THE ECONOMIC IMPACT OF COHABITATION DISSOLUTION VERSUS MARITAL DISSOLUTION IN FRAGILE FAMILIES

Claire M. Kamp Dush, Institute for the Social Sciences Post-doctoral Fellow
Evolving Family Theme Project
Bronfenbrenner Life Course Center
Bebee Hall
Cornell University
Ithaca, NY 14850
cmk54@cornell.edu

H. Elizabeth Peters, Professor
Department of Policy Analysis & Management
Cornell University

March 2007

This paper is being prepared for presentation at the annual meetings of the Population Association of America, New York, March 2007. The Fragile Families study was funded by a grant from NICHD (#R01HD36916) and a consortium of private foundations and other government agencies. Persons interested in obtaining Fragile Families data should see http://www.fragilefamilies.princeton.edu/data.asp for further information.

ABSTRACT

The large literature on the economic consequences of divorce documents a substantial decline in income for households headed by divorced mothers. In addition, data show that about 35% of divorced custodial parents do not have a child support award, and only about half of those with awards receive all payments that were owed. Negative economic consequences for never married mothers have also been documented. However, despite the fact that an increasing proportion of non-marital births are to cohabiting parents, there has been little research on the economic consequences of cohabitation dissolution as compared with marital dissolution, particularly in low-income populations. We use the Fragile Families and Child Well-being study to compare the consequences of cohabitation dissolution and marital dissolution. By year 3 of the Fragile Families and Child Well-being study, 38% of mothers who were cohabiting with their child's father at birth and 10% of mothers who were married to their child's father at birth have dissolved their union. This study compares changes in income across the transition to cohabitation dissolution as compared with marital dissolution. We also examine whether there are differences by type of union dissolution in a variety of child support outcomes and in the amount of father-child contact. We find very few differences in income and child support outcomes for those who experience a cohabitation dissolution compared to those who experience a marital dissolution. Mothers who experience a marital dissolution are more likely to have formal child support awards, while mothers who experience a cohabitation dissolution are more likely to have an informal agreement. On net, however, total receipt of child support does not differ between the two groups. We do find a difference, however, in the likelihood of receiving in-kind support and in the amount of contact that the father has with his child, and in both cases, the outcomes are more positive for the cohabitation dissolution sample. One possible explanation for this finding is cohabitation is usually seen as a more fluid status than marriage, and this may make it easier for cohabiting fathers to remain involved with the mother and child after dissolution.

THE ECONOMIC IMPACT OF COHABITATION DISSOLUTION VERSUS MARITAL DISSOLUTION IN FRAGILE FAMILIES

1. Introduction

Rising divorce rates in the 1960s and 1970s fueled research examining the effects of this change in family structure on adults and children. One of the most striking findings was the large decline in income—about 30%—for households headed by divorced mothers (Hoffman & Duncan, 1988). This finding led to public policy efforts to increase child support amounts and enforcement of child support awards. Another profound change in family structure is currently underway—the rise in non-marital cohabitation, especially among families with children. In 2004, 39% of births were to non-married parents (Martin, Hamilton, Sutton, et al., 2006), while about 40% of those non-marital births were to parents who were living together, that is cohabiting, at the time of the birth (Chandra, Martinez, Mosher, et al., 2005). Cohabiting relationships are generally short-lived, with about one-half ending within one year, 90% ending by the fifth year, and most ending in dissolution rather than marriage (Lichter, Qian, & Mellott, 2006). Family scholars have examined the consequences of residing in a cohabiting family on child outcomes (Brown, 2002; 2004). However, little research has focused specifically on the consequences of *dissolving* cohabiting relationships (for an exception see Avellar & Smock, 2005). With at least 40% of children experiencing a cohabiting family at some point during their childhood (Bumpass & Lu, 2000), this line of inquiry is particularly timely.

This paper examines the economic consequences of cohabitation dissolution as compared to marital dissolution for women in the United States using the Fragile Families and Child Well-Being study. The next section discusses the literature on the economic consequences of divorce and suggests several theoretical reasons why we might expect consequences for cohabitation dissolution to be different. Section 3 describes the data, variable definitions and empirical

methods, and Section 4 presents results. The final section of the paper outlines our limitations, conclusions, and directions for future research.

2. Background and Theoretical Framework

Both qualitative (Smock, Manning, & Porter, 2005) and quantitative studies (Brown, 2000; Sassler & McNally, 2003; Smock & Manning, 1997) indicate that economic factors, particularly men's economic status, are associated with union transitions for cohabitors. Overall, data from the US (Oppenheimer, 2003; Smock & Manning, 1997; see Smock, et al., 2005 for a review) has found that men's low earnings and non-full-time employment increased the odds of separation for cohabitors (for an exception, see Sassler & McNally, 2003). Qualitative evidence supports these findings in that both men and women more often mention men's stable earnings and positive economic status as an important precursor to marriage (Smock, et al., 2005). Not only does the absolute economic status of partners predict dissolution, but the relative economic status of cohabiting partners also predicts dissolution. Using the Panel Study of Income Dynamics, Brines and Joyner (1999) found that cohabiting couples whose employment and earnings were increasingly similar faced sharply reduced risks of break up while inequality was particularly disruptive when the female cohabitor was earning more than her partner.

In our review of the literature on cohabitation dissolution, we found only one study that examined the *consequences* of cohabitation dissolution for women and their families[1]. Avellar and Smock's (2005) analysis of the National Longitudinal Survey of Youth 1979 found that poverty levels increased and income dipped for women following cohabitation dissolution. Women's income fell 33% following dissolution, and their poverty levels rose almost 30%, while for men, income decreased by 10%, and poverty levels remain constant. The literature on

[1] See both McManus and DiPrete (2001) and Avellar and Smock (2005) for analyses examining the impact of cohabitation dissolution on men.

the economic consequences of divorce has generally found that married women suffer a similar decline in income after divorce, while divorced men may actually improve their income-to-needs ratio and poverty levels following divorce. Over time, the economic situation of divorced women often improves, in part, due to remarriage (Peters, 1993).

There are a number of reasons why we might expect the change in income, composition of income, and patterns over time to differ for mothers who experience a marital dissolution compared to those who experience a cohabitation dissolution. First, the observable socio-economic characteristics of parents who cohabit differ from those who marry. Cohabiters are more likely to be younger, be Black or Hispanic, have less education, and the fathers are somewhat less likely to be employed (see Seltzer, 2000 for a review). Having fathers with poorer labor market outcomes has offsetting implications for the change in family income for mothers after the dissolution of cohabitation. On the one hand, if cohabiting fathers were contributing less to family income prior to dissolution, there is less for mothers to lose. On the other hand, lower earnings of fathers means lower levels of child support payments at dissolution.

Patterns of assortative mating are also different for cohabiting parents versus married parents, with the former being less specialized along traditional gender lines (Blair & Lichter, 1991; South & Spitze, 1994). It is unclear what impact this difference might have on income change at dissolution. Cohabiting women may have stronger labor market attachment than married women prior to dissolution, but there may be less room for an increase in earnings, if they were already working full time. In contrast, wages and earnings may initially be lower for divorced women, but over time, the acquisition of labor market capital leads to better labor market outcomes.

Child support is another type of income that may differ for those who experience a cohabitation compared to a marital dissolution. There are two basic explanations for why child support outcomes may differ (even after controlling for observable characteristics, such as the father's education and earnings). First, the process of dissolution differs for married versus cohabiting parents. Marriage is a legal status, and its dissolution—divorce—requires having some interaction with the courts and the legal system. The determination of child support is part of the legal process of obtaining a divorce. In contrast, cohabitation is not a legal status, and no legal action is required for its dissolution. Children have a right to receive child support from a non-residential parent, regardless of whether their parents were ever legally married. In practice, however, mothers who were never married to the father of their child may, for a variety of reasons, avoid going through the legal system,[2] and may prefer informal child support agreements.[3] Thus we may expect the likelihood of formal versus informal child support to differ for our two types of dissolution. In addition, to the degree to which the actual receipt of child support depends on the legal system to enforce the awards, the amount received may differ for those with informal versus formal agreements.

Another reason why child support outcomes may differ by type of dissolution is due to unobserved selection factors. The argument is generally made that cohabiting couples are less committed to each other than are those who marry. By extension, an argument could be made that lower commitment to the mother may also mean less commitment to the child. This translates into less child support paid by non-residential fathers who cohabited with rather than married the mother. An alternative scenario is possible, however. The literature shows that

[2] Unmarried low income families generally establish child support awards through the IV-D (or child support enforcement) agency rather than through the courts. In this paper we use the word 'legal' to refer both to the courts and the IV-D agency.

