

The Changing Incidence and Severity of Poverty Spells among Female-Headed Families

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Policy reforms and labor market changes over the 1990s had a profound effect on families headed by single women. Federal welfare reform, passed in 1996, pushed many more women into the labor force, while expansions in the Earned Income Tax Credit increased their economic returns to work. A booming economy helped assure that jobs were available. Earnings and income among single mothers rose, while poverty rates declined. By 2000, the poverty rate among families headed by single women had fallen to 25 percent, far below the 33 percent rate at the start of the 1990s.

While these trends are widely viewed as good news, conventional measures of income and poverty based on annual averages can be misleading. If jobs and earnings become more unstable, or public assistance less accessible, then the within-year variability in income will rise, potentially offsetting the gains in average income. Indeed, a recent study by Christopher Bollinger and James P. Ziliak (2007) suggests that income volatility has increased among single-mother families since the mid-1990s.

This paper looks at the changing incidence and severity of poverty spells among adult women, focusing mainly on single mothers, between the early 1990s and the early 2000s. We are particularly concerned with differences between black and white women, since there is evidence that black women have not gained as much in the years following welfare reform (Andrew Cherlin et al. 2007).

We use data from the 1990 and 2001 Surveys of Income and Program Participation (SIPP). The SIPP collects detailed *monthly* data on earnings and nonlabor income, enabling us to measure the incidence and duration of poverty spells at a very

fine level. We use up to 32 months of information from each panel, on women between the ages of 18 and 62 who report at least 24 months of complete data on earnings, family income, and poverty status. We define as “single heads” women who are single family heads for at least 18 months, while “dual heads” are those who are married or cohabiting 18 or more months. (A Data Appendix is available from the authors upon request.)

We define a new spell of poverty as starting in a month if family income is below the appropriate federal poverty threshold and if the family was *not poor* in the previous four months. Using this definition, the earliest we can observe the start of a poverty spell is in the fifth interview month of a SIPP panel. We limit attention to spells that start prior to the twenty-ninth month so we have at least a few months of follow-up data.

I. Comparing the Incidence of Poverty Spells from the Early 1990s and Early 2000s

Table 1 presents estimates of the incidence of new poverty spells. In 1990, 28.8 percent of women who were single heads entered a spell of poverty in the 25-month period between the fifth and twenty-ninth interview month of the SIPP. By 2001, the incidence rate among single women had increased to 37.8 percent. This means that 9.1 percent more single female heads entered a spell of poverty in 2001 than in 1990 (row 3), an increase of about 30 percent. Roughly similar gains were posted by white, black, and Hispanic single mothers. While the incidence of new spells also rose among women who were dual heads, the increase was much smaller, from 17.8 percent to 20.1 percent.

Some caution is required in interpreting these trends because there is an increase in the fraction of women who spend at least four months out of poverty between these two periods. This might lead to a rise in the incidence of new

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TABLE 1—INCIDENCE OF NEW POVERTY SPELLS IN THE 1990 AND 2001 SIPP PANELS

	Single heads by race/ethnicity				Dual heads
	Single heads	White non-Hisp.	Black non-Hisp.	Hispanic	
	(1)	(2)	(3)	(4)	(5)
1. 1990 panel	28.8 (0.7)	27.1 (0.9)	32.2 (1.7)	34.4 (2.3)	17.8 (0.4)
2. 2001 panel	37.8 (0.7)	36.3 (0.9)	39.7 (1.4)	42.5 (2.1)	20.1 (0.4)
3. Change: 1990 to 2001	9.1 (1.0)	9.2 (1.2)	7.5 (2.2)	8.1 (3.1)	2.3 (0.6)
4. Regression-adjusted change in Incidence	8.2 (1.0)	8.3 (1.2)	7.9 (2.1)	6.0 (3.0)	3.1 (0.5)

Note: Estimated standard errors in parentheses.

spells, particularly if the women who move from always-poor to having at least a few months out of poverty have family incomes just above the poverty threshold. To address this, we estimate parametric models of the likelihood of entering a new spell of poverty. We pooled the 1990 and 2001 SIPP data and fit linear probability models for the event of a new spell of poverty, including a dummy variable for the 2001 observations and controls for the age and education of each woman, as well as 41 dummy variables indicating the range of family income relative to poverty for a woman in the first 4 months she is observed in the SIPP. These control very flexibly for any changes in the distribution of family income. The resulting estimates of the 2001 dummy are shown in row 4, and are generally similar to, though a little smaller than, the simple changes in the incidence rate reported in row 3.

