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First birth before first stable employment and subsequent single-mother ‘disconnection’ before and after the Welfare Reform and Great Recession

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Abstract

We analyze data from two nationally-representative U.S. surveys that include cohorts of young women before and after the 1996 Welfare Reform. Women were more likely to have their first birth precede their first stable employment after than before the reform. Women with this life-course sequence were at higher risk of single motherhood and, as single mothers, were at higher risk of ‘disconnection’ simultaneously from earned income and public cash benefits. Declines in employment in the Great-Recession period resulted in ‘disconnection’ for between a fifth and a quarter of single mothers who did not experience stable employment before their first birth.

Keywords

Welfare Reform; Families in Poverty; Children in Poverty

Introduction

Under the banner of “ending welfare as we know it,” major work-oriented welfare policy reforms were implemented in the United States in the early-to-mid 1990s (Blank 2002). With the passage of the 1996 Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA), Aid to Families with Dependent Children (AFDC) was replaced by Temporary Assistance to Needy Families (TANF), which imposed lifetime limits of between only 2 and 5 years’ receipt of cash assistance. A Child Tax Credit, subsidized childcare, and a major expansion to the Earned Income Tax Credit (EITC) program were all aimed at promoting the employment of parents who would previously have been AFDC recipients. A major stated goal of the PRWORA was to change behaviors that lead to welfare dependence (Kaestner, Korenman, and O’Neill 2003). Promoting marriage and childbearing within marriage was a highly visible instrument emphasized in the Act, though without measured success (Blank 2002). A woman’s own employment, meanwhile, has been found to provide better insurance against periods of ‘disconnection’ simultaneously from earnings and cash

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welfare benefits than has her partner's employment (Loprest and Nichols 2011). Promoting low-income mothers' work effort, job seeking, and training was the second instrument described and planned for under PRWORA.

Promoting maternal employment, however, is an inherently bigger challenge for means-tested family-policy regimes than for universalist regimes. In the latter, the primary benefits (maternity and parental leave, and childcare subsidies) are contingent on the mothers' having been employed before the birth (e.g., Spiess and Wrohlich 2008). Receipt of TANF and EITC has no such dependence on employment before childbearing. Moreover, because low-wage employment garners the largest EITC subsidy (Ellwood 2000), the program may actually work against encouraging the delay of parenthood until the woman obtains a more stable, higher-wage job. Keane and Wolpin (2010) argue relatedly that strong early-fertility incentives are built into the EITC's structure.

A lack of early stable employment may reduce a woman's later labor-force attachment (Alon, Donohoe and Tienda 2001; Alon and Haberfeld 2007). How this early employment experience interacts with timing of motherhood has recently been studied (Herr 2016; Lu, Wang, and Han 2017), with mixed conclusions. Lu et al found that both job tenure and years of work experience before a birth predict higher employment continuity after the birth. Herr, however, found that having a first birth before first employment increased long-term earnings of White women, though not of minority race/ethnicity women. None of the above studies compared the experiences of women entering their labor market and childbearing years before and after the 1990s reforms. Nor do they attend to employment trajectories of single mothers, a family-structure specifically addressed by the reforms. Blank and Kovak (2009) estimated that two fifths of single mothers in the mid-2000s experienced 'disconnection' simultaneously from earned income and public cash transfers at some time over a 3-year period. We are not aware of any study of single-mother 'disconnection' that has compared pre-reform and post-reform periods. Moreover, previous studies of the antecedents of disconnection have focused on proximate circumstances and events (Loprest and Nichols 2011; Moore et al 2012) and less on earlier life-course antecedents. A second aim of the present study is to assess the role of sequencing of first birth before first stable employment in increasing the likelihood of subsequent 'disconnection' as a single mother both before and after the reforms.

Comparisons of pre- and post-reform cohorts are valuable for investigating reform impacts from a life-course-sequencing perspective. Cohort-comparison studies of early fertility and school completion (Kaestner et al 2003; Hao and Cherlin 2004) and of marriage (Graefe and Lichter 2008) have found mixed results, implying that the reforms have not generally reshaped women's life courses in the ways the reforms' proponents had hoped for. No prior research, however, has investigated whether post-reform women have been more likely than pre-reform women to launch into adulthood first by obtaining stable employment before becoming a mother. On one hand, mean age at first birth has risen, and teenage fertility rates have fallen, between the pre-reform and post-reform periods (Martin et al 2018). On the other hand, young adults have faced increasing challenges in finding opportunities to enter the workforce (Furstenberg 2010).

Finally, much of our knowledge of post-reform outcomes relating to low-income single mothers comes from the period of major economic expansion immediately after the reforms were implemented. As Blank (p.1109) notes, "...the late 1990s were the best time imaginable to enact and implement work-oriented welfare reform." Analyses that encompass both this period of economic expansion and the subsequent Great Recession provide an important, and generally sobering, addition to the literature evaluating the reform's impacts (e.g., Eamon and Wu 2013; Mykyta 2018). A third aim of our study is therefore to compare outcomes across these two post-reform periods.