[3] Qualitative work by Waller (2002) provides evidence that many low income parents distrust the legal system.

cohabitation is a more fluid and less well-defined state than is marriage (Teitler, Reichman, & Koball, 2006; Stanley, Rhoades, & Markman, 2006). Similarly cohabitation dissolution may be more fluid (i.e. with a less well-defined end date) than a marital dissolution. Under those circumstances, some formerly cohabiting fathers may actually have a higher level of involvement with the mother and child (especially early on, when the situation is still very fluid) than fathers who had been married to the mother.

Thus, the arguments made above suggest that observable characteristics are likely to differ by type of dissolution (cohabitation versus divorce), and it is important to control for those characteristics when assessing economic outcomes at dissolution. In addition, these outcomes are likely to differ by type of dissolution due to the fact that the state is more involved in the dissolution of a marriage. In our empirical analysis we also explore the nature of selection by examining not only economic outcomes (child support and income), but also the nature of the parents' ongoing relationship and non-pecuniary indicators of the father's involvement with the child.

3. Data and Methods

This research uses the Fragile Families and Child Wellbeing Study, a study of new unwed mothers and fathers and their children. The baseline data includes a sample of 4,898 mothers and fathers (n = 3830) who had children (3,711 nonmarital and 1,187 marital) in the US between 1998 and 2000. The study over sampled births to unmarried couples and is nationally representative of non-marital births in large US cities. Both mothers and fathers were interviewed in the hospital shortly after their child's birth with follow-up interviews conducted when the child was one, three, and five years old (see Reichman, Teitler, Garfinkel, & McLanahan, 2001 for a detailed discussion). The five-year follow-up survey is not yet publicly available.

To be in our analyses, mothers must have been married to or cohabiting with the father at the birth of the child (n = 2971)[4]. Further, the mothers must have reported that she had separated from the father at either the one-year or three-year survey[5,6]. By the one-year survey, 5% of married couples had divorced and 29% of couples who were cohabiting at birth had separated from their partners, and by the three-year survey, these numbers increased to 10% of married couples having divorced and 38% of cohabiting couples having separated. Hence, our final sample size is 770 mothers, of whom, 80% were cohabiting at birth but later dissolved the relationship, 14% were married at birth but later separated, and 6% were cohabiting at birth, subsequently married the father, and then separated or divorced. Note here that we examine the third type of dissolution – marital dissolution but cohabiting at birth, to attempt to address the issue of selection in that couples select into either cohabitation or marriage, and a variety of factors predict which type of union a couple chooses. By examining dissolutions to cohabitors who do not marry and those that do, the issue of selection into cohabitation versus marriage is addressed, at least at the birth of the child. Of course, additional selection factors predict who among the cohabitors will marry, thus even the marital dissolution but cohabiting at birth is not immune from issues of selection. To attempt to address selection issues, we use a variety of control variables in our models. Of the union dissolutions that occur, 67% occur between birth

[4] Married to the father at baseline was measured as a positive response to the question: Are you currently married to the father of your new baby? Cohabiting at baseline was measured as a positive response to the question: Are you and the baby's father living together now?

[5] The current marital status was measured in response to the question: What is your relationship with the father now? (measured at each follow-up). Mothers were given the choice of choosing: married, romantically involved, separated/divorced, just friends, or no relationship. To be coded as divorced, the marrieds had to choose any other option than married. The current cohabitation status was measured in response to the question: Are you and father currently living together: All or most of the time, some of the time, rarely or never. If mothers chose any option besides all or most of the time, they were coded as no longer cohabiting full time with the father. Of the 455 cohabitation dissolutions by one-year, 15% reported living together sometimes, and 10% of the 254 cohabitation dissolutions by one-year reported living together sometimes. Note that if a mother answered that the father died at either one-year or three-year, she was dropped from analysis.

[6] Of the 4,898 mothers interviewed at baseline, 4,365 were re-interviewed at the one –year survey, and 4,231 at the three-year survey, hence the attrition rate was 11% for the one-year survey and 14% for the three-year survey.

and one year as compared to 33% occurring between one-year and three-years. As Table 1 indicates, many cohabiting relationships dissolved within the baby's first year, with 74% of the dissolutions reported occurring between birth and the one-year survey.

We rely on mothers' reports about her own and the fathers' characteristics and behaviors. Therefore, we chose to deal with same-reporter bias as opposed to non-response bias due to the fact that there is much missing data (25% at baseline) from the fathers in the sample, and those missing are more likely to be disadvantaged (Teitler, Reichman, and Sprachman, 2003). Therefore, given the bias in the father sample and the small sample size of two of our sub-groups, we use only mother reports. While it is recognized that mothers may underestimate the levels of some of our dependent variables such as child support received or in-kind support received due to her relationship or feelings about the father at the time of interview, we feel that the higher response rates for mothers justifies their use. In addition, the response bias will only be a problem if it is larger for one type of dissolution compared to the other.

Another data issue is that our sample of married couples all separate before their child is 3 years old, so it is important to assess the generalizability of our results. Information about marriage duration from the one-year survey suggests that the average parent married in 1995 – about 4 to 5 years before the baseline survey. By the three year survey, they would have been married 7 to 8 years. An NCHS report using NSFG data (Bramlett & Mosher, 2002), reports that women with a child born more than 7 months after marriage had an 8% probability of divorce within 3 years of marriage, 14% within 5 years, 26% within 10 years, and 36% within 15 years. Given that the probability of divorce after 15 years of marriage is low, our data capture more than half of the divorces that are likely to occur to the initially married sample.

We examine a number of dependent variables to assess the pathways through which differences in economic outcomes may occur.[7] First, we examine post-dissolution annual family income, and the change in annual family income from the survey prior to dissolution. We also examine dichotomous variables indicating whether the mother is currently employed and whether she received welfare in the past year.

Turning to child support measures, we use dichotomous measures of whether the mother had any child support agreement, and whether she received any child support, as well as a continuous measure of the total child support received. We also distinguish between child support received as part of formal versus informal agreements. In particular we include an indicator of having a formal agreement, as well as continuous measures of the amount of the formal agreement per month, the total amount of formal child support received, and an indicator of whether the father paid formal child support on time. We have parallel measures for informal support.

We also examine non-pecuniary indicators of father involvement, including dichotomous measures of any in-kind support received and whether the child had any contact with his or her father in the past month, as well as a continuous measure of the days the child saw the father in the past month. Finally we examine whether the parents are still romantically involved.

To account for observable differences between married couples and cohabiters, we control for mother's age at birth, mother's education level (less than H.S., H.S. graduate, and at lease some college) and mother's race (White/other, Black, Hispanic), and we include a measure of whether the mother has a new partner in the home at the first wave after dissolution. We also control for father's characteristics: age, education (less than H.S., H.S. graduate, and at lease

[7] See Appendix 1 for a detailed description of the coding of each of these dependent variables.

some college), and whether the dad was employed at birth. Finally, we included a dummy for whether the dissolution occurred between birth and year 1 or between year 1 and year 3.

We use two methods to examine differences between union dissolution types – regression (reported in Tables 2 through 5) and propensity score matching (reported in Tables 6 and 7). We use ordinary least squares and logistic regression models to examine differences in outcomes by type of union dissolution: (1) cohabitation dissolution; (2) marital dissolution for those married at the birth; and (3) marital dissolution for those who married after cohabiting at birth. The regressions include the controls discussed above.

The second method we employ is propensity score matching (Morgan & Harding, 2006; Rosenbaum & Rubin, 1994; Smith, 1997). For these analyses, we focus on comparing mothers who experience cohabitation dissolution with mothers who were married at birth who experience marital dissolution[8]. We use propensity score matching primarily in order to address concerns that the mothers who experience marital dissolution, and who were married at birth, are a very select sample with distinct and perhaps important unmeasured differences compared to our sample of mothers who experience cohabitation dissolution. We attempt to control for observable differences measured at the birth of the child and over time, carefully isolating an appropriate comparison sample of mothers who experience marital dissolution who were married at the birth of the child.

When conducting a propensity score analysis, there are several matching estimators from which to choose. Morgan and Harding (2006), in a review of matching estimators, argue that nearest neighbor caliper matching with replacement, interval matching, and kernel matching are all closely related. For this analysis, we use nearest neighbor caliper matching with replacement

[8] We exclude mothers who experience marital dissolution but were cohabiting at birth given their small sample size given that we run the models by the timing of the dissolution.

with a caliper of 0.03. There are several steps to carrying out this matching method, and we detail each of the steps we take in Appendix 2. The propensity score analyses are conducted separately for three groups. We conduct separate propensity score analyses for those mothers who dissolve between birth and the one-year survey, comparing the short-term (one-year outcomes) and long-term (three-year outcomes) outcomes for these mothers. We also examine the propsensity score results for those mothers who dissolved their union between the one-year and three-year surveys, whom dissolve unions which were longer in duration. In these analyses, our "treatment" group includes the mothers who experience cohabitation dissolution, and these mothers are matched to their nearest neighbor in the "control" group, i.e. the mothers in the marital dissolution group who were married at birth with the closest propensity score (i.e., propensity to be in a cohabiting union that dissolves) to the treated mother's own. In reporting our results, in order to avoid repetition, we report and discuss both results from the regression and propensity score models simultaneously.