We conclude from the analysis in Table 1 that the likelihood of entering a new spell of poverty increased substantially from the early 1990s to the early 2000s, even though overall poverty rates fell during this time period. Both single heads and married/partnered women experienced increases in the incidence of new poverty spells, but the increases were larger for single heads. The changes do not appear to be due to shifts in education or age levels, nor are they explained by the distribution of women's average family income relative to the poverty line. Rather, we conclude that they reflect an increase in the (high frequency) volatility of family income, perhaps reflecting increased reliance on unstable employment among lower-skilled women.

II. Changes in Family Income Following Entry into Poverty

Having found that the incidence of poverty spells increased between 1990 and 2001, we turn to an analysis of the characteristics of the spells. Figure 1A shows an "event study" analysis of the evolution of income/poverty ratios before and after the onset of a new spell of poverty for dual and single heads in 1990 and 2001. We align the data for each spell relative to its starting month, beginning 4 months before the start, and running up to 22 months after. Note that spells that start early in a SIPP panel contribute to observations for all months, whereas those that start relatively late contribute only to the first few months after the onset of the spell. The declining number of observations underlying the data in later months should be kept in mind in interpreting this figure.

Focusing first on the months before the start of the spell, note that the mean ratio of family income to the poverty threshold is higher for the dual heads than for the single heads (reflecting lower family incomes among single heads) and is higher in 2001 than 1990 for both groups. The rise is consistent with the observation that average family incomes increased from 1990 to 2001, so that a woman entering a poverty spell in the later period had *higher* average income before the spell.

A second feature of the figure is that the initial severity of new poverty spells is similar for single and dual heads, and is stable over time. In all cases, the ratio of family income to the poverty threshold is about 55 percent in the first month of a new poverty spell. Immediately after the start

