

## **The American Welfare System and Family Structure: A Historical Perspective**

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### **Abstract**

Cross-sectional studies have found a positive relationship between a state's welfare benefit level and single motherhood. But is this evidence of a "welfare effect" or rather of cross state differences in social attitudes that influence both welfare policy and behavior? This study looks at the history of welfare programs over the twentieth century and examines the relationship between welfare benefits and family structure from 1910 and 1970. Cross-state variation in welfare policy was already present in the mothers' pensions programs enacted in the 1910s, but evidence of a welfare effect does not appear until 1960 or 1970.

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Between 1970 and 2000, the fraction of American families with children under the age of 18 headed by single mothers more than doubled, rising from 12 to 26 percent. This change has given rise to some alarm. Families headed by single mothers have high rates of poverty, and children raised in such families are more likely to drop out of school, have children out-of-wedlock, and have difficulties in the labor market as young adults (McLanahan and Sandefur 1994). In the search to explain this dramatic change in American family structure, much of the attention has been focused on the American welfare system. In most states, only families headed by single parents are eligible for cash assistance programs. This restriction, it is argued, promotes the formation of single mother families by discouraging marriage and encouraging divorce and separation.

Numerous studies have examined this “welfare effect” hypothesis over the past thirty years and have produced a wide range of results. Moffitt (1998 and 2003) provide recent reviews of this literature. Time series evidence provides little support for the hypothesis: during the 1970s and 1980s when the number of single-mother families was increasing most rapidly, real welfare benefits were falling (Moffitt 1998, 60). But cross-sectional studies often find that family structure varies with a state’s level of benefits. In states with higher benefits, women have been found to be less likely to be married (Schultz 1994 and 1998) and more likely to be single mothers (Moffitt 1994) and household heads (Hoynes 1997). However, when the analysis is extended to repeated-cross-section and longitudinal data a slightly different and more complicated story emerges. Moffitt (1994) and Hoynes (1997) find that controlling for state fixed effects causes the relationship between benefit levels and female headship for whites to disappear. As both authors document, this change occurs because state fixed effects are positively correlated with state benefit levels. In other words, states that offer high levels of

benefits are those with high rates of female headship, and states that offer low levels of benefits are those with low rates of female headship. The disappearance of the benefit level effect when state fixed effects are included in the model indicates that white female headship does not respond to the year-to-year changes in the level of benefits. But the basic conclusion of these models is still that states that offer the most generous welfare benefits have the highest rates of female headship among whites. The same correlation, however, does not exist for blacks. Both Hoynes and Moffitt find no correlation between benefit levels and state fixed effects for black female headship, and adding state fixed effects has no effect on the estimated relationship between welfare benefit levels and black female headship.

As Moffitt pointed out in his 1994 paper, these results raise as many questions as they answer (p. 634). Namely, what are “state fixed effects” and how do we interpret them in the context of the debate on the impact of welfare policy on family structure?<sup>1</sup> A standard explanation is that fixed effects capture differences across states in population composition and attitudes towards single motherhood. Such factors would influence both the prevalence of single motherhood and the relative support for the welfare system. For example, a strong two-parent family tradition in a state will lead to fewer single mothers and less support for welfare programs. But such explanations present other questions. How did the “strong two-parent family tradition” develop? Did this tradition precede and determine the limited support for welfare programs in the state? Or, did the limited support for welfare contribute to the development of this tradition?

Furthermore, any explanation must confront the issue of the lack of correlation between the state fixed effects for black female headship and welfare benefit levels. One explanation – that put forth by both Moffitt (p. 631) and Hoynes (p. 110) – is that regional patterns in social

norms differ between blacks and whites and those of blacks do not influence policy. Moffitt also proposes another explanation: discrimination. States may offer low levels of welfare benefits *in response to* high rates of black female headship.

This paper addresses these issues by examining the relationship between relative welfare generosity and family structure from 1910 to 1970. The majority of studies to date have focused on the period from 1968 forward.<sup>2</sup> This focus is natural given the changes in family structure that took place in the 1970s and 1980s. But the seeds of those changes were planted much earlier, especially for blacks. Single motherhood was on the rise among blacks as early as the 1940s and began to rise among whites in the 1960s. Moreover, the bias toward single-parent families in the American welfare system long precedes these changes. The first public assistance programs targeted at single mothers were mothers' pensions which were enacted by state legislatures beginning in the 1910s. These early laws set the stage for the tremendous spatial variation in welfare generosity we observe today. The variation in these early programs is striking not only for its extent but also for how closely it corresponds to the variation observed throughout the history of the federally-mandated Aid to Families with Dependent Children (AFDC) program created by the Social Security Act in 1935. The most generous states in 1919 were the most generous states in 1940 and are still among the most generous states today. If a state's relative welfare generosity is determined by social norms and attitudes toward single motherhood, those norms and attitudes were already in place in the first half of the twentieth century. The question is, did cross-state differences in welfare policy in this period correspond to cross-state differences in behavior? Or did this relationship only emerge later when single motherhood began its rise?

## **The long history of variation in welfare generosity across the states**

Public aid to single mothers had been discussed as early as the late-nineteenth century, but the real push for such programs, though, began with the 1909 White House Conference on the Care of Dependent Children. Much of the discussion at the conference centered on the plight of single mothers who were separated from their children by poverty alone. In fact, many charitable organizations in the early twentieth century encouraged impoverished mothers to place their children in orphanages or foster care (Leff 1973, 399). The irony, noted by many conference participants, was that the cost for caring for children in institutions or foster families was frequently much greater than what it would have cost to care for these children in their own homes.

Illinois passed the first statewide mothers' pension law in 1911 authorizing county governments to provide grants to mothers with dependent children. Other states quickly followed. By the end of 1919, 39 states had enacted mothers' pension laws. State legislation did not establish state programs, but rather authorized local governments – usually county governments – to provide cash grants to destitute parents. Most, in fact, did not even provide state funds for pensions. But state legislation provided the general parameters under which these programs had to operate.

These early laws already embodied the tremendous variation in welfare generosity across the states we are familiar with today. Table 1 provides some of the characteristics of the mothers' pensions laws in force in 1919. State laws differed, first of all, in who was defined eligible to receive aid. Some states such as New York and New Jersey only permitted grants to widows, while other states extended coverage to divorced or so-called “deserted” mothers and to mothers with institutionalized and incapacitated husbands. Only Michigan and Nebraska

explicitly allowed payments to unmarried mothers, but a number of states – Massachusetts, New Hampshire, Washington, Colorado, Pennsylvania, Maine, and Indiana – had legislation that covered “mothers of dependent children” without reference to marital status. Laying the foundation for the variation in benefit levels that characterizes welfare programs today, state laws also varied in the maximum grants they allowed for families of different compositions. In 1919, the maximum grant specified for a family consisting of a mother and three children was \$18 (\$145 in 2000 dollars) in New Jersey and \$55 (\$444 in 2000 dollars) in Utah and Nevada. The New York law stated that the benefits paid “must not exceed what it would cost to care for children in an institutional home.” The Massachusetts law, in contrast, specified no maximum, leaving it to local governments to determine grant amounts (U.S. Women’s Bureau 1919).

Mothers’ pensions programs as implemented never lived up to their legislative success. Many counties, most of them rural, refused to establish programs claiming that no eligible families lived within their boundaries (Leff 1973, 413). Mothers’ pensions programs, where they did exist, were generally under funded. The grants provided were generally very low and typically did not even cover the basic expenditure requirements of families (U.S. Children’s Bureau 1923).

Mothers’ pensions programs also served a very select population. Despite the fact that during the 1920s most states extended coverage to divorced and deserted women, 82 percent of pension recipients in 1931 were widows (U.S. Children’s Bureau 1933, 11). The black population was particularly underserved by these programs. Single motherhood was more prevalent in the black than the white population even in the early twentieth century (Gordon and McLanahan 1991; McDaniel 1994; Morgan et al. 1993; Ruggles 1994), but only 3 percent of mothers’ pensions recipients in 1931 were black (U.S. Children’s Bureau 1933, 13). The

Southern states, where the majority of blacks lived during this period, were slow to enact mothers' pension laws. Alabama did not enact a mothers' pension law until 1931, and Georgia and South Carolina did not establish aid to single mothers until the federally-mandated ADC program. When Southern states did enact legislation, maximum benefit levels were quite low and geographic coverage was quite limited. For instance, only 3 of Mississippi's 82 counties paid out mothers' aid grants in 1931 (Ibid, 9).

The problems inherent in the reliance on local government funding and administration were aggravated by the Great Depression. As local governments saw their revenues fall, some reduced grant amounts, others cut recipient rolls, and still others suspended programs entirely. The crisis led to the drive for a federal grants-in-aid program. Chief among the arguments for a federal program were the disparities both within and across states in coverage and benefit levels.<sup>3</sup> However, the proposals were not for a federally-administered program, but rather a federally-mandated and state-administered program. The consolidation was to be done at the level of the state. States would be required to provide state monies to fund the program, and state agencies, rather than local government units, would determine eligibility and benefit levels. This consolidation was intended to eliminate the variation in aid within states. The variation between states was to be addressed by the use of federal funds. Grace Abbott argued, "a federal fund would be an instrument for improving the standards in backward states and would tend to equalize costs" (1934, 210).

The outcome of these proposals was the Aid to Dependent Children (ADC) program (which was later renamed Aid to Families with Dependent Children -- AFDC) which was enacted as part of the Social Security Act of 1935. This program was, as Abbott and others had called for, federally mandated but state administered. Federal funding came in the form of

matching grants. Under the original legislation, the federal government would pay one-third of the payments up to \$18 to the first dependent child and one-third of the payments up to \$12 to each of the other dependent children in a home. In 1940, the federal share was increased from one-third to one-half.

ADC did overcome many of the problems of mothers' pensions. The recipient rolls expanded quickly. Between 1935 and 1938, the recipient rolls more than doubled from 116,817 families to 279,657 families (Bucklin 1939, 33). As these rolls expanded, the composition of families served changed as well. By 1948, only 23 percent of recipient families were the families of widows, and 29 percent were black (Alling and Leisy 1950).

But the substantial cross-state variation in benefit levels remained. The enacted federal legislation left benefit level determination entirely up to the states. The legislation originally proposed would have required states to pay a minimum benefit compatible with "health and decency." This clause, however, never made it out of committee. The stated concern of many states was that such a clause would impose financial obligations on a state without any regard for the financial circumstances of the state. Edwin Witte, who served as the executive director of the Committee of Economic Security claimed that Southern senators feared the clause would allow the federal government to interfere with how their states handled the "Negro question" (Congressional Research Service 1982). As passed, the legislation only required "each state to furnish financial assistance, as far as practicable under the conditions in each state, to needy children." The Social Security Board interpreted this wording as merely requiring that each state establish a system for measuring the "needs" of its public assistance recipients. The benefits a state paid did not have to correspond to these needs (Ibid, 11).

