

**The Effects of Welfare and Child Support Policies
on the Incidence of Marriage Following a Nonmarital Birth**

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I. Introduction

Researchers and policy makers have long been concerned that government policies may influence individual behavior in unintended ways. In particular, they worry that by providing mothers with an income that is independent of marriage, welfare and child support policies may discourage marriage and increase union dissolution. Economic theory is clear with respect to the marriage disincentives of welfare for single mothers (Becker 1981), but it is ambiguous with respect to the potential effects of child support policies on marriage. Whereas stronger child support enforcement reduces the costs of single motherhood for women, making marriage less attractive, it increases the costs for fathers, making marriage more attractive. Which effect dominates is an empirical question. Although empirical studies vary with respect to effect size and methods, the evidence compiled during the 1980s and early 1990s indicates that welfare generosity during this period had a small negative effect on marriage among mothers (Moffitt 1998) whereas stronger child support enforcement reduced single motherhood by reducing nonmarital childbearing (Aizer and McLanahan 2006; Case 1998; See Nixon 1997 for different findings; Plotnick et al. 2004) though few researchers have pulled apart the decisions to give birth and to marry given a nonmarital conception.

In 1996, the Personal Responsibility and Work Opportunities Reconciliation Act (PRWORA) changed the parameters of welfare receipt and strengthened child support enforcement. Although under the new welfare regime states continued to provide modest cash benefits to poor single mothers, benefits are now constrained by time limits and work requirements that increase the costs of being a single mother relative to being a married mother. PRWORA also required states to relax their restrictions on two-parent families, making it easier for married and cohabiting couples to qualify for welfare benefits. Finally PRWORA imposed new requirements on child support enforcement, rewarding states for raising their paternity establishment rates and making it harder for non-resident fathers to shirk their child support obligations. Taken together, these changes in welfare and child support policies are expected to reduce the marriage disincentives in welfare for mothers and to increase the costs of living in a separate household for fathers. Previous research provides inconsistent assessments of the impact on marriage and female headship of the recent changes brought about by PRWORA (e.g. Acs and Nelson 2004; Bitler et al 2006; Carlson et al. 2004).

In this chapter, we use data from the Fragile Families and Child Wellbeing Study (Fragile Families Study) to examine the effects of welfare and child support policies on the incidence of marriage following a nonmarital birth. We examine the association between state welfare and child support policies and transitions to

marriage to the biological father of the focal child in the five-years following a child's birth.

This chapter extends previous research in several ways. First, we examine the effects of welfare and child support policies on a group who is of great interest to policy makers – unmarried mothers who have recently had a child. Following this sample allows us to isolate the effects of the policies given a nonmarital birth, which are often confounded with fertility effects. Next, we distinguish between couples who are cohabiting and couples who are living apart at the child's birth since both theory and prior empirical research suggest that these two groups of parents may respond differently to welfare and child support policies (Osborne 2005). Finally, we explore the effects of child support enforcement policies on marriage separately for couples where fathers have children with previous partners and those without to determine whether the effect of child support enforcement appears to be most relevant to the (future) support of the focal child or prior children.

The Fragile Families and Child Wellbeing data has characteristics that make these data attractive for studying the effects of welfare and child support policies on marriage. The study, which over-samples non-marital births, provides extensive information on the population of women who are most likely to be affected by welfare and child support policies. Also, all of the births in the Fragile Families sample occurred between 1998 and 2000 so parents' decisions

about marriage were made in the new era of welfare and child support enforcement. Finally, the cities in the Fragile Families sample were drawn via a stratified random sample that was designed to capture the extremes of welfare and child support policies and labor market conditions. See Reichman et al (2001) for more detail on the study design.

The Fragile Families data also have limitations, however. State policies do not vary much during the five year follow-up and we have limited within state variation in policies to exploit. Therefore we only have cross-sectional associations between policies and marriage. We cannot rule out the possibility that the state policies are proxies for other unobserved variables that vary across states and influence marriage among unmarried parents.

II. Theoretical perspectives and prior research

A. Welfare Policies and Marriage

According to economic theory (Becker 1981), generous welfare benefits should reduce incentives to marry and increase single motherhood by providing mothers with a source of income outside marriage. Welfare generosity extends beyond the value of cash benefits, however. Although most states have recently eliminated their categorical restrictions on two-parent families, the fact that welfare benefits are income-tested means that fathers' earnings are taxed at a very high rate, making it difficult for two-parent families to qualify for benefits

(Carasso and Steuerle 2005; but see Ziliak 2007 who finds that effective tax rates declined by 50% in the post PRWORA era). New welfare policies such as time limits and strict sanctions are also a form of making welfare less generous. These policies are expected to increase marriage among single mothers by making benefits less accessible and increasing the costs of living alone. Conversely, more lenient sanctions and time limit policies (i.e., more generous policies) may reduce incentives to marry as compared with less generous policies.

