a monthly benefit equal to their Primary Insurance Amount (PIA), which

is based on the worker's Average Indexed Monthly Earnings (AIME). Under the current

formula (for workers reaching age 62 in 2002), PIA equals 90 percent of the first $592 of AIME

plus 32 percent of the next $2,975 of AIME plus 15 percent of AIME above $3,567.[2] Because

replacement rates are so high for low-wage workers, increases in labor supply may have

especially large effects on Social Security income for low-skilled single mothers.

The retirement prospects of single mothers have received little attention to date.

Zedlewski (2002) is the only published study that considers how welfare reform and recent

increases in labor supply by single mothers might affect future retirement outcomes. It uses data

from the Panel Study of Income Dynamics (PSID) to project future Social Security benefits for a

small sample of single mothers born between 1942 and 1946 who had experience with the

welfare system. The study finds that women with limited or moderate welfare use (defined as no

more than 10 years of participation during the past 25 years) would do better under Social

Security in the future if current trends in labor market participation continue. However, single

mothers with extensive welfare use (11 or more years) are likely to continue to struggle

financially in retirement, even under the assumption of increased labor force participation. The

current paper extends this research by estimating new models of labor supply for single mothers

and incorporating them into a microsimulation model to project future employment levels and

total retirement income for a full distribution of women who raised children outside of marriage.

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[2] The dollar amounts that define the brackets, referred to as bend points, are indexed to national average wages using the Social Security Administration (SSA)'s Average Wage Index. To calculate AIME for retired workers, SSA first indexes earnings for a given year to the year that one turns age 60 (or becomes disabled or dies, if earlier). AIME is the average of the highest 35 years of earnings (after 1950) indexed in this way. (The number of computation years can differ from 35 for persons who die or become disabled before they reach age 62.)

Methods

We use the most recent longitudinal data available to model employment, hours of work, and hourly wages for unmarried women with children under age 18. We then incorporate the equations into a dynamic microsimulation model that predicts future employment and earnings and generates estimates of Social Security benefits and total income at older ages, under the assumption that the labor force patterns observed in the late 1990s persist into the future.

Estimating Earnings for Single Mothers

We estimate wage and labor supply models with data from the 1996 panel of the Survey of Income and Program Participation (SIPP), which follows 36,700 households for four years, from 1996 to 2000. The survey interviews respondents every four months, collecting information on employment, hours of work, earnings, other income, education, marital status, the number of children and their ages, and other demographics. We collapse the four-month interviews into annual observations, summing labor market earnings, other income, and hours of work reported at each interview to create annual measures.[3] We compute the hourly wage by dividing annual earnings by annual hours of work. For all other variables, we use the value reported at the first interview in the given year. We express all financial values in constant dollars.

We estimate three sets of equations to predict earnings for single mothers with dependent children: a random effects probit model of employment, a random effects generalized least squares regression of the natural logarithm of the hourly wage for those who work, and a tobit

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[3] The survey asks respondents at each wave how many hours they usually work per week and how many weeks they worked during the past four months, permitting us to compute the number of hours of work in a four-month period. We then sum this measure across the three interviews conducted during the year to compute an annual measure of work hours.

model of annual hours of work for those who are employed. (For comparison purposes, we also estimate models for men and for women who are not single mothers.) We estimate separate models by race (black and nonblack), age (16 to 24 and 25 to 54), and single motherhood. However, because the number of single mothers at young ages is fairly small, we pool blacks and nonblacks when estimating models for those ages 16 to 24. Women drop out of the single mother sample if they marry or if their youngest child reaches age 18, and they enter the sample if they give birth while unmarried or they become divorced or widowed while at least one child is younger than 18. Our sample includes 3,644 single mothers ages 25 to 54 with dependent children (2,581 of whom are black), 19,980 other women ages 25 to 54 (2,136 of whom are black), and 7,896 women ages 16 to 24 (868 of whom are single mothers).

Covariates in the models consist of standard human capital and demographic measures. Each model includes 5-year age splines, the number of children under age 18, and indicators for the presence of a child under 6, education (identifying high school graduates, those with some college attendance, college graduates, and those with at least some graduate education, relative to high school dropouts), current student enrollment, disability (identifying respondents with health problems that limit their ability to work), marital status (identifying widowed and divorced women, relative to those who never married), Hispanic ethnicity, and geography (identifying residents in the south, northeast, and west, relative to those in the Midwestern region of the U.S.). Because labor supply grew rapidly during the late 1990s, the model also includes three time dummies, identifying the years 1997, 1998, and 1999-2000; the omitted year is 1996.[4] The models for those ages 16 to 24 omit indicators for the presence of a child under 6 (since virtually

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[4] The rise in labor supply among single mothers began in 1994, but the SIPP panel we use does not begin until 1996.

all children of mothers in the sample are very young) and widows (since virtually none of these young mothers are widowed), but include an indicator identifying black respondents.

Projecting Income at Older Ages

We incorporate our labor supply models for single mothers into DYNASIM3 to project future retirement outcomes for women who raised children outside of marriage earlier in their lives. A dynamic microsimulation model developed by the Urban Institute, DYNASIM3 forecasts future demographic, social, and economic characteristics of the population out to 2050. The original DYNASIM model was developed in the 1970s (Orcutt, Caldwell, and Wertheimer 1976), and the current version was recently updated with data from the 1990s. The updated version has been used in several studies of Social Security reform (Favreault et al. 2002; Favreault and Sammartino 2002; Uccello et al. 2003).

The starting database for DYNASIM3 is a sample of about 100,000 individuals from the 1990 to 1993 SIPP panels. The model includes a series of equations, estimated from several different datasets, that age the starting sample over time.[5] Every year, the model predicts births, deaths, schooling, home leaving, marriage, divorce, remarriage, disability, labor supply, earnings, disability, pension coverage, asset accumulation, and receipt of Social Security retirement and SSI benefits. Projections of birth rates, death rates, and labor force participation rates are aligned to the predictions developed by the Social Security Administration's Office of

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[5] The equations in DYNASIM3 incorporate data from the National Longitudinal Survey of Youth, National Longitudinal Mortality Study, Panel Study of Income Dynamics, SIPP, Vital Statistics, CPS, the Policy Simulation Group's PENSIM model, and the Pension Benefit Guaranty Corporation's Pension Insurance Modeling System (PIMS).

the Actuary (Board of Trustees 2002). The model also uses the Social Security trustees' 2002 intermediate assumptions on interest rates, inflation rates, and productivity growth.[6]

The demographic processes in DYNASIM3 yield projections of the future share of the female population who raise children outside of marriage. In addition, the model uses the labor supply equations we estimate to generate histories of lifetime employment and earnings for single mothers, under the assumption that the labor force patterns observed in the late 1990s persist into the future.[7] To assess the impact of the recent increase in single mothers' labor supply on future retirement outcomes, we also generate projections based on the assumption that relative employment rates, hours of work, and wages for single mothers remain at their 1996 levels, relative to other demographic groups. We generate this alternative set of projections by setting the year dummies for 1997, 1998, and 1999-2000 equal to zero in the single mother labor supply equations.