4. Results

Descriptive Results

Table 1 includes the unweighted descriptive statistics by the type of union dissolution. Results show that mothers and fathers who were cohabiting at the birth of the child were younger, had lower levels of education, and were more likely to be Black than those who were married at the birth of the child. Cohabiting fathers were also less likely to be employed. The characteristics of cohabiters who later married and then separated are sometimes more similar to the married at birth group and other times are more similar to the cohabiting at birth group. The age of these mothers is very similar to cohabiting mothers, but the education levels are in between the cohabiting and married at birth groups. These mothers are also less likely to be white and more likely to be Hispanic compared to mothers who were married at the birth of the

child. The average age and education of these fathers is in between the cohabitation and married at birth samples, but these fathers are even less likely to be employed at birth than are cohabiting fathers. At the survey after the dissolution, mothers who were cohabiting at birth but eventually marry and then dissolve their marriage were most likely to be re-partnered, followed by those mothers who experienced marital dissolution, while those mothers who experienced cohabitation dissolution were least likely to be re-partnered. These results suggest that children who experience cohabitation dissolution may experience fewer family structure transitions early on in the life course as compared to those children who experience a marital dissolution. This would be an interesting issue to examine in future research.

Income, Employment, and Welfare Receipt Results

Beginning with the overall regression results presented in Table 2, we find that for the first wave after dissolution, mothers who experience a marital dissolution have higher post-dissolution annual family incomes than women who experience cohabitation dissolution. However, when we account for the level of income prior to dissolution, we find that the change in income does not differ by union dissolution status. In addition mothers who experience marital dissolution but were cohabiting at birth do not differ significantly from those women who experience cohabitation dissolution in either the level of income or the change income. Similarly, we find no significant differences by dissolution type for the mother's current employment status, or mother's welfare receipt. Our propensity score results (as seen in Tables 6 and 7), generally reinforce these conclusions. Regardless of the timing of the dissolution (between birth and the one-year survey or the one-year and three-year surveys), or the time since dissolution (less than one-year or two-years later), we find no significant differences by union dissolution type in the change in family income, mother's employment, or welfare receipt. One difference between the regression results and propensity score analysis is that the latter also finds

no significance difference in the level of post-dissolution income by dissolution type. This result is likely due, however, to the reduced power of the smaller sample size. We also find that the magnitude of the difference in annual family income for those who dissolve between the one-year and three-year surveys (Table 7, row 1) is much smaller than what we found for those whose union dissolved earlier. Note that the percent of the sample on support is much lower for those dissolving between the one-year and three-year surveys, indicating that the groups of mothers who dissolve a cohabitation or a marriage during this time period are less similar than are mothers who dissolve prior to the year one survey.

Turning to findings from the control variables in the regressions (Table 2), the results are generally consistent with expectations. More educated mothers generally have higher income and employment and lower welfare receipt, while Black mothers have lower income and employment and higher welfare receipt.

For mothers' re-partnering status, we find only that mothers with a new partner in the home experience a greater positive change in family income following a dissolution. It is possible that these mothers who re-partner are making better matches the second time around. Bzostek, Carlson, & McLanahan (2006), also using the Fragile Families and Child Well-Being data, examine new matches made by single and cohabiting mothers after the birth of their child. They compare data on the biological father, collected at birth, with data on the mother's new partner. They find that social fathers, as compared to the biological fathers of these children, are older, have higher levels of educational attainment, are more likely to working or in school, are less likely to have problems with drugs or alcohol, to have ever seriously hurt the child's mother, and to have ever been in prison or jail. Thus, most of these women who re-partner appear to make better matches than the biological fathers of their children, and our results also give

support to this conclusion, though in our data, women who were formerly married were more likely to be re-partnered, a group that was not examined in the Bzostek, et al. (2006) study.

Mothers who were partnered with fathers employed at birth experienced less of a change in family income across the transition to dissolution, were more likely to be employed themselves following dissolution, and were less likely to be receiving welfare as compared to those mothers who were partnered with unemployed fathers at birth. These results suggest that those women who managed to make a better match such that they partnered with men who had better labor market outcomes (and note that these women were more likely to be married to the father at birth), weathered the transition to dissolution better than did mothers who were married to men who were poorer matches, at least in terms of their labor market behavior. Finally, our term for whether the dissolution occurred earlier (between birth and the one-year survey) or later (between the one-year and three-year surveys) was only significant in one instance, such that mothers who dissolved between birth and one year were less likely to be employed one year after the dissolution. Two possible explanations for this finding include the possibility that mothers whose unions dissolve more quickly have more behavioral issues that may also give them problems in the labor market, or because women whose unions dissolve earlier have one-year old children and are less likely to be working than women whose youngest child is three.

Turning to overall child support variables measuring both formal and informal support, also in Table 2, we find no significant difference in our regression models by dissolution type for whether the mother has any child support agreement, has received any child support, and no difference for the total amount of child support received. In examining the propensity score matching results (reported in Tables 6 and 7), we find no difference between mothers who experience cohabitation dissolution versus marital dissolution on receipt of any child support or the total amount of child support received regardless of when the dissolution occurred or how

long after the dissolution occurred. At the first survey after dissolution, for both those who dissolve between birth and the one-year survey and those that dissolve between one-year and the three-year survey, we find no difference in whether or not the mother has any agreement. However, at the second survey after dissolution for the dissolved between birth and the one-year survey sample (or at least two years after dissolution), we find that mothers who experience a marital dissolution who were married at birth were more likely to have any agreement. In the coming sections, we examine the components of this variable, informal and formal agreements, and shed light on this finding.

We find few other significant effects in the regression models for the control variables, but there were a few exceptions. First, we find that mothers who were older at birth were receiving more child support than younger mothers, perhaps in part explaining why these mothers are less likely to be receiving welfare. Mothers who had any college were more likely to have any child support agreement. We only find one race difference such that Hispanic mothers were less likely than were White/other race mothers to have any child support agreement, though we did not find differences on the actual child support received or the total child support received, indicating that not having an agreement did not appear to hinder these women from getting support. Surprisingly, we find that mothers partnered with fathers who were older at the birth were less likely to have a child support agreement, perhaps partly explaining why mothers who were partnered to older fathers at birth were also more likely to be receiving welfare. Mothers partnered with fathers who had any college at birth were also less likely to have a child support agreement. This finding is puzzling, and should be explored in future research. Mothers who were partnered to an employed father at birth were more likely to have any child-support agreement and to have received any child support, though there was no difference by the total child support received. Hence, once again, mothers who made better

"matches" with their child's father appear to be benefit from the quality of the match, or from their own abilities in choosing a better match, even after the union dissolves.

Next we examine child support results broken down by formal (Table 3) versus informal arrangements (Table 4). We find that mothers who experience marital dissolution, whether they were cohabiting or married at birth, were more likely to have a formal child support award and less likely to have an informal child support award than mothers who experience cohabitation dissolution. Further, but only for those mothers who were married at birth, mothers who experience marital dissolution were also more likely to receive formal child support compared to mothers who dissolved a cohabiting relationship. We find no significant differences by union dissolution type one the amount of the formal or informal agreements, the amount of informal child support received, or the proportion of the formal or informal child support paid on time.

Turning to the propensity score matching results for these variables (reported in Tables 6 and 7), we find that regardless of the timing of dissolution (between birth and the one-year survey or between the one-year and three-year surveys) or the time since the dissolution (at the one-year or at the three-year survey for those dissolving between birth and one-year), we find that those who experience a marital dissolution are more likely to have a formal agreement, though the difference only reaches significance at the three-year survey for those who dissolve between birth and the one-year survey. At this point, mothers who are divorcing are moving through the legal system as they are required to do to dissolve their union, and it appears that the legal system makes it much more likely that these mothers have formal awards – by the three-year survey, 74% of the married at birth mothers versus 28% of the cohabiting at birth mothers who dissolved their union between birth and the one-year survey have formal awards. However, it is interesting to note though that between the one-year survey and the three-year survey, an additional 8% of mothers who dissolved their cohabiting unions between birth and the one-year

survey have formal agreements, though this number is much lower than the additional 40% of mothers who dissolve their marital unions who get formal agreements. Turning to informal agreements, again regardless of the timing of dissolution, mothers who experience cohabitation dissolution are significantly more likely to have informal agreements. Mother who experience cohabitation dissolution between birth and the one-year survey are still more likely to have an informal agreement two years after dissolution at the three-year survey as compared to mothers who experience marital dissolution. At this point, however, the difference is no longer significant, and the magnitude of the difference falls from 0.26 at one-year to 0.19 at three-years. Part of this change in magnitude is due to cohabiting mothers who formerly had informal agreements securing formal agreements. However, the time difference does not appear to affect those mothers who experience marital dissolution, as the percent with an informal agreement, 14% at one-year and 15% at the three-year survey, is virtually unchanged.