Welfare (and child support) policies can impact marital decisions before or after a birth. Policies may discourage nonmarital conception (pure fertility effect) or encourage couples to marry following a nonmarital conception before the birth (marriage effect pre-birth). Policies may also impact a couple's decision to marry following the birth of a child (marriage effect post-birth). The empirical literature often confounds some or all of these effects.

Overall, empirical research on the effect of welfare policies on mothers' fertility and marriage is mixed. Pre-reform econometric studies examining the effect of Aid to Families with Dependent Children (AFDC) benefit levels on these two outcomes generally found small, but significant, negative associations with marriage and positive associations with nonmarital fertility (Moffitt 1998). Although benefit levels have changed very little post-reform, TANF ushered in a wave of new behavioral incentives, including sanctions and time limits, which may have more direct effects on marriage and fertility (Blank 2002). Econometric

studies using waiver and post-TANF data find mixed results thus far (Acs and Nelson 2004; Blank this volume). Fitzgerald and Ribar (2004) find little effect of welfare on headship or union transitions using longitudinal, individual-level data (with strong local-level controls), whereas Schoeni and Blank (2000) find that stricter welfare policies increase marriage and reduce female headship. Looking at aggregate level data, Bitler et al (2004) find that welfare reform was associated with less divorce and perhaps less marriage, depending on how they specify their models. Most recently, Graefe and Lichter (2008) use NSFG data from 1995 and 2002 and find that on the whole welfare reform was not associated with changes in marriage among unwed mothers. However they find a hint of a positive effect on marriage among the most disadvantaged mothers.

Researchers have also addressed how specific welfare provisions associated with waivers and TANF (e.g. time limits, sanctions, family caps, work exemptions, etc.) influence fertility. Blank (2002 and this volume) summarizes both econometric and experimental analyses of these specific policy effects and finds generally mixed results. Some studies find significant influences in expected directions on marriage and fertility (e.g. Fein 2001; Hu 2003; Miller et al. 2000). However, findings are just as likely to indicate that provisions have no influence (Acs 1996; Kaushal and Kaestner 2001) or have influences in unexpected directions (Kisker, Rangarajan and Boller 1998). A very recent study by Graefe and Irving finds that stringent time limits are strongly associated with marriage

among cohabiting couples (Graefe and Irving 2007). In this chapter, we will also examine results for cohabiting and non-cohabiting couples separately.

B. Child Support Policies and Marriage

According to economic theory, child support enforcement should affect mothers and fathers differently. For mothers, stronger enforcement should reduce the incentive to marry because, like welfare benefits, child support provides a source of income outside marriage. However, while a mother is on welfare, the child support often does not get passed through to her, thus the effect may be neutral for welfare-eligible mothers. Stronger child support enforcement also reduces the incentive for mothers to marry if their current partner has a child(ren) with a previous partner(s). This phenomenon, known as multipartnered fertility, is very common among couples experiencing a nonmarital birth. In over 40 percent of couples experiencing a nonmarital birth, the father has had a child with a prior partner (Carlson and Furstenberg 2006). Partners may have formal or informal obligations to those children in a different household, which may decrease their attractiveness as marital partners. For fathers, stronger child support enforcement should increase the incentives of marriage because it increases the costs of divorce and possibly relationship dissolution among unmarried parents.

A significant body of literature finds evidence that child support policies reduce nonmarital childbearing using a variety of measures that capture a state's

child support enforcement policies and its level of success in collecting payments (Aizer and McLanahan 2006; Garfinkel et al. 2003; Plotnick et al. 2004). For example, Huang et al (2002) find that strict child support legislation and high expenditures on child support reduce nonmarital childbearing and increase marital childbearing; the latter finding is echoed by Aizer and McLanahan (2006) who show that increasing levels of child support expenditures by a state associates with fewer nonmarital births. Others find factors such as paternity establishment play a role in reducing nonmarital childbearing at the state level (Case 1998; Garfinkel et al. 2003) and among teens (Plotnick et al. 2004). Finally, Plotnick et al. (2006) find evidence that both legislation and collection success reduce nonmarital childbearing. Overall, this evidence suggests that stronger child support enforcement likely deters father away from nonmarital fertility. Acs and Nelson (2004) find that stronger enforcement policies are associated with declines in single parenting and increases in dual parenting, but their analyses, like the others described above do not allow us to separate out the effects on fertility and marriage following a nonmarital conception.

Child support policies may also affect relationship decisions of parents following a nonmarital birth, but there is less research on this topic and much of it has been based on the Fragile Families data. Using data from the Fragile Families' Study, Carlson et al. (2004) find that stronger child support enforcement reduces marriage among mothers and fathers in the year following a non-marital birth.