Data and Methods

Data and Variable Construction

We use data from the 1995, 2002, and 2006–10 Cycles of the National Survey of Family Growth (NSFG, National Center for Health Statistics 2014), and from the first two waves of each of the 1996, 2004, and 2008 Panels of the Survey of Income and Income and Program Participation (SIPP, U.S. Census Bureau 2014). We divide women into three sets of cohorts: "pre-reform"; "early post reform"; and "Great-Recession, post-reform." We classify women attaining ages 26–30 in 1995 (NSFG) or 1996 (SIPP) as being "pre-reform." We classify women attaining ages 26–30 in 2008 (SIPP) and 2006–10 (NSFG) as "Great-Recession, post-reform." On average, they will have been age 16 in 1996 and age 28 at the onset of the Great Recession in 2008. We classify women attaining ages 26–30 in 2004 (SIPP) and 2002 (NSFG) as "early post-reform." These cohorts experienced their 20s largely in the post-reform period, although their teenage years occurred in some combination of pre-reform and early-reform periods. Because of when their samples were drawn, the NSFG and SIPP are representative of both U.S.-born and foreign-born women both before and after the reforms were implemented. This is important for assessing behavioral change independently of changes in population composition. For example, differential fertility behavior of Mexican immigrant women (e.g., Batson 2012), coupled with a greater prevalence of this group in the post-reform cohorts mean that both data sources and modeling strategies need to take into account such changes. An additional important socio-demographic predictor variable that we are able to identify consistently across the NSFG and SIPP is own educational attainment at survey (age 26 to 30). In the NSFG only, we are also able to identify mother's educational attainment irrespective of whether the woman and her mother co-reside at survey date.

From each survey, we code whether the respondent had given birth, the calendar year in which the respondent first gave birth, and the calendar year in which the respondent first obtained stable employment. We define stable employment by her having worked full-time continuously for 6 months or more, although this definition is only approximated in the SIPP. Questions about first substantial employment differ between the NSFG and SIPP. In the NSFG's 2002 and 2006–10 cycles, respondents were asked "Have you ever worked for pay, full-time, for six months or longer?" and were then asked in which month and year that spell of full-time employment began. In the NSFG's 1995 cycle, respondents were asked for the months and years of the beginning and end of all the employment spells in which they worked full-time, including any spell ongoing as at survey time. We constructed their first spell of full-time employment of six months or longer from these responses. In the SIPP's

1996, 2004, and 2008 panels, the respondent was asked in Wave 1 “[When] was the first job or business...that lasted 6 straight months or more?” The respondent was not asked whether that job was full-time or part-time, but instead was asked “During all the time [you] worked, did [you] mostly work 35 or more hours per week?” We combined the answers to these two questions in the SIPP to code the first job or business that lasted 6 months or more as the first full-time employment spell if the answer is “yes” to the second question. The SIPP questions result in more definitional ambiguity than does the single question of the NSFG. We speculate that for this reason, most of our main results are somewhat weaker in the SIPP than they are in the NSFG, even though always in the same directions. Including the SIPP in our analyses nevertheless adds importantly to the robustness of our study’s findings. In addition to its value simply for replication, the SIPP sample sizes are larger than those of the NSFG, allowing for statistically more precise estimation of changes in the first-birth, first-employment sequence, in socio-demographic composition, and of associations of the first-birth, first-employment sequence with subsequent single-mother ‘disconnection.’

We coded first stable employment as preceding a first birth if the 6-month period of continuous job (SIPP) or full-time employment (NSFG) occurred in a calendar year preceding the year of any first birth. We coded a first birth as preceding first stable employment if that employment spell occurred in the same year or later than the year of the first birth, noting that in the majority of same-year cases the employment spell would more likely have followed rather than preceded the pregnancy leading to that birth, even if not the birth itself. The reliability of respondents’ reports of first stable employment in both the SIPP and NSFG has been found to be high, especially for more disadvantaged women whose employment histories are typically less complex and therefore easier to recall (Shattuck and Rendall 2017).

We coded single motherhood, single mothers’ current work status, and recent receipt of cash income benefits from the AFDC/TANF and Unemployment Insurance (UI) programs, all as at ages 26 to 30 (at survey date). We define “single mothers” similarly across the NSFG and SIPP, as unpartnered women with any children under 18 in the family unit. We thus exclude cohabiting women from our single-mother group. Some elements of the AFDC/TANF program (Moffitt, Phelan, and Winkler 2017) and the EITC program (Holtzblatt and Rebelein 2000) treat cohabiting families more like married-couple families whereas other elements treat cohabiting families more like single-parent families. We follow the conventions of most of the disconnected single-mother literature (see above) here in excluding cohabiting women from our single-mother group. We also ignore single-father families, which constituted 16% of single-parent families in 2012, but with poverty rates under half those of single-mother families (Vespa, Lewis, and Kreider 2013).

We coded a single mother’s income sources in a four-category variable for whether or not she was currently working at survey date, and whether the woman or anyone of her “family members living [with her]” had received any AFDC/TANF or UI in the last 12 months (NSFG) or whether any “household members” had received any AFDC/TANF or UI in the last 8 months (SIPP).¹ These are the definitions that achieve the maximum comparability across the two surveys across all cohorts. AFDC/TANF is the program designed specifically for single parents without sufficient earnings and other income sources. The TANF program,

being time-limited, brings with it the risk of becoming ‘disconnected’ from sources of cash income when, or before, the time limit arrives (Loprest and Nichols 2011). UI is the most transitory of other cash-transfer sources linked to employment and earnings, and consequently has been associated with a higher probability of becoming disconnected (Moore et al 2012). Importantly, however, it may be viewed as part of the safety net of a work-oriented family-policy regime. We intentionally exclude Supplemental Security Income (SSI) because it is both an adult and child disability benefit and an old-age cash supplement (Wiseman 2011). It is therefore outside the set of programs whose explicit purpose is to provide cash income for mothers unable to find work.