Recall that the regression results indicated that mothers who were married at birth and subsequently experience marital dissolution report receiving more formal child support than mothers who experience cohabitation dissolution. In the propensity score results for this variable, we find no significant difference between these two groups between those mothers who dissolve their unions between birth and the one-year survey, though the difference in the amount of formal child support received is larger in magnitude and in the right direction for the three-year outcomes for these two groups. However, we do find a significant difference in formal child-support receipt for those mothers who dissolve their unions between the one-year and three-year surveys such that mothers who dissolve their marriage receive 245 dollars more in formal child support as compared to mothers who dissolve their cohabiting unions. One final difference in formal and informal child support arrangements, for mothers who dissolve between the one-year and three-year surveys, we find that mothers who experience cohabitation

dissolution are significantly more likely (80% versus 40%) to be receiving their formal child support payments on time as compared to mothers who experience marital dissolution. This finding does not hold for any other group. There are two factors that could simultaneously be contributing to this finding – first, fathers who stay in their cohabiting unions longer may be more committed to the mother and child, and hence more likely to pay, and secondly, as we posited in the introduction to this paper, cohabiting unions are more fluid and dynamic, and as we discuss below, these mothers who were formerly cohabiting are more likely to still be involved in romantic relationships with these fathers, hence prompting the fathers to more often on-time with their child support payments. Overall, however, the pattern of results related to formal and informal child support indicates that when it comes to the legal system, it does benefit mothers who divorce in that they are more likely to have formal awards, and over time, the likelihood of a formal award actually more than doubles for these mothers. Further, we also find that mothers who experience marital dissolution are receiving more formal child support. On the other hand, mothers who experience cohabitation dissolution are more likely to have informal child support awards, even over time. And, we find some evidence that one other advantage they may have is that when the parents stay together longer following the birth of their child and then dissolve and make formal child support agreements, they are more likely to receive their payments on time. Yet, still, looking across these results, there appears to be little advantage to the formal marital dissolution process versus the informal cohabitation dissolution process. As stated previously, when informal and formal child support data are combined together, there appears to be little advantage to having a formal vs. informal agreement, or having gone through the legal marital dissolution system or informally negotiated the cohabitation dissolution. Though by two years post dissolution, mothers who experience a

marital dissolution are more likely to have formal agreements, this does not translate into more overall child support income for these mothers.

In examining Tables 3 and 4, it is apparent that few of the control variables are individually have a large effect on formal and informal child support arrangements. We find only one significant finding for education in that mothers who had any college were much more likely to have a formal agreement, perhaps indicating that these mothers use the skills they acquire through education to navigate a complicated legal system and secure benefits for themselves and their child. With regards to the mother's race, we find that Black mothers have smaller formal agreement amounts, but we find no other differences by race. This finding is indicative of the lower earnings potential of Black men. Related to the mothers' current relationship status, we find that when a mother has a new partner in the home, she is more likely to have a formal agreement but less likely to be receiving that formal child support on time. She is also less likely to have an informal agreement in this situation, and also less likely to be receiving any informal child support on time. These findings are indicative that mothers, when re-partnered, need a formal child support agreement to get support from the father, and even then, the father, perhaps jealous of a new partner in the home, withholds both formal and informal payments from the mother for a time by not paying her on time. The only father characteristic related to formal and informal child support awards is father employment status at birth. We find that mothers who were partnered with employed fathers at birth are more likely to be paid formal child support on time. These fathers are probably more likely to be employed after the birth of the child and may have been more committed to the mother and child at birth as indicated by his employment status, hence even after the union ends, he may make more of a commitment to pay on time, yet there are still no other differences in formal arrangements by fathers employment status at birth. Turning to the informal arrangements, fathers employed at

birth were more likely to have an informal agreement. Perhaps these fathers have more power in their relationships with the mothers and avoid legal agreements with the mother because of the requirements of a legal agreement. Given the inconsistency in findings for these indicators, the findings should be replicated in other data and are topics for future research.

Turning to the final set of dependent variables, Table 5 includes the regression results for in-kind support, father-child contact, and the parents' relationship status. Overall, we find that mothers who experience marital dissolution, regardless of their marital status at birth, are much less likely to be receiving in-kind child support. The propensity score results in Tables 6 and 7 indicate regardless of the timing of the dissolution or the time since the dissolution, mothers that experience cohabitation dissolution are more likely to be receiving in-kind support as compared to mothers who were married at birth but then dissolve their union. Perhaps related to these findings, we find no difference by union dissolution type for the dichotomous indicator of whether the child had any contact with the father in the past month. We also find no significant difference in the propensity score results for any contact with the father in the past month, though each mean difference is such that overall fathers who were formerly cohabiting with the mother of their child were more likely to have seen their child in the past month, and this difference almost reaches significance by the 3-year survey for those mothers who dissolve a cohabiting union between birth and one-year. Further, for the continuous indicator of days seen in the past month, we find that mothers who dissolved a cohabiting union reported that the fathers of their children saw their children significantly more days in the past month that did mothers who were married at birth and dissolved their marital union. The propensity score results for this variable are in the right direction such that in each sub-group, mothers who experience cohabitation dissolution report their fathers saw their children more days in the past month as compared to mothers who experience a marital dissolution, though again the difference

only reaches significance at 3-years for those mothers who dissolve their union between birth and one-year. A final related variable is the indicator of whether or not the mother and father are still romantically involved. We find in the regression results that mothers who dissolve their marital union, regardless of the marital status at birth, are much less likely to report still being romantically involved with the father of their child as compared to mothers who dissolve a cohabiting union. The propensity score results support this finding, and are significant for each subgroup such that between 23% and 30% of mothers who experience cohabitation dissolution report that they are still romantically involved with the father, while between only 0% and 4% of formerly married mothers report they are still romantically involved with the fathers of their children. Thus, this evidence lends more credence to the argument that cohabitation is a fluid and less well-defined state, with a less well-defined end date, and it appears that children and mothers may actually benefit from the more fluid nature of these relationships, for children through seeing their father more, and for mothers through garnering more in-kind support when contact does occur. However, these findings point to the need for longitudinal research on these topics – what happens to these children once their parents' relationship is over for good? It is unlikely that these relationship remain fluid forever, and when mothers form new partnerships that may indeed be with superior partners to the biological father (Bzostek, et al., 2006), and as the results in Table 5 indicate, children are much less likely to have had contact with their father in the past month and see him fewer days when their mother has a new partner, and the mother is also less likely to be receiving any in-kind support. Therefore, trade-offs occur for the mothers, they may garner a superior partner for themselves, but they and their child may suffer in terms of contact and support. The important question is what happens to the children and mothers in these situations when a new relationship dissolves – are they worse off than if they had not re-partnered? This is an area for future research.

Finally, turning to the demographic and family characteristics in Table 5, we find that mothers who were older at the birth of the child are more likely to be romantically involved with the father. Mothers who were older at birth may have been partnered with older men who were more economically viable, giving them motivation to continue the relationship. However, we also find that mothers partnered to fathers who were employed at birth are less likely to be romantically involved with the father following union dissolution. Perhaps because these fathers are also more economically viable after the union dissolves, the mothers, assuming they use romantic involvements as bargaining chip, no longer have the need to continue the relationship if the father is formally employed and she is receiving support from him. Recall that from Table 2, we find that mothers who were partnered with employed fathers at birth are more likely to have any child support agreement and to have received any child support. We also find that when mothers have any college, they are less likely to be receiving any in-kind support and report that their children see their father fewer days a month. Mothers with any college are also more likely to have a formal child support agreement, and to be employed, so perhaps because these mothers have gone through legal channels to garner support, and may need the support less, their children see the father less because there is less informal negotiation surrounding support and less need to informally negotiate support. Further, the father may have animosity towards the mother because she went through the legal system for support. Contrary to our findings for college-educated mothers, we find that mothers who partnered with fathers with any college education at birth were more likely to be receiving in-kind support, and that these fathers are more likely to have seen their child in the past month, and saw their child more days in the past month. This indicates that education benefits the fathers in both their labor market outcomes giving them the ability support their child, and may actually improve their self-confidence such that they feel competent in caring for their child and assuming the father role. Finally, by the timing of the

dissolution, we find that unions that dissolved earlier are less likely to be receiving any in-kind support and the fathers in these former unions are less likely to have seen their child in the past month.