Consistent with Carlson et al. (2004) and using a subset of the Fragile Families sample, Mincy and Dupree (2001) find that child support enforcement slightly reduces mothers' plans to form a household with their child's biological father (cohabitation or marriage) and the actual formation of those households.

In the only experimental evaluation of child support influences to date, Cancian and Meyer (2007) find that Wisconsin's experimental child support policy allowing the full pass through of support paid by nonresident fathers to mothers on TANF, as well as full disregard of that income in calculating cash assistance, has no influence on cohabitation or marriage between the mother and father. Alternatively, mothers in the experimental group cohabit at a lower rate with men who are not the father of their child than women in the control group receiving a partial pass through. There is also evidence that stronger child support enforcement leads to a decline in remarriage for fathers (Bloom et al 1998). In sum, a higher proportion of women remain single with stronger child support enforcement. Taken as a whole these studies suggest that the effects of stronger child support enforcement on marriage, remarriage, and cohabitation appears to be operating through the effects on mothers independence via her higher income, rather than on the stronger financial incentives for men to marry.

III. Data and Methods

We use data from the Fragile Families Study, a longitudinal birth cohort study of children born in large urban areas between 1998 and 2000. Fragile Families has a large sample of nonmarital births (and a comparison sample of married births) and significant diversity in welfare, child support, and labor market policies across 20 cities in 15 states. See Reichman et al. (2001) for more detail on the study design. The sample includes both biological parents of the child who were first interviewed around the time of the child's birth, with follow-ups occurring around the child's first, third, and fifth birthdays.

At baseline, the Fragile Families sample included 1,186 married mothers and 3,712 unmarried mothers whose response rates were 82 and 87 percent, respectively. In this chapter we began with the sample of mothers unmarried at the child's birth (3,712) and then excluded 518 mothers who were not born in the United States because Fragile Families does not have data on the immigrants' legal status and welfare policies are applied differentially to legal immigrants depending on the date of their arrival (as well as differences in the treatment of immigrants across states). Because we use covariates and outcomes measured at each wave, we excluded 743 mothers who did not respond to all three follow-up surveys (the one-, three, and five-year surveys). Results from sensitivity tests were similar if we retain all mothers ever interviewed during the follow-up (and exclude certain covariates). Finally, we excluded 213 cases missing data on a

covariate (primarily on measures of the father's incarceration and fertility), yielding a final sample of 2,176 mothers.

A. Outcome Measure

The outcome we examine is whether the mother ever married the child's biological father in the five years following the child's. Very few mothers have married a new partner. Results are robust to including those marriages in the outcome measure.

B. Independent Variables

Welfare Generosity. The models include two indicators of welfare generosity – the value of the cash benefits and the strictness of sanctions for non-compliance. *Cash benefits* are represented in the models by the monthly TANF benefit for a family of four taken from the University of Kentucky's Center for Poverty Research's national state-level economic data (available at http://www.ukcpr.org/EconomicData/UKCPRNationalDataSet_08-05-07.xls.) This variable is divided by \$100 in the models. We also ran the models with a measure of the amount of TANF a mother could expect for her family size (of 2, 3 or 4+) and results were consistent. We also present a model where we divide the value of the maximum cash benefits by the fair market rent in the metropolitan statistical area (MSA) to get some additional variation within states and to adjust for cost of living across cities. Fair market rents were obtained from the Department of Housing and Urban Development (available at www.huduser.org).

Stringent sanctions for non-compliance with work or other welfare requirements are defined as those in which a state imposes immediate full-family sanctions or imposes gradual full-family sanctions with an immediate 100 percent reduction in Food Stamp benefits or elimination of Medicaid (Pavetti and Bloom 2001). We also ran an alternate set of models that included additional measures of welfare including time limits and the generosity of earnings disregards, as well as having a state EITC. In the results section, we discuss the results implied from the more extensive model.

Child Support Enforcement. The model includes a constructed measure of child support enforcement at the city level. This measure, the *child support payment ratio*, is constructed using year 2000 city-level Census data by regressing the probability that an unmarried mother received any child support on the mother's race/ethnicity, age, education, nativity, parity, presence of child under age 6, state-level median male wage, and maximum combined TANF/Food Stamp benefit in the state. From this equation, the predicted aggregate city-level probability of receiving support is generated. The raw aggregate probability of receiving support is then divided by the predicted aggregate probability of receiving support for each city to get an estimate of how well a city does collecting child support given the characteristics of the city's population. Finally this measure is standardized. This measure was constructed by Nepomnyaschy and Garfinkel (2006).