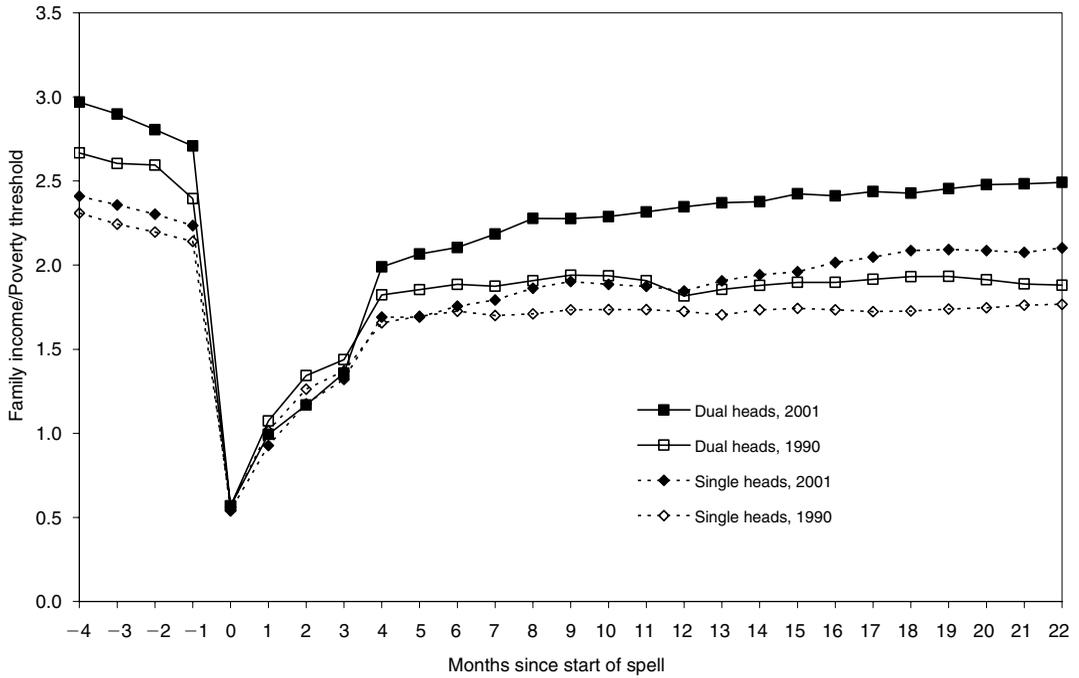


FIGURE 1A. FAMILY INCOME/POVERTY THRESHOLD BEFORE AND AFTER NEW POVERTY SPELL

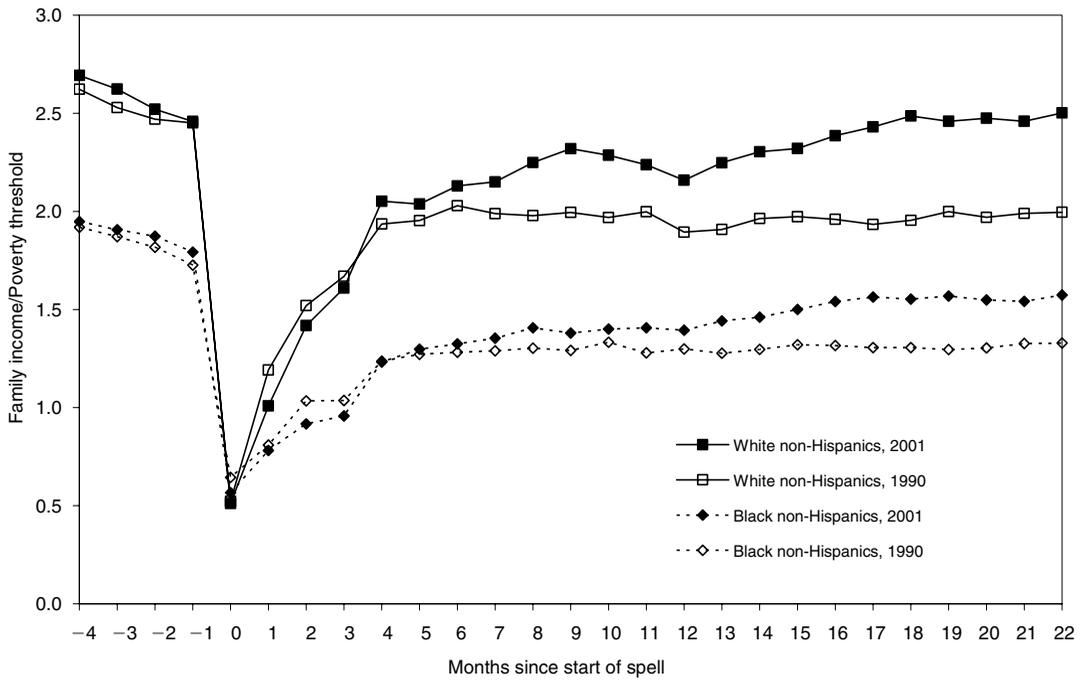


FIGURE 1B. FAMILY INCOME/POVERTY THRESHOLD BEFORE AND AFTER NEW POVERTY SPELL, SINGLE HEADS

of the spell, family income begins to rise, and within 4 months the mean (and median) ratio of family income to poverty is above 150 percent, implying that over one-half of families are already out of poverty. Thus, many of the high-frequency poverty spells measured in the SIPP panels would be missed in other data sources that collect only annual income information.

For both dual and single heads, family incomes recovered more quickly after the onset of a spell of poverty in 2001 than in 1990. For example, in the 1990 SIPP panel, single heads had an income-poverty ratio of about 175 percent by 18 months after entering a new spell of poverty, but in the 2001 SIPP panel they reached 210 percent of the poverty threshold by 18 months. This suggests that spells of poverty were less persistent in the later period, despite the similar intensity of the initial income shock.

Figure 1B breaks out the patterns of income/poverty for white and black single heads. White women are better off than black women at all points (except their first reported month of poverty). Both groups show faster escapes from poverty in 2001 than in 1990, particularly in the period starting about 6 to 8 months after the start of the spell.

Table 2 presents a more rigorous analysis of family income changes from just before a new poverty spell to a point 15 to 18 months after. Unlike the data underlying Figures 1A and 1B, in the table, we focus exclusively on a balanced sample of spells that are observed for at least 18 months. Row 1 in Table 2 shows average family income/poverty ratios (expressed in percentage point units) for the four months just before the start of a new poverty spell in the 1990 SIPP. Row 2 shows a parallel set of income/poverty ratios 15 to 18 months after the spell starts. Income/poverty ratios recover only partially within this time frame, so row 3 indicates a net negative change in income/poverty ratios of around 50 percent. Row 4 presents parallel data for spells in the 2001 SIPP panel, showing the change in income from 4 months before, to 15 to 18 months after, a poverty spell starts. Consistent with the patterns in Figures 1A and 1B, the decline in income is smaller in 2001, typically around 35 percent.

