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Economic Trajectories in Non-Traditional Families with Children

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Abstract

Using data from the Fragile Families and Child Wellbeing Study this paper examines associations between family structure and economic trajectories during the first five years after a child's birth, paying special attention to non-traditional families. Among families with stable structures, married-parent families have the highest economic wellbeing, followed by cohabiting-parent families and then single mothers. Among unstable families, exits from marriage and cohabitation are associated with declines in mothers' economic wellbeing. Entering coresidential unions after a non-marital birth is associated with gains in single mothers' economic wellbeing, especially if those unions involve the child's biological father. Findings are robust across several measures of economic wellbeing including household income, income-to-needs ratios, and material hardship.

Key Words: family structure, divorce, cohabitation, income, Fragile Families and Child Wellbeing Study (FFCWS), growth curve analysis

Increases in non-marital childbearing during the past several decades have resulted in a growing proportion of children being raised in non-traditional families, such as cohabiting-parent families, single-parent families and families with a non-biological parent. These new family structures, in turn, are likely to have important consequences for the economic wellbeing of parents and children. Yet despite a large literature on the costs and benefits of marriage and divorce, researchers have only recently begun to examine the economic conditions and trajectories of families formed by unmarried parents.

In this paper, we examine family economic trajectories during the first five years following a child's birth and the associations between family structures and economic trajectories. We extend existing research in several important ways. First, we focus on economic status during early childhood, a period which is known to have lasting consequences for children's health and development (Wagmiller et al., 2006, Duncan & Brooks-Gunn, 1997). Second, we examine a much more comprehensive set of family forms and dynamics than prior studies have examined. Specifically, we compare the economic trajectories of three types of stable families – stably married, stably cohabiting and stably single; we also examine how transitions into and out of each of these statuses are associated with short-term changes in economic status. Because of small sample sizes, prior studies have not been able to distinguish between entrances into marriage and cohabiting unions (Page & Stevens, 2004); nor have they been able to distinguish between unions with biological and “social” fathers. Third, we employ three different measures to assess the effect of family structure and stability on family economic status, including total family income, family income-to-needs ratio and material hardship. Each of these measures has been used in prior research and each has a slightly different interpretation. And finally, we use latent growth curve models to assess the extent to which selection is likely to

bias our estimate of the benefits and costs of union transitions. These models, which have not been used in prior studies, allow us to determine whether changes in income precede changes in family structure in order to address possible selection into and out of certain union transitions. In addition, growth models allow us to account for the natural progression of income growth which is rarely done in prior research (see Page & Stevens, 2004 for a critique).

Our analysis is based on data from the first four waves of the Fragile Families and Child Wellbeing Study, which follows a birth cohort of approximately 5,000 children born in large U.S. cities at the turn of the 21st century. These data contain a large over-sample of births to unmarried parents (roughly 3,700) which allows us to compare the economic trajectories across a broad set of non-traditional families.

Background

Family Economic Trajectories and Marriage

Both economic and sociological theory argue that marriage increases family economic wellbeing. First, marriage creates economies of scale, that is, “two people can live more cheaply than one.” In this instance the marriage benefit is immediate and purely mechanical and should apply to other family structures that create economies of scale, such as cohabiting unions and extended family households. Second, marriage encourages gender role specialization between husbands and wives which is expected to increase husbands’ labor market productivity and earnings (Becker, 1981). Third, employers may view married men as more dependable and therefore may be willing to pay more for their services (Korenman & Neumark, 1991). And finally, marriage provides men with a script or identity – the breadwinner role – which encourages them to work longer hours to support their families (Nock, 1998). For all these reasons, families headed by married parents are expected to have higher incomes at any point in

time than families headed by single parents, with the advantage increasing with the duration of the union.