5. Discussion, Limitations, and Future Directions

We find little evidence that the observable socio-economic characteristics and patterns of assortative mating that distinguish cohabiters from marrieds are related to post-divorce outcomes for mothers. We do, however, find evidence that the process of dissolution differs for married versus cohabiting parents. Marriage, as legal status, and its dissolution, divorce, still requires parents to encounter the courts and legal system, and these encounters translate into divorcing mothers being more likely to have formal child support awards, particularly over time. While formerly cohabiting mothers are also getting formal awards, the proportion with awards remains relatively low compared to mothers who were married. While children have a right to receive child support from a non-residential parent, regardless of their parents' former marital status, in practice, formerly cohabiting mothers are more likely to be informally negotiating their child support, garnering both money and resources such as medicine, toys, or time from the father. Thus, our initial prediction that the likelihood of formal versus informal child support would differ for our two types of dissolution is supported. We find that divorcing mothers with formal agreements are getting more formal child support, but when looking at whether the parents had any agreement about child support and the total amount of child support received, we find no differences by union dissolution status.

We also find evidence that dissolution is more ambiguous for cohabitation, and this may contribute to differences in economic outcomes for the two groups. In particular, as we argued earlier, cohabitation is a more fluid and less well-defined state than is marriage, where mothers find themselves sliding into cohabitation (Stanley, et al., 2006). We suggest that they also find

themselves sliding out of cohabitation, in contrast to the more definite ending we observe in divorce. Thirty percent of the cohabiting mothers who are no longer living with the father most of the time report that they are still romantically involved with the father, and 10 and 15% report they are still living with the father sometimes. Thus, cohabitation dissolution is more fluid with a less well-defined end date than a marital dissolution. Under these circumstances, we find that formerly cohabiting fathers actually have a higher level of involvement with the mother and child than fathers who had been married to the mother, as evidenced by the greater number of days they see their child and their higher levels of in-kind support. In future research we will examine more stringent measures of the dissolution of cohabiting relationships, such as when the parents no longer report any romantic relationship to see how that contributes to differences in economic outcomes for marital compared to cohabitation dissolution.

The largest limitation of this study is the small sample size of divorces in the data, as well as the differences in duration between cohabiting and marital unions. We attempt to address the second issue through the use of propensity score analysis, carefully isolating an appropriate comparison group of mothers experiencing a marital dissolution to compare with our sample of mothers who were experiencing a cohabitation dissolution. To address the issues of our small sample size, we run regression models with the full-sample to maximize our power to detect differences. A further limitation is our use of the same reporter, where the mother reported each of the outcomes. Future research might compare mother and father reports along these dimensions.

In conclusion, though this work has limitations, we believe it also has many strengths, perhaps the most important of which is that it is one of the first systematic explorations of the economic consequences of cohabitation dissolution—in particular in terms of child support—for poor mothers, a group of central interest to policy makers. Our analyses suggest that there are

few differences between cohabitation dissolution and marital dissolution among the low-income, disadvantage Fragile Families sample, and even that the more informal, fluid nature of cohabitation dissolution may actually benefit mothers and children (at least in the short run) by keeping the father more involved in the family life.

References

Avellar, S., & Smock, P. J. (2005). The economic consequences of the dissolution of cohabiting unions. *Journal of Marriage and Family, 67*, 315-327.

Blair, S. L., & Lichter, D. T. (1991). Measuring the division of household labor: Gender segregation of housework among American couples. *Journal of Family Issues, 12*(1), 91-113.

Bramlett, M.D., & Mosher, W.D. (2002). Cohabitation, Marriage, Divorce, and Remarriage in the United States. *National Center for Health Statistics Vital Health Stat, 23*(22).

Brines, J., & Joyner, K. (1999). The ties that bind: Principles of cohesion in cohabitation and marriage. *American Sociological Review, 64*, 333-355.

Brown, S. L. (2002). Child well-being in cohabiting families. In *Just Living Together: Implications of Cohabitation for Children, Families, and Social Policy*, edited by A. Booth & A. C. Crouter. Mahwah, NJ: Lawrence Erlbaum Associates.

Brown, S. L. (2004). Family structure and child well-being: The significance of parental cohabitation. *Journal of Marriage and Family, 66*, 351-367.

Bumpass, L. L, & Lu, H. (2000). Trends in cohabitation and implications for children's family contexts in the U.S. *Population Studies, 54*(1), 29-41.

Bzostek, S. H., Carlson, M. J., & McLanahan, S. S. (2006). *Does mother know best?: Comparison of biological and social fathers after a nonmarital birth*. Center for Research on Child Wellbeing Working Paper #2006-27-FF.

Chandra, A., Martinez, G. M., Mosher, W.D., et al. (2005). Fertility, family planning, and reproductive health of U.S. women: Data from the 2002 National Survey of Family Growth. *National Center for Health Statistics Vital Health Statistics, 23(25).*

Hoffman, S., & Duncan, G. (1988). What are the economic consequences of divorce? *Demography, 25*, 641-645.

Leuven, E. , & Sianesi, B. (2003). *PSMATCH2: Stata module to perform full Mahalanobis and propensity score matching, common support graphing, and covariate imbalance testing*. See http://ideas.repec.org/c/boc/bocode/s432001.html to download the estimator.

Lichter, D. T., Qian, Z. & Mellott, L. M. (2006). Union transitions among poor cohabiting women. *Demography, 43*, 223-240.

Martin, J. A., Hamilton, B.E, Sutton, P.D., et al. (2006). Births: Final data for 2004. *National vital statistics reports, 55*(1). Hyattsville, MD: National Center for Health Statistics.

Morgan, S. L., & Harding, D. J. (2006). Matching estimators of causal effects: Prospects and pifalls in theory and practice. *Sociological Methods and Research, 25*, 3 – 60.

Oppenheimer, V. K. (2003). Cohabiting and marriage during young men's career-development process. *Demography, 40*, 127-149.

Peters, H. E. (1993). The importance of financial considerations in divorce decisions. *Economic Inquiry, 31*, 71–86.

Sanchez, L., Manning, W. D., & Smock, P. J. (1998). Sex-specialized or collaborative mate selection? Union transitions among cohabitors. *Social Science Research, 27*, 280-304.

Sassler, S., & McNally, J. (2003). Cohabiting couples' economic circumstances and union transitions: A re-examination using multiple imputation techniques. *Social Science Research, 32*, 553-578.

Seltzer, J. A. (2000). Families formed outside of marriage. *Journal of Marriage and the Family, 62*, 1247-1268.

Smith, H. L. (1997). Matching with multiple controls to estimate treatment effects in

observational studies. *Sociological Methodology, 27*, 325-353.

Smock, P. J., & Manning, W. D. (1997). Cohabiting partners' economic circumstances and marriage. *Demography, 34*, 331-341.

Smock, P. J., Manning, W. D., & Porter, M. (2005). "Everything's there except money": How money shapes decisions to marry among cohabitors. *Journal of Marriage and Family, 67*, 680-696.

South, S. J., & Spitze, G. (1994). Housework in marital and nonmarital households. *American Sociological Review, 59*, 327-347.

Stanley, S. M., Rhoades, G. K., & Markman, H. J. (2006). Sliding versus deciding: Inertia and the premarital cohabitation effect. *Family Relations, 55*, 499-509.

Teitler, J. O., Reichman, N. E., & Koball, H. (2006). Contemporaneous versus retrospective reports of cohabitation in the fragile families survey. *Journal of Marriage and Family, 68*, 469-477.

Teitler, J.O., Reichman, N.E., & Sprachman, S. (2003). Costs and benefits of improving response rates for a hard-to-reach population. *Public Opinion Quarterly, 67*, 126–38.

Appendix 1.

Overall annual family income was measured by the question: *Now, please think of your household income from all sources. Include not just your own income, but also the income of everyone living with you. Include the money you have told me about from jobs and public assistance programs, as well as any sources we haven't discussed such as rent, interest and dividends. What was your total household income for the last year before taxes?* If the respondent did not know, she was asked to chose one of nine categories, the top-most category being more than $60,000. In instances where income data was missing but categorical data was present, we did a mean substitution (i.e. took the mean of income based on the range of the categorical data for those not missing on the continuous variable, and then substituted that number as the mean for those missing in that range). This variable was then rounded to the nearest whole number and divided by one-thousand. The change in annual family income from across the transition to dissolution was measured as the current annual family income minus the family income from the wave prior to dissolution. There was not a continuous measure of income at baseline, so we subtracted instead the mean of each category in the categorical income measure that was gathered at baseline, therefore, there is measurement error associated with this variable.