For each set of labor market assumptions, we compare lifetime employment, lifetime earnings (expressed as AIME), and potential Social Security benefits (expressed as PIA) as of 2050 for women in the 1984 to 1988 birth cohort. In 2050 these women will be between the ages of 62 and 66, when most will already have completed their working lives. We restrict the analysis to women who spend at least 10 years over their lifetimes as single mothers of dependent children. The analysis focuses on the 1984 to 1988 cohort because the oldest members of this group do not reach age 16 until 2000. Thus, this cohort is the first group of

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[6] In their 2002 intermediate cost scenario, the trustees assume in the long run that the real interest rate will be 3 percent, the Consumer Price Index (CPI) will grow by 3 percent per year, and real wages will grow by 1.1 percent per year (Board of Trustees 2002).

[7] We do not change the labor supply alignment factors when we generate our new employment estimates for single mothers. Thus, female labor force participation rates projected by DYNASIM3 exceed the assumed rates developed by the Social Security actuaries.

women to have fully experienced the gains in employment and earnings for single mothers that occurred during the late 1990s.

The model computes earnings by multiplying the predicted hourly wage by predicted annual hours of work. Projections of AIME, PIA, and Social Security income are based on current law, and do not account for the possibility that Congress may reduce future Social Security benefits to restore solvency to the system. In combination with equations that predict pension coverage, asset accumulation, retirement, and marriage formation and dissolution, our labor supply models generate projections of income at older ages from Social Security, SSI, employer-sponsored retirement plans, assets, employment, and other sources. We compare projected economic status at ages 67 to 72 in 2020 and 2050 for women with substantial histories of single motherhood, women who spent less than 10 years raising dependent children while unmarried, and women who were always married while raising dependent children. Women who raised children outside of marriage and reach ages 67 to 72 in 2050 are likely to have benefited from the employment gains for single mothers that occurred in the late 1990s. However, most single mothers born 30 years earlier were too old in the late 1990s to benefit fully from these employment gains.

We compute mean individual income, mean household income, and the share of the population in poverty or near poverty, defined as household income that falls below 125 percent of the federal poverty threshold. The projections assume that the employment gains made by single mothers through 1999-2000 persist into the future. We express projected income in constant 2003 dollars. SSI estimates assume that future asset eligibility thresholds increase at the same rate as they have in the past, somewhat less than the rate of growth in the CPI. The analysis also assumes that households annuitize 80 percent of their financial assets, such as IRA

and 401(k) balances, at retirement. Estimates of household income exclude income received by nonspouse coresidents (such as adult children), but estimated poverty rates account for income received by all household members.

The analysis devotes special attention to vulnerable subgroups of single mothers who have experienced high rates of welfare participation and poverty rates in the past. In particular, we focus on women who never attended college and who had never been married when they had their first child, because divorced and widowed mothers tend to fare better than those who never married. Although high school dropouts are more disadvantaged than high school graduates, very few older women will have failed to complete high school by the middle of the century.

Results

Parameter estimates from our employment, hours of work, and wage equations for single mother, reported in the appendix, are generally consistent with previous models of the labor market. Employment increases with education, but is lower for single mothers who are enrolled in school than for those who are not current students. Participation also falls with the number of dependent children, the presence of a child under age six, and health problems. Hourly wages for single mothers increase with age, up to about age 50, and with educational attainment. They are lower for those with disabilities than those without work limitations, and higher for non-Hispanic whites than Hispanics.

Table 3 reports estimated period effects from the models. They are generally insignificant in the hours equations, and thus are not shown in the table, but they are large in the employment and wage equations. At ages 25 to 54, the models indicate that employment rates are 2.3 percentage points higher for nonblack single mothers in 1999-2000 than in 1996, and 3.4

percentage points higher for black single mothers, controlling for human capital and demographic variables. For other women and men, however, employment rates are lower in 1999-2000 than in 1996. The differences are even more striking at younger ages. Compared to 1996, employment rates in 1999-2000 at ages 16 to 24 are 10.8 percentage points higher for single mothers, but 4.4 percentage points lower for other women and 5.4 percentage points lower for men.

Real wages rise over time for all of the groups that we consider, holding human capital and demographic variables constant, but the increases are generally larger for single mothers than for other women and men. For example, at ages 25 to 54, real wages for nonblack single mothers are 10.6 percent higher in 1999-2000 than in 1996, but only 5 percent higher for nonblack men. Thus, controlling for human capital and demographic measures, labor market gains by nonblack single mothers during the late 1990s outstripped those achieved by men, married women, and single women without dependent children.

Future Employment and Earnings Levels for Single Mothers

These equations, in combination with the high levels of educational attainment among women who are now reaching adulthood, generate high projected rates of employment for future cohorts of single mothers. Table 4 describes the impact of changes in single mothers' labor supply on lifetime employment, earnings, and potential Social Security benefits. The table reports the projected mean number of years with at least 1000 hours of employment, mean AIME, and mean PIA in 2050 for women born between 1984 and 1988 who spend at least 10 years as single mothers of dependent children. In 2050 this cohort of women will have reached ages 62 to 67, when most of them will have completed their working lives. If period effects were held at their 1996 levels, women with substantial histories of single motherhood would have

accumulated 34 years with at least 1000 hours of paid work. Our projections indicate that they would accumulate an additional year of employment if the 1999-2000 labor market conditions instead continued into the indefinite future.

The labor market gains for single mothers during the late 1990s will have larger effects on lifetime earnings than employment levels. We project that these gains will raise mean AIME by 5 percent for women ages 62 to 66 in 2050 who spent 10 or more years raising children outside of marriage, compared to what their lifetime earnings would be if the relative improvement in single mothers' earnings ended in 1996. Mean PIA will increase by only 4 percent, because Social Security benefits replace only a portion of pre-retirement earnings.

The impact of the labor market changes of the late 1990s are somewhat larger for certain subgroups of single mothers who were especially likely in the past to rely on welfare benefits. For example, relative to our projections under the assumption that the 1996 period effects prevail, the labor market gains for single mothers in the late 1990s will increase lifetime employment by 7 percent for single mothers who did not attend college and who were never married when they entered their first spell of single motherhood (see the last row of each panel of Table 4). We also project that these gains will raise mean AIME for these women by 11 percent and mean PIA by 8 percent. By comparison, mean PIA for women with substantial histories of single motherhood who attended college will rise by only 1.3 percent. The projected gains for single mothers who never attended college and were never married when they became single mothers are large because these women tend to become single mothers at relatively young ages, and the labor market changes of the late 1990s especially benefited single mothers younger than 25. These women also tend to remain single mothers for longer periods of time than other women.