Empirical evidence. A large body of empirical research supports the argument that marriage increases family economic wellbeing, while divorce reduces wellbeing, especially for mothers (see Holden & Smock, 1991 for a review). A widely cited estimate suggests that, on average, married mothers experience a 30% reduction in family income during the first five years after divorce (Duncan & Hoffman, 1985), with larger declines among mothers who remain single and smaller declines among mothers who remarry or live with other adults (Morrison & Ritualo, 2000). Although several recent studies have reported smaller declines (Smock, Manning, & Gupta, 1999; McKeever & Wolfinger, 2001) or no decline (Bedard & Deschenes, 2005), other studies have reported even larger declines among certain groups of mothers. For example, Page and Stevens (2004) find that mothers who never remarry experience a 45% decline in income and Smock (1993) reports an average of almost a 50% decline in income across two different cohorts of women following divorce. Ananat and Michaels (2007) find that the effect of divorce depends on mothers' position in the income distribution, with mothers above the 60th percentile experiencing no loss and even gains in economic wellbeing and mothers below the 60th percentile experiencing large losses.

Unanswered Questions. Much of the research described above is based on married couples and families formed by married couples, which raises questions about whether findings can be generalized to families formed by unmarried parents. Given that a large proportion of unmarried parents are cohabiting at the time their child is born, an important question for researchers is whether stable cohabiting unions provide the same economic benefits as stable marital unions.

Similarly, it is important to know whether exiting a cohabiting union has the same economic costs as exiting a marital union.

In one respect, cohabitation is similar to marriage in that it provides the same economies of scale. Thus we might expect the two family forms to have similar benefits in the short run. In the longer run, however, we might expect the cumulative benefits from cohabitation to be smaller than those from marriage. The legal and social bonds between cohabiting parents are weaker (Nock, 1995), and thus we would expect to find less gender role specialization and less pressure on the man to fulfill the breadwinner role (DeLeire & Kalil, 2005; Lerman, 2002b). With respect to costs, we might expect the short term costs of union dissolution to be weaker for cohabiting parents because of less gender role specialization.

Several researchers have compared the economic costs and benefits of cohabiting-parent and married-parent unions (Lerman, 2002a; Manning & Brown, 2006; Avellar & Smock, 2005). Using the same cross-sectional data, Lerman (2002a) and Manning and Brown (2006) reach different conclusions about the relative value of the two family structures. Whereas Lerman (2002a) concludes that marriage has greater benefits than cohabitation, Manning and Brown (2006) report no differences between the two unions once background factors and father's employment are taken into account. The difference in the two sets of findings may be due to differences in controls variables; Manning and Brown control for mothers' employment whereas Lerman does not. Neither of these studies takes account of the duration of the union and neither examines changes in union status. Finally, at least one study finds that exiting a cohabiting union is associated with a reduction in income of approximately 33% for women, which is very similar to the well-publicized estimate of the income loss associated with divorce (Avellar & Smock, 2005).

A second question of interest to researchers is whether marriage after a non-marital birth provides economic benefits to unmarried parents and their children. On the one hand, couples who move into a marital union should benefit from economies of scale, suggesting that the short term benefits will be positive. On the other hand, given the relatively low earnings capacities of unmarried fathers, unmarried parents may experience fewer of the other benefits described above (e.g. specialization, employer discrimination, fulfilling the breadwinner role). Based on the empirical studies to date, researchers conclude that marriage increases economic wellbeing and reduces poverty and material hardship among unmarried parents (Graefe & Lichter, 2007; Lerman, 2002a, 2002b; Page & Stevens, 2004; Thomas & Sawhill, 2005). The findings reported above are subject to three caveats. First, these studies typically compare single mothers with married mothers and thus they do not tell us about the benefits of cohabitation relative to marriage. Second, the benefits of marriage depend on the stability of the union; mothers who marry and later divorce have lower economic status than mothers who never marry (Lichter, Graefe, & Brown, 2003, Morrison & Ritualo, 2000). And third, there is some evidence that marriage to the child's biological father is associated with higher income gains than marriage to a stepfather (Manning & Brown, 2006).