C. Control Variables

All models include a set of individual controls measured at the time of the child's birth, unless otherwise noted. The controls are mother's age, age at first birth, number of children, education, race-ethnicity, relationship with child's father (cohabiting or dating, with non-romantic as omitted category), and depression (from the 1-year follow-up). Depression is represented by a dummy variable where 1 indicates that the mother meets diagnostic criteria for depression based on the *Composite International Diagnostic Interview Short Form* or CIDI-SF (Walters et al 2002). We also include measures of whether the child's biological father had children from any prior relationships and whether he had ever been incarcerated (1-year).

In addition to city and state level measures of welfare generosity and stringency of child support enforcement, we also tried including the state's unemployment rate and a race-specific sex ratio and found the effects of welfare and child support policies on marriage are robust to their inclusion in the model. These results are not included in the text.

Finally, we run models which include state fixed effects. Because there is practically no change over time in either the generosity of welfare benefits or the stringency of child support enforcement, the welfare and child support coefficients in the models with state fixed effects are driven only by city variation within states (which is limited).

D. Sample and City Characteristics

Table 8.1 presents the means of the dependent variables and the policy and contextual variables included in this analysis. Overall, about 18 percent of unmarried couples married by the time their child was five years old; however, the percent of mothers that ever married the focal child's father between birth and the 5-year interview ranged across cities from 6 to 34 percent. Marriage rates also differ considerably based on the parents' relationship status at the child's birth; roughly 27 percent of cohabiting couples marry within 5 years compared to only 10 percent of dating couples (not shown in Table 8.1).

The majority of mothers in the sample are Black (62 percent) and approximately 21 percent have attended any college. The mean age of mothers is 24 and they average just over 2 children. Nearly one-half of the respondents were cohabiting at the time of the child's birth, 39 percent were dating and approximately 13 percent were not romantically involved with the child's father. Fifteen percent of mothers reported symptoms of depression at the one-year interview. Roughly one-half of the fathers had children with a previous partner and over one-third had ever been incarcerated.

Table 8.1 also shows the variation in welfare and child support policies across the 20 cities (in 15 states) observed in this analysis. There is considerable variation in maximum TANF benefits ranging from a low of \$230 per month to a high of \$840 per month. One-half of the cities (in which 30 percent of the sample

resided) were in states that imposed strict sanctions for welfare non-compliance. The child support payment ratio varies from a low of 67 percent (i.e., cities that collect approximately 67 percent of the predicted child support dollars they should get based on their population's characteristics) to 159 percent. A standardized version of this variable is used in the multivariate models. And the value of the TANF benefit as a proportion of the Fair Market Rent ranged dramatically as well.

Table 1: Sample and policy descriptives

Key measures	Full sample		
Ever married bio father by five-year (%)	17.7		
Ever married any partner by five-year (%)	21.6		
White (%)	15.3		
Hispanic (%)	22.7		
Black or other race-ethnicity (%)	62.0		
Mother's age in years (mean)	23.9		
Mother has less than h.s. diploma (%)	37.3		
Mother has h.s. diploma (%)	41.5		
Mother attended any college (%)	21.2		
Mother's number of children (mean)	2.3		
Cohabiting (%)	47.5		
Dating (%)	39.1		
Father had other children (%)	48.6		
Father ever in jail (1-year) (%)	36.3		
Mom depressed (1-year) (%)	14.6		
Mom's age at first birth (mean)	19.9		
<i>Sample size</i>	2,176		
<i>For all 20 cities (weighted)</i>	Min	Max	Mean²
Maximum TANF/\$100 (mean)	2.3	8.4	5.6
Strict sanctions	0.0	1.0	0.3
C.S. payment ratio - unstandardized ¹ (%)	66.5	158.9	98.4

N = 2,176

Notes:

** p<0.01; * p<0.05; ^ p<0.10 two tailed

Results are weighted to account for sample design and attrition.

Characteristics of mother and father at the time of the child's birth unless otherwise noted.

¹ A standardized version of this variable is used in the multivariate analysis.

² Mean experienced by all sample members

E. Analysis Plan

We examine the effects of policies on marriage using OLS regression and controlling for a set of individual, city, and state level characteristics. The regression results are weighted to account for the sample design (probability of selection, clustering, non-response at baseline) and attrition across the waves.

Weighting the data makes the results representative of the 20 cities in the Fragile Families sample.