Cross-state variation in benefit levels persisted throughout the history of the ADC/AFDC program even as the federal matching formula changed and food stamps and Medicaid were added to the benefit package. This variation is now embodied in the Temporary Assistance for Needy Families (TANF) program that was created to replace AFDC in 1996 and “change welfare as we know it.” As remarkable as the scope of this variation is its stability over time. Table 1 provides data on the combined value of welfare benefits to a family of four in 1996 in addition to the provisions of state mothers’ pensions laws.<sup>4</sup> The states are ordered by 1996 benefit levels. Of the ten states with the highest welfare benefits in 1996, eight provided state funds for mothers’ pensions and three extended coverage to mothers of dependent children without reference to marital status. Likewise, the states with the least generous benefits in 1996 had the least generous mothers’ pensions programs in 1919. Four of the ten states with the lowest AFDC benefits in 1996, in fact, had enacted no mothers’ pension legislation by 1919.

Figure 1 illustrates the stability of welfare generosity variation during the ADC/AFDC program by plotting the estimated combined maximum value of welfare benefits provided by states in 1996 against the 90th percentile of benefits paid under ADC in 1940.<sup>5</sup> The states near the top of the distribution in 1940 were still at the top of the distribution in 1996, and those at the bottom stayed at the bottom. The rank correlation between these data is 0.71. Although there has been movement within the ranks over the past sixty years, most of these movements have been small. The general pattern is one of continuity rather than change.

This continuity has an important implication for the study at hand. If the variation across states in welfare generosity reflects differences in social norms and attitudes towards single motherhood, these differences were likely already in place in the early twentieth century and were certainly in place by beginning of the ADC program. If such differences drive the cross-

sectional variation in family structure observed today, then similar variation, or at least the seeds of that observed today, should have also been present during the mothers' pensions era or at least during the early years of the ADC.

### **Family structure, 1910 to 1970**

Although the studies to date have produced a wide-range of findings, the balance of the evidence indicates at least that cross-state differences in family structure have been correlated with cross-state differences in benefits since the 1970s. The objective of this paper is to see how far back this correlation extends.

I examine the relationship between welfare generosity and family structure using individual-level data from the 1910, 1920, and 1940 to 1970 federal censuses made available as part of the Integrated Public Use Microdata Series (IPUMS).<sup>6</sup> For the 1910 census, the IPUMS contains both a 1-in-250 national random sample as well as an oversample of blacks in the South. For the other five censuses, the IPUMS samples are 1-in-100 national population samples.<sup>7</sup> The 1950 census, however, asked certain key questions (e.g., number of years of schooling) only of individuals who fell on what was referred to as the "sample lines" on the enumeration forms. Hence, I must use only the sample-line data of the 1950 sample.

The base sample for analysis is all non-institutionalized women ages 20 to 44 living in the contiguous 48 states. But for 1940 to 1970, I also consider the behaviors and outcomes of the subset of this sample which was most likely to participate in the AFDC program: women ages 20 to 44 with fewer than 12 years of education.<sup>8</sup>

Policy discussions of the links between welfare policy and family structure focus on single motherhood or female household headship. This is where I begin my analysis. Following the standard practices in the literature, I define a single mother as a woman living with an own

child under the age of 18 and with no spouse present and define a female household head as a single mother who is identified as a household head in the census. This distinction can be thought of as distinguishing between family and household heads. The first definition includes single mothers who may be coresiding with their parents or other relatives.<sup>9</sup> The second definition includes only those single mothers heading their own households.

But single motherhood and household headship are the results of many decisions and behaviors all of which can be subsumed under the heading of family structure. The routes into single motherhood are widowhood, divorce or separation, or having an out-of-wedlock birth. The most common route out is through marriage. Therefore I also look at the impact of welfare benefits on marriage and fertility patterns as well. If welfare policy reflects social norms in regards to marriage and family, we may expect to observe a correlation between welfare benefits and one of these behaviors before we observe such a correlation for single motherhood.

I consider two measures of marriage patterns: the marriage rate and the rate of marital dissolution. A woman is defined as married if she is currently married and living with her spouse. Tracking marital dissolution over the century is complicated by both changes in social attitudes toward divorce as well as census enumeration procedures. In the early years of the century, divorce still carried significant social stigma. Many couples who wished to sever their relationships never sought official divorces, but rather just lived apart. In the terminology of the day – a terminology that was written into mothers’ pensions legislation – such women were “deserted.” Today, these women would be referred to as “separated.” The census did not allow individuals to report their marital status as “separated” until 1950. In the earlier censuses, therefore, these women would have been reported as “married” even though their spouses were absent. Hence, to create a consistent measure of marital dissolution over the century, women

who were reported in the census as married but with an absent spouse, are grouped with women reported as divorced or separated. This leads to an overstatement of marital breakups because some women living apart from their husbands may have been doing so temporarily and still receiving support from them. But excluding women with absent spouses would lead to an understatement of marital breakup before 1950 and hence to a biased picture of the change in the marital dissolution rate over the century.<sup>10</sup>

To examine connections between welfare policy and fertility patterns, I consider the overall birth rate as well as the birth rate among single women. The route into single motherhood always involves becoming a mother. An out-of-wedlock birth is just the most direct route into single motherhood. Welfare policy may affect the fertility choices of married women as well as single women. For instance, a woman in an unstable marriage may be more likely to have a child if she lives in a state with high welfare benefits than if she lives in a state with low welfare benefits. Schultz (1994) has also proposed a link between overall fertility and welfare policy working through marriage rates: if married women have on average more children than unmarried women, welfare policy that reduces marriage rates may reduce fertility rates as well.

The nature of the census data pose certain challenges for examining fertility rates that include out-of-wedlock births. The 1910 and 1940-1970 censuses all included a question about the number of children ever-born to women, but the 1910 and 1940-1960 censuses asked this only of ever-married women. Only the 1970 census asked *all* women, regardless of marital status, the number of children they had born. The data for the earlier censuses miss all births to never-married women. Therefore, I use as a measure of the birth rate, the proportion of women who are identified in the census as the mother of a child under the age of one. This measure will understate the number of births in that it will miss children who died in the first year of life and

those who are living apart from their mothers. But it will capture at least some births to never-married women. It also has the advantage of measuring current fertility. The number of children ever-born captures the outcome of fertility decisions made over a woman's lifetime to date. Some of those decisions may have been made when the woman was in a very different situation (and even state of residence) than she is found in in the census. For widowed, divorced, and separated women, we cannot determine whether births took place within or outside of marriage. The same criticism can be leveled at looking at the current fertility of these women, but the scope for error is much smaller.

Table 2 presents the measures of family structure for the base and lower-education samples. These data reveal the substantial changes in family structure that took place over the century. For blacks, single motherhood and female household headship more than doubled between 1910 and 1970. The rate of change was not steady, however. All of the change took place after 1950. By 1970, almost 26 percent of black women ages 20 to 44 were single mothers. The rise in single motherhood was preceded by a rise in marital dissolution. The percentage of women divorced or separated increased from 7 to 14 percent between 1920 and 1940 and rose to 23 percent by 1970. For whites, the changes in the prevalence in single motherhood and household headship were much more modest, but the rate of divorce and separation more than tripled between 1910 and 1970. For both races, the data also show a growing divergence between the base and lower education samples between 1940 and 1970. This likely reflects changing selection effects as much as changes in behavior, however. Education levels were rising over this period and having less than a high school education meant something very different in 1940 than in 1970.

### **Family structure and state mothers' pensions laws, 1910 and 1920**

I begin by looking at the relationship between family structure and the state mothers' pensions laws enacted in the 1910s. I ask two questions: to what extent did the variation in state laws reflect existing differences in behavior across states, and did this legislative variation contribute to differences in behavior across states? I do this by estimating difference-in-difference models using data from the 1910 and 1920 censuses. Difference-in-differences is most commonly used to reveal the "treatment effects" of a given policy. But it can also reveal differences in outcomes across jurisdictions or groups that existed even before that policy was enacted.

Most commonly, difference-in-differences takes the form of examining the differences in an outcome variable in jurisdictions that enacted a particular policy and in jurisdictions that did not. But as noted above, 39 states enacted mothers' pensions between 1910 and 1920, and those that did not were concentrated in the South. So the more interesting issue is how family structure varied with the provisions, rather than the timing, of state legislation. Mothers' pension legislation had many different types of provisions. I focus on the three that I believe best capture the relative generosity of the state legislation: the extension of coverage to mothers other than widows (NONWID), the provision of state funds (STFUNDS), and the maximum grant for a family with three children converted to 2000 dollars (MAXBEN).<sup>11</sup> Six states either did not have legislated maximum benefit levels in 1919 or had flexible maximums: Colorado, Connecticut, Maine, Massachusetts, New Hampshire, and New York. To account for this, I include an indicator variable equal to one if a state had no binding maximum benefit level (NOMAX).

I estimate the following linear probability model:<sup>12</sup>

$$(1) \text{FAMST}_{is} = \alpha + \beta_1 * \text{NONWID}_s + \beta_2 * \text{STFUNDS}_s + \beta_3 * \text{NOMAX}_s + \beta_4 * \text{MAXBEN}_s$$

$$\begin{aligned}
& + \gamma_1 * YR1920_{is} * NONWID_s + \gamma_2 * YR1920_{is} * STFUNDS_s \\
& + \gamma_3 * YR1920_{is} * NOMAX_s + \gamma_4 * YR1920_{is} * MAXBEN_s \\
& + \delta * YR1920_{is} + x_{is}'\eta + \varepsilon_{is}
\end{aligned}$$

where  $FAMST_{is}$  represents the family structure measure for woman  $i$  in state  $s$ ,  $YR1920_{is}$  is an indicator that an observation is from 1920, and  $x_{is}$  is a vector of control variables.

The coefficients on the un-interacted legislative provisions, the  $\beta$ 's, capture the variation in family structure that was related to the provisions of state laws both before and after the laws were enacted. These coefficients will indicate if there was any correlation between family structure in a state in 1910 and the provisions of the mothers' pension legislation that state enacted between 1910 and 1920. For instance, if states with higher rates of single motherhood in 1910 enacted more generous mothers' pension legislation, then the  $\beta$ 's would be positive.