A third important question is whether the benefits associated with marriage and cohabitation are truly causal or whether they are due to selection; that is, individuals who are better off economically, or have greater earnings potential, are more likely to marry and less likely to divorce. The selection argument is supported by a large body of research showing that family income in general, and men's earnings in particular, is positively associated with transitions to marriage and union stability. Similar results have been found for mothers who have children outside marriage (Carlson, McLanahan, & England, 2004; Aassve 2003; Graefe &

Lichter, 1999). The selection argument is also supported by qualitative studies showing that couples are reluctant to marry until they have established a level of economic security (Edin, 2000; Edin & Kefalas, 2005; Gibson-Davis et al., 2005; Manning & Smock, 2006).

Researchers have addressed the selection issue in a number of ways, including the use of control variables known to predict both family status and marriage (Carlson et al., 2004), simulation models (Thomas & Sawhill, 2002), instrumental variables models (Bedard & Deschenes, 2005; Ananat & Michaels, 2007), switching regression models (see Smock, Manning, & Gupta, 1999), and fixed effects models (see Page & Stevens, 2004). All of these analyses indicate that selection explains a portion of the association between family structure/stability and family income, but only one study argues that all of the divorce effect is due to selection (Bedard & Deschenes, 2005) and this finding can be explained by heterogeneity among mothers (see Ananat & Michaels, 2007).

The Present Study

Hypotheses. Based on the literature described above, we test several hypotheses regarding the associations between family structures and economic wellbeing. Regarding questions about the relative benefits/costs of cohabitation versus marriage, we hypothesize that:

1. *Stably cohabiting mothers will experience less growth in economic wellbeing than stably married mothers and both groups will experience more growth than stably single mothers.*
2. *Mothers who exit cohabiting and marital unions will experience declines in economic wellbeing relative to mothers in stably cohabiting/married, with mothers who exit cohabiting unions experiencing weaker relative declines than mothers who divorce;*

Regarding questions about the benefits of marriage/cohabitation after a non-marital birth:

3. *Mothers who enter coresidential unions (marriage or cohabitation) will experience growth in economic wellbeing relative to stably single mothers, but only if the new unions last.*
4. *Mothers who enter coresidential unions with the biological father will experience larger gains than mothers who enter coresidential unions with another partner;*

Regarding questions about selection, we hypothesize that:

5. *The economic gains and losses associated with changes in union status will be larger in the year concurrent with and after the change in union status.*

METHOD

Sample.

The study uses data from the *Fragile Families and Child Wellbeing Study* (FFCWS) (Reichman et al., 2001). The FFCWS is based on a stratified, multi-stage, probability sample of 4,898 children, including 3,712 children born to unmarried parents in large U.S. cities. Baseline interviews of both parents were conducted within 48-hours of the child's birth (September 1998 to September 2000). Subsequent interviews were conducted via telephone when the focal child was approximately one-, three-, and five-years of age. The sample sizes for each follow-up interview were: 4,364 mothers at year 1, 4,231 mothers at year 3 and 4,139 mothers at year 5.

Overall, 4,898 mothers were interviewed at least once across the five-year period and 3,675 were interviewed at all four waves. We use the sample of mothers interviewed at all four waves and then further limit our sample to mothers who report living with the focal child at least half of the time all five years of the study. Thus our final sample is 3,576, of which five mothers are missing information for family structure at year five.

Measures

Dependent Variables. Social scientists and policy makers have used a number of indicators to measure economic wellbeing. The most common indicator used in studies of marriage and divorce is family income, a family-level measure that includes all sources of earned and unearned income. Other indicators include the poverty ratio, which adjusts family income by the number of adults and children in the household, absolute poverty, which is measured as having a poverty ratio less than one, and material hardship, which measures whether a family has trouble meeting its basic needs for food, clothing, and shelter. Past research has shown a weak correlation between poverty and material hardship (Mayer & Jencks, 1989) although more recent work finds a stronger association (Iceland & Bauman, 2007) between the two measures. One reason for the low correlation could be that mothers who are classified as poor based on their regular income are able to supplement their income through family assistance or informal work (Sullivan, Turner, & Danziger, 2008). Alternatively, non-poor mothers who experience maternal hardship may have cognitive or socio-emotional problems that make it difficult for them to manage their money. Because of the weak correlation between poverty and hardship (Boushey et al., 2001), examining both family income and material hardship is becoming the preferred method of measuring family economic wellbeing (Beverly, 2001; Gershoff et al., 2007; Iceland, 2005).