Projections of Future Retirement Income for Women Who Were Single Mothers

Table 5 describes the demographic characteristics and economic status of mothers ages 67 to 72 in 2020 and 2050, as projected by DYNASIM3, under the assumption that the employment gains made by single mothers through 1999-2000 persist into the future. The table compares women who spent at least 10 years as single mothers of dependent children, those who spent between 1 and 9 years as single mothers of dependent children, and mothers who were always married while raising their children. We restrict the table to mothers ages 67 to 72 because most women have retired by age 67, but those older than 72 in 2050 (who were born before 1978) would have been affected less than these women by the gains made by young single mothers in the late 1990s.

The table documents dramatic changes over time in the population of single mothers. In 2020, according to our projections, 16 percent of all women ages 67 to 72 will have spent at least 10 years raising children outside of marriage. By 2050, this figure will rise to 30 percent, an 83 percent increase. During the same period, the share of women ages 67 to 72 who had children and were continuously married while raising them will fall from 43 percent to 27 percent. The share of women who bear children before marriage will also rise in the future, while the share who raise children alone after divorce or widowhood will fall. Between 2020 and 2050, the share of women ages 67 to 72 who will have had children before their first marriage and spent at least 10 years outside of marriage caring for them will triple, increasing from 7 percent to 21 percent of the female population. And fully half of these women will not have spent any time in college, despite the rise in educational attainment among older women during this period, leaving them especially vulnerable to spells of poverty and low income throughout the lifecourse.

Between 2020 and 2050, mean individual incomes for women ages 67 to 72 with substantial histories of single motherhood will increase by 85 percent in real terms, according to our projections. By comparison, mean real individual incomes will rise by only 59 percent for women who spent between one and nine years raising children outside of marriage, and by only 48 percent for mothers who were always married while raising their children. By 2050, mean individual incomes at older ages will be slightly higher for women with substantial histories of single motherhood than for continuously married mothers.

However, future retirement prospects for single mothers are not as encouraging in terms of total household income. Real household income for women who spend 10 or more years as single mothers will increase by an impressive 74 percent between 2020 and 2050, almost double the rate of growth that we project for continuously married mothers. But mean household income for women with substantial histories of single motherhood will remain considerably below the average level for other groups. As a result, our projections indicate that 8 percent of women ages 67 to 72 with substantial histories of single motherhood will be in poverty or near poverty in 2050, compared with just 3 percent for continuously married mothers and 4 percent for women who spent between one and nine years as single mothers.

Certain subgroups of women who raised children outside of marriage will likely fare particularly poorly in retirement in the future, despite the labor market gains they are likely to achieve earlier in the lifecourse. For example, we project that individual incomes at ages 67 to 72 will grow more slowly between 2020 and 2050 for women with no more than a high school education who were never married when they had their first child than for all women with substantial histories of single motherhood. Although their Social Security benefits will be higher than they would have been without the labor market gains of the late 1990s, their incomes will

not keep pace with the growth experienced by other single mother groups. As a result, we project that 16 percent of these women will live in poverty or near poverty in 2050. This figure represents a substantial improvement over the 48 percent rate projected for the group in 2020, but it remains twice as high as the rate for all women who spend 10 or more years caring for dependent children outside of marriage. Women who raised children outside of marriage and did not complete high school will be particularly disadvantaged, but they will represent a very small share of the population in 2050.

Conclusions

The increase in employment and earnings for single mothers during the late 1990s will translate into modestly higher Social Security benefits and better retirement outcomes in later life, assuming these trends continue. Between 1996 and 1999-2000, employment rates for single mothers increased by between 2 percent and 11 percent, while real wage rates increased by between 5 percent and 16 percent, controlling for demographic and human capital factors. During the same period, employment rates for men and other women declined or held steady, while real wages among nonblack workers grew only half as fast for men and other women as for single mothers. There is no evidence that the recent downturn in the economy has erased the relative gains in the labor market made by single mothers in the late 1990s, suggesting that these effects will persist into the future.

However, these gains will translate into only modest improvements in future retirement outcomes. For women born between 1984 and 1988 who spend at least 10 years raising children outside of marriage, the labor market gains of the late 1990s will increase real lifetime earnings by only 5 percent and will raise Social Security benefits by only 4 percent. The improvements

are small in part because many women who raise children outside of marriage experience relatively brief spells of single motherhood. Relative to their lifetime employment and earnings, the gains they experience while single mothers are fairly modest. Our estimates measure the impact only of labor market gains after 1996, and ignore the substantial improvement in employment and earnings for single mothers that occurred between 1994 and 1996. As a result, we understate the impact on future retirement outcomes of gains made by single mothers throughout the 1990s. Nonetheless, we suspect that the total effect would also be modest, since the gains in the last half of the 1990s surpassed those that occurred earlier.

Our projections indicate that factors other than recent labor market gains will contribute to substantial improvements in future retirement outcomes for women who were long-term single mothers earlier in their lives. Between 2020 and 2050, we project that mean individual income will increase by 85 percent in real terms for women who spend at least 10 years as single mothers of dependent children, while increasing by only 48 percent for mothers who were always married while caring for dependent children. These gains are driven primarily by increases in educational attainment among single mothers and strong growth in real wages for all workers that the Social Security trustees project over the next 50 years.

Despite these gains, however, many women who raised children outside of marriage will continue to fare poorly in retirement. Because many of them earned relatively low wages, many will remain at risk of poverty or near poverty well into the future. For example, we project that women born in the early 1980s who never attend college and had their first child before they were married will be more than four times as likely as continuously married mothers to live in poverty or near poverty at ages 67 to 72.

Social Security reforms, especially those that are not tied to the current system of spousal and survivor benefits, could improve retirement security for these vulnerable women. For example, previous research suggests that raising minimum benefits and introducing childcare credits could target benefits to women who reach retirement with limited means (Favreault and Sammartino 2002), and thus could help women who raised children outside of marriage. However, Social Security's mounting financial crisis could instead lead to benefit cutbacks. Under intermediate assumptions, the Social Security Board of Trustees (2003) project that the Old Age and Survivors Insurance and Disability Insurance trust funds will become insolvent in 2042. According to their projections, one way for the trust funds to remain solvent for the next 75 years would be to immediately cut benefits by 13 percent. If applied across the board, without protections for low-income beneficiaries, this approach would exacerbate the daunting economic challenges faced in retirement by women who raised children outside of marriage.