IV. Results

Table 8.2 presents the full sample associations between welfare and child support policies on marriage. Model 1 presents the relationship between welfare and child support policies and marriage to the biological father controlling for individual-level characteristics. A greater maximum value of cash benefits is associated with less marriage. A \$100, or 18%, increase in the maximum level of cash benefits is associated with a 2 percent reduction in marriage. In addition, stricter welfare sanctions are associated with increased marriage. Moving from a lenient or moderate sanctioning city to a strict sanctioning city (at mean benefit levels) is associated with a 4 percentage point increase in the likelihood of marrying during the five year follow-up. Considering the joint effects of both policies, these results imply that welfare generosity (i.e. higher benefits and weaker sanctions) is associated with a substantially lower incidence of marriage. In percentage terms, moving from a strict sanctioning environment with benefits of \$500 per month to a more lenient sanctioning environment that has benefits of \$600 per month would decrease the rate of marriage from 21 percent to 15 percent.

Table 8.2: Associations between policies and marriage to the child's biological father by the five-year follow-up

	Model 1	Model 2	Model 3²	Model 4²
Maximum TANF/\$100	-0.020 *		-0.047	-0.002
Max TANF/Fair Market Rent/\$100		-0.002 *		
Strict sanctions	0.044 *	0.053 *	-0.591 **	-0.656 **
C.S. payment ratio	-0.018 *	0.000	-0.050 *	-0.026
White	0.141 **	0.144 **	0.139 **	0.138 **
Hispanic	0.097 *	0.095 *	0.093 ^	0.092 ^
Mom's age	-0.004	-0.005	-0.004	-0.004
Mom has < h.s. diploma	0.012	0.007	0.015	0.015
Mom has at least some college	0.104 *	0.103 *	0.109 *	0.109 *
Mom's number of children	0.006	0.008	0.006	0.006
Cohabiting ¹	0.198 **	0.198 **	0.196 **	0.195 **
Dating ¹	0.071 *	0.072 *	0.073 **	0.073 *
Father had other children	-0.048	-0.051	-0.046	-0.046
Father ever in jail	-0.099 **	-0.099 **	-0.103 **	-0.103 **
Mom depressed (1-year)	0.034	0.037	0.031	0.031
Mom's age at first birth	0.006	0.006	0.005	0.005

N = 2,176

Notes:

** $p < 0.01$; * $p < 0.05$; ^ $p < 0.10$ two tailed

Results are weighted to account for sample design and attrition. OLS coefficients are presented. Characteristics of mother and father at the time of the child's birth unless otherwise noted.

¹ Reference group is not romantically involved at the time of the child's birth

² Model also includes state dummy variables.

Stronger and more effective child support enforcement is also associated with lower rates of marriage. A one standard deviation increase in the child support payment rate ratio is associated with a 2 percent reduction in marriage during the five year follow-up. This finding is consistent with other research from the Fragile Families study and research on remarriage. We explore the source of this effect below.

The individual level variables, for the most part, behave as expected and are significant predictors of mothers' marriage. More educated mothers, White and Hispanic mothers (relative to Black mothers), and mothers who were

cohabiting or dating at the child's birth (relative to non-romantic mothers) were all more likely to marry during the five-year follow up. Mother's whose partner had ever been imprisoned were less likely to marry in five years. On the other hand, mother's age, age at first birth, number of children, depression, and number of children of the father are not significant predictors.

Model 2 replaces the measure of cash benefits with a variable that divides the cash benefits by the cost of fair market rent in the MSA, in order to account for potential differences in the real value of welfare benefits across metropolitan areas. A value over 1 on this measure means that the cash benefit is greater than the fair market rent and a value less than 1 means that the cash benefit is less than the fair market rent. The coefficient on the measure is significantly different from zero at the .01 level and the point estimate is -.002, indicating that a 10 percentage point increase in the real value of TANF is associated with a 2 percentage point decrease in marriage. This effect is nearly twice the size of the effect for TANF alone.

Note that in model 2, where the TANF measure incorporates within state variation, the child support enforcement coefficient goes to zero. This suggests the estimated child support enforcement effect is not very robust.

In results not shown in the table, we included additional measures of state welfare policies in this model. Each operates as one would theoretically expect. More generous earnings disregards and having a state EITC, each of which would provide women with greater guaranteed income, are associated with lower rates of

marriage. However, only the EITC coefficient is statistically significant. The coefficient on strict time limits is close to zero. Compared to a model with only the TANF benefit, the addition of all the variables passes an F test, but compared to the model with TANF plus sanctions, the additional variables are not significant. For simplicity therefore, we report only the sanction results, but the reader should bear in mind that sanctions is also picking up the effect of other welfare state variables.

Models 3 and 4 deal with unobserved state level variables, including other state policies, that could be correlated with either welfare generosity or strength of enforcement or both and marriage of unmarried mothers. Therefore, Models 3 and 4 include dummies for each of the states in the sample. Because there is only trivial over time variation within the five year period in welfare generosity and child support enforcement, the welfare and child support coefficients are driven primarily by cross city differences within states. There are only 5 more cities than states in the Fragile Families sample. The TANF benefit coefficients double and remain the same as compared to models one and two, but not surprisingly neither is significantly different from zero. The coefficients on the sanction variable blow up tenfold and change sign.