We use three different measures of economic wellbeing. Our first measure is *household income* which is constructed from maternal reports of total household income at the baseline, one, three, and five-year interviews. Although we use the log of income in 2005 dollars in the growth models, for ease of interpretation, income in Table 1 and in all figures is displayed in thousands of 2005 dollars. On average, household income among our analytic sample is 29 thousand at baseline and year one, 33 thousand at year three, and 37 thousand at year five. Given

inconsistencies in how household income data was collected and measured at baseline we do not use baseline income measure in constructing the latent trajectory itself but rather include it as a control variable (see Analyses section).

[Insert Table 1 about here.]

Our second measure is the *income-to-needs ratio*. This measure is based on maternal reports of total family income and takes economies of scale into account using the official poverty thresholds. As shown in Table 1, the means for the income-to-needs ratios are 2.31, 1.85, 1.98, and 1.98 at baseline, year one, year three, and year five, respectively. Again, because of inconsistency in income measurement at baseline we do not include the baseline measure of income-to-needs ratios in our growth model but rather include it as a control.

Our third measure is *material hardship* which is measured via maternal reports at years one, three, and five. Mothers are asked to indicate whether in the past twelve months they had received free food or meals (i.e., *food insecurity*); did not pay the full amount of rent or mortgage, were evicted because of non-payment, or had to move in with other people or stayed in a shelter, abandoned building, or automobile because of financial reasons (i.e., *housing insecurity*); had service turned off by the gas, electric, or telephone company or oil was not delivered because of non-payment (i.e., *utilities insecurity*); or whether anyone in the household did not received medical care because cost was an issue (i.e., *medical insecurity*). These items are taken from the “Basic Needs – Ability to Meet Expenses” section of the Survey on Income and Program Participation (SIPP). We use a single summary measure to capture overall hardship at each wave. According to Table 1, at year one, mothers experienced an average of 0.43 problems, with most (16%) experiencing utilities insecurity. At year three, mothers experienced an average of 0.52 problems, again with most (23%) experiencing utilities insecurities. And

finally, at year five, mothers experienced an average of 0.52 problems with most (22%) experiencing utilities insecurities.

Controls. Basic time-invariant socio-demographic controls include mother's *age at baseline* (in years), *education* (less than high school, some college, and college degree and above with high school the omitted category), *race* (Black, Hispanic, and other with White being the omitted category), an indicator for *immigrant status*, and whether the focal child was the mother's *first birth*. Time-varying controls for models using household income include *number of adults in the household* and *number of children in the household*.

At the birth of the focal child mothers are, on average, 25.2 years old (SD = 6.0) and, for 39% of the sample, the focal child was a first birth. Forty-eight percent of mothers in the analytic sample are African American, 22% are white, 26% are Hispanic, and four percent are of other race/ethnicity. Fourteen percent were born in a country other than the United States. In terms of education, 32% of the sample had less than a high school degree, 31% completed high school only, 26% had some college education, and 12% completed college with a degree or hold an advanced degree.

Family Structure Variables. Using maternal reports of their relationship status with the biological fathers and new partners (i.e., social fathers), two types of relationship history variables are created: time-invariant and time-varying. Time-invariant family structure variables summarize the five-year relationship history in one measure and are used to address cumulative trends in economic wellbeing. Time-varying family structure variables indicate the timing of the primary change in family structure (or stability for those who do not change statuses) and are used to address short-term changes in economic wellbeing. Both the time-invariant and time-varying analyses include dummy variables for three stable family types, which includes marriage