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Table 1
Economic Status of Households Headed by Adults Ages 18 to 54, by Household Structure,
2001 and 1991

	Share of HHs	Mean HH Income (Constant $)	Share of HHs in Poverty	Share of HHs in Poverty or Near Poverty
2001				
All Households	100.0%	$64,518	10.1%	13.5%
Households with Dependent Children	50.6	66,937	12.2	16.7
Headed by Unmarried Women	12.2	36,252	26.9	35.1
Never Married	5.7	32,640	32.2	42.0
Divorced or Separated	5.9	39,470	22.0	28.7
Widowed	0.5	38,951	25.5	32.0
Headed by Married Couples	31.8	82,015	6.1	9.3
1991				
All Households	100.0%	$53,369	12.4%	16.3%
Households with Dependent Children	52.5	52,714	17.0	22.2
Headed by Unmarried Women	12.2	27,635	41.4	48.7
Never Married	4.5	23,092	52.7	60.8
Divorced or Separated	7.0	29,941	35.8	42.6
Widowed	0.6	34,751	22.3	29.8
Headed by Married Couples	34.8	63,011	8.3	12.4
PERCENT CHANGE, 1991-2001				
All Households	na	20.9%	–18.5%	–17.2
Households with Dependent Children	–3.6%	27.0	–28.2	–24.8
Headed by Unmarried Women	0.0	31.2	–34.5	–27.9
Never Married	26.7	41.3	–38.9	–30.9
Divorced or Separated	–15.7	31.8	–38.5	–32.6
Widowed	–16.7	12.1	14.3	7.4
Headed by Married Couples	–8.6	30.2	–26.5	–25.0

Source: Authors' estimates from the March 1992 and 2002 Current Population Survey.

Note: The analysis classifies households as being in near poverty if total household income falls below 125% of the federal poverty line. All dollar amounts are expressed in constant 2001 dollars, adjusted by the change in the Consumer Price Index.

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Table 2

Economic Status of Mothers Ages 65-74, by Years Spent as a Single Mother of Dependent Children, 1999

	Never Single Mother	1 to 9 Years As Single Mother	At Least 10 Years As Single Mother
Mean Total Per Capita Household Income	$26,418	$22,443	$19,028
Social Security	8,382	7,744	7,142
Employer-Sponsored Pension	4,997	3,350	3,285
SSI and Other Welfare	71	159	421
Other	12,969	11,011	8,180
Share with Any SSI or Other Welfare Income	2.8%	5.9%	13.9%
Share in Poverty	7.9%	18.1%	35.1%
Share in Poverty or Near Poverty	13.0%	25.5%	44.1%

Source: Authors' estimates from the Health and Retirement Study.

Note: The analysis counts as a year of single motherhood years in which the mother is unmarried and has at least one child under the age of 18. The sample includes 336 women who were single mothers for at least 10 years, 455 women who were single mothers between one and nine years, and 1,505 women who were always married while they had dependent children. Near poverty is defined as having income below 125 percent of the federal poverty line.

Table 3
Period Effects for Employment and Wages of Single Mothers, Other Women, and Men[a]

	Employment[b] (Pct. Point Increase, relative to 1996)			Wages[c] (Percent Increase, relative to 1996)		
	1997	**1998**	**1999-2000**	**1997**	**1998**	**1999-2000**
Ages 25-54, Nonblack						
Single Mothers	.008	.016**	.023***	.013	.049***	.106***
Other Women	−.006***	−.011***	−.009***	.021***	.048***	.063***
Men	−.001	−.003***	−.002**	.009**	.041***	.050***
Ages 25-54, Black						
Single Mothers	−.007	.015	.034**	.032	.064***	.048*
Other Women	−.009	−.012*	−.015	−.003	.007	.041**
Men	−.011	−.005	−.009	−.003	.036**	.048**
Ages 16-24						
Single Mothers	.054**	.109***	.108***	.111***	.162***	.161***
Other Women	−.025***	−.043***	−.044***	.046***	.104***	.120***
Men	−.036***	−.036***	−.054***	.052***	.102***	.132***

Source: Authors' estimates from the 1996 panel of the Survey of Income and Program Participation.

Notes:
a. Employment period effects are estimated from a random effects probit model of employment, and wage period effects are estimated from a random effects generalized least squares regression of the natural logarithm of the hourly wage for those who work. Both sets of equations control for age, education, disability, school enrollment, number of dependent children, the presence of a child under age 6, widowhood, divorce, Hispanic ethnicity, and geographical residence.

b. Table entries report the percentage point increase in employment rates, holding other factors constant, relative to rates in 1996.

c. Table entries report the percentage increase in the hourly wage, holding other factors constant, relative to rates in 1996

*	= significant at the 10% level
**	= significant at the 5% level
* **	= significant at the 1% level

Table 4
**Projected Employment History, Lifetime Earnings, and Primary Insurance Amount for Women Ages 62-66
Who Spent at Least 10 Years as Single Mothers of Dependent Children, 2050**

	If 1996 Labor Market Conditions Persist	If 1999-2000 Labor Market Conditions Persist	Percent Change
Mean No. of Years with 1000+ Hours of Employment			
All	34.0	35.0	3.0%
By Education			
High School Dropouts	23.8	24.8	4.3
High School Graduates, No College	33.0	34.2	3.5
At Least Some College	36.5	37.2	2.0
Marital Status, Start of Single Motherhood Spell			
Never Married	33.4	35.1	4.8
Divorced or Widowed	35.2	34.9	−0.8
No More Than High School Education, and Never Married at Start of Single Motherhood Spell	30.4	32.6	7.1
Mean AIME			
All	$3,625	$3,807	5.0%
By Education			
High School Dropouts	1,500	1,619	7.9
High School Graduates, No College	2,554	2,719	6.5
At Least Some College	4,699	4,790	1.9
Marital Status, Start of Single Motherhood Spell			
Never Married	3,348	3,546	5.9
Divorced or Widowed	4,254	4,497	5.7
No More Than High School Education, and Never Married at Start of Single Motherhood Spell	2,155	2,392	11.0
Mean PIA			
All	$1,654	$1,715	3.7%
By Education			
High School Dropouts	912	966	5.9
High School Graduates, No College	1,335	1,397	4.6
At Least Some College	1,994	2,020	1.3
Marital Status, Start of Single Motherhood Spell			
Never Married	1,569	1,635	4.2
Divorced or Widowed	1,849	1,926	4.2
No More Than High School Education, and Never Married at Start of Single Motherhood Spell	1,181	1,274	8.0

Source: Authors estimates from DYNASIM3.
Note: All income amounts are in constant 2003 dollars.

