Welfare Rules, Incentives, and Family Structure

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Abstract

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In this study we provide a new examination of the incentive effects of welfare rules on family structure. Focusing on the AFDC and TANF programs, we first emphasize that the literature, by and large, has assumed that the rules of those programs make a key distinction between married women and cohabiting women, but this is not a correct interpretation. In fact, it is the biological relationship between the children and any male in the household that primarily determines how the family is treated. In an empirical analysis conducted over the period 1996 to 2004 that correctly matches family structure outcomes to welfare rules, we find significant effects of several welfare policies on family structure, both work-related policies and family-oriented policies, effects that are stronger than in most past work. Many of our significant effects show that these rules led to a decrease in single motherhood and an increase in biological partnering. For all of our results, our findings indicate that the impact of welfare rules crucially hinges on the biological relationship of the male partner to the children in the household.

Introduction

A question of long-standing research and policy interest is whether the U.S. welfare system discourages marriage and encourages single motherhood. The origin of this hypothesis lies in the structure of the main welfare program through the early 1990s, the Aid to Families with Dependent Children (AFDC) program, which primarily made families with children eligible only if they were one-parent families. A large volume of research was conducted from the 1990s through the early 2000s on whether AFDC affected family structure (Blackburn, 2003; Blau et al., 2004; Duncan and Hoffman, 1990; Ellwood and Jencks, 2001; Hoffman and Foster, 2000; Lichter et al., 1991; McLaughlin and Lichter, 1997; Moffitt et al., 1998; Winkler, 1995). Summaries of that research (e.g., Moffitt, 1998) showed quite weak evidence for the hypothesis, albeit with a wide range of estimates across different studies consistent with the existence of a nonzero positive effect on single motherhood but one which is probably small in magnitude and hard to detect.

The more recent literature on this topic has concerned itself instead with the effect of a major federal reform of the AFDC program in 1996 that imposed work requirements, time limits, and other features on the program and renamed it the Temporary Assistance for Needy Families (TANF) program. While most of the major features of the reform did not directly affect incentives for different family structures, the clearly articulated goal of the legislation was to reduce single motherhood.[1] There have been several studies of whether this reform affected different dimensions of family structure, with one important dimension being the extent of

[1] These reforms were part of the Personal Responsibility and Work Opportunity Act (PRWORA) of 1996. The first section of the legislation is entirely devoted to documenting the rise in nonmarital births and it ends with the statement that "...it is the sense of Congress that prevention of out-of-wedlock pregnancy and reduction of out-of-wedlock births are very important government interests and [this legislation] is intended to address the crisis."

cohabitation.[2] A number of the studies of welfare reform have added cohabitation as an outcome in addition to marriage and have examined whether the reform had an effect on the relative proportions of women with children who were married, cohabiting, or neither. The studies (including a few which did not examine cohabitation) include Acs and Nelson (2004), Bitler et al. (2006), Blau and van der Klaauw (2013), Dunifon et al. (2009), Ellwood (2000), and Fitzgerald and Ribar (2004). Surveys of this literature (Blank, 2002; Grogger and Karoly, 2005; Lopoo and Raissian, 2014; Moffitt, 2007) have generally summarized the results as showing mixed effects, with a few studies finding some significant effects but many finding no effects or even effects with counterintuitive signs.

Our study also focuses on the effects of welfare reform in the 1990s on family structure but makes an important correction to past work by using a superior classification of that structure. Whereas much of the work just cited classifies women as either married, cohabiting, or neither, this is an incorrect interpretation of the rules in the AFDC and TANF programs. Those programs base eligibility not on marital status but on the biological relationship of any male in the household to the children. The programs treat families the same whether they are married or cohabiting, if the male in the household is the biological father of the children. If the male is not the biological father of the children, then the programs treat the mother and her children completely differently.[3] This distinction has been known for some time (e.g. Winkler, 1995; Moffitt et al., 1994, 1998) but most of the work on the effect of welfare reform on family

[2] The rise in cohabitation has long been studied by demographers and its disproportionate prevalence in the low income population has been repeatedly demonstrated (Bumpass and Lu, 2000; Kennedy and Bumpass, 2008; Smock, 2000).

[3] We discuss the case of blended families – where some children are the biological children of the male and some are not – below. We also discuss those studies in the literature that focus on children's living arrangements rather than adult relationships, which can sometimes result in a different set of outcomes.

structure has not taken account of the actual program rules. Two notable exceptions are Acs and Nelson (2004) and Blau and van der Klaauw (2013). However, as we discuss below, these studies differ significantly from ours.[4]

A correct classification of family structure is important in terms of magnitude. For example, we show below that 52% of low-income cohabiting women with children in 1996 were cohabiting with a male who was the biological father of all of the mother's children.[5] Further, and more important for present purposes, we show that it makes a difference to the estimated results of the effect of welfare reform if one uses the correct rather than the incorrect definition of family structure in matching welfare rules.[6]

A second contribution of our study is to recognize that there are additional detailed rules governing the treatment of cohabitors who are unrelated to the children in both the AFDC and TANF programs. These rules are not systematically collected in state welfare manuals and/or in the Urban Institute's Welfare Rules Database (WRD) and they have not been used in past research, with the exception of Moffitt et al. (1998). For example, different states treat contributions of non-biological male cohabitors toward rent and other living expenses differently, and these could affect family structure outcomes. We use the results of two telephone surveys of welfare administrators in all U.S. states and jurisdictions that were conducted in 1993 and 2006 to show the effects of changes in unrelated cohabitor rules over

[4] Earlier, Moffitt et al. (1998) recognized the biological distinction as well but their data lacked sufficient information on biological relationships. In addition, theirs was a cross-sectional study of the effects of AFDC in the late 1980s and not a study of the more recent welfare reforms. They found the rules to have weak incentive effects on encouraging cohabitation.

[5] Interestingly, this is not much different than the rate for the total U.S. population of cohabitors, where approximately 50 percent of all cohabiting unions in 2007-2009 had shared biological children (Kennedy and Fitch, 2012, Table 3).

[6] Aside from the importance of this distinction to the effects of welfare, whether the male is the biological or non-biological father may have implications for the children as well (e.g.,

time, along with changes in rules resulting from 1990s welfare reform.

We examine the effects of welfare reform and of changes in unrelated cohabitor rules on changes in family structure from 1996 to 2004 with data from the Survey of Income Program Participation (SIPP). The SIPP is a particularly good data source for this analysis because it contains a household relationship matrix identifying the biological relationships between the children and all of the adults in the household. In our empirical work, we find significant effects of several welfare policies on family structure, both policies reflecting the severity of work-related rules and family-oriented policies more directly aimed at family structure. Many of our significant effects show that these rules led to a decrease in single motherhood and an increase in biological partnering. We also find that these policies affected the family structure of mothers both on and off of welfare. Thus, the family structure effects we observe do not simply reflect movements off of welfare and changes in family structure, but rather, a general movement away from single parenthood and towards biological partnering among all women exposed to these policies. These findings suggest that welfare reform had stronger effects on family structure than have been found in past work. For all of our results, our findings indicate that the impact of welfare rules crucially hinges on the biological relationship of the male partner to the children in the household, and this is part of the reason for the difference in our results compared to prior studies.

In the following section, we discuss the welfare rules in more detail (including their expected effects on family structure) and review several prior studies which are closest to ours. We then present our data and methods, and then our results, followed by a discussion and our conclusions.

Berger and Langton (2011) show that non-biological fathers are less involved with the children).

Welfare Rules and the Relationship Between Our Approach and Past Work

The original 1935 Social Security Act which created the AFDC program provided for cash support to families with "dependent" children, who were defined as those who were deprived of the support or care of one natural (i.e., biological) parent by reason of death, disability, or absence from the home, and were under the care of the other parent or a relative. Death was the primary reason for eligibility in 1935 but divorce and nonmarital births rose as reasons for eligibility particularly after 1960. Thus, under the original rules, no household with two biological parents was eligible for benefits, while the presence of a non-biological adult in the household had no impact on the eligibility or benefits of an otherwise eligible single-parent household. However, state agencies did not always enforce the law as it was written and would often rule women as ineligible if there was any male in the household, even temporarily. This practice was outlawed by a Supreme Court case in 1968 which prohibited such "man-in-the-house" rules, reiterating that the presence of a male who was not related to the children could not be used to determine eligibility.

A major change occurred in 1961, when Congress passed the "Unemployment Parent" program, which allowed states to make households with two biological parents eligible for AFDC benefits if the principal earner had a significant work history but currently worked no more than 100 hours per month. While this program was initially intended to provide supplementary benefits to families in cases of unemployment, it created a way for two-parent households to be eligible for AFDC benefits. Indeed, when the Unemployed Parent program was expanded to include all states in 1988, one justification for its expansion was to promote marriage.[7] However, for neither the AFDC "Basic" program (i.e., that for single parent families)

[7] AFDC-UP did not increase the number of two-parent families on the program very

nor the AFDC-UP program was marital status relevant for eligibility.