(21.4%) to or cohabitation (7.8%) with the child's biological father (separate variables) or stably non-coresidential (15.0%) for all five years. There are also a set of transition dummy variables that categorize all the possible relationship changes unstable families can experience between the birth and the child's fifth birthday. These include exiting a marriage with the biological father and remaining single post-divorce through the five-year follow-up (exit marriage, remain single; 3.5%), exiting a marriage with the biological father and entering a coresidential relationship with a new partner (exit marriage, enter co-res; 1.2%), exiting a cohabiting union with the biological father while remaining single post-dissolution (exit cohabitation, remain single; 11.0%), exiting a cohabiting union with the biological father and entering a coresidential relationship with a new partner (exit cohabitation, enter co-res; 4.6%), entering a marriage from a cohabiting union with the biological father at the time of the birth and remaining in that union (cohabitation to marriage; 9.4%), entering a marriage or a cohabiting union with the biological father and exiting that union (enter marriage, exit marriage; 0.8%), entering a coresidential union with the biological father and remaining in that union (enter co-res w/bio, stay co-res; 7.2%), entering a coresidential union with a social partner and remaining in that union (enter co-res w/social, stay co-res; 7.7%), entering a coresidential relationship with either the biological father or a social father and exiting that union (enter co-res, exit co-res; 7.5%), and a residual category for mothers who experience more than three transitions (e.g., divorce, remarriage to a man other than the biological father, and a second divorce; 3.1%).

Table 2 shows a series of *time-varying family structure variables* that are used to examine the magnitude and the timing of the change in household income as it relates to the change in family structure. For mothers in stable relationship statuses, they are categorized by the same set of variables as in the time-invariant analysis. For this coding scheme we are only interested in

the primary, or first, transition that mother's experience. These primary transitions include exits from marriage, exits from cohabiting unions, entering a coresidential union with either the biological father or a new partner, and entering a marriage with the biological father from a cohabiting union. Transitions can occur between baseline (i.e., birth of the focal child) and the one-year interview, the one- and three-year interviews, and the three- and five-years interviews. We also include a dummy variable indicating whether a mother has experienced three or more transitions.

[Enter Table 2 about here.]

Analyses

This paper uses latent growth curve modeling to capture the dynamic aspect of family structure on changes in maternal economic wellbeing. Assuming a linear pattern over time, each child's trajectory is characterized by a unique intercept (α), linear, time-dependent slope (β), and some measurement error (ϵ). Thus, the Level 1 equation is as follows:

$$y_{it} = \alpha_i + \beta_i t + \epsilon_{it} \quad (\text{Equation 1})$$

Each y_{it} is an observed measure of economic status—log of household income, income-to-needs ratios, or material hardship—at the one-, three-, and five-year interviews. This equation represents within-individual (i) change over time (t).

In order to incorporate the time-varying family structure variables, Equation 1 is modified as follows:

$$y_{it} = \alpha_i + \beta_i t + \gamma_t w_{it} + \epsilon_{it} \quad (\text{Equation 2})$$

The addition of the " $\gamma_t w_{it}$ " term represents the effect of each time (t) family structure variable on economic status at time (t) for each i th individual. Each γ represents a perturbation from the latent economic trajectory associated with a change in family structure at a specific point in time.

For example, an exit from marriage between baseline (i.e., birth of the focal child) and year one has a time-specific effect on household income at year one. By regressing each $\gamma_t w_i$ on a prior measure of economic wellbeing (i.e., y_{it-1}) the analysis is also able to assess the association between a family structure and household income, income-to-needs ratios, and material hardship prior to the year in which a transition occurred. As such, we will be able to assess whether mothers who move in or exit from coresidential unions may be selected into new family structures based on economic wellbeing. Also note that this model specification estimates the time-specific association between family structure and the measures of economic wellbeing controlling for a family's underlying latent trajectory of the outcome in question.

The second level of the growth model, representing between-individual change over time, allows the random intercepts (α_i) and slopes (β_i) to be a function of variables that change across individuals (i) but do not change across time (t). The Level 2 equations are as follows:

$$\alpha_i = \alpha_0 + \alpha_1 x_{i1} + \alpha_2 x_{i2} + \dots + \alpha_k x_{ik} + u_i \quad (\text{Equation 3})$$

$$\beta_i = \beta_0 + \beta_1 x_{i1} + \beta_2 x_{i2} + \dots + \beta_k x_{ik} + v_i \quad (\text{Equation 4})$$