Analyses

Following Kaestner et al (2003), we adopt a ‘cumulative probability’ rather than hazard approach to our multivariate estimation of changes in the first birth and first stable job sequencing outcome. That is, we model whether or not a woman had yet had a first birth and whether it preceded or followed first stable employment, by her age 26 to 30. As we show below, around 60% of women had a first birth by ages 26 to 30. Relying first on predictor variables in common across the two surveys, we estimated the following multinomial logit (MNL) model on the NSFG and SIPP samples:

$$\Pr\{Y\} = \text{MNL}\{\text{Cohort, Age, Race / Ethnicity and Nativity, Own Educational Attainment}\}$$

(1)

The outcome Y has the following three categories: 1) first birth before or in the same year as first substantial employment (‘birth-first’); 2) first birth after first substantial employment (‘employment-first’); and 3) no first birth. The ‘birth-first’ category is our reference outcome. We used sample weights throughout to account for the different oversampling designs used in the two survey sources and survey years.

We also follow Kaestner et al (2003) and others (e.g., Meyer and Rosenbaum 2001) in applying a Difference-in-Difference (DID) approach. The principle of the method is to compare change over time in the outcome variable between those women assumed to be affected by the change in family-policy regime and those women who are assumed not to be affected by the change in family-policy regime. Again following Kaestner et al, we use mother’s education to differentiate between these two groups of women. This variable is available only in the NSFG. We estimated the following multinomial logit (MNL) model on the NSFG sample only:

¹There is significant survey under-reporting of participation in these programs, though under-reporting tends to be less in the SIPP than in other surveys. Meyer, Mok, and Sullivan (2009) estimate a long-run average rate of SIPP under-reporting of months of participation of 23% for AFDC/TANF and of 25% for UI. These are the approximate levels of under-reporting that Meyer et al estimate for both the 1995–96 and 2003–04 periods that we report on (the 2008 period is not available in their comparisons). The effect of this under-reporting will be to overstate ‘disconnection’ about equally in pre-reform and post-reform cohorts.

$$\Pr\{Y\} = \text{MNL}\{\text{Cohort, Age, Race / Ethnicity and Nativity, Own Educational Attainment, Mother's Educational Attainment, Cohort} \times \text{Mother's Educational Attainment}\}$$

(2)

The “Cohort * Mother’s Educational Attainment” variable provides the DID estimator, using the highest category of mother’s education (‘bachelor’s degree or higher’) as the family-of-origin socioeconomic status reference category, and ‘pre-reform’ as the cohort reference category. Mother’s education provides a better variable than own education for this DID analysis, as the direction of causation for own education is more ambiguous: having an early birth may also reduce educational attainment. A problem we acknowledge with the DID approach is that macroeconomic changes across the pre-reform to post-reform period may disproportionately have disadvantaged welfare-eligible women, as part of a long-term trend toward labor market polarization (Autor, Katz and Kearney 2006; Kalleberg 2011). This makes it more difficult to distinguish impacts of the reform from impacts of macroeconomic change in evaluating differences in outcome change by socio-economic status.

For our single-mother disconnection analyses, we estimated for single mothers aged 26–30 at survey date, a variant of equation (1) in which that equation’s outcome variable was included as a predictor variable, with the outcome variable now her sources of income. Defining Y^* as the two-category variable for whether first birth preceded or followed first employment, and Z as the two-by-two category outcome of working (in receipt of earnings) or not at survey date by having received AFDC/TANF or UI (in the last 8 or 12 months respectively for the SIPP or NSFG) or not, we estimate again by MNL:

$$\Pr\{Z\} = \text{MNL}\{Y^*, \text{Cohort, Age, Race / Ethnicity and Nativity, Own Educational Attainment}\} \quad (3)$$

Equation (3) is estimated from a pooled sample of single mothers in the NSFG and SIPP. We followed recommended model-fit assessment of the validity of pooling across surveys (Rendall et al 2013). The best-fitting model (BIC or AIC statistic) included neither an indicator variable for which survey into which the woman was sampled nor the set of interactions of survey indicator with the covariates.

Results

We first describe trends in women’s sequencing of first birth and first stable employment across pre-reform and post-reform cohorts. These are presented in Table 1. Sample sizes are larger in the SIPP than in the NSFG, but sizeable in both surveys. The total sample size of women ages 26–30 aggregated over the three SIPP panels is 9,328, whereas for the three NSFG cycles it is 5,507.

Unsurprisingly, reporting of first birth, a clearly-defined event, is consistent across the two surveys. In both surveys, around three fifths of women ages 26–30 had given birth (see first row of Panel B). They did so across all three cohorts. Also consistent across the two surveys, however, is a marked change in the sequencing of first birth and first stable employment across pre-reform and post-reform cohorts. There is evidence from both surveys of a substantial shift towards first birth before first stable employment. In the estimates from the SIPP, an 8 percentage-point difference in favor of stable employment preceding a first birth among 26–30 year-old women in 1996 (35.4% ‘employment-first’ versus 27.2% ‘birth-first’ sequences) reversed to a difference in favor of a first birth preceding stable employment in 2008 (28.3% ‘employment-first’ versus 30.4% ‘birth-first’). In the estimates from the NSFG, an 18 percentage-point difference in favor of stable employment preceding a first birth among 26–30 year-old mothers in 1995 (39.2% ‘employment-first’ versus 21.4% ‘birth-first’ sequences) reduced to a 9 percentage-point difference in favor of a first birth preceding stable employment in 2006–2010 (34.7% ‘employment-first’ versus 25.8% ‘birth-first’). These shifts towards a greater propensity to give birth before experiencing stable employment are also seen in the early post-reform cohorts (women ages 26–30 in 2004 and 2002). Although the estimated magnitude of increase in propensity to give birth before experiencing stable employment is larger from 1995 to 2002 (8 percentage points) than from 1995 to 2006–2010 (4 percentage points), and also larger than the 1996 to 2004 increase in the SIPP (3 percentage points), we note also that it is estimated from a smaller sample size ($n = 1,321$ in the 2002 NSFG) and do not interpret it as being a meaningful substantive difference.