The variable indicating whether the mothers was currently employed was coded as answering in the affirmative to: Last week, did you do any regular work for pay? Include any work you might have done in your own business (or military service) where you got a regular paycheck. We also examined whether the mother received welfare in past year as an affirmative response to the question: *Are you currently receiving welfare or TANF? By welfare or TANF, we mean Temporary Assistance to Needy Families, AFDC, or cash welfare*.

Turning to child support measures, we coded any child support agreement as 1 if the mother reported either an informal or formal child support agreement, and 0 if the mother reported no agreement. We coded the total child support received as the sum of our formal and informal child support measures. In particular, we coded formal agreement as an affirmative response to the question: *Do you have a legal agreement or child support order that requires the father to provide financial support to [your child]?* We coded informal agreement as an affirmative response to the question: *Do you have an informal agreement, or an understanding, not spelled out in a legal document that father will provide financial support to you?*
Both the formal and informal agreement amounts were assessed conditional on there being an agreement. In particular, mothers were asked following the agreement questions: *How much has he agreed to give you each month?* after answering in the affirmative that they had either a formal or informal agreement. Mothers were then asked for both formal and informal agreements: *How often does he give you this money when he is supposed to?* Responses were dichotomized such that 1 was *All of the Time* or *More than Half of the time*, and 0 was *About half the time*, *Less than half the time*, or *Never*. Finally, mothers were asked *About how much have you received in total from the father in child support payments since your formal* (or informal) *agreement was reached?* Formal and informal child support amounts were measured separately. Mothers answered with a dollar amount, or with the option of *Father paid total amount agreed upon*. If the mother did not give a dollar amount or state that the father paid the total amount agreed upon, she was given a range to chose from. Once again, as we did for overall family income, we did a mean substitution for those answering the child support income question as a categorical variable. For both formal and informal child care support, if the mother answered the agreement question in the negative such that there was no agreement reported, and then reported no formal or informal child support income, we substituted 0 as the total amount of the relevant

type of child support received. When mothers answered the formal child support income question as the father had given the total amount agreed upon, we substituted the agreement amount (measured per month) * the months since the formal agreement was reached. When mothers answered that the father had given the total informal child support amount agreed upon, we substituted the agreement amount (which is measured per month) * the months since the dissolution occurred.

For the measure of in-kind support, mothers were asked: How often does the father buy: clothes, toys, medicine, child care items, food or formula, anything else. Note that the child care item was dropped from Wave 3 given the age of the child at that point. If the mother answered that the father often or sometimes bought any of the items on the list, the in-kind support variable was coded 1, otherwise, it was coded 0. Using the variable: *During the past 30 days, how many days has the father seen your child?*, we coded a dichotomous variable indicating whether the father had seen the child at all in the past month and a continuous variable indicating the number of days in the past month the child saw the dad. To code whether the parents are still romantically involved, we use responses to the question: *What is your relationship with the father now? Are you married, romantically involved, separated/divorced, just friends, or not in any kind of relationship?* We created a dichotomy where 1 = *romantically involved*, and 0 = *separated/divorced, just friends*, or *no relationship*.

Appendix 2.

In conducting our propensity score matching analysis, our first step was to split our sample into three groups for comparisons. We first isolated those married and cohabiting couples who dissolved between the birth and one-year survey and for those who were cohabiting, did not marry in between the waves. Second, we isolated those married and cohabiting couples who dissolved between one-year and three-years and again for those who were cohabiting, did not marry between waves. We then conducted two probit regressions, separately by the timing of dissolution, using mothers' age at birth, education at birth, race, and current partner status, and fathers' age at birth, education at birth, and employment status at birth to predict a dummy variable that equaled one if the mother dissolved a cohabiting union in that time period (either between birth and one-year or between one-year and three-years) and zero if the mother dissolved a marital union and was married at birth in that time period. After obtaining a propensity score for each time period, Leuven and Sianesi's (2003) matching estimator for Stata, *psmatch2* was used[9]. The propensity scores calculated from the probit were used in three analyses using single nearest-neighbor matching with replacement.

The analyses included compared the short-term (one-year outcomes) and long-term (three-year outcomes) for mothers who experienced union dissolution between birth and one-year. These analyses both use the same propensity scores as calculated from the probit predicting cohabitation dissolution group membership for those dissolving between birth and the one-year follow-up. We also compare the short-term (three-year) outcomes for mothers who dissolved their union between the one-year and three-year surveys, but for whom their unions were longer in duration. Thus, the mothers in our "treatment" group, the mothers who experience cohabitation dissolution, are matched to their nearest neighbor in the "control" group, i.e. the mothers in the marital dissolution group who were married at birth with the closest propensity score (i.e., propensity to be in a cohabiting union that dissolves) to the treated mother's own. In the event of ties, or when mothers in the non-treated group have identical propensity scores, the matched mother nearest to the treated mother is selected. Therefore, we ensured that our data were in random order before we ran the procedure. Further, a matched mother is allowed to be used more than once and is not withdrawn from the pool after a match, allowing each mother in the cohabitation dissolution group to find her best match from the entire pool of mothers who experience marital dissolution. Finally, we also set a limit, or caliper, on the distance from which the matched child's propensity score could fall from the treated child's propensity score. We use a more stringent caliper 0.03, where for most variables more than 85% of our sample is "on common support", or, put another way, where more than 85% of the mothers in the full sample of mothers who experience cohabitation dissolution and marital dissolution, who were married at birth, find a match. Note the sample-size on support drops at points due to missing data on the variable (e.g. the amount of the formal or informal child support agreement), over time due to attrition (for the three-year outcomes for those who dissolved between birth and the one-year survey), and due to fewer dissolutions in the time period (for those who dissolve between the one-year and three-year surveys). We also loose sample size due to the stringency of the matching estimator, and this could bias us against detecting group differences; therefore, we in the future also plan to report our results with a more lenient caliper of 0.05, in which fewer mothers would be off-support, and note in the text if a

[9] Other estimators also exist for Stata (see Morgan and Harding for a review), but *psmatch2* is one of the more popular and user-friendly of the matching estimators available, and comparisons among matching estimators has not shown a clear advantage to one estimator over another.

difference exists.

Table 1. *Unweighted Descriptive Statistics by the Type of Dissolution.*

	Cohabitation Dissolution	Marital Dissolution, Married at birth	Marital Dissolution, Cohabiting at birth
	M	*M*	*M*
Mother age at birth	23.7	26.5	23.8
	(5.21)	(5.64)	(5.72)
Mother less than H.S. education[1]	0.42	0.23	0.36
Mother H.S. graduate[1]	0.35	0.31	0.41
Mother any college[1]	0.23	0.46	0.23
Mother White/other[1]	0.19	0.35	0.21
Mother Black[1]	0.60	0.43	0.47
Mother Hispanic[1]	0.22	0.22	0.33
Mother new partner in home[1,2]	0.11	0.15	0.23
Father age at birth	26.3	29.3	27.5
	(6. 82)	(6.51)	(8.34)
Father less than H.S. education[1]	0.38	0.22	0.37
Father H.S. graduate[1]	0.39	0.46	0.47
Father any college[1]	0.24	0.32	0.16
Dad employed at birth[1]	0.73	0.87	0.70
Sample size	615	111	44
Proportion dissolving between birth and year 1[1]	0.74	0.46	0.23

Standard deviations reported in parentheses. [1]Indicates dichotomous variable. [2]Mother new partner in home measured at the survey after dissolution. All other variables (except the proportion dissolving between birth and one-year) are measured at baseline.