The coefficients on the interactions between the legislative provisions and  $YR1920$ , the  $\gamma$ 's, represent the treatment effects. These coefficients capture the variation in family structure that was related to the provisions of state laws only *after* the laws were enacted. The hypothesis that more generous welfare provisions encouraged women to become or remain single mothers implies that the probability of single motherhood should have been higher in states with more inclusive eligibility rules and states that provided state funding for mothers' pensions, and should have been positively related to the maximum benefit level. In other words, we would expect  $\gamma$ 's to be positive.

The model described in equation (1) is not, however, complete. The discussion so far has ignored another dramatic legislative movement of the 1910s that may have also been related family structure. Over the same period that states were enacting mothers' pension legislation, they were also enacting workers' compensation legislation. This legislation established

guaranteed payments of benefits to workers injured on the job and the families of workers killed in job-related accidents. Like mothers' pension laws, workers' compensation laws diffused rapidly across the states. Between 1910 and 1920, 40 states enacted workers' compensation legislation. Since workers' compensation guaranteed widows of men killed in industrial accidents a set level of benefits, these laws too could have been related to the prevalence of single motherhood and female household headship. So also included among the law variables is a measure of the generosity of fatal benefits available under a state's workers' compensation program and its interaction with the year 1920 indicator variable. The measure used is the ratio of the present value of fatal benefits to annual earnings as found in Fishback and Kantor (2000, 209-210).

The control variables included in the estimated models are similar to those used by Moffitt (1994) in his study of single motherhood in the 1970s and 1980s. The personal characteristic variables include a woman's age and her age-squared and indicators for whether she was illiterate or foreign-born. Also included is an indicator variable for whether a woman lived within a metropolitan area. Like Moffitt, I include variables capturing the sectoral distribution of employment in the state of residence: the percentages of a state's employment in manufacturing, trade, services, public service (not elsewhere classified), and clerical jobs. The distribution of employment in a state was highly correlated with the labor market opportunities of women in that state. Moreover, it may have been related to the political climate in the state and hence, also influenced the type of mothers' pension legislation enacted. Descriptive statistics for these variables are provided in Appendix Table A1.

Table 3 presents the coefficients on the legislative variables from the linear probability models for the measures of family structure. These data provide little support for the notion that

the relative welfare generosity of a state's mothers' pension program was positively related to the need for such a program. In fact some of the results suggest a negative relationship between welfare generosity and welfare demand.

#### *Single motherhood and female household headship*

The states that enacted the most generous mothers' pensions laws were not the states that had the highest rates of single motherhood and female household headship. The two  $\beta$ -coefficients that are statistically different from zero (at a 5 percent level) are in fact negative. White single motherhood was less prevalent in states that extended coverage to women other than widows, and black female household headship was less prevalent in states that provided state funds for mothers' pensions. These results suggest that the provisions of early mothers' pension laws may have been more reactionary than responsive: more single motherhood led to less generosity rather than more.

These early laws also appear not to have had treatment effects. States that enacted more generous laws did not experience greater increases in single motherhood and female household headship than states that enacted less generous laws. So not only were differences in female headship not associated positively with welfare generosity in 1910, they were also not associated positively with welfare generosity in 1920.

#### *Marriage patterns*

Marriage patterns provide some evidence of cross-state differences in behavior preceding and potentially influencing mothers' pension legislation. The marriage rate among whites was lower in 1910 in states that extended coverage to women other than widows, states that had no binding maximum, and states that provided state funds for mothers' aid grants. These results are consistent with notions that social attitudes or norms simultaneously determined behavior and

welfare policy in a state. States in which women were less likely to marry passed more generous mothers' pensions laws. But observing this pattern for the marriage rate alone makes it somewhat difficult to interpret. This pattern does not exist for marital dissolution. States that extended coverage to non-widows also had higher rates of divorce and separation in 1910. But marital dissolution in 1910 was negatively related to the legislated maximum benefit levels. Having more divorced and separated women seems to have made a state more likely to make such women eligible for mothers' aid but also more stingy in the level of benefits offered.

The change in marital dissolution between 1910 and 1920 appears to have varied with the type of mothers' pensions provisions enacted by a state. In other words, there appear to have been "treatment effects" on the rate of marital breakup. But not all of these "treatment effects" are the expected sign, and all simply served to counteract the level effects discussed above. The rate of marital dissolution fell in states that extended coverage to non-widows and increased in states that had higher or no legislated maximums. The end result was that rates of divorce and separation were converging over the decade. By 1920, the white marital dissolution rate did not vary with the provisions of state mothers' pension legislation.

For blacks, the results are even more mixed. Marriage rates were increasing in the legislated maximum benefit level but decreasing in whether a state provided state funds for mothers' aid grants. But as with the models for white marital dissolution, the "treatment effects" offset the level effects. Marriage rates in 1920 varied little with mothers' pension law provisions. Marital dissolution among blacks was unrelated to mothers' pension law provisions in both 1910 and 1920.

### *Fertility patterns*

Table 3 reveals little association between the birth rates of blacks and whites and the provisions of mothers' pension legislation. The overall birth rate for whites was lower in 1910 in states that eventually enacted laws extending coverage to women other than widows. This was likely related to the fact that these states had lower marriage rates. Between 1910 and 1920, however, the birth rate rose more in these states than in other states even though marriage rates did not change. These states also saw a jump in the birth rate among black single mothers between 1910 and 1920.

### *Discussion*

The general pattern that comes out of Table 3 is that the cross-state variation in the provisions of mothers' pensions laws enacted in the 1910s did not reflect already existing cross-state variation in family structure. The only exception to this was the marriage rate which was lower in states that enacted more generous legislation. Differences in marriage rates do at least suggest differences in social customs and views about the role of women in society. But whatever was driving the differences in marriage rates did not lead to differences in single motherhood or marital dissolution. Lower marriage rates alone do not provide clear evidence of different views on how families should be structured and how children should be raised.

Table 3 does suggest that the early mothers' pensions laws had some treatment effects on marriage and fertility patterns. This would seem to be surprising given the limited scope of mothers' pension programs. These effects are perhaps best interpreted as "glow" effects: the attention devoted to single mothers in the movement to enact these laws may have led to changes in attitudes and behaviors. But for the most part, the observed treatment effects were small, often just offsetting differences that existed before the laws were enacted. For the most part, by 1920, the differences in family structure patterns between the most generous and the least

generous states were smaller than they were in 1910. The question is, did changes in family structure continue more rapidly in the more generous states in the 1920s and 1930s? If so, then we should see correlations between the generosity of ADC and family structure in 1940.

The data in Table 3 do not reveal significant differences in the experiences of blacks and whites in states that enacted mothers' pensions laws between 1910 and 1920. But as noted above, most blacks still lived in the South during this decade and many states in the South did not enact mothers' pensions laws before 1920. Differences in the treatment of blacks and whites may have manifest itself as differences in the timing of enactment in Southern states. Table 4 presents the results of more standard difference-in-difference models using data from only the Southern states. Here we find evidence supporting Moffitt's conjecture of discrimination in the setting of welfare policy: the Southern states that enacted mothers' pension legislation between 1910 and 1920 had lower rates of black single motherhood, female household headship, and marital dissolution and higher rates of black marriage. In contrast, these states had higher rates of marital dissolution and fertility for whites.

## **Family structure and ADC/AFDC, 1940-1970**

The association between family structure and welfare generosity was not present at the beginning of the mothers' pension programs. Had it emerged by the beginning of the ADC program? Ruggles (1997) examined the relationship between ADC/AFDC benefits and family structure between 1940 and 1990 and found that only the living arrangements of single mothers was correlated with welfare benefit levels before 1980. However, Ruggles estimated models which pooled blacks and whites, and Moffitt (1994) and Hoynes (1997) have shown that the relationship between family structure and welfare programs differs significantly by race. For all but one of the models presented in this paper, Wald tests led to the rejection of specifications that pooled blacks and whites.<sup>13</sup>

The measure of welfare generosity used in most studies of welfare effects is the maximum monthly value of benefits for a family of a given composition. This measure, however, is only available back to 1960. Although many states have legislated maximums, the effective maximum is set administratively. Before 1961, the Department of Health, Education, and Welfare collected data on these measures only sporadically (Department of Health, Education, and Welfare 1963, 2). So I try two sets of measures. First, I use a measure that is available for all of the years: the average monthly ADC/AFDC payment per child. This measure has also been used in the literature on the welfare effects of family structure and is highly correlated with the maximum benefit guarantee measures. Its drawback is that it reflects not only of the level of benefits paid by a state, but also the composition of families on the welfare rolls in that state and the non-public assistance income of those families. Second, I construct a measure of the maximum usual monthly benefit paid to families of four in 1940 to use in conjunction with the maximum monthly benefit data available for 1960 and 1970.<sup>14</sup> In

1940, the Social Security Administration published the distributions of monthly payments (in \$5 increments) by state for families of different compositions (Social Security Administration 1940). The distributions for some states contain extreme outliers, most likely reflecting supplemental payments for critical medical services. Therefore, as a measure of the usual maximum benefit level, I use the 90<sup>th</sup> percentile of each state's distribution of payments to families of four.<sup>15</sup> The SSA data only include benefits paid in states with approved ADC plans in 1940. A number of states – Connecticut, Illinois, Iowa, Kentucky, Mississippi, Nevada, South Dakota, and Texas – did not have such plans. These states did pay grants to single mothers in 1940, but under state mothers' pensions programs rather than ADC.<sup>16</sup> Instead of excluding those states from the analysis, I include a variable indicating that a woman's state of residence did not have a federally-approved program in 1940. All welfare benefit amounts have been converted to year 2000 dollars.<sup>17</sup>

Between 1960 and 1970, public assistance benefits available to single mothers increased substantially with the creation of food stamps and Medicaid. These changes are incorporated in the maximum benefit amounts for 1970 which reflect the sum of the AFDC maximum guarantee, food stamp maximum, and the imputed value of Medicaid.<sup>18</sup> But this decade also saw an effort to alleviate some of the bias towards single-parent families. States were allowed to establish AFDC-Unemployed Parent (AFDC-UP) programs which provided benefits to two-parent families in which the primary breadwinner was unemployed. So when analyzing the 1970 data, I also include an indicator variable for whether a state had an AFDC-UP program.