In Panel B of Table 1, we explore change in prevalence of single motherhood at ages 26–30, in the cohort, among all mothers, and by mothers’ sequencing of employment and first birth. No change is seen in the likelihood of being a single mother at ages 26–30 between pre-reform and post-reform cohorts. Overall, 15.5% of each of the 1996, 2004, and 2008 cohorts of 26–30 year-old women were estimated to be single mothers from the SIPP, and between 16 and 17% of the 1995, 2002, and 2006–2010 cohorts of 26–30 year-old women from the NSFG. Among all women who were mothers by age 26–30, a quarter were single mothers in estimates from both the SIPP and NSFG. Changes across the cohorts were negligible, and are not statistically significant in either survey. That is, there is no evidence here that the 1990s reforms did anything to change the sum of behaviors leading to single motherhood.

A consistently higher prevalence of single motherhood at ages 26–30 was experienced by those whose first birth preceded any stable employment than among those who obtained stable employment before a first birth. Except for 2008, in which the difference in single-mother proportions is not statistically significant between mothers of the two birth-employment sequence types, single-mother percentages at age 26–30 were between 7 and 15 percentage points higher among mothers whose first birth preceded any stable employment. Consistently around 30% of this group of mothers were single mothers at age 26–30 in both pre-reform and post-reform cohorts in both surveys. The higher proportions becoming a single mother among women whose first birth preceded any stable employment is a major concern since in the post-reform years of time-limited TANF, single mothers have an especially high need for employment and earnings. Moreover, as we noted above, this group of women (those having a birth before any stable employment) grew as a percentage of the

cohort between the pre-reform and post-reform years, and grew even more as a percentage of all who became mothers by ages 26–30.

Our multivariate estimates of women's sequencing of their first birth and first stable employment (see Table 2) further allow us to understand how this sequencing changed between the pre-reform and post-reform cohorts. The reference outcome is "First Birth before First Stable Employment." Post-reform cohorts' Relative Risk Ratios (RRR) of less than 1 indicate that the alternative outcome in the column heading became less likely relative to this reference outcome than it had been among women in the pre-reform cohort, controlling for ethnicity, nativity, education, and current age (between 26 and 30 at survey). Viewing the "Own education model" estimates in both the SIPP and NSFG, we see that both alternative outcomes ---- stable employment before a first birth, and no birth by age 26 to 30 ---- became less likely in the post-reform cohorts relative to the sequence of having a first birth before any stable employment. Compared to the pre-reform cohorts, obtaining stable employment before a first birth was estimated in the SIPP at 19% and 27% less likely (RRR=0.81 and 0.73), and having no birth by age 26, 22% and 14% less likely, respectively for the "early post-reform" and "Great Recession, post-reform" cohorts, relative to having a first birth before any stable employment. In the NSFG, obtaining stable employment before a first birth was estimated at 37% and 22% less likely, and having no first birth 41% and 26% less likely, respectively for the "early post-reform" and "Great Recession, post-reform" cohorts, relative to having a first birth before any stable employment.

Controlling for level of educational attainment, minority ethnicity and nativity women were much more likely to experience a 'birth-first' sequence than were majority White women. Compared to majority White women, Mexican-born women were 52% (SIPP) and 56% (NSFG) less likely to experience an 'employment-first' sequence relative to a 'birth-first' sequence, U.S.-born Hispanic women were 19% and 28% less likely to experience an 'employment-first' sequence, and U.S.-born Black women were 35% and 52% less likely to experience an 'employment-first' sequence.

Having more education is expected to be associated with a reduced propensity towards having a 'birth-first' sequence. The direction of causation here is ambiguous, however, since having an early birth may also reduce educational attainment. Compared to the reference category of college graduates, women with less than a high school graduate education were very much less likely to have experienced stable employment before a first birth (65% in the SIPP and 84% in the NSFG), and even less likely to have postponed childbearing until after age 26–30 (94% less likely in the SIPP and 98% less likely in the NSFG). High school graduate women and women with some college years were also estimated in the NSFG to be less likely to have experienced stable employment before a first birth (51% and 25% less likely respectively for high school graduate women and women with some college years), though no statistically-significant difference from college-graduate women was estimated in the SIPP. Both high school graduate women and women with some college, however, were again much less likely than were college-graduate women to have to have postponed childbearing until after age 26–30 versus having a 'birth-first' sequence before age 26–30.

We turn next to estimates, in the NSFG model only, that include mother's education in addition to the woman's own education, and that implement a DID estimator by interacting each of the three levels of mother's education below bachelor's degree or more with being in a "post-reform" cohort (either of the "early post-reform" or "Great recession, post-reform" cohorts). These results are shown in the rightmost columns of Table 2. We see that the reduction in likelihood of having a period of full-time employment of 6 months or more before a first birth relative to having a first birth before such employment was not a general trend between pre-reform and post-reform cohorts. Instead, it applied only to women whose mother's education did not proceed beyond high school. The "early post-reform" and "Great Recession, post-reform cohort" main-effect RRRs of 1.01 and 1.21 (neither statistically different from 1) indicate that we cannot conclude that there was any change in the relative likelihood of having stable employment before a first birth among women whose mother had a bachelor's degree. The interaction-effect RRR of 0.87 (not statistically different from 1) between "post-reform" and having a mother with some college education, relative to having a mother who had a bachelor's degree, moreover, means that neither can we conclude that there was any difference between these two groups of women with respect to their pre-reform to post-reform change in the sequencing of first employment relative to first birth. Neither the reforms nor other changes, such as macroeconomic or labor-market structural change, appear to have affected the first-birth relative to first-employment sequencing behavior of young women who were likely to be outside the reforms' target population. In contrast, for young women more likely to be within the reforms' target population, their "Post-reform * Mother's education" interaction RRRs of 0.49 and 0.55 indicate a 51% or 45% reduction in the likelihood of stable employment before a first birth since before the reforms, depending on whether their mother had less than a high school graduate or equal to a high school graduate level of educational attainment.