Similarly, adding state fixed effects strengthens the relationship between strong child support enforcement and marriage. The coefficient in model 3 is two and one-half times the size of the coefficient in model one and remains statistically significant. A one standard deviation increase in the child support payment rate

ratio is associated with a 5 percent reduction in marriage during the five year follow-up. The coefficient in model 4, while not significantly different from zero does become negative and within the range of the coefficients in models 1 and 3.

In sum, the point estimates from the fixed effects models are as large as or larger than those from the simple cross section models. We have much less confidence in these results, however, because they are based on such a small sample of within state city pairings and because the coefficients, which are already large compared to the previous literature, become unrealistically large.

Table 8.3 presents the results for subgroups (estimated in separate models) by relationship status at the child's birth, education, and father's prior fertility. We have reorganized the table so that the subgroups are in the rows and the policy variables are in the columns. All the models presented are identical to model 1 in table 8.2.

Table 8.3: Associations between policies and marriage by the five-year follow-up for key subgroups

Subgroup	TANF/\$100	Strict sanctions	Child support
Cohabiting (N=1,035)	-0.013	0.137 *	-0.052 **
Dating (N=812)	-0.023	-0.030	0.007
L.T. high school diploma (N=786)	-0.036 **	0.061 ^	-0.018
High school (N=793)	0.002	0.059	-0.023
Any college (N=597)	-0.017	-0.049	-0.032 ^
Father prior children (N=1,027)	-0.017	0.050 *	-0.041 **
Father no prior children (N=1,149)	-0.015	0.042	-0.006

Notes:

** p<0.01; * p<0.05; ^ p<0.10 two tailed

Results are weighted to account for sample design and attrition. OLS coefficients are presented. Regression equation includes all variables included in Model 1 of Table 8.2.

Rows 1 and 2 of Table 8.3 present the results for mothers who were cohabiting and dating at their child's birth, respectively. Because cohabiting couples are more committed to one another and are already living together, marriage is a more salient option than it is for dating couples, where the options of breaking up or cohabiting are likely to be more salient. Thus welfare and child support policies may have bigger effects on marriage for cohabiting than dating couples. While the TANF benefit level coefficients reject the hypothesis, both the sanctions and child support enforcement coefficients provide support for this hypothesis. The TANF coefficients are negative for both groups and larger for dating than cohabiting couples, but neither is significantly different from zero at conventional levels. The sanction and child support coefficients are large and statistically significant for cohabiting couples and the wrong sign and zero for dating couples. The child support results are particularly striking, with a large, statistically significant effect at the .01 level for cohabitators and a tiny statistically insignificant effect for dating couples. The sanction results are similar to Graefe and Irving (2008) who find a strong positive association between time limits and marriage among cohabitators, but not among romantic couples. Indeed, if we exclude sanctions and include time limits, we also find a strong positive effect of stronger time limits on marriage among cohabitators. Clearly, as suggested above, the sanctions variable is picking up more than just sanctions.

Rows 3, 4, and 5 present the results by education of the mother at the time of the child's birth. We expect that mothers who were most likely to be eligible for welfare (those with lower education) would be most affected by welfare policies. The biggest effects are for the lowest education group—those without a high school education—but surprisingly there is practically no association between policies and marriage for the group of mothers with terminal high school degrees. The child support enforcement coefficients increase with education and approach statistical significance only among mothers with any college. Perhaps enforcement has stronger effects on the more educated mothers because the fathers of their children have more ability to pay support and therefore strong enforcement provides more income to them, making them less dependent on future partners for their economic wellbeing.

In rows 6 and 7 we present results for couples in which the biological father had a child(ren) with a prior partner and couples in which the father had no children with a prior partner. While there is no reason to expect welfare generosity to vary by father's multi-partner fertility, the negative effects of child support on marriage should be larger for couples in which the father is potentially liable for paying child support for someone else's child. As described above, strong enforcement reduces the incomes of fathers with such obligations rendering them more unattractive marriage partners to mothers. The welfare generosity coefficients are nearly identical for the two groups. In stark contrast,

consistent with our expectation, the child support coefficient for fathers with prior obligations is much larger (and highly significant) than the coefficient for the fathers with no prior obligations, which is close to zero. That the negative effects on marriage of strong enforcement are concentrated among mother's whose partner has a prior obligation is a very interesting result, suggesting a different path than most investigators have explored.

V. Discussion and Conclusions

This chapter examines the effects of welfare generosity and the stringency of child support enforcement on a couple's marriage over the five year time period following a nonmarital birth. The chapter uses data from the Fragile Families and Child Well-being Study, which is drawn from 20 large cities in 15 different states. We find support for the hypotheses that welfare generosity (i.e. higher cash benefits and more lenient sanctions) and strong child support enforcement are associated with lower rates of marriage. But, we also find some support for the alternative.