I estimate linear probability models with control variables similar to those used in the models presented above. Starting in 1940, the Census collected data on years of schooling. So I replace literacy with measures of schooling levels. For the full sample, I include a set of

variables indicating less than 9 years of schooling, 9 to 11 years of schooling, and some college. Twelve years of schooling is the excluded category. For the low education sample, I enter years of schooling linearly.<sup>19</sup> Due to changes in the data collected by the census, I also use a slightly different set of controls for the economic condition of the state: the unemployment rate and the percentages of state's employed labor force in manufacturing, trade, services, and government. Descriptive statistics for these variables are provided in Appendix Table A2.

The basic finding is that the so-called welfare effect does not show up until 1960 or 1970, and then, the evidence is much stronger for whites than for blacks. The two benefit measures, in general reveal the same story. However, for blacks, family structure seems to have been more strongly associated with average benefit levels than with the maximum guarantee.

#### *Single motherhood and female household headship*

Table 5 presents the coefficients on the welfare program variables for the models for single motherhood and female household headship. Regardless of the measure of welfare generosity used, the picture that emerges for whites is the same: the states that established the most generous ADC programs were not the states that had the highest rates of female headship. For 1940 and 1950, a number of the estimated coefficients reveal statistically significant relationships, but these relationships were negative: states with higher benefits had smaller fractions of single mothers and female household heads. By 1960, though, while these states still had lower rates of single motherhood, they had higher rates of female headship, and by 1970, they also had higher rates of single motherhood at least among low-educated women. In absolute terms, the estimated welfare effects are small. The 1970 results imply that increasing a state's benefit package by \$100 would have increased both single motherhood and female headship by approximately 0.3 percentage points among white women with less than a high

school education. But given the small fractions of white women who were single mothers or household heads, this translates into implied elasticities evaluated at the means of 0.8 and 1.1 respectively.

The correlation between the average monthly benefits paid per child in 1940 and 1970 is 0.77. Therefore the change in the sign of the coefficients on the benefit variables between these two years indicates a realignment of states in terms of the prevalence of single motherhood. One may be tempted to argue that this change was due to the expansion in welfare programs over the 1960s. But the changes over the 1960s served to decrease the variation across states rather than to increase it. Food Stamp benefits are determined by the federal government, so this program served to reduce, rather than increase, disparities across states. So while the changes in welfare programs over the decade may be able to explain the overall increase in single motherhood, they cannot explain the increasing divergence in single motherhood rates across the states.

The results for blacks reveal different trends. Female household headship was positively related to benefit levels in the 1960 data. In 1970, however, while a positive association still exists between average AFDC payment per child and female headship, no such association appears between the maximum monthly benefit sum and female headship. The reduction in the variation of state benefit levels due to the changes of the 1960s served to break the link between benefit levels and female headship rates for blacks. Even more interesting though is the *negative* relationship between single motherhood and maximum benefit levels for blacks over this period. Between 1940 and 1970, the prevalence of single motherhood among black women increased from 10 to 26 percent. But states with the highest welfare benefit guarantees remained the states with the lowest rates of black single motherhood.

One last interesting result appears in the 1970 data for blacks. Black single motherhood and female household headship was higher in states that offered benefits to two-parent families through the AFDC-UP program. While at first this may appear a perverse result, it most likely reflects the endogeneity of a state's decision to create an AFDC-UP program. The states that created such programs were the states that already had the highest rates of black single motherhood and female headship.

### *Marriage patterns*

Table 6 presents the estimated welfare effects on marriage patterns. The marriage rates of both blacks and whites were decreasing in the level of welfare benefits for 1940, 1950, and 1960. For whites, this negative relationship was still present in 1970. Just as the states that had enacted the most generous mothers' pensions laws were the states with the lowest marriage rates in 1910, the states that established the most generous ADC programs in the 1930s were those that had the lowest marriage rates in 1940. But again, this finding is difficult to interpret. Welfare generosity was also associated with *less* marital dissolution among whites in 1940. This is consistent with the findings above that white single motherhood and female household headship were decreasing in the level of benefits. More generous welfare benefits in a state, instead of reflecting a higher prevalence of actual and potential single mothers, reflected a lower prevalence of such women.

Mirroring the results for single motherhood and female household headship, the divorce and separation rate for white women with less than a high school education was positively related to benefit levels by 1970. This is more evidence that the changes in white family structure between 1940 and 1970 varied across states.

Table 6 also provides more evidence of the differences in family structure between blacks and whites. Marital dissolution among blacks was *positively* related to average benefits per child from 1940 to 1960. The states that paid the highest benefits in 1940 were those with the highest rates of divorce and separation among blacks. By 1970, though, this relationship had disappeared. The contrast of these findings with those for whites suggests that not only was the cross-state variation in family structure very different for blacks and whites even in 1940, the *changes* in this variation between 1940 and 1970 exhibited distinct racial differences as well.

#### *Fertility patterns*

Table 7 presents the results for fertility patterns. The overall birth rate for whites was positively related to benefit levels throughout the period. But the birthrate among white single women in 1940 was negatively, rather than positively, related to benefit levels. Once again, this is evidence that the states that enacted the most generous ADC benefits in the late 1930s were not those with the highest rates of single motherhood. A generous welfare policy was not a response to a “single motherhood problem.”

Birthrates among black women were, in general, unrelated to welfare benefits over the entire period.

#### *Discussion*

Tables 5-7 do provide evidence in support of cross-sectional “welfare effects,” at least for white women with limited education. But these welfare effects only appear in the 1960 and 1970 data. The data for 1940, in fact, indicate at the beginning of the ADC program, more generous benefits were associated with less, rather than more, white single motherhood in a state. Taken in conjunction with the evidence of the stability of cross-state welfare generosity variation over time, these results cast doubt on arguments that assert that the cross-sectional correlations

between family structure and welfare policy reflect “state fixed effects.” Between 1940 and 1970, cross-state differences in family structure shifted even though cross-state differences in welfare policy remained relatively stable.

The switching of sign in the coefficients on the benefit levels, in fact, suggests that the changes in family structure varied with welfare generosity. One way to examine this is to pool the data from 1940 to 1970 and allow for both state fixed effects and state time trends as well as a general time trend. The estimated state time trends will capture the changes in family structure that took place in a state that cannot be explained by the common time trend or by changes in benefit levels or the control variables in the models. Figure 2 plots the estimated state time trends for white single motherhood against the average ADC benefits per child in 1940. The increase in white single motherhood between 1940 and 1970 was positively related to the level of benefits paid in 1940. The correlation is 0.3922. More generous welfare policy seems to have fostered more rapid growth in the prevalence of white single motherhood over the period.

Another important finding that comes out of Tables 5-7 is the divergence in experience between white and black women. In contrast to the results for whites, the evidence in favor of welfare effects for blacks is stronger for the earlier rather than later census years. The data for 1970, in fact, reveal little correlation between black family structure and welfare benefits. So not only did the cross-state variation in family structure differ between blacks and whites in 1940, the trends in this variation also differed. And the absence of cross-sectional welfare effects for blacks in 1970 suggests that the trends for blacks were at the very least, unrelated to the degree of welfare generosity. Repeating the exercise of pooling the data from 1940 to 1970 and estimating state time trends, I find, in fact, that changes in black single motherhood were negatively related to welfare generosity. Figure 3 plots the estimated state time trends for black

single motherhood against the average ADC benefits per child in 1940. The correlation is  $-0.2776$ . Black single motherhood rose more in low-benefit than in high-benefit states.

## **Conclusions**

Looking at the history of welfare policy and in family structure over the twentieth century provides support for the so-called welfare effect, at least for whites. States that offered the most generous benefits to single mothers were the states that experienced the largest increases in single motherhood. But the historical perspective also brings into question the view that welfare policy was the driving force behind the dramatic changes in family structure that took place in the second half of the century. The bias in welfare policy towards single mothers long preceded the rise in single motherhood, and cross-state differences in welfare generosity long preceded cross-state differences in behavior. Moreover, the link between welfare policy and family structure was weakest for blacks, the subgroup of the population which experienced the most dramatic increase in single motherhood and had the highest participation rate in AFDC. The rise in single motherhood that took place in the 1960s was driven primarily by other factors such as the worsening of the male labor market and hence the decline in the return to marriage (See Blau, et al. 2000; Moffitt 2000). Welfare policy played a supporting role. States with more generous welfare policies saw more dramatic changes than states with less generous ones.

The historical perspective also provides some insight into the racial differences in the relationship between family structure and welfare policy found in earlier studies. While it can be argued that the setting of welfare policy was not responsive to the needs of white or black families, it was at many points clearly discriminatory against blacks. The enactment of mothers' pension programs exhibited fairly clear discriminatory patterns. Few Southern states enacted mothers' pension programs in the 1910s and those that did were those with the lowest rates of

black single motherhood. Moreover, the exclusion of the “health and decency” clause in the Social Security Act which left the door open for the substantial variation across states in benefit levels was supposedly a concession to Southern lawmakers. Changes in behavior under the ADC/AFDC program only served to weaken the connections between black family structure and welfare policy. While white single motherhood rose the most in the most generous states while black single motherhood rose the most in the least generous states.

Like the studies that preceded it, this study raises additional questions. Most significantly, why do welfare policies vary so much across the states? A vast literature has tackled this issue, but much of it has focused on the period from 1968 forward.<sup>20</sup> But as demonstrated in this paper, cross-state differences in welfare generosity extend all the way back to the 1910s and early state mothers’ pensions programs. Uncovering why these programs varied the way that they did may provide clues as to why differences in welfare generosity have been so persistent.

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**Table 1.—Provisions of State Mothers' Pension Laws, 1919 and AFDC Maximum Benefits, 1996**

	Mothers Pensions Laws in 1919				AFDC max. mthly benefit 4-person family (2000 \$)	
	Eligible mothers include: Des./div.	Unmarr.	'Mothers' <sup>a</sup>	State funds		Max. mthly benefit 4-person family (2000 \$)
New York					No maximum <sup>b</sup>	1245
Vermont	X			X	208	1171
Oregon					202	1115
Minnesota	X			X	282	1095
New Hampshire			X	X	No maximum	1093
Massachusetts			X	X	No maximum	1079
Maine			X	X	No maximum	1069
California				X	242	1066
Connecticut				X	No maximum <sup>c</sup>	1051
Wisconsin	X			X	282	1038
North Dakota	X				363	1022
New Jersey					145	1002
Pennsylvania				X	323	997
Rhode Island	-----No law by 1919-----					996
Maryland					226	995
Washington			X		202	995
Michigan	X	X			312	986
New Mexico	-----No law by 1919-----					973
Iowa					208	971
South Dakota	X				234	969
Montana					242	963
Kansas	X				202	943
Nebraska	X	X			242	940
Utah					323	937
Nevada	X				444	926
Wyoming	X				323	924
Illinois					282	923
Ohio	X				234	920
Colorado			X		No maximum	895
Idaho					161	890
Delaware	X			X	153	878
Kentucky	-----No law by 1919-----					861
Georgia	-----No law by 1919-----					858
Indiana			X		436	856
Oklahoma					161	838
Florida	X				331	827
West Virginia	X				161	825
North Carolina	-----No law by 1919-----					816

**Table 1.—Continued**

	Mothers Pensions Laws in 1919			AFDC max. mthly benefit 4-person family (2000 \$)
	Eligible mothers include: Des./div. Unmarr. 'Mothers' <sup>a</sup>	State funds	Max. mthly benefit 4-person family (2000 \$)	
Missouri <sup>d</sup>	X		381	814
Virginia			178	805
South Carolina	-----No law by 1919-----			796
Arizona			363	766
Texas			178	765
Louisiana	-----No law by 1919-----			763
Arkansas	X		161	759
Tennessee			161	743
Mississippi	-----No law by 1919-----			693
Alabama	-----No law by 1919-----			675

<sup>a</sup>Legislation covers “mothers of dependent children” without reference to marital status.