Also shown (rightmost column) are the RRRs for the outcome of no first birth by age 26–30. The main effects for "early post-reform" (RRR=0.89) and "Great Recession, post-reform" (RRR=1.07) are not statistically different from 1, indicating that among women with college-graduate mothers, we do not detect any change in the likelihood of delaying a first birth relative to having a first birth before first full-time employment. Again, no difference can be detected between these women and women whose mothers had some college education, in terms of pre-reform to post-reform trend (see the "Post-reform * Mother's Education" interactions: RRR=0.79, not significantly different from 1). Among women whose mother's schooling did not go beyond high school, however, "no first birth" (by age 26–30) became less likely relative to a "first birth before first employment" between pre-reform and post-reform cohorts: RRR=0.60 ($p < .10$) and RRR=0.57 ($p < .05$) respectively for women whose mother had either not completed high school and whose schooling did not go beyond high school, relative to women whose mother was a college graduate. That is, among young women most likely to be within the reforms' target population, but not among women outside the reforms' target population, having a first birth before first employment became more likely relative both to first employment before first birth and to delaying first birth past age 26–30.

Single-mother ‘disconnection’

In Table 3, we investigate the employment and AFDC/TANF or UI receipt of single mothers across the one pre-reform and two post-reform cohorts. We see first that single mothers who had a birth before any stable employment were less likely to be working at age 26–30 than were single mothers who had experienced stable employment before becoming a mother. The difference in proportion working between these two groups was between 7 to 18 percentage points (each time summing the bottom two rows of the panel). For example, in 1996 (SIPP estimates) 59% of single mothers who first had a birth, and 72% of single mothers who first obtained stable employment, were working at age 26–30. In the post-reform, Great Recession year of 2008, 69% of the ‘birth-first’ group and 76% of the ‘employment-first’ group of single mothers were working. The corresponding figures for 1995 (NSFG estimates) were 46% of single mothers who first had a birth and 74% of single mothers who first obtained stable employment, and in 2006–2010 60% of the ‘birth-first’ group and 77% of the ‘employment-first’ group of single mothers. Overall, there was a substantial decline in employment of single mothers from the early post-reform to Great-Recession periods. The percentages of all single mothers working were 65%, 81%, and 72% across the three cohorts in the SIPP, and 63%, 78%, and 68% across the three cohorts in the NSFG. That is, following a well-documented substantial rise in proportions of single mothers working in the years immediately following the reforms (Ellwood 2000; Meyer and Rosenbaum 2001; Grogger 2003), more than half of the gains in employment were lost with the onset of the Great Recession, resulting in employment rates among 26–30 year-old single mothers that were only 5 and 6 percentage points higher than in the immediate pre-reform years of 1995 and 1996.

Also well documented has been a very large decline in AFDC/TANF participation in the years following the reform (Danielson and Klerman 2008). We see here (summing the middle two rows of each panel) that there was, however, no increase in TANF and UI receipt between the early post-reform and Great Recession periods. Such an increase, had it occurred, might have compensated for the lower employment among single mothers during the Great Recession. Using our SIPP measure of any TANF or UI receipt in the previous 8 months, 21% of 26–30 year-old single mothers in both 2004 and 2008 were TANF/UI recipients (see ‘All single mothers’ panel). The corresponding figures for TANF/UI reciprocity estimated from the NSFG were 23% of 26–30 year-old single mothers in both 2002 and 2006–2010.

The consequences of employment declines with no change in TANF/UI receipt between the pre-recession and Great-recession periods were substantial increases in the proportions of single mothers who were ‘disconnected’ from both the workforce and from TANF/UI. Our estimates from the SIPP show that between 2004 and 2008, this ‘disconnected’ group increased from 11% to 17% of single mothers, while our estimates from the NSFG show that between 2002 and 2006–2010, this ‘disconnected’ group increased from 14% to 19% of single mothers. Immediately prior to the welfare reform, only 8% and 6% of single mothers were respectively estimated in 1996 (SIPP) and 1995 (NSFG) to be disconnected from both the workforce and AFDC/UI receipt.

Although the ‘disconnected’ proportion grew both among single mothers who first had a birth and among single mothers who first obtained stable employment, the former group experienced the greatest disconnection. In 2008 and 2006–2010, respectively 20% and 24% ‘birth-first’ single mothers were disconnected from both the workforce and TANF/UI receipt, compared with 14% of single mothers who first obtained stable employment. Under 10% of both birth-employment sequence groups of single mothers were disconnected in this pre-reform period. However, a substantially higher rate of AFDC/UI receipt among single mothers whose first birth preceded any stable employment was crucial in keeping more of this group from experiencing disconnection in the pre-reform period. As many as 49% received AFDC/UI in the previous 8 months (SIPP 1996) and 60% receiving AFDC/UI in the previous year (NSFG 1995). In contrast, 35% and 38% respectively of single mothers whose first birth was preceded by stable employment received AFDC/UI in the previous 8 months (SIPP 1996) and in the previous year (NSFG 1995).