Table 5. Projected Economic Status of Mothers Ages 67 to 72, by History of Single Motherhood, 2020 and 2050

	Share of Female Population			Mean Individual Income			Mean Household Income			Share in Poverty or Near Poverty		
	2020	2050	% Change	2020	2050	% Change	2020	2050	% Change	2020	2050	% Change
Women Who Spent 10+ Years as Single Mothers of Dependent Children												
All	16.1%	29.5%	83.3%	$22,157	$41,019	85.1%	$31,302	$54,431	73.9%	31.5%	8.0%	−74.6%
High school dropouts	3.2	2.8	−11.5	13,535	19,721	45.7	20,404	32,406	58.8	57.3	25.5	−55.5
High school graduates	6.0	10.3	71.8	19,037	27,863	46.4	28,691	41,447	44.5	31.9	11.4	−64.3
Less than 4 years of college	4.6	3.6	−22.1	23,582	34,089	44.6	33,655	46,451	38.0	21.9	8.2	−62.6
Completed 4+ years of college	2.3	12.8	455.9	39,455	58,282	47.7	48,587	72,010	48.2	13.5	1.3	−90.4
Never married	2.1	7.2	237.9	15,375	41,475	169.8	15,375	41,475	169.8	57.8	11.4	−80.3
Never married at start of single motherhood spell	6.7	21.0	213.3	19,233	37,966	97.4	26,756	50,892	90.2	41.3	9.4	−77.2
Divorced or widowed at start of single motherhood spell	9.4	8.5	−9.3	24,238	48,523	100.2	34,537	63,129	82.8	24.5	4.4	−82.0
No more than high school education, never married at start of spell	4.3	10.1	136.3	15,001	24,576	63.8	21,444	37,871	76.6	47.6	15.8	−66.8
Women Who Spent 1-9 Years as Single Mothers of Dependent Children												
All	25.9%	27.4%	6.1%	$24,048	$38,186	58.8%	$39,077	$62,139	59.0%	22.6%	4.0%	−82.3%
High school dropouts	3.8	2.2	−42.3	13,337	21,579	61.8	22,598	37,927	67.8	48.3	9.8	−79.7
High school graduates	9.3	10.2	9.8	19,734	29,767	50.8	35,498	50,465	42.2	24.9	6.3	−74.7
Less than 4 years of college	7.5	2.8	−63.2	25,111	35,621	41.9	40,719	61,254	50.4	18.3	4.9	−73.2
Completed 4+ years of college	5.2	12.3	133.5	37,959	48,776	28.5	55,027	76,436	38.9	5.9	0.9	−84.7
No more than high school education, never married at start of spell	4.2	7.1	70.6	16,668	27,255	63.5	28,926	48,505	67.7	40.1	6.7	−83.3
Women Always Married While Mothers of Dependent Children												
All	42.8%	27.3%	−36.1%	$26,933	$39,850	48.0%	$51,617	$71,367	38.3%	17.6%	3.0%	−83.0%
High school dropouts	3.7	0.8	−78.3	15,234	28,351	86.1	26,727	55,568	107.9	47.6	16.7	−64.9
High school graduates	15.2	6.7	−55.8	20,360	28,889	41.9	40,385	55,052	36.3	26.7	8.0	−70.0
Less than 4 years of college	11.4	2.9	−74.2	25,982	36,687	41.2	49,058	61,674	25.7	12.0	2.7	−77.5
Completed 4+ years of college	12.5	16.9	34.9	39,242	45,308	15.5	74,949	80,298	7.1	2.7	0.5	−81.5

Source: Authors' estimates from DYNASIM3.

Note: Projections assume that 1999-2000 labor market conditions persist into the future. All income amounts are in constant 2003 dollars. Those in near poverty have household income below 125 percent of the federal poverty threshold.

Table A1: Determinants of Wages at Ages 16 to 24, 1996-2000

Variables	Single Mothers		Women, Not Single Mothers		Men	
	Coefficient	Std. Error	Coefficient	Std. Error	Coefficient	Std. Error
Period Effects [Ref: 1996]						
1997	0.105***	0.028	0.045***	0.010	0.051***	0.010
1998	0.150***	0.033	0.099***	0.011	0.097***	0.010
1999-2000	0.149***	0.042	0.113***	0.013	0.124***	0.013
Race [Ref: White or other]						
Non-Hispanic black	0.168	0.194	0.019	0.035	0.076*	0.041
Hispanic	0.021	0.048	−0.050***	0.018	−0.069***	0.016
Age Splines						
16-18	0.013	0.043	0.046***	0.008	0.050***	0.007
19-21	0.05***	0.020	0.060***	0.006	0.050***	0.005
22-24	0.047**	0.024	0.041***	0.009	0.050***	0.008
Age Interacted with Black Race						
16-18	−0.077	0.073	−0.015	0.022	−0.046**	0.021
19-21	−0.007	0.033	−0.037**	0.018	−0.010	0.017
22-24	−0.033	0.038	0.023	0.029	−0.038	0.026
Education [Ref: Not high school grad]						
High school graduate	0.146***	0.049	0.086***	0.017	0.113***	0.015
Some college	0.156***	0.055	0.140***	0.019	0.146***	0.017
College graduate	0.799***	0.188	0.379***	0.026	0.366***	0.026
Post-graduate schooling	...		0.518***	0.071	0.622***	0.101
Education Interacted with Black Race						
High school graduate	−0.073	0.085	0.011	0.050	−0.038	0.043
Some college	−0.046	0.098	0.106*	0.055	0.010	0.050
College graduate	−0.582**	0.267	0.025	0.095	0.045	0.103
Post-graduate schooling	...		−0.279	0.227	...	
Number of Children	−0.095***	0.035	−0.065***	0.014	...	
Number of Children, Interacted with Black Race	0.110**	0.051	0.025	0.040	...	
Disabled	−0.038	0.053	−0.131***	0.020	−0.091***	0.020
Student	−0.030	0.031	−0.030**	0.012	−0.099***	0.011
Divorced	0.035	0.052	−0.073	0.053	0.002	0.057

(Continued)

Table A1 (continued)

Variables	Single Mothers		Women, Not Single Mothers		Men	
	Coefficient	Std. Error	Coefficient	Std. Error	Coefficient	Std. Error
Region of Residence [Ref: Central]						
South	−0.055	0.042	−0.051***	0.014	−0.011	0.014
Northeast	0.076	0.054	0.057***	0.016	0.025	0.016
West	0.010	0.050	0.014	0.016	0.003	0.016
Constant	1.419***	0.123	1.417***	0.020	1.535***	0.020
R^2 (Within)	0.139		0.110		0.116	
R^2 (Between)	0.103		0.213		0.195	
R^2 (Overall)	0.103		0.191		0.173	
N	655		5,701		6,248	

Notes: *** $p < .01$ ** $p < .05$ * $p < .10$

Source: Authors' estimates from the 1996 SIPP panel.