<sup>b</sup>New York’s legislation stated that the benefits paid “must not exceed what it would cost to care for child in an institutional home.”

<sup>c</sup>The Connecticut legislation specified the amounts that could be provided for food, fuel and clothing per week, but allowed for a “reasonable monthly allowance” for rent and “special allowances” for sickness and death.

<sup>d</sup>The mothers’ pensions programs in Jackson County (Kansas City) and St. Louis operated under separate legislation. In both jurisdictions, divorced, deserted, and unmarried mothers were not eligible for grants. The maximum grant for a family with 3 children was \$136 in Jackson County and \$273 in St. Louis.

Sources: U.S. Women’s Bureau, *Mothers’ Pensions Laws in the United State*, (Washington, D.C.: Government Printing Office, 1919); U.S. House of Representatives, *Background Materials and Data on Programs within the Jurisdiction of the Committee on Ways and Means* (Washington, D.C.: Government Printing Office, 1996).

**Table 2.—Measures of Family Structure, 1910-1970**

	1910	1920	1940	1950	1960	1970
<b>Whites</b>						
<i>All women 20-44 (base)</i>						
Single motherhood	3.9 %	3.9 %	3.9 %	4.0 %	4.8 %	6.3 %
Female household headship	2.1	2.0	2.2	2.3	3.4	4.9
Married	68.9	71.2	70.1	79.1	82.2	77.7
Divorced or separated	2.4	2.8	5.3	5.8	5.6	7.9
Birthrate						
All marital statuses	11.9	10.6	6.3	9.4	12.1	9.1
Single	0.7	0.8	0.5	1.4	2.6	2.5
<i>Women 20-44, &lt; 12 yrs. sch. (low ed.)</i>						
Single motherhood			4.8	5.1	6.5	9.6
Female household headship			2.9	3.0	4.6	7.6
Married			76.2	82.4	83.8	81.3
Divorced or separated			5.8	6.9	7.2	10.8
Birthrate						
All marital statuses			6.8	8.9	11.0	8.4
Single			0.8	2.3	3.9	4.7
<b>Blacks</b>						
<i>All women 20-44 (base)</i>						
Single motherhood	11.7	9.2	10.4	11.7	18.1	26.1
Female household headship	6.6	5.7	5.6	6.0	11.5	19.7
Married	64.4	67.7	60.8	62.6	60.7	53.9
Divorced or separated	6.8	7.3	13.8	20.3	19.5	22.8
Birthrate						
All marital statuses	11.5	9.3	5.8	9.6	14.0	9.4
Single	3.9	2.7	1.6	4.3	7.8	6.8
<i>Women 20-44, &lt; 12 yrs. sch. (low ed.)</i>						
Single motherhood			10.8	12.1	20.0	31.8
Female household headship			6.0	6.4	13.2	25.8
Married			62.1	64.0	60.9	52.4
Divorced or separated			13.9	20.6	21.0	27.1
Birthrate						
All marital statuses			6.0	9.5	14.3	9.2
Single			1.7	4.2	8.6	7.9

**Table 3.—Coefficients on Mothers’ Pension Legislation Provisions**

**A. Whites**

	Single motherhood	Household headship	Marriage	Divorce/ separation	Births (all)	Births (single)
Coverage of non-widows	-0.0045 (-2.54)	-0.0017 (-1.29)	-0.0139 (-3.38)	0.0038 (2.50)	-0.0076 (-2.54)	-0.0018 (-1.24)
No legislated benefit maximum	0.0052 (1.10)	0.0030 (0.86)	-0.0353 (-3.34)	-0.0149 (-3.67)	-0.0026 (-0.34)	-0.0040 (-1.03)
Legislated maximum benefit	1.22E-5 (0.84)	6.63E-6 (0.63)	-4.47E-5 (-1.42)	-2.63E-5 (-2.26)	-1.90E-5 (-0.83)	-1.01E-5 (-0.83)
State funds	-0.0020 (-0.92)	0.0014 (0.90)	-0.0336 (-6.84)	0.0012 (0.65)	0.0014 (0.39)	-0.0021 (-1.31)
Workers’ comp. fatal benefits	-0.0010 (-1.75)	-0.0004 (-0.84)	-0.0025 (-1.89)	0.0002 (0.41)	-0.0001 (-0.11)	-0.0003 (-0.62)
(Year 1920)*(Non-widows)	0.0019 (0.89)	0.0012 (0.77)	0.0061 (1.26)	-0.0045 (-2.52)	0.0072 (2.08)	0.0027 (1.56)
(Year 1920)*(No legislated maximum)	-0.0021 (-0.39)	-0.0002 (-0.06)	-0.0091 (-0.76)	0.0187 (4.04)	-0.0130 (-1.52)	5.30E-5 (0.01)
(Year 1920)*(Legislated maximum benefit)	-6.23E-6 (-0.38)	-1.84E-6 (-0.15)	3.62E-6 (0.10)	3.37E-5 (2.50)	-1.19E-5 (-0.45)	1.84E-6 (0.13)
(Year 1920)*(State funds)	0.0038 (1.62)	-0.0010 (-0.56)	-0.0075 (-1.39)	0.0010 (0.51)	0.0042 (1.10)	0.0023 (1.31)
(Year 1920)*(Workers’ comp. benefits)	0.0003 (0.48)	-4.87E-5 (-0.10)	0.0012 (0.76)	0.0002 (0.34)	-0.0007 (-0.60)	-0.0002 (-0.32)
Year 1920	-0.0006 (-0.12)	-0.0003 (-0.09)	0.0291 (2.90)	-0.0007 (-0.18)	-0.0117 (-1.52)	-0.0036 (-0.82)

Note: t-statistics in parentheses.

**Table 3.—Continued.**

**B. Blacks**

	Single motherhood	Household headship	Marriage	Divorce/ separation	All women	Single women
Coverage of non-widows	-0.0106 (-0.84)	-0.0086 (-0.93)	0.0134 (0.63)	0.0088 (0.75)	-0.0210 (-1.66)	-0.0137 (-1.66)
No legislated benefit maximum	-0.0321 (-1.11)	-0.0054 (-0.25)	0.0104 (0.19)	-0.0177 (-0.55)	-0.0129 (-0.42)	0.0028 (0.12)
Legislated maximum benefit	-1.49E-5 (-0.19)	-4.77E-6 (-0.08)	3.23E-4 (2.41)	-6.10E-6 (-0.08)	6.20E-6 (0.08)	7.90E-5 (1.04)
State funds	-0.0145 (-0.86)	-0.0230 (-1.99)	-0.1066 (-3.31)	-0.0109 (-0.60)	-0.0082 (-0.48)	-0.0148 (-1.27)
Workers' comp. fatal benefits	0.0028 (0.74)	-0.0015 (-0.54)	-0.0017 (-0.29)	0.0036 (1.05)	0.0055 (1.58)	0.0007 (0.26)
(Year 1920)*(Non-widows)	-0.0020 (-0.14)	-0.0043 (-0.42)	0.0192 (0.79)	-0.0094 (-0.72)	0.0152 (1.04)	0.0210 (1.90)
(Year 1920)*(No legislated maximum)	0.0361 (1.10)	0.0388 (1.61)	-0.0523 (-0.88)	0.0501 (1.41)	0.0050 (0.15)	-0.0104 (-0.39)
(Year 1920)*(Legislated maximum benefit)	-3.68E-5 (-0.44)	2.85E-5 (0.45)	-2.44E-4 (-1.73)	3.46E-5 (0.44)	1.71E-5 (0.20)	-6.72E-5 (-0.82)
(Year 1920)*(State funds)	0.0071 (0.39)	0.0151 (1.20)	0.0994 (2.86)	0.0222 (1.11)	0.0113 (0.62)	0.0019 (0.15)
(Year 1920)*(Workers' comp. benefits)	-0.0039 (-0.91)	-0.0008 (-0.25)	-0.0009 (-0.13)	-0.0021 (-0.52)	-0.0068 (-1.67)	-0.0027 (-0.79)
Year 1920	0.0098 (0.46)	-0.0020 (-0.12)	0.0780 (2.21)	0.0011 (0.06)	-0.0108 (-0.54)	0.0040 (0.20)

Note: t-statistics in parentheses.

**Table 4.—Enactment of Mothers’ Pensions Laws in Southern States: Difference-in-Differences Model**

	Single motherhood	Household headship	Marriage	Divorce/ separation	All births	Single births
<b>Whites</b>						
State mothers’ pension law	-0.0024 (-0.59)	-0.0006 (-0.20)	0.0193 (2.36)	0.0052 (1.98)	0.0178 (2.56)	0.0058 (1.41)
(Year 1920)*(State mothers’ pension law)	-0.0053 (-1.47)	-0.0016 (-0.65)	0.0261 (3.59)	0.0040 (1.73)	-0.0092 (-1.55)	0.0011 (0.33)
Year 1920	0.0059 (1.35)	0.0029 (0.93)	-0.0003 (-0.04)	-0.0042 (-1.47)	-0.0147 (-2.03)	-0.0061 (-1.34)
<b>Blacks</b>						
State mothers’ pension law	-0.0184 (-2.58)	-0.0136 (-2.45)	0.0268 (2.54)	-0.0095 (-1.74)	0.0031 (0.43)	-0.0049 (-0.67)
(Year 1920)*(State mothers’ pension law)	-0.0167 (-2.71)	0.0009 (0.19)	0.0435 (4.82)	0.0002 (0.04)	-0.0208 (-3.37)	-0.0127 (-1.89)
Year 1920	0.0058 (0.69)	0.0034 (0.52)	0.0101 (0.80)	0.0037 (0.54)	-0.0074 (-0.89)	0.0101 (1.18)

Notes: t-statistics in parentheses.