Table 2. *Ordinary least squares and logistic regression results for family income, mother employment status, mother welfare receipt, and overall child support characteristics for the first survey after dissolution.*

	Annual Family Income ($1000)	Change in Family Income ($1000)	Mother currently employed[1]	Mother received welfare in past year[1]	Any agreement[1]	Any child support received[1]	Total child support received[2]
	B	*B*	*OR*	*OR*	*OR*	*OR*	*B*
Dissolution type							
Cohabitation dissolution	-	-	-	-	-	-	-
Marital dissolution, married at birth	11.39***	-0.18	1.00	0.63	0.84	0.93	-58.14
	(3.03)	(3.02)	(0.25)	(0.18)	(0.20)	(0.21)	(187.96)
Marital dissolution, cohabiting at birth	0.91	-5.40	1.27	0.77	1.05	1.16	-191.55
	(4.37)	(4.58)	(0.48)	(0.30)	(0.37)	(0.40)	(277.42)
Demographic and family characteristics							
Mother age at birth	0.25	-0.01	1.01	0.96*	1.03	1.01	30.97*
	(0.27)	(0.27)	(0.02)	(0.02)	(0.02)	(0.02)	(16.69)
Mother less than H.S. education	-9.26***	-5.91**	0.51***	1.57**	0.85	0.80	-166.75
	(2.49)	(2.60)	(0.10)	(0.31)	(0.16)	(0.15)	(152.96)
Mother H.S. graduate	-	-	-	-	-	-	-
Mother any college	6.01**	-3.59	1.67**	0.56**	1.71**	1.10	160.46
	(2.78)	(2.85)	(0.39)	(0.14)	(0.39)	(0.23)	(172.84)
Mother White/other	-	-	-	-	-	-	-
Mother Black	-8.20***	-1.67	0.69*	1.98***	0.75	0.74	-125.78
	(2.59)	(2.70)	(0.15)	(0.46)	(0.15)	(0.15)	(160.10)
Mother Hispanic	-1.02	5.96*	1.03	1.15	0.67*	0.93	15.78
	(3.09)	(3.23)	(0.26)	(0.32)	(0.16)	(0.22)	(191.25)
Mom new partner in home	4.41	9.91***	0.92	0.66	1.06	0.94	-198.32
	(3.03)	(3.18)	(0.23)	(0.18)	(0.26)	(0.22)	(191.41)
Father age at birth	-0.18	-0.40*	0.98	1.05***	0.97*	1.00	-5.54
	(0.22)	(0.22)	(0.02)	(0.02)	(0.02)	(0.02)	(13.64)
Father less than H.S. education	-1.00	-0.20	0.97	0.95	0.83	0.87	-147.87
	(2.45)	(2.54)	(0.19)	(0.19)	(0.16)	(0.17)	(152.10)
Father H.S. graduate	-	-	-	-	-	-	-
Father any college	6.46**	1.08	1.17	0.77	0.68*	0.94	181.82
	(2.82)	(2.91)	(0.27)	(0.19)	(0.15)	(0.20)	(172.81)
Dad employed at birth	-1.11	-5.60**	1.50**	0.62**	1.82***	1.61**	236.29
	(2.40)	(2.50)	(0.28)	(0.12)	(0.34)	(0.30)	(148.31)
Dissolved between birth and the one-year survey	-0.59	2.38	0.62***	1.37	0.75	0.81	-204.59
	(2.25)	(2.29)	(0.11)	(0.27)	(0.14)	(0.14)	(140.18)
Constant	25.27***	11.63*					206.89
	(6.12)	(6.43)					(378.90)
Observations	645	555	715	716	694	716	716
R-squared	0.15	0.06					0.04
F	8.76***	2.62***					2.44***
Chi-square			65.93***	74.96***	34.36***	19.67	

Note: Standard errors in parentheses. [1]Dichotomous variable, odds ratio from logistic regression reported. [2]Total child support received not measured per month or annually, see Appendix 1 for details.
* $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$

Table 3. *Ordinary least squares and logistic regression results for formal child support arrangements for the first survey after dissolution.*

	Formal Agreement[1]	Formal Agreement Amount[2]	Formal Child Support Received	Formal child support paid on time[1]
	OR	*B*	*B*	*OR*
Dissolution type				
Cohabitation dissolution	-	-	-	-
Marital dissolution, married at birth	2.11***	46.98	183.38*	0.66
	(0.54)	(56.65)	(104.41)	(0.33)
Marital dissolution, cohabiting at birth	2.29**	1.05	148.56	1.24
	(0.84)	(72.03)	(154.11)	(0.86)
Demographic and family characteristics				
Mother age at birth	1.02	7.58	13.54	1.03
	(0.03)	(5.63)	(9.27)	(0.05)
Mother less than H.S. education	1.25	77.77	-54.54	1.00
	(0.30)	(54.65)	(84.97)	(0.48)
Mother H.S. graduate	-	-	-	-
Mother any college	2.11***	35.36	45.77	0.75
	(0.54)	(53.17)	(96.01)	(0.37)
Mother White/other	-	-	-	-
Mother Black	1.00	-95.65**	-63.81	0.74
	(0.24)	(45.85)	(88.94)	(0.33)
Mother Hispanic	0.82	-78.22	-120.95	1.17
	(0.24)	(57.93)	(106.24)	(0.65)
Mom new partner in home	1.79**	11.92	-72.97	0.20***
	(0.47)	(50.14)	(106.33)	(0.10)
Father age at birth	0.99	-5.81	-1.94	1.05
	(0.02)	(4.27)	(7.58)	(0.04)
Father less than H.S. education	1.03	-12.82	-11.14	0.44*
	(0.24)	(47.96)	(84.49)	(0.20)
Father H.S. graduate	-	-	-	-
Father any college	0.66	62.00	14.45	1.18
	(0.17)	(52.46)	(95.99)	(0.59)
Dad employed at birth	1.15	18.77	130.26	2.88**
	(0.26)	(51.36)	(82.39)	(1.31)
Dissolved between birth and the one-year survey	1.03	-49.19	-94.40	0.68
	(0.22)	(47.87)	(77.87)	(0.27)
Constant		252.50*	-28.91	
		(143.39)	(210.47)	
Observations	692	140	716	161
R-squared		0.11	0.03	
F		1.20	1.82**	
Chi-square	33.01***			30.47***

Note: Standard errors in parentheses. [1]Dichotomous variable, odds ratio from logistic regression reported. [2]Formal agreement amount is measured conditional on having a formal agreement, see Appendix 1 for details. * $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$

Table 4. *Ordinary least squares and logistic regression results for informal child support arrangements for the first survey after dissolution.*

	Informal Agreement[1]	Informal Agreement Amount[2]	Informal Child Support Received	Informal child support paid on time[1]
	OR	*B*	*B*	*OR*
Dissolution type				
Cohabitation dissolution	-	-	-	-
Marital dissolution, married at birth	0.42***	39.41	-241.52	1.74
	(0.11)	(174.94)	(166.76)	(1.01)
Marital dissolution, cohabiting at birth	0.52*	-104.01	-340.11	0.37
	(0.20)	(250.04)	(246.13)	(0.25)
Demographic and family characteristics				
Mother age at birth	1.01	19.65	17.43	1.03
	(0.02)	(17.47)	(14.81)	(0.05)
Mother less than H.S. education	0.75	207.72	-112.22	0.72
	(0.16)	(142.25)	(135.70)	(0.27)
Mother H.S. graduate	-	-	-	-
Mother any college	0.91	108.51	114.70	0.86
	(0.21)	(159.83)	(153.34)	(0.37)
Mother White/other	-	-	-	-
Mother Black	0.74	32.71	-61.97	1.15
	(0.16)	(140.94)	(142.04)	(0.45)
Mother Hispanic	0.84	225.54	136.73	1.76
	(0.22)	(165.34)	(169.67)	(0.88)
Mom new partner in home	0.59**	-111.19	-125.34	0.40*
	(0.16)	(191.02)	(169.82)	(0.22)
Father age at birth	0.97	-13.35	-3.60	1.01
	(0.02)	(13.90)	(12.10)	(0.04)
Father less than H.S. education	0.84	13.04	-136.73	0.79
	(0.17)	(150.67)	(134.94)	(0.31)
Father H.S. graduate	-	-	-	-
Father any college	1.06	-12.00	167.37	1.57
	(0.25)	(157.61)	(153.32)	(0.70)
Dad employed at birth	1.79***	167.14	106.03	0.57
	(0.37)	(153.49)	(131.58)	(0.24)
Dissolved between birth and the one-year survey	0.88	62.26	-110.19	0.79
	(0.17)	(124.14)	(124.36)	(0.28)
Constant		-113.69	235.80	
		(345.72)	(336.15)	
Observations	637	140	716	250
R-squared		0.07	0.03	
F		0.73	1.49	
Chi-square	30.82***			14.31

Note: Standard errors in parentheses. [1]Dichotomous variable, odds ratio from logistic regression reported. [2]Informal agreement amount is measured conditional on having an informal agreement, see Appendix 1 for details. * $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$

Table 5. *Ordinary least squares and logistic regression results for in-kind child support, father-child contact, and parents' romantic relationship status for the first survey after dissolution.*