Table A2: Determinants of Wages for Blacks at Ages 25 to 54, 1996-2000

Variables	Single Mothers		Women, Not Single Mothers		Men	
	Coefficient	Std. Error	Coefficient	Std. Error	Coefficient	Std. Error
Period Effects [Ref: 1996]						
1997	0.032	0.020	-0.003	0.013	-0.003	0.014
1998	0.062***	0.021	0.007	0.014	0.036**	0.014
1999-2000	0.047*	0.027	0.040**	0.017	0.046**	0.018
Age Splines						
25-29	0.023**	0.011	0.032***	0.009	0.029***	0.008
30-34	-0.003	0.010	0.002	0.008	-0.005	0.008
35-39	0.024**	0.010	0.005	0.008	0.026***	0.008
40-44	0.002	0.012	0.016**	0.007	0.006	0.008
45-49	0.004	0.018	-0.005	0.008	0.009	0.009
50-54	-0.002	0.037	0.012	0.011	0.018	0.013
Education [Ref: Not high school grad]						
High school graduate	0.237***	0.043	0.213***	0.035	0.175***	0.032
Some college	0.400***	0.043	0.413***	0.036	0.320***	0.034
College graduate	0.742***	0.064	0.715***	0.041	0.554***	0.042
Post-graduate schooling	1.097***	0.107	0.860***	0.051	0.733***	0.057
Number of Children	-0.029**	0.015	-0.013	0.010	...	
Disabled	-0.069**	0.035	-0.125***	0.023	-0.150***	0.024
Student	-0.051*	0.029	-0.039*	0.020	-0.094***	0.025
Divorced	0.102***	0.033	0.030	0.030	-0.029	0.032
Widowed	-0.017	0.079	-0.121**	0.051	-0.219**	0.111
Region of Residence [Ref: Central]						
South	-0.091**	0.038	-0.083***	0.029	-0.067**	0.029
Northeast	0.144***	0.049	0.096***	0.036	0.101***	0.037
West	-0.016	0.071	0.099**	0.046	0.069	0.045
Constant	1.565***	0.071	1.640***	0.053	1.854***	0.047
R^2 (Within)	0.027		0.017		0.020	
R^2 (Between)	0.297		0.287		0.218	
R^2 (Overall)	0.259		0.271		0.194	
N	868		1,736		1,745	

Notes: *** $p < .01$ ** $p < .05$ * $p < .10$

Source: Authors' estimates from the 1996 SIPP panel.

Table A3: Determinants of Wages for Non-Blacks at Ages 25 to 54, 1996-2000

Variables	Single Mothers		Women, Not Single Mothers		Men	
	Coefficient	Std. Error	Coefficient	Std. Error	Coefficient	Std. Error
Period Effects [Ref: 1996]						
1997	0.013	0.011	0.021***	0.004	0.009**	0.004
1998	0.048***	0.011	0.047***	0.004	0.040***	0.004
1999-2000	0.101***	0.014	0.061***	0.005	0.049***	0.005
Hispanic	-0.053**	0.026	-0.120***	0.014	-0.171***	0.012
Age Splines						
25-29	0.012*	0.007	0.029***	0.003	0.035***	0.003
30-34	0.010*	0.006	0.011***	0.003	0.024***	0.002
35-39	0.016***	0.006	0.004	0.003	0.006***	0.002
40-44	0.002	0.006	0.000	0.003	0.006***	0.002
45-49	0.006	0.009	0.001	0.003	-0.002	0.002
50-54	-0.005	0.019	-0.004	0.004	0.004	0.004
Education [Ref: Not high school grad]						
High school graduate	0.176***	0.027	0.237***	0.014	0.190***	0.012
Some college	0.330***	0.027	0.381***	0.015	0.305***	0.012
College graduate	0.645***	0.037	0.654***	0.016	0.548***	0.013
Post-graduate schooling	0.721***	0.051	0.831***	0.018	0.699***	0.015
Number of Children	-0.013	0.010	-0.029***	0.004	...	
Disabled	-0.121***	0.019	-0.106***	0.009	-0.123***	0.008
Student	-0.017	0.016	-0.017**	0.007	-0.043***	0.007
Divorced	0.031*	0.017	0.018	0.011	-0.045***	0.009
Widowed	-0.084**	0.043	-0.073**	0.030	0.047	0.043
Region of Residence [Ref: Central]						
South	-0.033	0.025	-0.029***	0.010	-0.043***	0.009
Northeast	0.069**	0.029	0.095***	0.011	0.053***	0.011
West	-0.025	0.026	0.064***	0.011	0.040***	0.010
Constant	1.668***	0.043	1.642***	0.019	1.916***	0.016
R^2 (Within)	0.039		0.017		0.021	
R^2 (Between)	0.248		0.252		0.265	
R^2 (Overall)	0.232		0.229		0.241	
N	2,150		14,208		15,968	

Notes: *** $p < .01$ ** $p < .05$ * $p < .10$

Source: Authors' estimates from the 1996 SIPP panel.

Table A4: Determinants of Labor Force Participation for Individuals at Ages 16 to 24, 1996-2000

Variables	Single Mothers		Women, Not Single Mothers		Men	
	Coefficient	Std. Error	Coefficient	Std. Error	Coefficient	Std. Error
Period Effects [Ref: 1996]						
1997	0.244**	0.120	-0.167***	0.045	-0.289***	0.046
1998	0.531***	0.146	-0.272***	0.047	-0.289***	0.048
1999-2000	0.526***	0.189	-0.275***	0.056	-0.412***	0.058
Race [Ref: White or other]						
Non-Hispanic black	-0.410**	0.166	-0.835***	0.074	-1.190***	0.077
Hispanic	-0.896***	0.199	-0.843***	0.076	-0.493***	0.077
Age Splines						
16-18	0.173	0.116	0.205***	0.029	0.286***	0.028
19-21	0.003	0.066	0.046*	0.027	0.076***	0.027
22-24	0.122	0.084	0.106**	0.045	0.135***	0.050
Education [Ref: Not high school grad]						
High school graduate	0.815***	0.160	0.526***	0.064	0.433***	0.064
Some college	1.259***	0.209	0.687***	0.075	0.287***	0.076
College graduate	1.055*	0.583	0.933***	0.129	0.675***	0.161
Post-graduate schooling	...		0.567	0.359	-0.863**	0.433
Number of Children	-0.338***	0.098	-0.539***	0.057	...	
Disabled	-0.678***	0.192	-0.404***	0.076	-0.946***	0.072
Student	-0.422***	0.133	-0.389***	0.058	-1.014***	0.065
Divorced	-0.014	0.248	-0.183	0.299	0.732	0.559
Region of Residence [Ref: Central]						
South	0.007	0.181	-0.517***	0.069	-0.470***	0.072
Northeast	-0.457**	0.227	-0.564***	0.080	-0.537***	0.083
West	-0.029	0.217	-0.515***	0.078	-0.399***	0.081
Constant	0.713**	0.357	1.660***	0.094	2.289***	0.103
Log Likelihood	-800.410		-6453.983		-6089.065	
Chi square (DF)	125.09 (18)		908.44 (19)		1150.05 (18)	
N	868		7,028		7,460	

Notes: *** $p < .01$ ** $p < .05$ * $p < .10$

Source: Authors' estimates from the 1996 SIPP panel.