**Table 5.—Coefficients on Welfare Program Variables: Single Motherhood and Female Household Headship**

	1940		1950		1960		1970	
	Base	Low-ed.	Base	Low-ed.	Base	Low-ed.	Base	Low-ed.
<b>SINGLE MOTHERHOOD</b>								
<i>Whites</i>								
Model 1: Maximum benefit <sup>a</sup>	-0.0012	-0.0010			-0.0006	-0.0005	-0.0004	0.0029
	(-3.43)	(-2.20)			(-3.36)	(-1.34)	(-1.43)	(4.59)
No fed. program	-0.0069	-0.0066						
	(-3.14)	(-2.18)						
AFDC-UP							0.0004	0.0059
							(0.32)	(1.74)
Model 2: Benefits per child	-0.0087	-0.0094	-0.0056	-0.0061	-0.0021	-0.0017	0.0001	0.0106
	(-7.38)	(-5.67)	(-3.37)	(-2.21)	(-2.92)	(-1.29)	(0.11)	(5.31)
AFDC-UP							-0.0006	0.0046
							(-0.43)	(1.36)
<i>Blacks</i>								
Model 1: Maximum benefit	-0.0048	-0.0065			-0.0017	-0.0009	-0.0033	-0.0040
	(-2.60)	(-3.13)			(-1.56)	(-0.59)	(-2.07)	(-1.60)
No fed. program	-0.0223	-0.0293						
	(-2.66)	(-3.23)						
AFDC-UP							0.0374	0.0685
							(3.80)	(4.22)
Model 2: Benefits per child	-0.0058	-0.0095	-0.0092	-0.0042	-0.0026	0.0005	-0.0031	-0.0064
	(-0.81)	(-1.17)	(-0.69)	(-0.26)	(-0.60)	(0.09)	(-0.55)	(-0.71)
AFDC-UP							0.0291	0.0608
							(2.87)	(3.60)
<b>HOUSEHOLD HEADSHIP</b>								
<i>Whites</i>								
Model 1: Maximum benefit	-0.0003	-0.0002			0.0003	0.0006	0.0002	0.0035
	(-1.25)	(-0.47)			(1.62)	(1.86)	(0.91)	(6.27)
No fed. program	-0.0033	-0.0037						
	(-2.05)	(-1.64)						
AFDC-UP							-0.0009	0.0029
							(-0.78)	(0.97)
Model 2: Benefits per child	-0.0033	-0.0032	-0.0010	-0.0011	0.0016	0.0029	0.0015	0.0117
	(-3.79)	(-2.45)	(-0.76)	(-0.53)	(2.59)	(2.45)	(2.16)	(6.49)
AFDC-UP							-0.0016	0.0026
							(-1.35)	(0.84)
<i>Blacks</i>								
Model 1: Maximum benefit	-0.0015	-0.0022			0.0035	0.0043	0.0022	0.0015
	(-1.03)	(-1.35)			(3.79)	(3.46)	(1.53)	(0.63)
No fed. program	-0.0021	-0.0048						
	(-0.34)	(-0.73)						
AFDC-UP							0.0387	0.0651
							(4.32)	(4.17)
Model 2: Benefits per child	0.0087	0.0081	0.0077	0.0118	0.0168	0.0206	0.0195	0.0146
	(1.56)	(1.26)	(0.75)	(0.93)	(4.47)	(3.99)	(3.90)	(1.73)
AFDC-UP							0.0249	0.0535
							(2.69)	(3.29)

<sup>a</sup>All benefit amounts have been divided by 100.

Note: t-statistics in parentheses.

**Table 6.—Coefficients on Welfare Program Variables: Marriage Patterns**

	1940		1950		1960		1970	
	Base	Low-ed.	Base	Low-ed.	Base	Low-ed.	Base	Low-ed.
<b>MARRIED</b>								
<i>Whites</i>								
Model 1: Maximum benefit <sup>a</sup>	-0.0024	-0.0021			-0.0025	-0.0035	-0.0048	-0.0059
	(-3.17)	(-2.25)			(-7.86)	(-6.98)	(-11.53)	(-7.20)
No fed. program	-0.0306	-0.0291						
	(-6.48)	(-5.14)						
AFDC-UP							-0.0114	-0.0159
							(-5.07)	(-3.59)
Model 2: Benefits per child	-0.0210	-0.0137	-0.0149	-0.0117	-0.0092	-0.0132	-0.0174	-0.0212
	(-8.05)	(-4.25)	(-4.43)	(-2.45)	(-7.49)	(-6.73)	(-13.21)	(-8.07)
AFDC-UP							-0.0103	-0.0138
							(-4.64)	(-3.12)
<i>Blacks</i>								
Model 1: Maximum benefit	0.0057	0.0052			-0.0054	-0.0074	0.0012	0.0027
	(1.90)	(1.59)			(-3.92)	(-4.24)	(0.64)	(1.01)
No fed. program	0.0093	0.0097						
	(0.71)	(0.71)						
AFDC-UP							-0.0568	-0.0948
							(-5.14)	(-5.49)
Model 2: Benefits per child	-0.0311	-0.0357	-0.0540	-0.0487	-0.0175	-0.0284	-0.0022	-0.0001
	(-2.69)	(-2.82)	(-2.68)	(-2.03)	(-3.14)	(-3.99)	(-0.35)	(-0.01)
AFDC-UP							-0.0502	-0.0843
							(-4.40)	(-4.71)
<b>DIVORCED/SEPARATED</b>								
<i>Whites</i>								
Model 1: Maximum benefit	-0.0010	-0.0004			-0.0010	-0.0005	-0.0017	0.0015
	(-2.56)	(-0.73)			(-4.84)	(-1.51)	(-6.14)	(2.27)
No fed. program	-0.0084	-0.0067						
	(-3.43)	(-2.13)						
AFDC-UP							-0.0002	0.0019
							(-0.11)	(0.53)
Model 2: Benefits per child	-0.0076	-0.0062	-0.0070	-0.0049	-0.0030	-0.0018	-0.0043	0.0066
	(-5.66)	(-3.48)	(-3.58)	(-1.57)	(-3.90)	(-1.27)	(-4.85)	(3.13)
AFDC-UP							-0.0013	0.0003
							(-0.90)	(0.09)
<i>Blacks</i>								
Model 1: Maximum benefit	-0.0007	-0.0020			0.0048	0.0046	-0.0007	-0.0019
	(-0.33)	(-0.82)			(4.19)	(3.10)	(-0.49)	(-0.81)
No fed. program	0.0223	0.0220						
	(2.45)	(2.27)						
AFDC-UP							0.0284	0.0533
							(3.06)	(3.44)
Model 2: Benefits per child	0.0305	0.0243	0.0347	0.0513	0.0221	0.0236	0.0038	-0.0013
	(3.45)	(2.48)	(1.97)	(2.40)	(4.78)	(3.88)	(0.72)	(-0.15)
AFDC-UP							0.0215	0.0476
							(2.25)	(2.96)

<sup>a</sup>All benefit amounts have been divided by 100.

Note: t-statistics in parentheses.

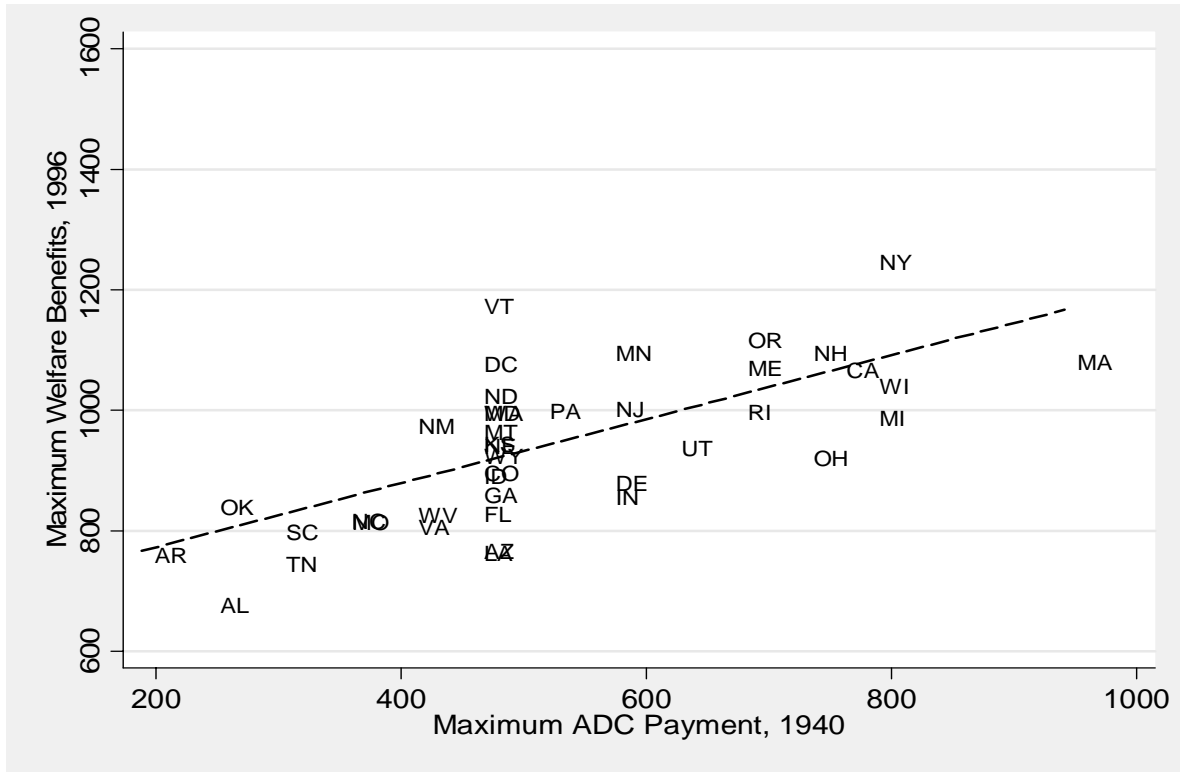
**Table 7.—Coefficients on Welfare Program Variables: Fertility (Births within Previous Year)**