The policies toward non-biological adults in AFDC households also evolved over time. Following a Supreme Court ruling in 1970, states adopted different rules about counting contributions from unrelated cohabitors toward rent and other shared household expenses. For instance, some states reduced grants if cohabitors paid some or all of the rent or contributed cash for shared household expenses, while others did not. Some states even went so far as to require a contribution from an unrelated cohabitor or to reduce the grant if an unrelated cohabitor was present (regardless of whether he or she contributed to the household or not). A survey of state administrators in 1993 found wide variations in these polices (Moffitt et al., 1994).

Congress also reformed the way in which married non-biological adults (i.e. stepparents) were treated under AFDC. In 1981, Congress passed legislation requiring that some portion of the income of stepparents be "deemed," meaning it must be counted in total income when assessing eligibility and benefits received by the mother and her children.[8] One consequence of these stepparent rules is that stepparent families are almost always treated more unfavorably than unrelated cohabitors since their income is always required to be at least partially counted. Thus, marital status does affect financial eligibility and benefit amounts when partners are unrelated to the children.

The incentive effects for family structure from these policies are clear. Relative to a policy where all males in the household are included in the unit and all their income is counted as part of the unit's total income, these policies clearly encourage cohabitation with a male

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much, however, because of the stringent eligibility requirements discussed in the text (Winkler, 1995).

[8] States had the option of including or excluding the stepparent in the assistance unit (or making it optional). The deeming rule applies when the stepparent is excluded—some portion of income must be counted. If the stepparent is included, all that income is counted as it would be

unrelated to the children compared to marriage or cohabitation with a biological father. Relative to that same benchmark, they also encourage stepparent family formation because stepparents (in many states) do not have to be included in the assistance unit and hence their full income does not have to be counted, although unrelated cohabitation is encouraged relative to stepparent family formation given the somewhat more favorable treatment of the former. As for relative incentives to marry rather than cohabit with a biological father, these situations are treated identically by existing welfare rules.

While a few of the policies we have discussed have changed over time—for example, some states changed their treatment of stepparent families and of households with unrelated cohabitors—the basic rules have not changed. Instead, the major change in the program occurred in the 1990s with federal legislation in 1996 and with state reforms just prior to 1996. The 1996 legislation, which renamed the AFDC program to the TANF program, imposed a five-year lifetime time limit on receipt of benefits, imposed work requirements with few exemptions and with sanctions for noncompliance, imposed a separate time limit on the minimum amount of time that could pass before work requirements were mandatory, offered the states the option of disregarding more of earnings in benefit calculations (to provide work incentives), and offered states the option of not increasing the family's benefit if an additional child was born while on welfare (the "family cap"). The legislation also abolished the AFDC-UP program and allowed states to relax some or all of the restrictions governing eligibility of two-parent families (the 100-hour work rule, the work history requirement, etc.).

Of these policies, only family cap policies and the relaxation of two-parent eligibility conditions directly affect incentives for family structure. For instance, family cap policies,

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for any member of the unit (although there are some special deductions for stepparents).

ignoring effects on fertility itself, could provide mothers on welfare with an incentive to leave the program because of benefit reductions, which in turn could lead to increased partnering.[9] For mothers who choose to remain on welfare, one would expect the family cap to increase cohabitation with a male unrelated to the child in order to obtain additional income. However, it is also possible that even cohabitation or marriage to a biological father might be encouraged among women on welfare if the additional income brought in is important enough to outweigh the penalties from having to include the father in the assistance unit. As for two-parent rules, the relaxation of two-parent eligibility rules should encourage the creation of two biological parent households among welfare recipients. Because of this, it may attract more women to go onto welfare, thereby increasing the welfare participation rate.

Although the other TANF policies—sanctions, work requirements, earnings disregards, and time limits—are not directly related to family structure, they could have indirect effects if in no other way than through their effect on welfare participation. Indeed, the most striking effect of the 1996 legislation was to dramatically reduce the caseload of the program. Data from the SIPP show that welfare participation among low-income mothers fell from 22.7% in 1996 to 9.2% in 2004.[10] This indirect effect of welfare reform on family structure working through the welfare participation effects could be potentially large. A reduction in the attractiveness of welfare should encourage more women to leave welfare and to marry or cohabit, especially with biological fathers since the penalty for marrying or cohabiting with them is removed when off welfare. Mothers off welfare would presumably be more likely to seek out male partners who

[9] The reform could also have changed incentives for childbearing and hence fertility. We will ignore those effects because, like most of the previous literature cited here, we will examine only effects on women with children, not effects on the presence or number of children.

[10] Our sample of low income mothers are women aged 18-55 with less than a college degree who was not the primary or secondary homeowner of their place of residence. See below

have income to contribute as well, since leaving welfare results in a loss of income. Working somewhat against these effects, however, is the attempt of the reform to increase labor market earnings of disadvantaged women. Relying on one of the oldest hypotheses in the literature (the independence effect), an increase in female earnings may reduce the incentive to cohabit or marry.[11]

It is also possible that these non-family-oriented TANF policies could affect family structure choices among women remaining on welfare. To the extent that benefits are reduced by sanctions or other reform components, for example, one should expect an increase in cohabitation in order to obtain additional income, although only with a male unrelated to the children given the rules of the program. But, as similarly noted above for family-oriented policies, it is possible that cohabitation or marriage to a biological father might also be encouraged. However, the work rules of the program and the increase in earnings disregards may lead to increased earnings for women, which would weaken the need for supplemental income and hence for cohabitation or marriage while on the program.

Past Work and Our Approach. Our study examines the effect on family structure of the 1990s welfare reform and of those state-specific welfare rules governing unrelated cohabitors. As noted in the Introduction, our study differs from the vast majority of past studies on this topic, which have defined family structure or living arrangements based on marital status rather than the father's biological relationship to the children. However, we discuss two studies that used the biological relationship when examining 1990s welfare reform, Acs and Nelson (2004) and Blau and van der Klaauw (2013). We also briefly discuss Dunifon et al. (2009) because we

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for more details.

[11] The actual effect of increased female earnings could go either way, as noted in the literature; we are just reporting a possible direction of effect that would go in the opposite

loosely follow their identification strategy for the effects of 1990s welfare reform. We should note that neither these three studies nor any other studies over this time period have examined the effects of changes in state-specific unrelated cohabitor welfare rules, which is our second contribution.

Acs and Nelson examined the effects of welfare rules on the living arrangements of children. However, instead of adult union status, they defined those arrangements on the basis of the biological relationship of the adults to the children. They identified these effects using variation in TANF reform stringency. They found that family caps reduced the probability of partnering but that most of the stringency variables had no significant effect on living arrangements. These limited results may in part be a result of the data they use, which included only 13 states and only covered the years 1997 and 1999. This limited sample period means that they could not use the pre-1997 waiver variation to identify TANF effects.

Blau and van der Klaauw followed a cohort of women from 1979 through 2004 and estimated dynamic movements into and out of marriage and cohabitation and childbearing, distinguishing between whether marriage and cohabitation occurred with the father of any children born. Their controls for welfare reform were somewhat limited. They included a simple dummy for any pre-1996 waiver and a dummy for TANF implementation rather than the policy-type specification used in other analyses (including this one). Additionally, by using only specific birth cohorts who were in their 30s by the time welfare reform passed in 1996, they could not estimate its effects on younger age women who constitute the majority of welfare recipients, nor could they separate age effects from period effects. Their study found that welfare reform increased the proportion of childhood living with the married biological father for

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direction as that just mentioned.

some race groups, but the effect was statistically insignificant.

Dunifon et al. also examined the effect of welfare rules on children's living arrangements, although they defined family structure on the basis of marital status.[12] While our study focuses on the adult relationship type and differentiates these relationships by the man's biological relationship to the child, their study most closely resembles our study in terms of the type of variation in welfare reform used to estimate its effects on family structure Dunifon et al. used both variation in the implementation of specific pre-1996 waiver policies, and variation in the post-1996 strictness of TANF policies, to identify those effects (we use a somewhat different classification of those policies, but this is not a major difference). They found very few robust associations of welfare reform and living arrangements. However, like Acs and Nelson, they examined the impact of TANF policy changes over a relatively short period of time (up to 1999; our study goes through 2004).

Our study examines the effects of 1990s welfare reform and of changes in state-specific unrelated cohabitor rules on family structure, where we define family structure by the biological relationship of any male in the household to the children. For this purpose, we use data at two points in time, in 1996 before the legislation was passed and in 2004 several years afterwards, and examine how family structure changed between the two time points. This is a familiar approach in the literature, often formulated as a state fixed effects model with time-varying state-specific policy rules.