	Any in-kind support[1]	Any contact with father in past month[1]	Days child saw father in last month	Parents still romantically involved[1]
	OR	*OR*	*B*	*OR*
Dissolution type				
Cohabitation dissolution	-	-	-	-
Marital dissolution, married at birth	0.36***	0.83	-3.10**	0.06***
	(0.09)	(0.24)	(1.36)	(0.04)
Marital dissolution, cohabiting at birth	0.39***	0.64	-2.29	0.20**
	(0.14)	(0.26)	(1.98)	(0.13)
Demographic and family characteristics				
Mother age at birth	1.00	0.96	-0.09	1.05**
	(0.02)	(0.02)	(0.12)	(0.03)
Mother less than H.S. education	1.13	0.71	-1.34	0.84
	(0.24)	(0.17)	(1.14)	(0.19)
Mother H.S. graduate	-	-	-	-
Mother any college	0.60**	0.70	-2.49*	1.12
	(0.14)	(0.19)	(1.28)	(0.29)
Mother White/other	-		-	-
Mother Black	1.25	0.90	2.68**	1.41
	(0.28)	(0.23)	(1.17)	(0.36)
Mother Hispanic	0.95	0.78	1.16	0.78
	(0.24)	(0.23)	(1.40)	(0.25)
Mom new partner in home	0.45***	0.43***	-6.58***	
	(0.11)	(0.11)	(1.35)	
Father age at birth	0.99	1.01	0.04	0.99
	(0.02)	(0.02)	(0.10)	(0.02)
Father less than H.S. education	0.83	0.80	-2.21*	1.44
	(0.17)	(0.19)	(1.13)	(0.33)
Father H.S. graduate	-	-	-	-
Father any college	1.79**	1.79**	2.34*	1.17
	(0.45)	(0.53)	(1.28)	(0.31)
Dad employed at birth	1.35	1.07	1.63	0.59**
	(0.27)	(0.25)	(1.12)	(0.13)
Dissolved between birth and the one-year survey	0.60**	0.64**	-0.88	1.03
	(0.12)	(0.15)	(1.04)	(0.23)
Constant			13.76***	
			(2.84)	
Observations	701	604	604	628
R-squared			0.08	
F			4.10***	
Chi-square	51.46***	26.19**		77.15***

Note: Standard errors in parentheses. [1]Dichotomous variable, odds ratio from logistic regression reported. * $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$

Table 6. *Propensity score matching results for mean differences on income, child support, and family relationship variables for those who dissolved their union between birth and 1 year.*

	Year 1 Outcomes					Year 3 Outcomes				
	Cohabitation dissolution	Marital dissolution[1]				Cohabitation dissolution	Marital dissolution[1]			
	M[2]	*M*	Difference[3]	*t*-statistic	On support[4]	*M*[2]	*M*	Difference[3]	*t*-statistic	On support[4]
Annual family income[5]	18.90	31.52	-12.61	1.01	99.52%	20.68	32.68	-12.00	0.72	99.50%
Change in family income[5]	-3.50	2.22	-5.71	0.42	99.42%	2.82	-630.79	3.45	0.20	99.46%
Mother currently employed[6]	0.55	0.58	-0.03	0.21	99.57%	0.56	0.51	0.05	0.34	99.54%
Mother received welfare in past year[6]	0.38	0.29	0.09	0.65	99.58%	0.33	0.29	0.05	0.36	99.54%
Any agreement[6]	0.56	0.47	0.09	0.58	99.57%	0.62	0.89	-0.27	1.84*	99.67%
Any child support received[6]	0.39	0.21	0.18	1.21	99.58%	0.34	0.30	0.04	0.29	99.58%
Total child support received[7]	622.70	343.14	279.55	0.67	99.58%	909.93	585.08	324.86	0.46	99.58%
Formal agreement[6]	0.20	0.34	-0.13	0.97	99.57%	0.28	0.74	-0.46	2.55**	99.67%
Formal agreement amount[8]	242.91	307.05	-64.14	0.83	88.24%	247.38	304.28	-56.90	0.59	100.00%
Formal child support received	168.38	169.23	-0.85	0.00	99.58%	312.56	482.74	-170.19	0.46	99.58%
Formal child support paid on time[6]	0.49	0.72	-0.24	1.17	88.17%	0.42	0.43	-0.01	0.08	98.85%
Informal agreement[6]	0.40	0.14	0.26	1.97**	99.52%	0.34	0.15	0.19	1.29	99.67%
Informal agreement amount[9]	419.33	442.31	-22.98	0.13	71.76%	318.89	333.33	-14.44	0.14	25.00%
Informal child support received	454.32	173.92	280.40	0.81	99.58%	597.38	102.33	495.04	0.79	99.57%
Informal child support paid on time[6]	0.75	0.81	-0.06	0.35	71.35%	0.85	0.85	0	0.00	65.91%
Any in-kind support[6]	0.71	0.34	0.37	2.51**	99.56%	0.58	0.22	0.36	2.31**	99.58%

Table 6. *Propensity score matching results for mean differences on income, child support, and family relationship variables for those who dissolved their union between birth and 1 year (continued).*

	Year 1 Outcomes					Year 3 Outcomes				
	Cohabitation dissolution	Marital dissolution[1]				Cohabitation dissolution	Marital dissolution[1]			
	M[2]	*M*	Difference[3]	*t*-statistic	On support[4]	*M*[2]	*M*	Difference[3]	*t*-statistic	On support[4]
Any contact with father in past month[6]	0.75	0.69	0.05	0.41	99.48%	0.74	0.49	0.25	1.63	99.28
Days in past month child saw dad	12.11	7.91	4.20	1.27	99.48%	9.52	4.43	5.09	1.69*	99.28%
Parents romantically involved[6]	0.30	0.04	0.26**	3.42**	99.58%	0.23	0.03	0.20	3.11**	99.58%

Notes: [1]Marital dissolution includes only those who were married at birth. [2]Reported are the means for each group based on the ATT, the average treatment effect of the treated, where the treated group is mothers experiencing cohabitation dissolution. [3]Differences reported are the mean of the cohabitation dissolution sub-sample minus the mean of the marital dissolution sub-sample. [4]On [common] support indicates the percent of respondents (not missing on variable) who were used in the matching analysis; i.e. for whom matches were found. [5]Measured in thousands. [6]Dichotomous variable. [7]Total child support received not measured per month or annually, see Appendix 1 for details. [8]Formal agreement amount is measured conditional on having a formal agreement, see Appendix 1 for details. [9]Informal agreement amount is measured conditional on having an informal agreement, see Appendix 1 for details. * $p < 0.10$ ** $p < 0.05$

Table 7. *Propensity score matching results for mean differences on income, child support, and father visitation variables for those who dissolved their union between 1 and 3 years.*

	Year 3 Outcomes				
	Cohabitation dissolution	Marital dissolution[1]			
	M[2]	*M*	Difference[3]	*t*-statistic	On support[4]
Total family income[5]	21.99	23.85	-1.87	0.38	85.56
Change in family income[5]	-3.55	-7.06	3.50	0.57	85.47
Mother currently employed[6]	0.67	0.66	0.01	0.08	85.71
Mother received welfare in past year[6]	0.30	0.26	0.03	0.33	85.71
Any agreement[6]	0.65	0.58	0.07	0.60	85.41
Any child support received[6]	0.49	0.46	0.03	0.20	85.71
Total child support received[7]	973.27	1.02	-77.25	0.18	85.71
Formal agreement[6]	0.17	0.31	-0.14	1.18	85.33
Formal agreement amount[8]	240.75	444.00	-203.35	1.65*	85.00
Formal child support received	262.95	507.63	-244.68	0.64	85.71
Formal child support paid on time[6]	0.80	0.40	0.40	1.69*	72.22
Informal agreement[6]	0.48	0.27	0.21	1.83*	85.41
Informal agreement amount[9]	263.50	250.25	13.25	0.14	67.39
Informal child support received	0.63	0.74	-0.11	0.64	67.61
Informal child support paid on time[6]	0.74	0.84	-0.10	0.61	64.18
Any in-kind support[6]	0.82	0.41	0.40	3.17**	85.64
Any contact with father in past month[6]	0.85	0.74	0.12	0.87	86.67
Days in past month child saw dad	13.62	9.78	3.85	1.26	86.67
Parents romantically involved[6]	0.29	0.00	0.29	6.77**	85.71

Notes: [1]Marital dissolution includes only those who were married at birth. [2]Reported are the means for each group based on the ATT, the average treatment effect of the treated, where the treated group is mothers experiencing cohabitation dissolution. [3]Differences reported are the mean of the cohabitation dissolution sub-sample minus the mean of the marital dissolution sub-sample. [4]On [common] support indicates the percent of respondents (not missing on variable) who were used in the matching analysis; i.e. for whom matches were found. [5]Measured in thousands. [6]Dichotomous variable. [7]Total child support received not measured per month or annually, see Appendix 1 for details. [8]Formal agreement amount is measured conditional on having a formal agreement, see Appendix 1 for details. [9]Informal agreement amount is measured conditional on having an informal agreement, see Appendix 1 for details. * $p < 0.10$ ** $p < 0.05$