	1940		1950		1960		1970	
	Base	Low-ed.	Base	Low-ed.	Base	Low-ed.	Base	Low-ed.
<b>ALL WOMEN</b>								
<i>Whites</i>								
Model 1: Maximum benefit <sup>a</sup>	0.0019 (4.56)	0.0020 (3.63)			0.0017 (6.15)	0.0008 (1.98)	0.0011 (3.73)	0.0010 (1.67)
No fed. program	0.0081 (2.91)	0.0073 (1.98)						
AFDC-UP							-0.0031 (-1.83)	-0.0051 (-1.61)
Model 2: Benefits per child	0.0020 (1.35)	0.0027 (1.39)	0.0058 (2.23)	0.0093 (2.47)	0.0073 (6.86)	0.0034 (2.06)	0.0030 (3.02)	0.0028 (1.50)
AFDC-UP							-0.0024 (-1.45)	-0.0048 (-1.52)
<i>Blacks</i>								
Model 1: Maximum benefit	0.0002 (0.15)	0.0000 (0.02)			-0.0013 (-1.38)	-0.0035 (-2.97)	-0.0005 (-0.43)	0.0003 (0.17)
No fed. program	-0.0002 (-0.03)	-0.0021 (-0.30)						
AFDC-UP							-0.0051 (-0.75)	-0.0074 (-0.77)
Model 2: Benefits per child	-0.0000 (-0.01)	-0.0005 (-0.09)	-0.0041 (-0.36)	0.0059 (0.45)	-0.0018 (-0.47)	-0.0101 (-2.08)	-0.0052 (-1.35)	-0.0053 (-0.97)
AFDC-UP							-0.0010 (-0.14)	-0.0002 (-0.02)
<b>SINGLE WOMEN</b>								
<i>Whites</i>								
Model 1: Maximum benefit	-0.0005 (-1.89)	-0.0007 (-1.76)			-0.0006 (-1.90)	-0.0004 (-0.60)	0.0001 (0.37)	0.0018 (1.77)
No fed. program	-0.0032 (-1.85)	-0.0051 (-1.71)						
AFDC-UP							-0.0018 (-0.90)	-0.0016 (-0.27)
Model 2: Benefits per child	-0.0020 (-2.47)	-0.0026 (-1.78)	0.0004 (0.17)	-0.0023 (-0.49)	-0.0019 (-1.45)	-0.0014 (-0.49)	0.0001 (0.04)	0.0051 (1.52)
AFDC-UP							-0.0015 (-0.76)	-0.0009 (-0.15)
<i>Blacks</i>								
Model 1: Maximum benefit	-0.0011 (-0.92)	-0.0012 (-0.89)			-0.0007 (-0.60)	-0.0027 (-1.75)	0.0005 (0.36)	0.0024 (1.11)
No fed. program	-0.0017 (-0.26)	-0.0020 (-0.28)						
AFDC-UP							-0.0071 (-0.79)	-0.0119 (-0.87)
Model 2: Benefits per child	-0.0047 (-1.03)	-0.0021 (-0.40)	-0.0068 (-0.54)	0.0120 (0.81)	0.0015 (0.31)	-0.0055 (-0.87)	-0.0037 (-0.74)	0.0012 (0.15)
AFDC-UP							-0.0012 (-0.13)	-0.0043 (-0.30)

<sup>a</sup>All benefit amounts have been divided by 100.

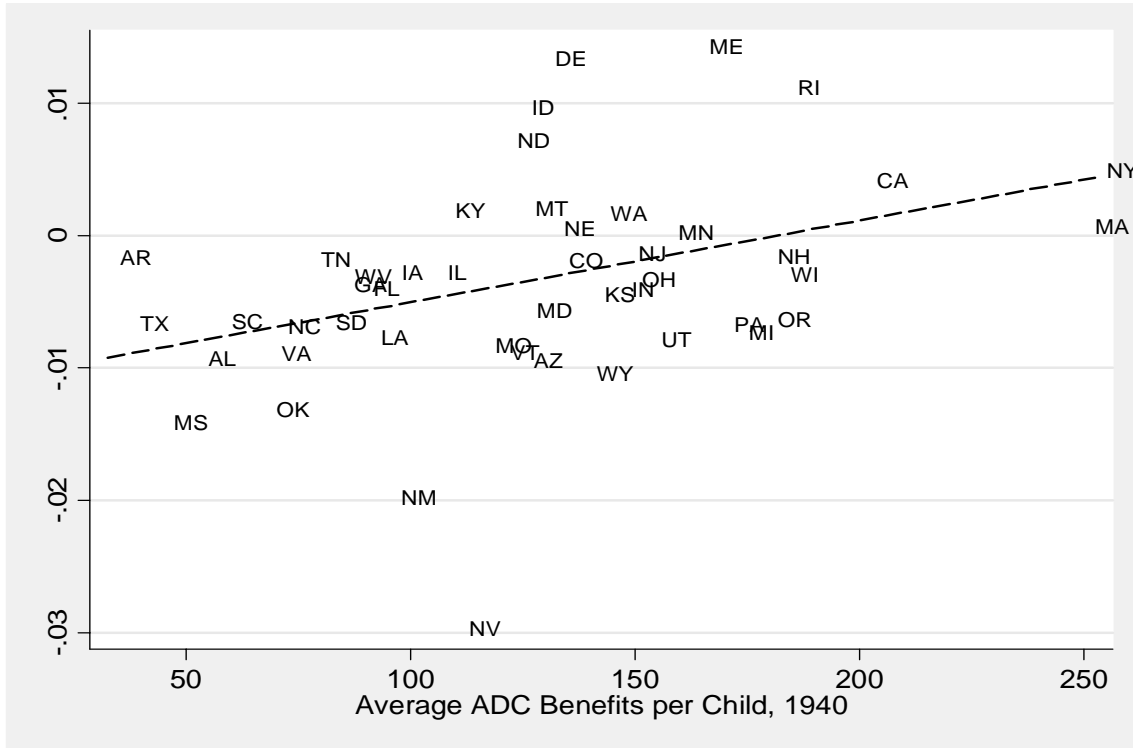
Note: t-statistics in parentheses.

**Figure 1.—Maximum Welfare Benefits, 1940 versus 1996 (2000 \$)**

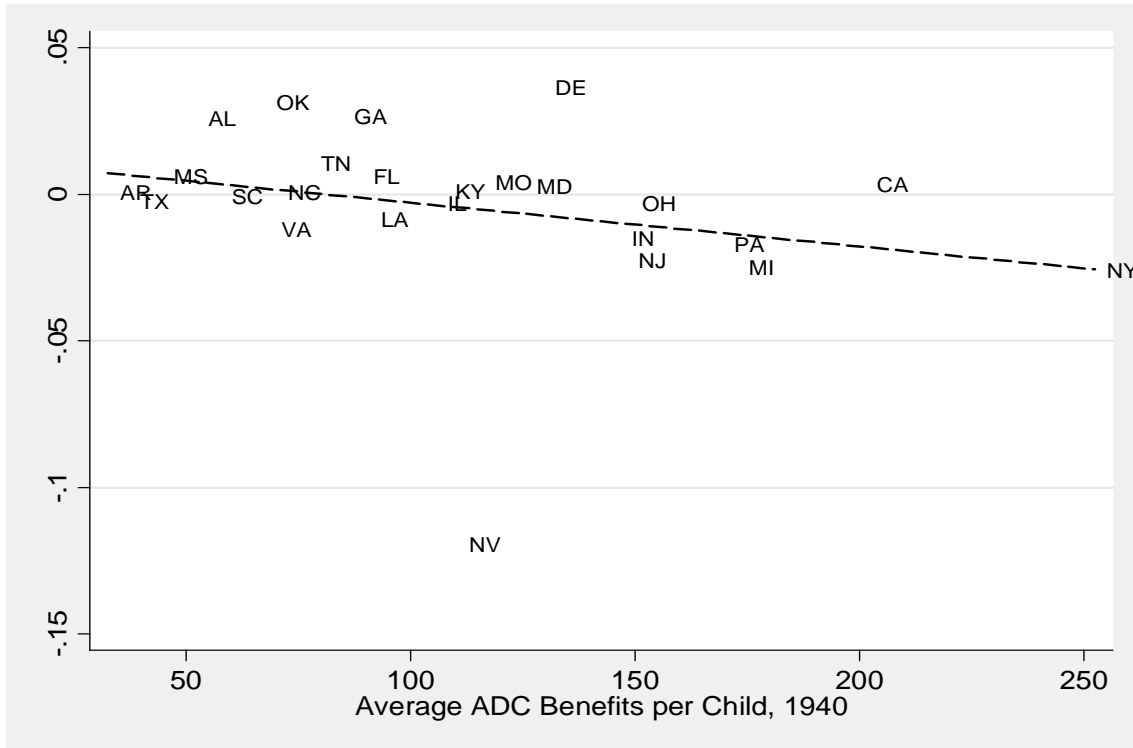


Notes: Data for 1996 represent the following sum of monthly benefits for a family of four:  
 $0.7 * (\text{AFDC max. guarantee}) + (\text{food stamp payment}) + 0.368 * (\text{imputed value of Medicaid})$   
 Data for 1940 represent the 90<sup>th</sup> percentile of monthly ADC payments made to four person families in November 1940.

**Figure 2: Estimated State Time Trends for White Single Motherhood 1940 to 1970 by ADC Benefits in 1940**



**Figure 3: Estimated State Time Trends for Black Single Motherhood 1940 to 1970 by ADC Benefits in 1940**



**Appendix Table A1.—Means of Variables Used in 1910-1920 Models**

	1910		1920	
	Mean	St. dev.	Mean	St. dev.
<b>Whites</b>				
Coverage of non-widows	0.38	0.49	0.39	0.49
No legislated maximum benefit	0.23	0.42	0.22	0.42
Legislated maximum benefit (2000 \$)	195.49	125.01	196.22	122.78
State funds	0.28	0.45	0.28	0.45
Workers' compensation fatal benefit ratio	3.35	1.71	3.35	1.71
Age	30.67	7.09	31.02	7.01
Illiterate	0.05	0.21	0.04	0.20
Foreign-born	0.22	0.41	0.20	0.40
Metropolitan area	0.46	0.50	0.52	0.50
State percentage employed in:				
Manufacturing	0.31	0.11	0.33	0.11
Trade	0.11	0.02	0.11	0.02
Services	0.15	0.02	0.14	0.02
Public services (n.e.c.)	0.01	0.00	0.02	0.01
Clerical	0.05	0.02	0.08	0.03
Number of observations	52,490		153,985	
<b>Blacks</b>				
Coverage of non-widows	0.27	0.44	0.30	0.46
No legislated maximum benefit	0.05	0.23	0.08	0.27
Legislated maximum benefit (2000 \$)	196.96	80.08	202.13	90.36
State funds	0.07	0.26	0.10	0.31
Workers' compensation fatal benefit ratio	2.33	1.61	2.50	1.68
Age	29.79	6.82	30.45	6.91
Illiterate	0.20	0.40	0.12	0.32
Metropolitan area	0.34	0.47	0.49	0.50
State percentage employed in:				
Manufacturing	0.21	0.10	0.27	0.11
Trade	0.08	0.02	0.10	0.02
Services	0.14	0.03	0.13	0.02
Public services (n.e.c.)	0.01	0.00	0.02	0.01
Clerical	0.03	0.02	0.06	0.03
Number of observations	5,731		9,733	

Note: Data for blacks in 1910 were weighted to take into account oversample of blacks in the South.