Identification of these types of models requires that there be variation in policies across states and over time. For the state-specific cohabitation rules, we will only be able to estimate the effects of those rules that actually changed over the period of analysis, which include explicit

[12] Their third category was not cohabitation per se, but "doubled up" households where

cohabitation policies and how states treated cash for shared household expenditures. For the 1990s welfare reform, we make use of two types of cross-state variation. The first is that many states started introducing elements of the eventual 1996 welfare reform prior to 1996, by obtaining approval for "waivers" from federal rules to implement new work requirements, sanctions, time limits, and other policies. Consequently, even though all states had to implement the same basic elements of the reform after 1996, the change in policy differed across states depending on whether they had adopted any reform before 1996 and, if so, the type of reform.[13] The second source of variation we use is variation across states in those elements of reform that they were allowed to vary by the law after 1996. Many states, for example, adopted stricter time limits, stricter sanction policies, and more restrictive work requirement exemptions than those required by the legislation. We use this additional source of variation to estimate the effects of the severity of the reform on family structure. As noted, the welfare reform specification used here is closely related to that of Dunifon et al. (2009).

Data and Methods

Data. We use data from the 1996 and 2004 panels of the Survey of Income and Program Participation (SIPP) for our analysis. The SIPP is a nationally representative household survey of the U.S. civilian noninstitutional population that follows households for approximately four years. The second wave of each of the panels collects information from the reference person or householder on relationships between all members of the household to form what is called the Household Relationship Matrix (HHRM), which includes biological relationships between the

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either a cohabitor, grandparent, or another type of adults was present.

[13] States were allowed to delay their implementation of the federal legislation and there was variation in the length of delay, which some studies have used for identifying the effect of

children and the adults. The second wave of the 1996 panel was administered from August to November 1996 and that of the 2004 panel was administered from June to September of 2004.

We use these second-wave data to define our sample and to create variables that categorize family structure.[14] For our sample, we select women 18-55 with a biological child 17 or under in the household and who have less than 16 years of education and who are not primary or secondary homeowners. These sample restrictions are intended to focus on a group of women likely to be eligible for welfare. Indeed, our preliminary work showed that each of the restrictions (including the homeowner one) increases the welfare participation rate considerably (we give sample means below).

For our main categorization of family structure, we use the HHRM to determine if there is a male partner in the household, either a "spouse" or an "unmarried partner" (as identified by the use of this term by the reference person) or a male in the household with a common biological child with the mother (again according to the HHRM relationship codes).[15] If a male partner of any type is present, we then determine the biological relationship of this partner to each of the woman's children. We then separate women into those with a partner biologically related to all of her children ("biological"), those with a partner biologically unrelated to some or

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TANF. Our second year is 2004, and all states had implemented the law by that date.

[14] The second wave of the 1996 panel took place after the signing of the 1996 welfare reform legislation in August of that year, but family structure would not have changed that quickly in response to the law, for the states did not even begin implementation until late 1996. Earlier SIPP panels, such as the 1993 SIPP, had HHRMs but they did not have "unmarried partner" as one of the categories. This relationship designation, which we use (in part) to define cohabitors, was first included in the 1996 SIPP. The SIPP HHRM data are discussed in detail by Brandon (2007) and the Census Bureau issues periodic reports based on them (the first one, based on the 1996 panel, can be found in Fields (2001)). Another research study using the SIPP HHRM is Baughman et al. (2002).

[15] We excluded same-sex couples of which there were very few.

all of her children ("unrelated"), and those with no partner ("single parent").[16] We also take all women with a male partner, as determined above, and use marital status to categorize women into those who are married and cohabiting (regardless of biological relationship to the children), which are the union status categories traditionally used in the literature. In the analysis, we compare models using the union status and biologically-defined categorizations.[17]

Table 1 shows the distribution of family structures in our sample, 1996 vs. 2004, and stratified by welfare participation status. In 1996, for example, 42.6 percent of the mothers in our sample had partners who were biological fathers of the children, 12.4 percent had partners who were unrelated to the children, and 45 percent had no partner and hence were single parents. Between 1996 and 2004, there was a slight drop in the percent of women with partners who were the biological father of all of their children (down to 41.6 percent), and a slight increase in the percent with unrelated partners (up to 13.1 percent). While these aggregate changes were small, the model estimated below will determine whether the changes across different states were significantly correlated with changes in policies and demographic factors.

These trends were slightly different by marital status. The percent of women who were cohabiting with biological fathers rose while the percent married to biological fathers fell. The same relative trend appears for women with unrelated partners.

Table 1 also shows that the welfare participation rate dropped dramatically between the

[16] We categorize blended families, those where the male or female is biological to some but not all of the children in the household, as an "unrelated" family because many states allow the male to be excluded from the assistance unit in that instance. That said, blended families constitute a small minority of households, 5.5% of our sample in 1996 and 6.2% of our sample in 2004. Additionally, we include households where the male has adopted the children as "biological" families because that is how the AFDC and TANF programs treat them.

[17] Women are classified as "married" if they have a "spouse" in the household. Women are classified as cohabiting if they have a male "unmarried partner" in the household or if they are unmarried and reside with a male with whom they have a common biological child.

years, consistent with well-known documentation of trends over this period. The distribution of family structures among the welfare and nonwelfare populations similarly exhibited marked change. Among mothers on welfare, the percent of mothers living with biological fathers fell while the percent living with unrelated partners rose. The direction of the trend was the same by marital status, albeit different in magnitude. Among mothers not on welfare, the percent living with biological fathers fell and the percent living with an unrelated partner fell slightly. The trends were larger in magnitude among married women than among those who were cohabiting.

In our multivariate analysis, we control for individual and household characteristics including the age, education, race and ethnicity of the mother, household urban residence, and several state-level measures of labor market conditions and policies other than those for AFDC/TANF. The means of these variables are shown in Appendix Table A1.[18]

Our major independent variables of interest are those measuring state-level 1990s welfare reform and state-specific unrelated cohabitor rules, and we code these variables separately for our two dates, 1996 and 2004. The welfare variables we employ, as shown in Table 2, are divided into four groups. The first group reflects welfare waiver policies where, following much of the literature, we use variation in state adoption of AFDC waiver policies prior to 1996 to code policy variables for the 1996 data observations. However, rather than using a single dummy for having adopted a major waiver (as much of the literature does, including Bitler et al.

[18] It should be noted that the 1996 SIPP panel did not break out ME, VT, ND, SD, and WY as individual states because of concerns about being able to identify individuals in the data. To address this issue, we simply drop any observations from these states (or grouped states) in 1996 and 2004. This reduces the sample size of mothers by about 1%. We also exclude observations from AR and ID in both 1996 and 2004 (1.5% of sample) because preliminary analysis found that changes in welfare participation in these states from 1996 to 2004 were greater than two standard deviations from the mean, making them effectively "outlier states." Regarding sample sizes per state, they range from 14 to 740 observations in 1996 with a mean of 93 per state and from 8 to 465 observations in 2004 with a means of 90 per state.

(2006) and Blau and van der Klaauw (2013)), we differentiate by type of waiver adopted (for an example of this same approach, see Dunifon et al. (2009)).[19] Our four main waiver variables indicate whether a state implemented a sanctions policy, a work requirement policy, a time limit policy, or did *not* adopt an expanded earnings disregards policy. A sanction policy meant that families who did not comply with one or more requirement, usually work requirements, would have their benefits reduced in full or in part. A work requirement policy stipulated that mothers must begin work within a specified time period and generally had some type of minimum hours per week requirement. A time limit policy meant that the state imposed a limit on the number of years a mother could receive benefits. Earnings disregards stipulate the amount of earnings that could be deducted before counting income against the benefit and were aimed at work incentives. We code the earnings disregard variable as equal to one if the state did not enact such a waiver so that all four variables will be coded in a way that makes welfare less attractive. All the waiver variables are lagged relative to the 1996 interview date and coded as of December, 1995.[20]

A common finding in the literature on the 1990s welfare reforms is that the effects of each of the state policies have been difficult to detect separately, even if the overall effect of waivers is often estimated to be significant. This is in part because they were sometimes not

[19] Bitler et al. (2006) and van der Klaauw (2013), for instance, coded a dummy of 1 if there was a major waiver in place (e.g. time limit on benefits, work exemption, sanctions, etc. but did not separately identify them). In contrast, Dunifon et al. (2009) included indicators for the adoption of specific state waivers: any time limit on benefits, any type of sanction, expansion of the earned income disregard, easing of two-parent rules, and a family cap.