In models without state fixed effects, we generally find large, negative, and statistically significant associations between marriage and welfare generosity and strict enforcement. As expected, these effects are larger for cohabiting couples who are closer to the marriage margin than for dating couples. The welfare effects are larger for lowest educated group who are the most likely to be dependent on welfare and the child support effects are confined to couples where the father had

pre-existing potential child support obligation. Finally, despite very little variation over time or within state in welfare generosity and the enforcement stringency, the fixed effects models do not wipe out these effects. The benefits level coefficient loses statistical significance because of an increase in standard errors but the coefficients on TANF and child support remain the same or increase. However, the coefficients blow up ten-fold and change sign because our measure has no variation in sanction policies over time.

The findings are also, for the most part, robust to the inclusion of a significant number of individual, city-, and state- level control variables and marriages to men who are not the biological father of the focal child.

But, there is some countervailing evidence. In model 2 as compared to model 1, where rather than the TANF benefit level, we include the TANF benefit level divided by a city housing costs index, the already large effect size of TANF nearly doubles and the child support coefficient becomes zero. In the state fixed effects model, the sanction coefficients blow up. These results not only undermine the child support hypothesis, but raise questions about the sensitivity of the all the coefficients to model specification.

Our analysis is limited by the fact that welfare and child support policies change very little over the observed five year time period (and, in truth, in any five-year time period other than during a period of reform which brings with it other issues (e.g. generalizability).) This renders the analysis as effectively cross-

sectional. Thus our estimates of policy effects are based on between-city differences in policies rather than within city changes in policies over time. We therefore cannot rule out the possibility that the effects attributed to welfare and child support policies are due to some unmeasured characteristics of the city other than these two sets of policies. In the fixed effects models, differences are coming off of only five within state city pairs.

Examining the effects of welfare policies on marriage and other family-related behaviors was a popular research topic prior to and during the welfare reforms of the 1990s. Much less research has been done post-reform and in the context of these new policies which seek to minimize the generosity of state's welfare benefits. Even less research has examined the impact of child support on marriage decisions given a nonmarital birth. Given the potential magnitude of these findings and admitted limitations to the present analyses, future research should look to reexamine these questions with other data sets. It will be important to factor in not only better methodological techniques to control macro-level influences, but also the process by which an array of policies influence both the mothers and fathers decisions to marry or remain single at the individual level.

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References

- Acs, G. 1996. "The Impact of Welfare on Young Mothers' Subsequent Childbearing Decisions." *Journal of Human Resources* Fall:898-915.
- Acs, G. and S. Nelson. 2004. "Changes in living arrangements during the late 1990s: Do welfare policies matter?" *Journal of Policy Analysis and Management* 23(2):273-290.
- Aizer, A. and S. McLanahan. 2006. "The Impact of Child Support on Fertility, Parental Investments and Child Well-being." *Journal of Human Resources* 41(1):28-45.
- Becker, G. 1981. *A treatise on the family*. Cambridge, MA: Harvard University Press.
- Bitler, M.P., J.B. Gelbach, and H.W. Hoynes. 2006. "Welfare reform and children's living arrangements." *Journal of Human Resources* 41(1):1-27.
- Bitler, M.P., J.B. Gelbach, H.W. Hoynes, and M. Zavodny. 2004. "The impact of welfare reform on marriage and divorce." *Demography* 41(2):213-236.
- Blank, R.M. 2002. "Evaluating welfare reform in the United States." *Journal of Economic Literature* 40(4):1105-1166.

Blank, R.M. 2009. "What We Know, What We Don't Know and What We Need to Know about Welfare Reform." in *Welfare Reform and Its Long Term Consequences for America's Poor*. J Ziliak. ed. XXX: Cambridge University Press. XX-XXX.

Bloom, D.E., C. Conrad, and C. Miller. 1998. "Child Support and Father's Remarriage and Fertility." in *Fathers Under Fire: The Revolution in Child Support Enforcement*, edited by I. Garfinkel, S. McLanahan, D.R. Meyer, and J.A. Seltzer. New York: Russell Sage Foundation.

Carasso, A. and C.E. Steuerle. 2005. "The Hefty Penalty on Marriage Facing Many Households with Children." *The Future of Children* 15(2):157-175.

Carlson, M., I. Garfinkel, S. McLanahan, R. Mincy, and W. Primus. 2004. "The effects of welfare and child support policies on union formation." *Population Research and Policy Review* 23(5-6):513-542.