The above results on the bivariate relationship between having a first job before a first birth and single-mother ‘disconnection’ are similar when estimated using the NSFG and SIPP sample of single mothers aged 26–30, differences in variable definitions between the NSFG and SIPP notwithstanding. The multivariate model fit tests described above support pooling the two surveys in our analyses of the association between having a first job before a first birth on subsequent single-mother ‘disconnection’ (see Table 4). The reference outcome category is ‘disconnection’ (neither working nor receiving AFDC/TANF or UI), with two of the three alternative outcomes including currently working (either with or without any AFDC/TANF or UI having been received in the last 8 or 12 months). The main explanatory variable is “first job before first birth”, relative to the reference category of first birth before first job. The positive coefficient on this variable for the two currently-working outcomes, controlling now for education, age, and race/ethnicity, in addition to cohort, provides more evidence that beginning full-time employment before a first birth reduces subsequent single-mother ‘disconnection’ of. The RRRs of 1.74 and 1.59 indicate 74% and 59% increases respectively in the risk of working with or without having been recently in receipt of cash transfers, relative to being ‘disconnected.’ As expected, the birth-first versus job-first predictor variable is not associated with any change in the risk of avoiding ‘disconnection’ by receiving AFDC/TANF or UI while not working. Being in the pre-reform period was instead the best way to avoid disconnection as a single mother through receiving AFDC/TANF or UI while not working.

In results not shown, we interacted ‘first job before first birth’ with pre-reform versus post-reform cohort. These interaction coefficients were all non-significant. Thus the positive association of having a first job before first birth with avoiding disconnection through working when a single mother is not unique to the post-reform period. However, the positive coefficients for both “pre-reform” and “pre-recession post-reform” as predictors of avoiding disconnection through working (whether or not receiving AFDC/TANF or UI) indicate that being in the reference-category “Great recession, post reform” cohort and having a “first birth before first job” jointly increased a woman’s risk of becoming ‘disconnected’ as a single mother.

Finally, the coefficients for education are consistent with expectations that women with lower education are less likely to avoid ‘disconnection’ through working and are more likely to avoid ‘disconnection’ by receiving cash transfers (AFDC/TANF or UI). Minority race/ethnicity women are also more likely to avoid ‘disconnection’ by receiving cash transfers (including when observed to be working at survey date), with the exception of Mexican-born women who, as immigrants, had more restricted eligibility for these transfers especially in the post-reform period (Kaestner and Kaushal 2005).

Summary and Conclusions

The 1990s U.S. family-policy reforms were heralded as having begun a new era of greatly reduced welfare dependence and greatly increased work effort among single mothers (Blank 2002). Some reports have also claimed significant behavior change has occurred in the way that young women are starting their adult lives, for example towards more continuation of schooling and less teenage motherhood (Kaestner et al 2003; Offner 2005; but see also Hao and Cherlin 2004). However, no prior research has investigated whether post-reform women have been more likely than pre-reform women to launch into adulthood first by obtaining stable employment before becoming a mother. We found instead that women from the post-reform cohorts became overall *less* likely to obtain stable full-time employment before a first birth, and more likely to have their first birth occur before such employment. In a difference-in-difference analysis, we also showed that these behavioral changes towards a first birth before stable employment occurred only among women from more disadvantaged family backgrounds, characterized by having a mother whose educational attainment did not extend beyond high school. In contrast, no changes towards sequencing first birth before first substantial full-time employment occurred for women whose mothers had any college education. The limits of our difference-in-difference approach preclude any definitive conclusion that the reforms caused this change towards more ‘birth-first’ and fewer ‘employment-first’ sequences among women in the population targeted by the reforms. Macroeconomic structural changes may instead have had adverse impacts on their early labor-market stability (Kalleberg 2011; Autor et al 2016). In either case, this rise in first births before first employment exclusively among lower-socioeconomic-status women brought challenges that had not been anticipated before the reforms were implemented. We found that such life-course sequences were associated both with greater likelihood of single motherhood in a woman’s late 20s, and with greater likelihood of ‘disconnection’ simultaneously from earned income and public cash transfers in the event of single motherhood.

Our finding of lower employment of single mothers whose first birth that preceded stable employment is consistent with Lu et al’s (2017) finding that employment continuity after a birth is more likely among women with pre-birth histories of greater pre-birth employment experience and longer pre-birth job tenure. It is not consistent with Herr’s (2016) finding that having a birth before first stable employment increases long-term earnings, at least among White women. Neither study, however, directly addressed the populations most at risk of welfare-program eligibility, those who become low-income single mothers. More research into detailed histories of employment patterns among such women (see, for example, Pavetti and Acs 2001) is called for to better understand these declines in

sequencing of stable employment before first birth that we document. The wellbeing of low-income single mothers and their children in the post-reform period has come to depend primarily on the mother's success in the labor force, absent the welfare benefits of the pre-reform period that provided a minimum level of cash income to single mothers with dependent-age children (Eamon and Wu 2013). The trend toward lower fractions of women having experienced stable employment before giving birth is therefore of particular concern in this new environment.

Finally, we found that, following a well-documented substantial rise in proportions of single mothers working in the years immediately following the reforms (Ellwood 2000; Meyer and Rosenbaum 2001; Grogger 2003), more than half of these employment gains were lost again with the onset of the Great Recession. The consequences of employment declines, when combined with little change in TANF/UI receipt between the pre-recession and Great-recession periods, were of substantial increases in the proportions of disconnected single mothers. These declines in employment and increases in 'disconnection' in the Great-Recession period occurred both among single mothers who did and who did not have stable employment before their first birth. The greater overall risk of 'disconnection' of single mothers who did not experience stable employment before their first birth, however, resulted in especially high levels of disconnection in the Great Recession period, affecting between one in five and one in four such women.