[20] Sources of all variables in the table are shown in Table 2. The waiver variables are from Crouse (1999), the TANF-period variables are from the Urban Institute's Welfare Rules Database, and the Cohabitor Policy and Treatment of Cash variables are from the 1993 and 2006 surveys noted elsewhere. The waiver variables are coded 1 if the waiver was in place during the waiver period and 0 otherwise. Similarly, the TANF period variables are coded 1 if the measure was "harsh" during the TANF period and 0 otherwise. Unless otherwise noted, the policy

adopted by many states,[21] because they are often highly correlated with one another, and because the impact of multiple policies simultaneously may have been larger than the sum of its parts. Similarly, in our own analysis, we do not generally detect effects of separate policies, so we will use a "count" policy variable equal to the Number of Waiver Policies enacted by the state as our main waiver variable. It has a mean of 1.2, as shown in Table 2.

For TANF policy variables, we begin by noting that, as a consequence of the 1996 legislation, all states were required to adopt certain types of policies (e.g. sanctions, time limits). However, states did have some leeway in the severity of the policies they implemented. Thus, for our 2004 observations, which were during the TANF period, we differentiate between states that adopted harsher versus less severe policies. A few other studies such as Acs and Nelson (2003) and Dunifon et al. (2009) similarly incorporated state-specific TANF policies.[22] Specifically, we construct indicators for whether the state adopted a full-benefit sanction policy, a time limit shorter than what was federally required, a more restrictive work exemption by age of the youngest child, or did not expand their earnings disregard. A full benefit sanction reduced the benefit for the entire family if noncompliance occurred, including the mother, whereas partial sanction rules only reduced the mother's portion of the benefit. As for time limits, while the federal law mandated that no state could use federal funds to pay a woman for more than 5 years of benefits, many states enacted time limits shorter than that. All states also had to specify the minimum age for the youngest child by which the mother was required to work and the median

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variables are lagged one year.

[21] For example, only 3 percent of our sample is located in a state with a Time Limit waiver policy as of December 1995.

[22] Acs and Nelson (2003) included indicators for adoption of a full family sanction, a family cap, or change in rule regarding two-parent families. Dunifon et al. (2009) included measures reflecting the strictness of time limits on benefits, strictness of the sanction policy, generosity of income disregards, value of the family cap, and easing of two-parent rules.

age across all states was 12 months. We classify a state's policy as harsh if it required mothers to work when their child reached an age younger than 12 months. The earnings disregard variable is defined identically to that for the waiver period. For the same reasons we noted above for waiver policies, we again construct a count variable which is the sum of the four separate policy variables and this will be our main TANF variable in the analysis. It has a mean of 1.25.

We also construct a number of policy variables that directly relate to family structure and term these "Family-Oriented Policies." The first two measure state-specific unrelated cohabitor rules that changed between 1996 and 2004, which were gathered from surveys of the 51 states and jurisdictions.[23] The surveys indicated that a handful of states adopted an explicit rule sometime between 1996 and 2004 that requires the benefit to be reduced if an unrelated cohabitor is present. In our analysis, we code this policy as its reverse, "no explicit cohabitor policy," in order to have the variable represent a cohabitor "friendly" policy. The other cohabitor variable measures whether states disregarded some or all of cash payments for shared household expenses made by an unrelated cohabitor to the mother and the children. Some states changed this policy between 1996 and 2004 as well.[24] Again, we created a count variable equal to the sum of the two cohabitor policies, with a mean of 1.33.

Next, we turn to four other family-oriented variables, all of which were partly adopted in the waiver period as well as in the TANF period. The first is a family cap policy, which means that the benefit would not be raised for any children born 9 months after the time the mother

[23] The first survey took place in 1993 (Moffitt et al., 1994) and the second took place in 2006 (Moffitt et al., 2009). These surveys do not exactly coincide with our SIPP survey dates in 1996 and 2004 but are close enough that few rule changes are likely to have occurred in the intervening periods.

[24] The survey also collected information about in-kind transfers (e.g. paying rent) for shared household expenses but there was not enough variation in this measure over the period to include it.

entered welfare. The second measures whether the state eased the two-parent rule, which was an option that not all states exercised. States could reduce the work history requirement, reduce or eliminate the 100 hour rule, or eliminate the waiting period. The third and fourth policies relate to the stepparent rules. States could require stepparents to be included in the assistance unit, excluded from the unit, or could make inclusion optional (and hence to be decided by the caseworker). Given that there are costs and benefits associated with being included and excluded from the assistance unit, we include an indicator for whether a stepparent is included in the assistance unit and an indicator for whether inclusion is optional.[25]

Lastly, we also include the lagged value of the monthly welfare benefit. The monthly benefit is the so-called "guarantee," the maximum benefit that could be received which is the amount for a household with no other income. We use the inflation-adjusted benefit for a family of three as an index of relative state benefit generosity.

Methods. We estimate models for alternative family structures with multinomial logit (MNL). We begin with a three-category "biological status" classification of family structure into households where the mother has a biological partner, an unrelated partner, and no partner (i.e., single parent). We contrast the results of a model with these three outcomes with the results from a model that uses a "union status" classification (one that does not match welfare rules) and divides households into married, cohabiting, and single parent. However, as we discussed above, welfare rules do distinguish by marital status for women living with an unrelated partner, so even the proposed three-way biological-status classification is not fully accurate. In addition, mothers themselves do not consider marriage and cohabitation with a biological father to be the same, so

[25] Unlike the prior groups of variables, we do not create a "number of policies" count variable for these Other Family-Oriented policies because they do not have similar expected effects on welfare participation and family structure. We will instead include them separately in

the fraction of mothers in those two categories may be affected by changes to various welfare rules as well. Consequently, our preferred classification of family structure is one which distinguishes both by the biological relationship of the male to the children and by union status. Our main results, therefore, are based on a model with a five-way classification: mothers who are married to the biological father of their children, who cohabit with a biological father, who are married to an unrelated male (i.e., a stepfather), who cohabit with an unrelated male, or who are single parents (i.e., no partner).

In addition, we estimate models stratified by welfare participation status. As we argued in the previous section, much of the effect of 1990s welfare reform probably worked through lowering welfare participation, and Table 1 suggests that family structure changes may have been different for welfare participants and nonparticipants. We therefore estimate a separate model, which breaks out family structure by welfare participation status (i.e., a six-way classification, with welfare participation crossed with our 3-category biological-status classification). Unfortunately, our sample size does not permit the preferred breakout, which would have ten groups—the five-family structure classifications separately for welfare participants and nonparticipants.

In all of our MNL models, the regression vector has the same covariates but the coefficients vary depending on the outcome variable. For notational purposes, let us denote $V_{ist}^{g}\alpha^{g}$ as the regression vector for individual i living in state s at time t (t=1996 or 2004) for outcome group g=1,..G (with G=3, 5, or 6 depending on the model), where V is a vector of variables and α is its coefficient vector. The elements in the regression vector appear in the following expression:

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the analysis below.

$$V_{ist}^{g}\alpha^{g} = P_{st}\beta^{g} + X_{ist}\gamma^{g} + O_{st}\delta^{g} + f_{s}^{g} + f_{t}^{g} + \varepsilon_{ist}^{g} \quad (1)$$

where P_{st} are the policy variables appearing in Table 2 (whose coefficients are our main object of interest), X_{ist} is a set of individual demographic characteristics, O_{st} is a set of other state-level control variables, f_s^g is a state fixed effect, f_t^g is a period fixed effect (in our case, just a year dummy), and ε_{ist}^{g} is a traditional MNL error term.[26] We pool all observations from both years in estimating equation (1) for the three different family structure classifications. In interpreting results we focus on marginal effects, which are interpreted as the effect of each of the covariates on the probability of the outcome variable, evaluated at the means. For completeness, we also provide logit coefficients, which are interpreted relative to an omitted outcome category. All specifications are estimated using sample weights and robust standard errors to correct for heteroskedasticity, i.e. the Huber-White sandwich estimator.

Results

Our initial estimates for the three-category models (i.e. based on biological relationship or based on union status) included all of the separate state policy variables in Table 2 for the vector P_{st} in equation (1). Consistent with the past literature, virtually all marginal effects and

[26] The specific demographic variables (X_{ist}) that we include in each of the specifications are: a quadratic in age, two education indicator variables for have less than a high school degree or having some college, three race indicator variables for being black, Asian, or other/non-white, an indicator for urban residence, an indicator for Hispanic ethnicity, and an interaction between black and Hispanic. The specific state-level control variables (O_{st}) include the lagged unemployment rate, the lagged real minimum wage, the lagged real manufacturing wage, the lagged Medicaid eligibility threshold defined in terms of percentages above the federal poverty level, and the lagged real maximum EITC benefit for a family of three. The Medicaid and EITC

logit coefficients were statistically insignificant at conventional significance levels. Several were of borderline significance. For brevity, we not discuss these results in detail, but we include them in the Appendix Table A2. Rather, we move immediately to estimates using the summary count variables.