Row 5 of Table 2 shows the raw “difference-in-differences” between the changes in incomes in 1990 and 2001 (row 4 minus row 3). The entries are positive but somewhat imprecisely estimated,

reflecting the relatively modest size of our spell samples. Row 6 presents regression-adjusted estimates of the difference-in-differences, controlling for education, age, race/ethnicity, and a cubic function of the average income/poverty level in the four months immediately prior to the start of the spell. With these controls, the effects are reduced somewhat. Differences between white, black, and Hispanic single heads are small and statistically insignificant. In short, while women were more likely to enter a poverty spell in the 2001 SIPP panel than in the 1990 SIPP, women in the 2001 SIPP escape from poverty somewhat faster than new spell entrants a decade earlier.

We also examined the contributions of two key income sources—personal earnings and other family member earnings—to the decline in family income associated with new poverty spells. (A longer version of this paper is available, which provides more detail on these calculations.) In each of the two years, 80 to 90 percent of the income decline is explained by a drop in labor earnings. As might be expected, for single heads it is their own earnings that decline, whereas for dual heads most of the income decline is in other family members’ earnings.

We conducted an analysis similar to the exercise in Table 2, but focusing on changes in personal earnings from just before the onset of a new spell of poverty to the period 15 to 18 months later. The results suggest that the pace of recovery of personal earnings following a poverty spell quickened over the 1990s. The faster rise in personal earnings explains most of the faster recovery of total family income observed in Table 2.

We also look at changes in means-tested transfers across these time periods. Means-tested income sources are small, even for single heads, and account for a relatively small share of total family income levels or changes. If anything, changes in means-tested transfers appear to *reinforce* rather than mitigate changes in labor earnings that precipitate a spell of poverty, especially in 2001. This may indicate that some women enter poverty when they lose public transfers; it is also consistent with a reformed welfare system that provides more support to workers than to non workers, so job loss means a reduction in child care support and other subsidies. Black single mothers experienced particularly large declines in means-tested income

TABLE 2—FAMILY INCOME/POVERTY THRESHOLD BEFORE AND AFTER THE START OF A NEW POVERTY SPELL

	Single heads by race/ethnicity:				Dual heads
	Single heads	White non-Hisp.	Black non-Hisp.	Hispanic	
<i>1990 panel:</i>	(1)	(2)	(3)	(4)	(5)
1. Family income/poverty threshold in 4 months prior to spell	238 (9)	276 (13)	182 (9)	178 (13)	260 (6)
2. Family income/poverty threshold 15 to 18 months after spell start	192 (8)	224 (11)	139 (10)	146 (13)	206 (6)
3. Change in family income/poverty from just before to 15 months after	-47 (8)	-52 (12)	-43 (8)	-31 (13)	-54 (6)
<i>2001 panel:</i>					
4. Change in family income/poverty from just before to 15 months after	-26 (6)	-16 (10)	-27 (8)	-31 (9)	-43 (8)
Difference in impacts: 2001 vs. 1990					
5. Unadjusted difference	20 (11)	36 (17)	16 (14)	0 (16)	12 (12)
6. Regression-adjusted difference	9 (9)	18 (14)	10 (12)	-9 (13)	18 (9)

Notes: Estimated standard errors are in parentheses. All entries represent family income/poverty threshold \times 100. All statistics are computed over the subset of new spells for which at least 18 months of data are available after the start of the spell.

transfers, both in absolute levels, and relative to whites, between the early 1990s and the early 2000s.

III. Conclusions

Over the 1990s, average annual poverty rates fell, especially among female-headed families, while earnings rose. Surprisingly, we find that the incidence of poverty spells actually increased at the same time, especially among single heads. Poverty spells were more frequent but they were also less persistent. Women entered poverty from higher income levels and recovered more quickly, mainly through more rapid increases in labor market earnings following the initial dip at the start of the poverty spell.

Black and Hispanic women were poorer throughout this period, with lower overall incomes and a higher risk of entering poverty, but the changes for women of color between the early 1990s and the early 2000s were very similar to those of white women. African American

women were far more likely to be single heads than white or Hispanic women, making them more dependent upon their own earnings.

By the early 2000s, women had higher but more variable family incomes than a decade earlier. We conjecture that as women have become more reliant upon the labor market, their economic fortunes have become more closely tied to the labor market, exposing them to greater risks of short-term income fluctuations and spells of poverty.

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