Our study more generally indicates the utility of reorienting scholarly and policy debate toward a focus on how work and family outcomes unfold across women's life-course trajectories, and reinforces previous reform evaluations that have shown how different the policy outcomes may appear when viewed from a life-course decision-making framework (Swann 2005; Keane and Wolpin 2010; Chan 2013). We noted that the means-tested family-policy of the U.S., including after the 1990s Welfare Reform, is built around employment following a birth, irrespective of employment trajectory before a birth. The alternate, universalist family-policy that other countries have looked to in shaping their reforms (e.g., Spiess and Wrohlich 2008) instead makes benefits, including state-subsidized maternity leave and childcare, explicitly contingent on having stable employment before the child's birth. This leads to very different life-course sequencing trajectories (Gustafsson 2001). Without a transformation of the life-course patterns of women at risk of becoming single mothers toward behaviors that will better prepare them for a stable employment trajectory, it is unclear that their children will be provided with a minimum standard of living under the current welfare and family-policy regime (Scott et al 2004; Grieger and Wyse 2013).

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Table 1:

Distributions of first birth and first stable employment sequences and subsequent single motherhood in pre-reform and post-reform cohorts, women ages 26-30

	Survey of Income and Program Participation (SIPP)					National Survey of Family Growth (NSFG)				
Panel A: First birth, first job sequence	1996	2004	2008	chi-sq	p-value	1995	2002	2006-10	chi-sq	p-value
Birth preceded first stable employment	27.2	30.5	30.4			21.4	29.6	25.8		
First stable employment preceded first birth	35.4	31.8	28.3			39.2	34.2	34.7		
No first birth	37.4	37.7	41.3			39.4	36.2	39.4		
Total	100.0	100.0	100.0			100.0	100.0	100.0		
Chi square test (for change in distribution across cohorts)				39.4	<.01				30.7	<.01
Sample size	3,192	3,191	2,945			1,808	1,321	2,378		
Panel B: First birth and single motherhood at age 26 to 30	1996	2004	2008	chi-sq	p-value	1995	2002	2006-10	chi-sq	p-value
Any first birth	62.6	62.3	58.7	12.19	<.01	60.6	63.8	60.6	4.35	0.11
Single mother at survey	15.5	15.5	15.5	0.003	0.998	16.7	17.1	15.9	1.07	0.59
Single mothers as a proportion of all women with a first birth	24.8	24.9	26.5	1.82	0.40	27.6	26.8	26.2	0.68	0.71
Single mothers as a proportion of all women with a first birth that preceded any first stable employment	29.0	28.6	28.0	0.26	0.88	31.8	34.8	30.4	2.53	0.28
Single mothers as a proportion of all women with a period of stable employment that preceded a first birth	21.5	21.5	24.9	4.18	0.12	25.3	19.8	23.1	4.71	0.09
Chi square test (difference in single motherhood prevalence by whether first birth preceded stable employment)	15.65	13.82	2.18			5.72	25.27	10.29		
p value	<.01	<.01	0.14			0.017	<.01	<.01		

Sources: Survey of Income and Program Participation (SIPP), 1996, 2004, and 2008 panels; National Survey of Family Growth (NSFG), 1995, 2002, and 2006-10 cycles.

Table 2

Multinomial logit of life-course sequence to age 26-30 (versus first birth before first stable employment),
Relative Risk Ratios

	Own education models								Own and Mother's education (Difference in Difference) model			
	SIPP				NSFG				NSFG			
	Stable Employment		No First Birth		Stable Employment		No First Birth		Stable Employment before First Birth		No First Birth	
Socio-demographic variables												
Age	1.05	*	0.82	***	1.01		0.82	***	1.01		0.83	***
Race/ethnicity (vs. U.S.-born non-Hispanic White)												
U.S.-born Black	0.65	***	0.58	***	0.48	***	0.43	***	0.50	***	0.44	***
U.S.-born Hispanic	0.71	***	0.49	***	0.62	***	0.68	**	0.69	**	0.78	
Foreign-born Mexican	0.48	***	0.42	***	0.44	***	0.32	***	0.55	***	0.43	***
Other	0.65	***	0.88		0.40	***	0.52	***	0.43	***	0.58	***
Own Education (vs. Bachelor's degree or more)												
Less than high school	0.35	***	0.06	***	0.16	***	0.02	***	0.18	***	0.02	***
High school	0.89		0.16	***	0.49	***	0.16	***	0.53	***	0.11	***
Some college	1.08		0.29	***	0.75	*	0.22	***	0.78	*	0.24	***
Mother's Education (vs. Bachelor's degree or more)												
Less than high school	-		-		-		-		1.18		0.77	
High school	-		-		-		-		1.43		1.13	
Some college	-		-		-		-		1.18		1.12	
Post-reform cohort variables												
Early Post-reforma	0.81	**	0.78	***	0.63	***	0.59	***	1.01		0.89	
Confidence Interval	0.71	0.92	0.68	0.89	0.52	0.77	0.48	0.73	0.62	1.65	0.55	1.43
Great Recession, Post-reform ^b	0.73	***	0.86	*	0.78	**	0.74	**	1.21		1.07	
Confidence Interval	0.64	0.83	0.75	0.99	0.65	0.93	0.62	0.90	0.75	1.96	0.67	1.71
Post-reform * Mother's Education												
Less than high school * post-reform	-		-		-		-		0.49	*	0.60	+
Confidence Interval									0.28	0.85	0.34	1.06
High school * post-reform	-		-		-		-		0.55	*	0.57	*
Confidence Interval									0.32	0.94	0.34	0.98
Some college * post-reform	-		-		-		-		0.87		0.79	
Confidence Interval									0.45	1.68	0.42	1.50
Sample N	9,328				5,501				5,470			
-2 Log L	18,301.7				10,267.7				10,187.5			