Estimates with the three-category classification of family structure and summary count variables for welfare policies are shown in Table 3, first using the correct biological relationship of the male to the children to delineate the categories and second using union status. The correct classification shows that the Number of Harsh TANF Policies has a significant and negative marginal effect on the fraction of single parents and a significant positive effect on partnered with a biological father. Both of these effects were among those expected on the basis of prior considerations, as discussed above. In addition, the liberalization of the two parent rule also significantly affects the probability of partnering with a biological male, also as expected (its negative effect on single parenthood is of borderline significance). Lastly, there is also a significant negative effect of the optional inclusion of stepparents on the probability of remaining as a single mother. This policy should encourage stepparenthood but, contrary to expectations, it has an insignificant effect on the probability of partnering with an unrelated male. However, we will see that when the unrelated category is broken down by marital status, stronger effects on the unrelated married category (i.e., stepparenthood) emerge. Surprisingly, the results show no significant effects of waiver policies, cohabitor policies, family caps, or welfare benefit generosity. Moreover, no policies had significant effects on unrelated partnerhood.

The results in the lower panel of Table 3 show the magnitudes and significance levels of the combined effects of family-oriented policies that have the same sign but are not always

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variables include state supplements in addition to federally mandated levels. Summary statistics

significant at conventional levels when entered separately. Enacting both a Family Cap and a Two Parent Rule compared to enacting neither policy, for example, lowers the probability of single parenthood by 8 percentage points and raises the probability of partnering with a biological male by 12 percentage points relative to enacting neither policy. Adding Stepparent Rules, either Optional or Mandatory Inclusion, results in even stronger effects, both in terms of magnitude and statistical significance. These results indicate that enacting multiple family-oriented policies can indeed have non-trivial effects on family structure, mostly shifting women from single parent status to biological partnership status.

Interestingly, the results in the second set of columns, using union status, tend to yield similar results. However, where the results differ, the table that follows shows that this difference arises because some rules (e.g. two-parent rule) are not defined by marital status, while other rules (step-parent rules), depend on both the biological relationship of the male to the child and marital status. For example, the union-status specification implies a significant negative effect of a Two-Parent Rule on cohabitation but this effect turns out to operate entirely through a negative effect on cohabiting with an unrelated male. This is precisely what one would expect from that rule. We will also show that the significant positive effect of Optional Stepparent Inclusion on marriage works through marriage to an unrelated male, which is again more consistent with the nature of the policy.

The results from our preferred five-category family structure classification are presented in Table 4 and show a more detailed exposition of the effects than found in the previous table.[27] The positive effects of Harsh TANF policies on biological relationships, for example, are now

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of these demographic variables and state-level controls are presented in the Appendix Table A1.

[27] Coefficients on the other variables in the 5-way specification are presented in the Appendix Table A3.

seen to arise from a positive effect on marriage to a biological male. The same holds for the positive effects of the Two Parent Rule, which also are now seen to encourage marriage with, not cohabiting with, a biological male. That rule can now also be seen to significantly reduce the probability of cohabiting with an unrelated male. There are now also significant effects of a Family Cap, which appears to increase the probability of marriage to a biological male and reduce the probability of marriage to an unrelated male. The combined results in the lower panel continue to show very strong effects of enacting multiple family-oriented policies simultaneously. As compared to the combined effects in Table 4, these results – based on a more detailed categorization of family structure – show that those policies mainly shift women from single parenthood to biological marriage, and not to biological cohabitation.

The results in Table 4 also demonstrate the channels for some of the significant union-status effects noted above and how those effects work differently through biological and unrelated relationships. Table 4 makes abundantly clear that neither marriage nor cohabitation are adequate, as categories themselves, to properly interpret the effects of both work-related welfare rules like TANF rules or family-oriented policies. In every case, the effects depend on whether the relationship of the male to the children is or is not biological.

Our final models explore the channels by which welfare affects family structure, focusing on the impacts of such policies for those on and off welfare. In this part of the analysis, we first estimate a simple probit model for welfare participation to gauge the effect of welfare policies on the welfare participation decision. Table 5 shows the estimates of a probit equation estimated on the same pooled data set used for all our estimates and with the same specification of the covariates. Consistent with the past literature on the effects of the reforms, both waiver policies and TANF policies have a strong negative effect on participation. However, these appear to be

the main driving forces lowering the caseload, for the other variables in the model are of low significance levels.

Table 6 next presents estimates from a MNL using our six-category dependent variable, which is an interaction of our three category biological grouping and an indicator for being on welfare.[28] Thus, these results describe whether the policy effects that we observe for overall family structure in Table 3 are the result of changes made jointly with the welfare participation decision. In this regard, one can think of the results in Table 6 as being a decomposition of the results in Table 3.[29]

The results in Table 6 show that the negative effect of Harsh TANF Policies on single-parent family formation found in Table 3 arises from both fewer women choosing to be on welfare as single parents and also fewer women choosing to be single parents and off welfare. Correspondingly, the positive effects of Harsh TANF policies on biological partnership arise from more women choosing that relationship status both on welfare and off welfare. Putting these findings together, the Harsh TANF effects found in Table 3 arise from a general movement from single parenthood to biological partnering and not simply a movement of women away from welfare as single parents to off welfare with biological partners.

In contrast, Table 6 shows that the Number of Waiver policies reduced the fraction of women choosing to be on welfare as single parents and increased the fraction of women choosing to be off welfare as single parents. While the net effect was still negative, it is small

[28] As we noted earlier, attempts to estimate a ten-category model with our five-way family structure classification stratified by welfare participation failed because of small sample sizes in many of the categories.

[29] The logit coefficients for this six-category specification, are shown for completeness in Table 6, but are not discussed in the text. Those for welfare participants are calculated relative to welfare single parents, while the nonwelfare logit coefficients are calculated relative to nonwelfare single parents.

and (as seen from Table 3) statistically insignificant. Consequently, the Waiver Policies tended to simply move single parents from welfare to off welfare, without any significant net effect on family structure.

The results for three family-oriented policies – family cap, two parent rule, stepparent rules – show that these policies led fewer women to choose to be off-welfare single parents but more women to engage in biological partnering both on and off welfare, although only statistically significant for the former. As we noted in our previous discussion of the expected effects of these policies, the effect of more generous welfare family-oriented policies could, in theory, lead to more women choosing to partner with males while on welfare. Our results in Table 6 support that hypothesis.

Discussion and Conclusions

The analyses we have conducted provide strong support for the main thesis of the paper, which is that, consistent with the rules of the AFDC and TANF programs (when properly understood), welfare reform and welfare variables do not have effects that apply to either marriage or cohabitation in general. Instead, the effects differ for each of these outcomes depending on the specific biological relationships of the male in the household to the children.

The strongest and most consistent effects we find are for the severity, or harshness, of TANF policies on family structure. Those policies appear to reduce the prevalence of single parenthood and to increase the prevalence of mothers partnering with males who are the biological parents of their children. Further, increases in biological partnership from Harsh TANF policies occur primarily through marriage. We also find that the combined effects of family-oriented policies (i.e. two-parent rules, family caps, and stepparent rules) have significant

negative effects on single parenthood and significant positive effects on biological partnering (primarily through marriage).

When we stratify our family structure variable by welfare participation, we find that part of these effects come from the inducement of those policies for women who are single parents to move off welfare and change family structure in the process. However, we also find that many policies encourage partnerships with biological males among mothers on welfare. One explanation for this result, hypothesized earlier, is that the benefit reductions generated by harsh TANF policies (e.g., more severe sanctions) changed the costs and benefits of having a biological male in the household, for under new TANF rules, the benefit of having an additional earner in the household may outweigh the penalties associated with having an additional biological parent in the household. An alternative explanation is that the increased earnings among welfare mothers resulting from the policies operated through the oft-mentioned mechanism of making her a more attractive mate and of stabilizing partner relationships.

Nonetheless, in some cases, despite expectations, we find statistically insignificant or at best weak effects. For instance, in no specifications do we find evidence that policies targeted at unrelated cohabitors have significant effects. One explanation may be that caseworkers do not systematically enforce those rules. Also, while we find that Waiver Policies have a significant negative effect on welfare participation, we find little evidence that these policies significantly affected family structure, with our evidence suggesting that single mothers who left welfare as a result of Waiver Policies largely remained as single mothers off welfare.