**Appendix Table A2.—Means of Variables Used in 1940-1970 Models**

	1940		1950		1960		1970	
	Mean	St. dev.	Mean	St. dev.	Mean	St. dev.	Mean	St. dev.
<b>WHITES (BASE)</b>								
Max. welfare benefit (2000 \$)	481.06	284.94			794.46	254.68	1164.65	252.97
No federal program	0.18	0.39	0.00	0.03				
Ave. benefit per child (2000 \$)	146.09	63.27	189.88	69.03	211.13	67.83	238.59	79.36
AFCD-UP							0.62	0.49
Age	31.22	7.15	31.62	7.05	32.36	7.12	31.10	7.45
Years of schooling	9.85	3.10	10.61	2.99	11.20	2.69	11.94	2.56
Yrs of school : < 9	0.40	0.49	0.26	0.44	0.17	0.37	0.09	0.29
9-11	0.21	0.41	0.22	0.41	0.22	0.41	0.17	0.38
12	0.26	0.44	0.36	0.48	0.42	0.49	0.46	0.50
> 12	0.13	0.34	0.16	0.37	0.19	0.39	0.27	0.44
Foreign-born	0.09	0.28	0.05	0.22	0.05	0.22	0.06	0.23
Metropolitan area (identified)	0.58	0.49	0.60	0.49	0.60	0.49	0.64	0.48
Metro status not identified					0.15	0.36	0.13	0.33
State unemployment rate	0.10	0.03	0.05	0.01	0.05	0.01	0.04	0.01
State percentage employed in:								
Manufacturing	0.24	0.10	0.26	0.10	0.27	0.08	0.26	0.07
Trade	0.17	0.03	0.19	0.02	0.18	0.01	0.20	0.01
Services	0.19	0.02	0.18	0.02	0.21	0.02	0.26	0.03
Government	0.04	0.01	0.04	0.01	0.05	0.01	0.05	0.02
Number of observations	228,038		75,375		248,200		254,025	
<b>BLACKS (BASE)</b>								
Max. welfare benefit (2000 \$)	349.50	234.17			667.63	279.20	1114.53	294.72
No federal program	0.21	0.41	0.00	0.02				
Ave. benefit per child (2000 \$)	94.84	56.56	143.77	68.77	173.26	73.56	210.91	89.22
AFCD-UP							0.53	0.50
Age	30.83	6.99	31.22	7.05	31.78	7.08	30.96	7.38
Years of schooling	6.73	3.39	7.97	3.52	9.45	3.30	10.85	2.81
Yrs of school : < 9	0.75	0.43	0.59	0.49	0.38	0.48	0.18	0.38
9-11	0.14	0.34	0.21	0.41	0.29	0.45	0.30	0.46
12	0.07	0.26	0.13	0.34	0.23	0.42	0.37	0.48
> 12	0.04	0.20	0.07	0.25	0.10	0.30	0.16	0.36
Metropolitan area (identified)	0.48	0.50	0.59	0.49	0.66	0.47	0.73	0.44
Metro status not identified					0.11	0.31	0.08	0.28
State unemployment rate	0.08	0.03	0.04	0.01	0.05	0.01	0.04	0.01
State percentage employed in:								
Manufacturing	0.20	0.08	0.24	0.09	0.27	0.08	0.27	0.07
Trade	0.14	0.04	0.18	0.03	0.18	0.02	0.20	0.02
Services	0.19	0.03	0.18	0.02	0.21	0.02	0.26	0.02
Government	0.03	0.01	0.04	0.02	0.05	0.02	0.05	0.02
Number of observations	26,660		8,555		28,255		29,147	

Notes: Data for 1940 were weighted to take into account sampling procedures and make them representative of the population.

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<sup>1</sup> State fixed effect models have also been criticized on methodological grounds (Moffitt 1998, 58-59). When the methodology is applied to yearly data, the welfare effect must be identified by yearly changes in benefits and single motherhood. The transition into and out of single motherhood, however, takes time, and may respond only with a lag to changes in benefit levels.

<sup>2</sup> An exception to this is Ruggles (1997) which examines the relationship between family structure and welfare generosity between 1940 and 1990. This paper will be discussed further below.

<sup>3</sup> See Abbott (1934) for an example of how the case for a federal program was presented.

<sup>4</sup> Following Moffitt (1994), this sum is calculated as:  $0.7*(AFDC\ maximum\ guarantee) + (Food\ Stamp\ Guarantee) + 0.368*(imputed\ value\ of\ Medicaid)$ . The AFDC guarantee is multiplied by 0.7 because the Food Stamp program taxes AFDC benefits as income at a rate of 30 percent. The Medicaid value is multiplied by 0.368 to convert it to a cash-equivalent figure.

<sup>5</sup> These data and their sources will be described more carefully below.

<sup>6</sup> IPUMS data and supporting documentation is available on-line at: [www.ipums.umn.edu](http://www.ipums.umn.edu). A sample of the 1930 data is currently under construction but not yet available. The IPUMS contains several samples for the 1970 census each containing slightly different sets of data. I use the “state, form 1” sample.

<sup>7</sup> Due to sampling procedures, both the full and sample-line samples of the 1940 data are not representative of the population. In particular, individuals living in units with more than seven members are over-represented. The 1940 data, therefore, must be weighted to produce population estimates (Ruggles 1995a, 45).

<sup>8</sup> The only information on education level in the 1910 and 1920 censuses is literacy.

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<sup>9</sup> Such subfamilies can be difficult to identify in census data. The only information on family relationships collected by the censuses before 1990 was relationship to the household head. Such data can leave the relationships between non-head family members ambiguous. For instance, if a household contains a grandchild of the head and two women designated as the daughters of the head, it is unclear which woman, if any, is the mother. Ellwood and Bane (1985) argue that such ambiguities led to an understatement of subfamilies in the public use samples of the censuses produced by the Census Bureau and the CPS until 1983. The classification of subfamilies was left to the discretion of the coders of these surveys who seemed to be reluctant to designate women as single mothers (p. 151). The understatement of subfamilies in the IPUMS samples is much less severe than in the Census Bureau-produced samples, however. The IPUMS team developed a set of rules for making parent-child links even in cases when the relationship data produced ambiguities (see Ruggles 1995b). For instance, each individual reported as a grandchild was linked “to the most proximate ever-married child and/or child-in-law with a plausible age difference,” where a plausible age difference was defined as 12 to 54 years for women and 15 to 74 years for men (Ruggles 1995b, 57). This rule still misses some single-mother subfamilies, though, because it does not allow for links of children to never-married women. For the 1960 and 1970 censuses, the IPUMS also made mother-child links using data on a woman’s reported number of children ever-born instead of marital status. But in 1960, only ever-married women were asked for their number of children ever-born. Hence, subfamilies headed by never-married women are again missed. To deal with this undercount, I take all grandchildren not currently linked to mothers and try to link them to unmarried women listed as daughters in the same households. I use the same rules as those used to make the IPUMS links: allowing for only plausible age-differences and in the case of multiple

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candidates, designating the one listed nearest the child in the household record as the mother.

This procedure produces relatively few additional mother-child links and increases the estimated rates of single-motherhood only slightly. The biggest change is for 1950 for which the new links increase the overall rate of single-motherhood by 0.003 percentage points.

<sup>10</sup> In the analysis and discussion below, I define the marital dissolution rate as the fraction of all women who were reported as divorced or separated. A more common definition is to limit the population to all ever-married women. But the impact of welfare policy on marital dissolution works both through the decision to marry and to the decision to divorce or separate once married. Defining the marital dissolution rate in terms of the population of all women allows us to consider the net result of these two potentially conflicting effects. In the end, however, the choice of definition has little effect on the conclusions. All the marital dissolution models were estimated for the population of ever-married women and produced the same general patterns as the models presented in the paper.

<sup>11</sup> The conversion of the 1919 maximums to 2000 dollars was done using the GDP deflator constructed by Louis Johnston from the Balke and Gordon (1989) GDP data. Johnston's GDP deflator series are available on [www.eh.net](http://www.eh.net).

<sup>12</sup> All the models in the paper were also estimated as logistic regressions and produced the same general patterns as the linear probability models presented in the paper.

<sup>13</sup> The exception was births to single women in 1940.

<sup>14</sup> Robert Moffitt has kindly made available on his website data on welfare benefits by state for 1960 to 1998.

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<sup>15</sup> In the early years of ADC, mothers and other adults were not considered recipients. So in the SSA tables, the families I refer to as families of four were referred to as families of three children.

<sup>16</sup> The SSA did collect data on total payments and recipients in these states so that we do have data on the average payment per child in these states in 1940.

<sup>17</sup> These conversions were made using the GDP deflator for personal consumption expenditures made available by the Bureau of Economic Analysis (BEA).

<sup>18</sup> Following Moffitt (1994), this sum is calculated as:  $0.7 * (\text{AFDC maximum guarantee}) + (\text{Food Stamp Guarantee}) + 0.368 * (\text{imputed value of Medicaid})$ . The AFDC guarantee is multiplied by 0.7 because the Food Stamp program taxes AFDC benefits as income at a rate of 30 percent. The Medicaid value is multiplied by 0.368 to convert it to a cash-equivalent figure. The Medicaid value was converted to 2000 dollars using the Consumer Price Index for medical care.

<sup>19</sup> For the 1960 and 1970 censuses, metropolitan status is not identified for reasons of confidentiality for the residents of some states and parts of states. Therefore, for those two years, metropolitan status is captured by two variables: one indicating that an individual is identified as living in a metropolitan area, and one indicating that an individual is in an area in which metropolitan status was not identified.

<sup>20</sup> Ribar and Wilhelm (1999) provide a review of this literature.