Table A5: Determinants of Labor Force Participation for Blacks at Ages 25 to 54, 1996-2000

Variables	Single Mothers		Women, Not Single Mothers		Men	
	Coefficient	Std. Error	Coefficient	Std. Error	Coefficient	Std. Error
Period Effects [Ref: 1996]						
1997	-0.069	0.129	-0.125	0.100	-0.142	0.097
1998	0.159	0.142	-0.176*	0.105	-0.061	0.103
1999-2000	0.401**	0.190	-0.215	0.133	-0.115	0.132
Age Splines						
25-29	0.053	0.068	0.057	0.069	0.068	0.057
30-34	-0.077	0.059	-0.017	0.064	0.011	0.053
35-39	-0.005	0.067	-0.022	0.058	-0.059	0.050
40-44	0.007	0.085	-0.025	0.053	0.017	0.049
45-49	0.070	0.129	0.002	0.053	0.034	0.055
50-54	-0.231	0.206	-0.158**	0.071	-0.138*	0.078
Education [Ref: Not high school grad]						
High school graduate	0.695***	0.208	1.184***	0.189	0.859***	0.154
Some college	2.157***	0.309	2.097***	0.246	1.308***	0.181
College graduate	2.517***	0.491	2.510***	0.302	1.681***	0.272
Post-graduate schooling	2.684***	0.772	2.603***	0.420	1.682***	0.399
Number of Children	-0.224***	0.075	0.061	0.070	...	
Has a Child Under 6 Years Old	-0.596***	0.193	-0.119	0.236	...	
Disabled	-1.438***	0.180	-2.186***	0.131	-2.607***	0.128
Student	-0.458**	0.182	-0.309*	0.165	-0.248	0.172
Divorced	0.766***	0.272	0.713***	0.213	0.161	0.196
Widowed	-1.048**	0.500	0.083	0.297	0.800	0.623
Region of Residence [Ref: Central]						
South	0.299	0.226	0.116	0.181	0.541***	0.168
Northeast	-0.676**	0.328	-0.050	0.228	0.102	0.207
West	-0.857*	0.444	-0.214	0.289	0.029	0.255
Constant	1.951***	0.460	1.349***	0.336	1.609***	0.270
Log Likelihood	-892.086		-1516.443		-1321.565	
Chi square (DF)	184.03 (22)		391.14 (22)		480.34 (20)	
N	1,063		2,136		2,108	

Notes: *** $p < .01$ ** $p < .05$ * $p < .10$

Source: Authors' estimates from the 1996 SIPP panel.

Table A6: Determinants of Labor Force Participation for Non-Blacks at Ages 25 to 54, 1996-2000

Variables	Single Mothers		Women, Not Single Mothers		Men	
	Coefficient	Std. Error	Coefficient	Std. Error	Coefficient	Std. Error
Period Effects [Ref: 1996]						
1997	0.110	0.087	-0.117***	0.032	-0.049	0.054
1998	0.225**	0.095	-0.193***	0.033	-0.162***	0.056
1999-2000	0.349***	0.120	-0.156***	0.040	-0.141**	0.068
Hispanic	-0.360**	0.160	-0.494***	0.079	-0.078	0.108
Age Splines						
25-29	0.022	0.047	-0.044**	0.021	0.063*	0.036
30-34	0.073*	0.043	-0.018	0.018	0.040	0.031
35-39	-0.029	0.044	0.021	0.018	-0.084***	0.028
40-44	-0.062	0.049	-0.072***	0.019	-0.056**	0.027
45-49	0.011	0.067	-0.059***	0.019	-0.019	0.028
50-54	0.105	0.153	-0.158***	0.027	-0.189***	0.037
Education [Ref: Not high school grad]						
High school graduate	1.073***	0.158	1.081***	0.079	0.968***	0.094
Some college	1.600***	0.171	1.549***	0.085	1.345***	0.104
College graduate	2.437***	0.328	1.929***	0.098	1.504***	0.128
Post-graduate schooling	2.526***	0.493	2.657***	0.146	2.064***	0.177
Number of Children	-0.365***	0.055	-0.322***	0.024	...	
Has a Child Under 6 Years Old	-0.403***	0.122	-0.805***	0.056	...	
Disabled	-1.515***	0.115	-1.218***	0.051	-3.113***	0.080
Student	-0.613***	0.122	-0.194***	0.055	-0.952***	0.085
Divorced	0.307**	0.121	0.679***	0.096	-0.328***	0.094
Widowed	-0.883***	0.217	0.114	0.179	-0.702**	0.337
Region of Residence [Ref: Central]						
South	-0.376**	0.174	-0.465***	0.069	-0.358***	0.096
Northeast	-0.477**	0.207	-0.343***	0.078	-0.415***	0.110
West	-0.450**	0.178	-0.229***	0.072	-0.325***	0.100
Constant	2.391***	0.281	2.667***	0.125	4.396***	0.188
Log Likelihood	-1846.167		-15420.323		-5588.898	
Chi square (DF)	415.24 (23)		2094.49 (23)		1804.53 (21)	
N	2,581		17,844		18,668	

Notes: *** $p < .01$ ** $p < .05$ * $p < .10$

Source: Authors' estimates from the 1996 SIPP panel.

Table A7: Determinants of Hours Worked for Individuals at Ages 16 to 24, 1996-2000