One methodological limitation of our study common to many others is a limited sample size for many of the family structure outcomes when we stratify by biological relationship of the male to the children. We were unable to stratify as fully as we would have liked in some cases

(e.g., by welfare participation status plus union-biological-relationships) because of this. Some of our weak effects of some policy variables could also be a result of small sample size, particularly at our second date, 2004, when the numbers of mothers on welfare had dramatically shrunk with consequent reductions in sample size. It is possible that multiple years of the SIPP could be pooled to increase sample size, but we were prevented from doing so prior to 1996 because the critical question on unmarried partners was not asked. This problem may be relieved somewhat as more SIPP panels are produced and released, and the detailed biological relationships continue to be identified. Another promising avenue of research, albeit not for the study of 1990s welfare reforms, is the 2007 introduction into the Current Population Survey of a more comprehensive relationship set of questions which also identify biological relationships of the children to the adults (Kennedy and Fitch, 2012). Going forward, this could be a preferable data set to the SIPP for the study of the effects of welfare on detailed family structure.

However, it may be that programs other than TANF deserve priority for research on the effects of welfare on family structure. For example, the Food Stamp program, renamed the Supplemental Nutrition Assistance Program, is now the second largest means-tested transfer program in the U.S., second only to Medicaid. Unlike AFDC and TANF, it provides benefits to families of all household types and should not be expected to have large effects on family structure. Nevertheless, it has not been studied in this regard. There have been studies of the Earned Income Tax Credit, the third-largest program, on marriage and divorce (e.g., Dickert-Conlin and Houser, 2002; Herbst, 2011), generally finding few effects. While the tax code bases eligibility on marital status, it would be interesting to determine if biological relationship to the children has any effect on EITC takeup. Perhaps the most understudied but important program is the Medicaid program, the largest means-tested program in the country. Medicaid eligibility

with regard to family structure has evolved over time, starting first in the 1970s and early 1980s being tied closely to AFDC and hence to single mothers, then expanding in the late 1980s to children and some mothers off AFDC, then expanding again in the 1990s and 2000s to cover more adults in families with children, and now expanding in many states under the Affordable Care Act to childless adults. While there are a few studies of the effects of Medicaid on marriage and divorce in its early periods (Decker, 2000; Yelowitz, 1998), there have been no recent ones.[30] Studies of Medicaid and other programs should be part of the future research agenda in this area.

[30] This paragraph is referring to studies of the programs on marriage and cohabitation, not on fertility. There have been a few studies of some of these programs on fertility.

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Table 1: Family Structure of Mothers in the SIPP (percent distribution in each year)

	1996	2004	Change 1996-2004
All Mothers			
Biological Partner	**42.6**	**41.6**	**-1.0**
Biological Married	38.5	36.3	-2.2
Biological Cohabiting	4.1	5.3	1.3
Unrelated Partner	**12.4**	**13.1**	**0.7**
Unrelated Married	8.7	7.9	-0.8
Unrelated Cohabiting	3.7	5.2	1.4
Single Parent	**45.0**	**45.3**	**0.3**
Welfare Participation Rate	22.7	9.2	-13.5
Welfare Recipients			
Biological Partner	**16.8**	**13.6**	**-3.2**
Biological Married	12.7	10.7	-2.1
Biological Cohabiting	4.1	3.0	-1.1
Unrelated Partner	**6.8**	**9.5**	**2.7**
Unrelated Married	3.3	4.5	1.2
Unrelated Cohabiting	3.5	5.0	1.6
Single Parent	**76.4**	**76.9**	**0.5**
Non-Welfare Recipients			
Biological Partner	**50.1**	**44.4**	**-5.7**
Biological Married	46.1	38.9	-7.2
Biological Cohabiting	4.1	5.6	1.5
Unrelated Partner	**14.1**	**13.5**	**-0.6**
Unrelated Married	10.2	8.3	-2.0
Unrelated Cohabiting	3.8	5.2	1.4
Single Parent	**35.6**	**42.1**	**6.5**
N	4,112	3,949	

Notes: The sample includes women 18-55 with less than 16 years of education, not the primary or secondary homeowner, and with at least one biological child 17 or younger in the household. Welfare is defined as having received positive AFDC (1996) or TANF (2004) income in the month prior to interview. "Biological" and "Unrelated" refer to the male's genetic relationship to the child/children in the household. All means are weighted using the SIPP sample weights.

Table 2: State Welfare Policy Variables Used in the Analysis

Variable Name	Definition/Measurement	1996 Mean	2004 Mean
Waiver Policies[1]			
Sanctions	Statewide policy of sanctions (full or partial sanction) on unit's benefits	0.23	0.00
Work Requirement	Statewide time limit that triggers a work requirement	0.23	0.00
Time Limit	Statewide time limit on benefits (type/length of time limit varies)	0.03	0.00
No Earnings Disregard	No statewide policy to expand the earned income disregard	0.71	0.00
Number of Waiver Policies	Sum (feasible range is 0 to 4, actual range is 1 to 3)	1.20	0.00
Harsh TANF Policies[2]			
Full Sanction	Strict statewide sanction on the unit's benefits (i.e. full benefit cancelled or case closed)	0.00	0.50
Strict Time Limit	Strict time limit policy; time limit < median across all states (60 months)	0.00	0.10
Strict Work Exemption	Strict work exemption associated with age of child; child's age less than median across all states (12 months)	0.00	0.41
No Expanded Earnings Disregard	Strict earnings disregard; earnings disregard not increased over period	0.00	0.24
Number of Harsh TANF Policies	Sum (feasible range is 0 to 4, actual range is 0 to 4)	0.00	1.25
Family-Oriented Policies			
Unrelated Cohabitor Policies[3]			
Cohabitor Policy	State has no explicit rule regarding the presence of an unrelated cohabitor	0.78	0.80
Treatment of Cash	State disregards (partial or full) cash payments made by unrelated cohabitors for shared household expenses	0.68	0.53
Number of Cohabitor Policies	Sum (feasible range is 0 to 2, actual range is 0 to 2)	1.46	1.33
Other Policies[4]			
Family Cap	State has "family cap" policy on benefits	0.27	0.52
Two Parent Rule	State eased the two-parent rule in any way (e.g. eliminated the waiting period)	0.22	0.94
Stepparent Inclusion Optional[5]	State makes optional the inclusion of the stepparent in the assistance unit	0.32	0.48
Stepparent Included[5]	State requires the inclusion of the stepparent in the assistance unit	0.21	0.21
Monthly Benefit[6]	Monthly maximum AFDC/TANF benefit for a family of 3 ($2007)	$405	$433

Notes: [1] If implemented by December 1995 for 1996 values. All values equal to zero (by definition) in 2004. Data from Crouse (1999).
[2] By definition, the 1996 values are equal to zero. If enacted by 2003 for 2004 values. Data from Urban Institute's Welfare Rules Database (WRD).
[3] If enacted by 1993 for 1996 values. If enacted by 2006 for 2004 values. Data from Moffitt et al. (1994) and Moffitt et al. (2009).
[4] If implemented by 1996 (2003) for 1996 (2004) values. Data from Urban Institute's WRD.
[5] The omitted category is exclusion of the stepparent from the assistance unit.
[6] Values as of 1996 (2003) for 1996 (2004) values. Data from Urban Institute's WRD.

Table 3: Welfare Policies and Family Structure

Three Category MNL Marginal Effects and Logit Coefficients

	Specification 1: Biological-Status Classification			Specification 2: Union-Status Classification		
	Single Parent	**Biological**	**Unrelated**	**Single Parent**	**Married**	**Cohabiting**
Number of Waiver Policies	-0.021	0.026	-0.005	-0.022	0.009	0.013
	(0.030)	(0.031)	(0.020)	(0.030)	(0.031)	(0.018)
		[0.124]	[0.013]		[0.083]	[0.207]
Number of Harsh TANF Policies	-0.040 ***	0.031 **	0.010	-0.039 ***	0.037 ***	0.002
	(0.013)	(0.014)	(0.009)	(0.013)	(0.014)	(0.008)
		[0.189] ***	[0.187] **		[0.195] ***	[0.128]
Number of Cohabitor Policies	-0.015	0.022	-0.008	-0.014	0.017	-0.002
	(0.022)	(0.023)	(0.016)	(0.022)	(0.022)	(0.014)
		[0.098]	[-0.022]		[0.079]	[0.014]
Family Cap	-0.039	0.063	-0.024	-0.036	0.023	0.014
	(0.038)	(0.040)	(0.026)	(0.038)	(0.039)	(0.023)
		[0.269]	[-0.090]		[0.154]	[0.252]
Two Parent Rule	-0.042	0.057 *	-0.015	-0.041	0.086 ***	-0.045 **
	(0.031)	(0.033)	(0.021)	(0.031)	(0.032)	(0.020)
		[0.263] *	[-0.009]		[0.316] **	[-0.395]
Stepparent Inclusion Optional	-0.043 *	0.025	0.018	-0.042	0.048 *	-0.007
	(0.028)	(0.029)	(0.019)	(0.028)	(0.029)	(0.017)
		[0.181]	[0.264]		[0.229] *	[0.039]
Stepparent Included	-0.057	0.032	0.025	-0.055	0.040	0.015
	(0.034)	(0.036)	(0.023)	(0.034)	(0.035)	(0.020)
		[0.237]	[0.359]		[0.246]	[0.317]
Monthly Benefit/100	-0.014	0.058	-0.044	-0.005	0.016	-0.011
	(0.049)	(0.050)	(0.031)	(0.048)	(0.049)	(0.030)
		[0.189]	[-0.317]		[0.053]	[-0.106]
	Combined Effects of Family-Oriented Policies					
Family Cap + Two Parent	-0.081 *	0.120 **	-0.040	-0.077	0.109 **	-0.031
	(0.049)	(0.052)	(0.034)	(0.049)	(0.051)	(0.029)
		[0.532] **	[-0.099]		[0.470] *	[-0.143]
Family Cap + Two Parent + Stepparent Inclusion Optional	-0.124 **	0.145 **	-0.022	-0.119 **	0.157 ***	-0.038
	(0.056)	(0.060)	(0.037)	(0.055)	(0.058)	(0.033)
		[0.713] **	[0.165]		[0.699] **	[-0.104]
Family Cap + Two Parent + Stepparent Included	-0.138 **	0.152 **	-0.014	-0.133 **	0.149 **	-0.017
	(0.060)	(0.064)	(0.040)	(0.059)	(0.062)	(0.035)
		[0.770] **	[0.260]		[0.716] **	[0.174]