Notes:

^a 2002 in NSFG, 2004 in SIPP

b. 2006-2010 in NSFG, 2008 in SIPP

⁺ $p < .10$;

^{*} $p < .05$;

^{**} $p < .01$,

^{***} $p < .001$; regressions are weighted

Sources: Survey of Income and Program Participation (SIPP), 1996, 2004, and 2008 panels; National Survey of Family Growth (NSFG), 1995, 2002, and 2006-10 cycles

Table 3

Growth in single mothers' disconnection: work and welfare receipt at age 26 to 30, pre-reform and post-reform cohorts

Survey of Income and Program Participation (SIPP)				National Survey of Family Growth (NSFG)					
	1996	2004	2008		1995	2002	2006-10		
Single mothers whose first birth preceded first stable employment:				chi-sq	p-value			chi-sq	p-value
not working, no AFDC/TANF or UI receipt	8.8	12.5	20.0			6.5	17.0	23.9	
not working, AFDC/TANF or UI receipt	32.0	11.1	11.0			47.8	9.0	16.1	
working, AFDC/TANF or UI receipt	17.4	11.3	9.9			12.5	11.3	10.0	
working, no AFDC/TANF or UI receipt	41.8	65.2	59.2			33.2	62.8	50.0	
Total	100.0	100.0	100.0			100.0	100.0	100.0	
Chi square test (for change in distritbution across cohorts)				83.0	<.01			110.2	<.01
Sample size	286	311	274			183	190	319	
Single mothers whose first stable employment preceded first birth:									
not working, no AFDC/TANF or UI receipt	6.7	9.1	14.0			4.8	8.3	14.4	
not working, AFDC/TANF or UI receipt	20.9	4.1	10.6			20.8	8.0	8.4	
working, AFDC/TANF or UI receipt	14.4	14.8	10.2			17.8	18.6	11.8	
working, no AFDC/TANF or UI receipt	58.0	72.0	65.3			56.6	65.1	65.4	
Total	100.0	100.0	100.0			100.0	100.0	100.0	
Chi square test (for change in distritbution across cohorts)				42.8	<.01			35.1	<.01
Sample size	262	244	220			221	118	283	
Chi square test (for no difference in distribution from those whose first birth preceded stable employment)	15.16	12.23	3.31			36.0	7.1	21.0	
p value	<.01	<.01	0.35			<.01	0.07	<.01	
All single mothers:									
not working, no AFDC/TANF or UI receipt	7.8	11.0	17.2			5.5	13.5	19.1	
not working, AFDC/TANF or UI receipt	26.5	8.0	10.8			31.8	8.6	12.2	
working, AFDC/TANF or UI receipt	15.9	12.8	10.0			15.6	14.2	10.9	
working, no AFDC/TANF or UI receipt	49.8	68.2	61.9			47.1	63.7	57.8	
Total	100.0	100.0	100.0			100.0	100.0	100.0	
Chi square test (for no change in distritbution)				114.8	<.01			117.1	<.01
Sample size	548	555	494			404	308	602	

Sources: National Survey of Family Growth (NSFG), 1995 and 2006-10 cycles; Survey of Income and Program Participation (SIPP), 1996 and 2008 panels

Table 4

Multinomial logistic regression of working and cash transfer receipt combination alternatives to being "disconnected" (neither working nor receiving AFDC/TANF or UI), single mothers ages 26-30

	Not working, receiving AFDC/TANF or UI		Working, receiving AFDC/TANF or UI		Working, not receiving AFDC/TANF or UI	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
First job before first birth (versus first birth before first job)	0.082	0.157	0.552 **	0.158	0.465 ***	0.125
Relative Risk Ratio	1.09		1.74		1.59	
95th Confidence Interval	0.80	1.48	1.27	2.37	1.25	2.04
Cohort (versus Great Recession post-reform)						
pre-reform	1.965 ***	0.184	1.434 ***	0.194	0.835 ***	0.160
early post-reform	0.130	0.194	0.743 ***	0.182	0.613 ***	0.138
Age	-0.200 ***	0.052	-0.210 ***	0.053	-0.130 **	0.042
Race/ethnicity (vs. U.S.-born non-Hispanic White)						
U.S.-born non-Hispanic Black	0.517 **	0.174	0.364 *	0.176	-0.087	0.140
U.S.-born Hispanic	0.890 ***	0.256	0.701 **	0.265	0.246	0.220
Foreign-born Mexican	-0.344	0.340	-0.397	0.378	-0.004	0.253
Other	0.497 †	0.256	0.136	0.273	-0.091	0.208
Educational attainment (vs. Bachelors degree or more)						
Less than high school	1.469 **	0.535	-0.853 *	0.370	-1.666 ***	0.300
High school	1.145 *	0.534	-0.529	0.360	-1.060 ***	0.295
Some college	0.954 †	0.534	-0.454	0.356	-0.710 *	0.290
Intercept	3.576 *	1.553	5.411 ***	1.547	5.583 ***	1.230
BIC ^a	6,372.0					
Sample N	2,911					

Sources: National Survey of Family Growth (NSFG) 1995, 2002, and 2006-10 and Survey of Income and Program Participation (SIPP) 1996, 2004, and 2008, Pooled

Notes: reference outcome is not working and receiving Aid to Families with Dependent Children (AFDC)/Transitional Assistance to Needy Families (TANF) or Unemployment Insurance (UI).

Coefficient statistically significantly different from zero:

†
p < .10,

*
p < .05,

**
p < .01,

p < .001

^a Lower BIC than for alternate model that include a dummy for survey (BIC = 6,392.6)