Carlson, M.J. and F.F. Furstenberg. 2006. "The Prevalence and Correlates of Multipartnered Fertility Among Urban U.S. Parents." *Journal of Marriage and Family* 68(3):718-732.

Cancian, M. and D. R. Meyer (2007). The Effect of Child Support on Subsequent Marriage and Cohabitation. Population Association of America 2007 Annual Meeting, New York, NY.

Case, A. 1998. "The Effects of Stronger Child Support Enforcement of Non-marital Fertility." in *Fathers Under Fire: The Revolution in Child Support Enforcement*. I. Garfinkel, S. McLanahan, D. Meyer, and J. Seltzer. eds. New York: Russell Sage Foundation. 191-215

Fein, D.J. 2001. "Will welfare reform influence marriage and fertility? Early evidence from the ABC demonstration." *Evaluation and Program Planning* 24(4):427-444.

Fitzgerald, J.M. and D.C. Ribar. 2004. "Welfare reform and female headship." *Demography* 41(2):189-212.

Garfinkel, I., C.C. Huang, S.S. McLanahan, and D.S. Gaylin. 2003. "The roles of child support enforcement and welfare in non-marital childbearing." *Journal of Population Economics* 16(1):55-70.

Graefe, D. R. and S.K. Irving. 2008. "Marriage among Welfare Recipients: Relationship Commitment Interacts with Welfare Policy." Paper presented at the Annual Meeting of the Population Association of America. New Orleans, LA.

Graefe, D.R. and D. T. Lichter. 2008. "Marriage patterns among unwed mothers: Before and after PRWORA." *Journal of Policy Analysis and Management*. 27(3): 479-497.

Hu, W.Y. 2003. "Marriage and economic incentives - Evidence from a welfare experiment." *Journal of Human Resources* 38(4):942-963.

Huang, C.C., J. Kunz, and I. Garfinkel. 2002. "The effect of child support on welfare exits and re-entries." *Journal of Policy Analysis and Management* 21(4):557-576.

Kisker, E.E., A. Rangarajan, and K. Boller. 1998. "Moving into Adulthood: Were the Impacts of Mandatory Programs for Welfare-Dependent Teenaged Parents Sustained After Programs Ended?" Princeton: Mathematica Policy Research.

Kaushal, N. and R. Kaestner. 2001. "From welfare to work: Has welfare reform worked?" *Journal of Policy Analysis and Management* 20(4):699-719.

Miller, C., V. Knox, L.A. Gennetian, M. Doodoo, J.A. Hunter, and C. Redcross. 2000. "Reforming Welfare and Rewarding Work: Final Report on the Minnesota Family Investment Program." New York: MDRC.

Moffitt, R.A. 1998. "The Effect of Welfare on Marriage and Fertility." in *Welfare, the family, and reproductive behavior*. R.A. Moffitt. ed. Washington, DC: National Academy Press. 50-97.

Nepomnyaschy, L. and I. Garfinkel. 2007. "Child Support Enforcement and Fathers' Contributions to Their Nonmarital Children." Center for Research on Child Wellbeing Working Paper #2006-09-FF. Princeton University.

Nixon, L.A. 1997. "The effect of child support enforcement on marital dissolution." *Journal of Human Resources* 32(1):159-181.

Osborne, C. 2005. "Marriage following the birth of a child among cohabiting and visiting parents." *Journal of Marriage and Family* 67(1):14-26.

Pavetti, L. and D. Bloom. 2001. "State Sanctions and Time Limits." in *The New World of Welfare*. R. M. Blank and R. Haskins. eds. Washington, DC: Brookings Institution Press. 245-269.

Plotnick, R., I. Garfinkel, S.S. McLanahan, and I. Ku. 2004. "Better child support enforcement - Can it reduce teenage premarital childbearing?" *Journal of Family Issues* 25(5):634-657.

Reichman, N.E., J.O. Teitler, I. Garfinkel, and S.S. McLanahan. 2001. "Fragile Families: Sample and Design." *Children and Youth Services Review* 23(4-5):303-326.

Schoeni, R. F. and R.M. Blank. 2000. "What Has Welfare Reform Accomplished? Impacts on Welfare Participation, Employment, Income, Poverty, and Family Structure." in *NBER Working Paper Series*: National Bureau of Economic Research.

Walters, Ellen E., Ronald C. Kessler, Christopher B. Nelson, and Daniel Mroczek. 2002. "Scoring the World Health Organization's Composite International Diagnostic Interview Short Form (CIDI-SF)." World Health Organization.

<http://www3.who.int/cidi/CIDISFScoringMemo12-03-02.pdf>

Ziliak, J.P. 2007. "Making Work Pay: Changes in Effective Tax Rates and Guarantees in U.S. Transfer Programs: 1983-2002." *Journal of Human Resources*. 42(3):619-642.