Notes: Table shows marginal effects, standard error of marginal effects (in parentheses) and logit coefficients (single parent the omitted group) in brackets. List of other coefficients in the equations are shown in Appendix Table A3 for the five-way classification. The combined effect coefficients in the final three rows of the table report the coefficients and standard errors for linear combinations of policies. For example, the "Family Cap + Two Parent" coefficient describes the effect of implementing both policies on family structure relative to implementing neither. * p<0.1; ** p<0.05; and *** p<0.01.

Table 4: Welfare Policies and Family Structure

Five Category MNL Marginal Effects and Logit Coefficients

	Single Parent	Biological Married	Biological Cohabiting	Unrelated Married	Unrelated Cohabiting
Number of Waiver Policies	-0.023	0.022	0.003	-0.011	0.010
	(0.030)	(0.031)	(0.014)	(0.017)	(0.013)
		[0.127]	[0.129]	[-0.078]	[0.031]
Number of Harsh TANF Policies	-0.038 ***	0.029 **	0.001	0.008	0.000
	(0.013)	(0.014)	(0.006)	(0.008)	(0.006)
		[0.190] ***	[0.116]	[0.210] *	[0.095]
Number of Cohabitor Policies	-0.016	0.034	-0.014	-0.014	0.010
	(0.022)	(0.023)	(0.011)	(0.013)	(0.010)
		[0.141]	[-0.259]	[-0.124]	[0.235]
Family Cap	-0.043	0.072 *	-0.012	-0.041 *	0.024
	(0.038)	(0.040)	(0.017)	(0.022)	(0.017)
		[0.327]	[-0.131]	[-0.386]	[0.692]
Two Parent Rule	-0.038	0.076 **	-0.015	0.005	-0.028 **
	(0.031)	(0.033)	(0.015)	(0.017)	(0.014)
		[0.327] **	[-0.231]	[0.173]	[-0.479]
Stepparent Inclusion Optional	-0.043	0.031	-0.004	0.021	-0.005
	(0.028)	(0.029)	(0.012)	(0.016)	(0.012)
		[0.207]	[0.022]	[0.381] *	[0.054]
Stepparent Included	-0.055	0.020	0.008	0.023	0.003
	(0.034)	(0.036)	(0.015)	(0.019)	(0.015)
		[0.209]	[0.329]	[0.431]	[0.299]
Monthly Benefit/100	-0.009	0.044	0.008	-0.026	-0.017
	(0.048)	(0.050)	(0.023)	(0.025)	(0.021)
		[0.15]	[0.21]	[-0.30]	[-0.27]
	Combined Effects of Family-Oriented Policies				
Family Cap + Two Parent	-0.082 *	0.149 ***	-0.027	-0.036	-0.004
	(0.049)	(0.052)	(0.022)	(0.029)	(0.021)
		[0.655] **	[-0.362]	[-0.212]	[0.122]
Family Cap + Two Parent +	-0.124 **	0.179 ***	-0.031	-0.015	-0.009
Stepparent Inclusion Optional	(0.056)	(0.060)	(0.026)	(0.032)	(0.024)
		[0.861] ***	[-0.340]	[0.169]	[0.124]
Family Cap + Two Parent +	-0.136 **	0.169 ***	-0.018	-0.013	-0.001
Stepparent Included	(0.060)	(0.065)	(0.027)	(0.035)	(0.025)
		[0.863] ***	[-0.033]	[0.219]	[0.349]

Notes: Table shows marginal effects, standard error of marginal effects (in parentheses) and logit coefficients (single parent the omitted group) in brackets. List of other coefficients in the equations are shown in Appendix Table A3 for this specification. The combined effect coefficients in the final three rows of the table report the coefficients and standard errors for linear combinations of policies. For example, the "Family Cap + Two Parent" coefficient describes the effect of implementing both policies on family structure relative to implementing neither. * p<0.1; ** p<0.05; and *** p<0.01.

Table 5: Welfare Rules and Welfare Participation
Probit Marginal Effects

Policy Variables	**Marginal Effects**
Number of Waiver Policies	-0.068 ***
	(0.022)
Number of Harsh TANF Policies	-0.017 *
	(0.010)
Number of Cohabitation Policies	0.006
	(0.017)
Family Cap	0.038
	(0.029)
Two Parent Rule	0.005
	(0.028)
Stepparent Inclusion Optional	-0.008
	(0.020)
Stepparent Included	-0.024
	(0.024)
Monthly Benefit/100	0.025
	(0.033)

Notes: Table shows marginal effects and standard error of marginal effects (in parentheses). List of other variables in the equations are shown in Appendix Table A3. * p<0.1; ** p<0.05; and *** p<0.01.

Table 6: Welfare Policies and Family Structure
Six Category MNL Marginal Effects and Logit Coefficients

	Non-welfare Participants			Welfare Participants		
	Single Parent	**Biological**	**Unrelated**	**Single Parent**	**Biological**	**Unrelated**
Number of Waiver Policies	0.022	0.055 *	-0.002	-0.042 *	-0.026	-0.006
	(0.029)	(0.032)	(0.019)	(0.022)	(0.017)	(0.009)
		[0.080]	[-0.074]		[-0.708]	[-0.148]
Number of Harsh TANF Policies	-0.029 **	0.023	0.007	-0.026 ***	0.026 ***	-0.002
	(0.013)	(0.014)	(0.009)	(0.009)	(0.009)	(0.005)
		[0.184] **	[0.182] *		[1.320] ***	[0.101]
Number of Cohabitor Policies	-0.014	0.012	-0.020	-0.008	0.017	0.013
	(0.021)	(0.024)	(0.015)	(0.017)	(0.013)	(0.008)
		[0.089]	[-0.122]		[0.762]	[1.139] *
Family Cap	-0.047	0.028	-0.021	0.021	0.030	-0.012
	(0.037)	(0.041)	(0.025)	(0.026)	(0.021)	(0.010)
		[0.247]	[-0.025]		[1.060]	[-1.138]
Two Parent Rule	-0.044	0.047	-0.023	-0.018	0.034 *	0.005
	(0.030)	(0.034)	(0.021)	(0.022)	(0.020)	(0.010)
		[0.306] *	[-0.040]		[1.579] *	[0.591]
Stepparent Inclusion Optional	-0.038	-0.014	0.024	-0.035 *	0.070 ***	-0.006
	(0.027)	(0.030)	(0.018)	(0.020)	(0.019)	(0.008)
		[0.134]	[0.367] *		[3.178] ***	[-0.201]
Stepparent Included	-0.018	-0.007	0.023	-0.060 **	0.054 **	0.008
	(0.032)	(0.038)	(0.022)	(0.025)	(0.026)	(0.012)
		[0.085]	[0.301]		[2.751] **	[1.201]
Monthly Benefit/100	-0.020	-0.007	-0.033	-0.013	0.081 ***	-0.009
	(0.046)	(0.052)	(0.030)	(0.032)	(0.028)	(0.012)
		[0.082]	[-0.212]		[3.442] ***	[-0.603]
	Combined Effects of Family-Oriented Policies					
Family Cap + Two Parent	-0.091 **	0.076	-0.044	0.003	0.064 **	-0.007
	(0.046)	(0.053)	(0.033)	(0.033)	(0.026)	(0.012)
		[0.554] **	[-0.066]		[2.639] **	[-0.548]
Family Cap + Two Parent + Stepparent Inclusion Optional	-0.129 **	0.062	-0.020	-0.032	0.133 ***	-0.013
	(0.052)	(0.062)	(0.036)	(0.036)	(0.038)	(0.012)
		[0.688] **	[0.301]		[5.817] ***	[-0.749]
Family Cap + Two Parent + Stepparent Included	-0.110 *	0.068	-0.021	-0.057	0.118 ***	0.001
	(0.056)	(0.066)	(0.039)	(0.041)	(0.038)	(0.015)
		[0.639] *	[0.235]		[5.390] ***	[0.653]

Notes: Table shows marginal effects, standard error of marginal effects (in parentheses) and logit coefficients in brackets. The logit coefficients for non-welfare participants are relative to non-welfare single parents while the logit coefficients for welfare participants are relative to welfare single parents. List of other coefficients in the equations are shown in Appendix Table A3 for the five-way classification. The combined effect coefficients in the final three rows of the table report the coefficients and standard errors for linear combinations of policies. For example, the "Family Cap + Two Parent" coefficient describes the effect of implementing both policies on family structure relative to implementing neither. * $p<0.1$; ** $p<0.05$; and *** $p<0.01$.