Variables	Single Mothers		Women, Not Single Mothers		Men	
	Coefficient	Std. Error	Coefficient	Std. Error	Coefficient	Std. Error
Period Effects [Ref: 1996]						
1997	54.627	45.096	-8.793	13.215	-22.318*	13.145
1998	58.212	49.493	-11.945	13.397	-27.810**	13.246
1999-2000	112.745*	62.295	-6.384	15.774	-18.595	15.865
Race [Ref: White or other]						
Non-Hispanic black	316.313	239.648	-111.728***	38.245	-102.521**	43.986
Hispanic	-21.089	55.447	21.402	17.218	-35.863**	15.766
Age Splines						
16-18	33.000	57.406	72.820***	9.000	122.384***	8.434
19-21	93.957***	22.494	76.720***	6.490	77.583***	6.185
22-24	47.817*	27.792	80.880***	10.302	70.100***	9.948
Age Interacted with Black Race						
16-18	-155.478*	88.616	-3.098	23.169	-57.606***	20.979
Education [Ref: Not high school grad]						
High school graduate	135.391**	60.181	155.614***	18.723	126.576***	16.432
Some college	177.076***	65.743	191.927***	20.355	75.146***	18.617
College graduate	377.154	229.595	344.456***	26.996	142.018***	27.849
Post-graduate schooling	...		276.613***	73.733	188.360	116.236
Education Interacted with Black Race						
High school graduate	203.785**	102.178	25.759	55.538	11.827	46.303
Some college	262.701**	111.512	94.965	58.360	136.994***	51.293
College graduate	443.062	317.971	69.002	95.238	232.719**	108.596
Number of Children	-90.143***	30.366	-178.412***	13.260	...	
Disabled	-446.02***	71.618	-252.380***	21.855	-290.61***	22.067
Student	-441.40***	42.559	-450.996***	13.064	-588.21***	12.879
Divorced	60.180	65.267	2.523	58.070	-78.540	60.348
Region of Residence [Ref: Central]						
South	-33.057	47.082	4.393	13.226	34.042**	13.368
Northeast	-0.360	60.673	-64.374***	15.295	-75.669***	15.584
West	-46.560	56.676	-32.862**	15.037	-58.318***	15.021
Constant	1068.52***	162.749	1043.34***	21.778	1238.04***	21.961
Log Likelihood	-9445.74		-92744.611		-103897.26	
Pseudo R²	0.016		0.028		0.033	
Chi square (DF)	302.32 (22)		5238.24 (23)		7024.32 (22)	
N	1,202		11,985		13,340	

Notes: *** $p < .01$ ** $p < .05$ * $p < .10$

Source: Authors' estimates from the 1996 SIPP panel.

Table A8: Determinants of Hours Worked for Blacks at Ages 25 to 54, 1996 to 2000

Variables	Single Mothers		Women, Not Single Mothers		Men	
	Coefficient	Std. Error	Coefficient	Std. Error	Coefficient	Std. Error
Period Effects [Ref: 1996]						
1997	8.711	31.837	-9.348	21.423	-12.434	21.774
1998	-12.492	32.556	-5.269	21.937	-19.126	22.356
1999-2000	-27.424	39.457	42.605	26.386	-1.492	27.623
Age Splines						
25-29	30.091**	12.853	30.816***	10.177	46.102***	9.243
30-34	19.151*	10.747	7.225	8.593	-16.920**	8.164
35-39	19.692*	10.988	10.595	8.068	8.377	8.071
40-44	-0.506	13.003	6.562	7.962	14.157*	8.290
45-49	-12.520	19.166	2.333	8.405	-9.296	9.665
50-54	29.176	41.431	-15.233	12.860	19.650	15.337
Education [Ref: Not high school grad]						
High school graduate	93.163**	37.849	93.265***	30.852	111.741***	27.827
Some college	247.41***	38.093	200.610***	31.127	254.162***	29.220
College graduate	405.42***	57.732	295.356***	34.785	308.189***	35.863
Post-graduate schooling	480.98***	97.351	390.026***	43.375	340.461***	48.151
Number of Children	-37.646***	14.012	-44.463***	9.769	...	
Has a Child Under 6 Years Old	-34.530	31.721	-16.350	30.489	...	
Disabled	-444.83***	41.838	-360.69***	29.312	-532.63***	28.305
Student	-264.43***	35.608	-77.701***	25.625	-191.22***	31.201
Divorced	36.259	30.178	32.588	26.353	-73.776**	28.707
Widowed	-28.416	74.022	51.675	47.505	-288.25***	96.916
Region of Residence [Ref: Central]						
South	53.519*	32.013	60.364***	22.860	108.262***	23.363
Northeast	-20.379	41.306	-41.055	28.449	-4.361	29.849
West	-139.866**	59.801	31.676	37.046	42.646	36.052
Constant	1414.0***	69.710	1450.48***	50.141	1613.24***	44.834
Log Likelihood	-16333.337		-34448.708		-34368.886	
Pseudo R^2	0.012		0.007		0.009	
Chi square (DF)	410.21 (22)		457.46 (22)		622.60 (20)	
N	2,105		4,453		4,430	

Notes: *** $p < .01$ ** $p < .05$ * $p < .10$

Source: Authors' estimates from the 1996 SIPP panel.

Table A9: Determinants of Hours Worked for Non-Blacks at Ages 25 to 54, 1996-2000

Variables	Single Mothers		Women, Not Single Mothers		Men	
	Coefficient	Std. Error	Coefficient	Std. Error	Coefficient	Std. Error
Period Effects [Ref: 1996]						
1997	-17.870	21.234	-12.354	8.315	-22.293***	6.990
1998	6.876	21.732	-11.740	8.437	-35.205***	7.109
1999-2000	10.699	25.340	-4.335	9.731	-16.597**	8.255
Hispanic	-1.433	23.801	13.158	11.763	-64.827***	9.141
Age Splines						
25-29	18.999**	9.240	7.677**	3.731	28.875***	3.093
30-34	12.436*	7.373	9.481***	3.209	0.468	2.591
35-39	-0.453	7.028	-0.951	3.062	3.514	2.503
40-44	6.139	8.129	-3.015	3.095	-4.402*	2.642
45-49	22.823**	11.484	-3.442	3.326	-1.549	2.947
50-54	-5.378	25.926	-13.588**	5.362	-4.586	4.708
Education [Ref: Not high school grad]						
High school graduate	292.54***	26.841	160.095***	13.354	102.96***	9.984
Some college	353.53***	26.664	188.842***	13.333	169.72***	10.088
College graduate	451.58***	36.335	298.928***	14.170	234.94***	10.887
Post-graduate schooling	539.70***	47.024	433.998***	16.093	283.82***	12.405
Number of Children	-29.381***	10.472	-95.447***	3.633	...	
Has a Child Under 6 Years Old	-99.109***	21.186	-156.711***	10.301	...	
Disabled	-438.26***	27.286	-386.292***	11.695	-462.50***	10.023
Student	-273.46***	24.296	-144.50***	10.249	-264.78***	9.648
Divorced	58.462***	18.675	90.904***	11.231	-48.615***	9.100
Widowed	-189.28***	40.716	47.616	29.639	-45.792	44.824
Region of Residence [Ref: Central]						
South	-13.657	22.546	13.039	8.449	-13.234*	7.149
Northeast	-108.97***	25.228	-28.942***	9.427	-49.596***	8.155
West	-74.478***	23.793	-32.227***	9.335	-81.387***	7.766
Constant	1475.6***	49.148	1632.5***	19.142	1958.6***	14.977
Log Likelihood	-40616.916		-311308.2		-356583.11	
Pseudo R^2	0.011		0.007		0.006	
Chi square (DF)	903.16 (23)		4425.02 (23)		4472.80 (21)	
N	5,207		39,561		45,872	

Notes: *** $p < .01$ ** $p < .05$ * $p < .10$

Source: Authors' estimates from the 1996 SIPP panel.