Appendix

Table A1: Other Variables in the Empirical Analysis
Demographic Variables, Marriage Market Conditions, and other Policy Variables

Variable Name	1996 Mean	2004 Mean
Individuals-Level Variables		
Age	32.1	32.7
Less Than High School	0.27	0.24
Some College	0.34	0.42
Black	0.26	0.25
Asian	0.04	0.03
Other Race/Non-white	0.01	0.05
Rural Residence	0.17	0.18
Hispanic	0.22	0.28
Hispanic and Black	0.02	0.01
State-Level Variables		
Unemployment Rate	0.06	0.06
Real Minimum Wage	$5.86	$6.24
Average Weekly Real Manufacturing Wage	$893	$1,017
Percent of Federal Poverty Level Covered Under Medicaid	177%	203%
Maximum Annual EITC Benefit (Real $2007 for Family of 3)	$4,274	$5,022
N	4,112	3,949

Notes: All demographic variables are for the mother. All marriage market and policy variables are state-specific and lagged one year. Medicaid and EITC values include state supplements in addition to federally mandated levels. Real values are in $2007. All means are weighted using the SIPP sample weights. All models also include state and year dummy variables.

Table A2: Welfare Policies and Family Structure
Three Category MNL Marginal Effects for All Policies

	Specification 1: Biological-Status Classification			Specification 2: Union-Status Classification		
	Single Parent	**Biological**	**Unrelated**	**Single Parent**	**Married**	**Cohabiting**
Sanctions Waiver	-0.034	0.055	-0.021	-0.040	0.032	0.008
	(0.043)	(0.044)	(0.029)	(0.043)	(0.044)	(0.027)
Work Requirement Waiver	-0.120	0.069	0.051	-0.112	0.148 *	-0.036
	(0.083)	(0.086)	(0.058)	(0.083)	(0.084)	(0.053)
No Expanded Disregard Waiver	-0.048	0.042	0.005	-0.040	0.069	-0.029
	(0.064)	(0.066)	(0.046)	(0.064)	(0.066)	(0.040)
Time Limit Waiver	0.047	-0.040	-0.006	0.049	-0.112	0.062
	(0.074)	(0.076)	(0.055)	(0.075)	(0.077)	(0.047)
Full Sanction (TANF)	-0.031	0.023	0.008	-0.028	0.012	0.016
	(0.038)	(0.038)	(0.025)	(0.038)	(0.039)	(0.023)
Strict Time Limit (TANF)	0.041	-0.026	-0.015	0.044	-0.008	-0.036
	(0.055)	(0.056)	(0.036)	(0.055)	(0.055)	(0.035)
Strict Work Exemption (TANF)	-0.036	0.013	0.022	-0.043	0.029	0.015
	(0.035)	(0.037)	(0.024)	(0.035)	(0.036)	(0.022)
No Expanded Earnings Disregard (TANF)	-0.101 **	0.084 *	0.017	-0.101 **	0.081 *	0.020
	(0.045)	(0.046)	(0.030)	(0.045)	(0.046)	(0.027)
No Cohabitor Policy	-0.060	0.085	-0.024	-0.056	0.116 **	-0.060
	(0.058)	(0.060)	(0.042)	(0.058)	(0.059)	(0.037)
Treatment of Cash	0.001	0.000	-0.001	0.004	-0.003	-0.001
	(0.027)	(0.027)	(0.018)	(0.026)	(0.027)	(0.016)
Family Cap	-0.090	0.106 *	-0.016	-0.084	0.075	0.009
	(0.055)	(0.058)	(0.036)	(0.055)	(0.057)	(0.033)
Two Parent Rule	-0.053	0.056	-0.003	-0.051	0.102 ***	-0.051 **
	(0.036)	(0.038)	(0.024)	(0.036)	(0.037)	(0.023)
Stepparent Inclusion Optional	-0.023	0.005	0.018	-0.021	0.022	-0.001
	(0.031)	(0.032)	(0.021)	(0.031)	(0.031)	(0.018)
Stepparent Included	-0.053	0.036	0.017	-0.053	0.039	0.014
	(0.035)	(0.037)	(0.025)	(0.035)	(0.036)	(0.022)
Monthly Benefit/100	0.002	0.026	-0.028	0.012	0.012	-0.023
	(0.057)	(0.059)	(0.036)	(0.056)	(0.056)	(0.035)

Notes: Table shows marginal effects and standard error of marginal effects (in parentheses). List of other coefficients in the equations are shown in Appendix Table A3 for the five-way bundled classification. * p<0.1; ** p<0.05; and *** p<0.01.

Table A3: Welfare Policies and Family Structure

Five Category MNL Results for Demographic and Nonwelfare Policy Variables

	Single Parent	Biological Married	Biological Cohabiting	Unrelated Married	Unrelated Cohabiting
1996 Dummy Variable	-0.063	0.135 **	-0.032	0.005	-0.045 *
	(0.063)	(0.064)	(0.029)	(0.034)	(0.026)
Age	-0.024 ***	0.002	-0.012 ***	0.024 ***	0.010 ***
	(0.005)	(0.005)	(0.002)	(0.004)	(0.003)
Age Squared	0.039 ***	-0.002	0.012 ***	-0.034 ***	-0.016 ***
	(0.008)	(0.008)	(0.004)	(0.006)	(0.004)
Less Than High School	0.031 **	-0.015	-0.006	-0.007	-0.004
	(0.015)	(0.015)	(0.006)	(0.009)	(0.007)
Some College	0.052 ***	-0.036 ***	-0.012 *	0.007	-0.012 **
	(0.013)	(0.013)	(0.006)	(0.008)	(0.006)
Black	0.348 ***	-0.260 ***	-0.024 ***	-0.050 ***	-0.014 **
	(0.013)	(0.016)	(0.007)	(0.010)	(0.006)
Asian	-0.182 ***	0.258 ***	0.004	-0.058 **	-0.021
	(0.038)	(0.031)	(0.015)	(0.024)	(0.018)
Other Race/Non-white	0.102 ***	-0.117 ***	0.018 *	0.001	-0.004
	(0.030)	(0.032)	(0.011)	(0.018)	(0.012)
Rural Residence	-0.035 **	0.026 *	-0.001	0.006	0.004
	(0.016)	(0.016)	(0.007)	(0.009)	(0.007)
Hispanic	-0.006	0.063 ***	0.004	-0.043 ***	-0.018 ***
	(0.017)	(0.016)	(0.007)	(0.011)	(0.007)
Hispanic and Black	-0.146 ***	0.046	0.025	0.038	0.036 *
	(0.053)	(0.057)	(0.023)	(0.039)	(0.022)
Unemployment Rate	-0.031 *	0.049 **	-0.008	-0.003	-0.006
	(0.019)	(0.019)	(0.008)	(0.010)	(0.008)
Real Minimum Wage	-0.017	0.016	-0.004	0.010	-0.005
	(0.024)	(0.024)	(0.011)	(0.013)	(0.009)
Average Real Manufacturing	-0.037	0.060 *	-0.004	-0.001	-0.018
Wage	(0.035)	(0.036)	(0.016)	(0.019)	(0.014)
Percent of Federal Poverty	0.032	-0.102 *	-0.001	0.051	0.020
Level Covered under Medicaid	(0.061)	(0.062)	(0.027)	(0.033)	(0.029)
Real Maximum EITC	0.007 **	-0.007 **	0.001	-0.004 *	0.004 **
Benefit/100	(0.003)	(0.004)	(0.002)	(0.002)	(0.002)

Notes: Table shows marginal effects and standard error of marginal effects (in parentheses). The specification also includes state fixed effects and all welfare policies presented in Table 4. All state marriage market and policy variables are lagged one year. * p<0.1; ** p<0.05; and *** p<0.01.