For this analysis, the x 's are the time-invariant measures of family structure, the socio-demographic controls, and household income and the income-to-needs ratio measured at baseline (used only in the appropriate model), as mentioned above. We use family structure variables at Level 2 to visually depict trends in economic wellbeing in a cumulative fashion, over the first five years of a child's life (described in more detail below). The intercept and slope for each financial wellbeing trajectory is directly regressed on these characteristics to assess for potential group differences in the means (i.e., the intercept and the slope) of the growth factors. We note that the Level 2 model does not allow us to differentiate the temporal ordering of family structure change and changes in family economic wellbeing. That is, our cumulative trajectories

of household income, income-to-needs ratios, and material hardship cannot address whether family structure predates changes in economic wellbeing or whether changes in economic wellbeing predate changes in family structure.

All models are estimated using Mplus, Version 4.1 using full information maximum likelihood (FIML) which incorporates respondents with missing data. Specifically, mothers with incomplete data contribute only to those portions of the model where data is available. Based on missing data patterns, 113 mothers are missing at least one independent variable in the model for material hardship and 76 mothers are missing at least one independent variable in the models for income-to-needs ratios and household income. No missing information is clustered on a specific variable. All models treat hardship as a continuous variable (see Bollen & Curran, 2006).

RESULTS

Family Structure and Economic Trajectories: Time-Invariant Variables

Our first set of hypotheses addressed the relative costs and benefits of cohabitation versus marriage. To assess this question we focus on the association between mothers' cumulative family structures and economic wellbeing during the first five years following the birth of a child. For this part of the analysis, we used Level 2 equations (Equations 3 and 4). Figure 1 provides graphic depictions of the results using household income (in thousands of 2005 dollars) as our measure of economic wellbeing. Tabular results for all three measures of economic wellbeing are presented in Table 3.

[Insert Figure 1 and Table 3 about here.]

The top left panel of Figure 1 reports the results for our first hypothesis which stated that stably married mothers would have higher initial levels of income and steeper growth of income trajectories than stably cohabiting mothers, and that both groups would have higher initial levels

of income and steeper trajectories than stably single mothers. According to the figure, the data are consistent with this hypothesis with one exception: there is no significant difference between the slopes for stably married and stably cohabiting mothers (see Table 3: stably married slope = .20, $p < .001$; stably cohabiting slope = .007, ns).

The top right panel of Figure 1 reports the results for our second hypothesis which stated that mothers who exit coresidential unions would experience a decline in income trajectories relative to mothers in stably married/cohabiting unions, with divorced mothers experiencing sharper declines than mothers who exit cohabiting unions. The figure also shows income trajectories for mothers who form new partnerships after exiting a union. As expected, mothers who divorce or separate experience steep declines in economic status compared to their counterparts in stable unions (see Table 3: exit marriage, remain single slope = $-.13$, $p < .01$; results not reported: exit cohabitation, remain single slope = $-.06$, $p < .001$). Moreover, married mothers experience much sharper declines in income than cohabiting mothers which is consistent with our hypothesis. In both instances, mothers who form new, stable, coresidential unions recover some but not all of their economic status (see Table 3: exit marriage, enter cores slope = $-.02$, ns; results not reported²: exit cohabitation, enter cores slope = $-.02$, ns).

Our next set of results is concerned with the benefits of marriage or cohabitation after a non-marital birth. We first hypothesized that mothers who enter a coresidential union, either a marriage or a cohabiting union, would experience an increase in income trajectories relative to stably single mothers, but only if those new unions remained intact (Hypothesis 3). A related hypothesis predicted that mothers who enter coresidential unions with the biological father would experience larger gains in income than mothers who enter a union with another partner (Hypothesis 4).

The bottom left panel of Figure 1 reports results for these two hypotheses. According to the figure, single mothers who enter a coresidential relationship with either the biological father or a social father show similar gains in economic trajectories compared to mothers who remain single (results not reported³: enter cores w/bio, stay cores slope = .07, $p < .001$; enter cores w/social, stay cores slope = .04, $p < .01$). And as expected, mothers whose new unions do not last have trajectories that are similar to those of stably single mothers, and by the child's fifth birthday, are doing about as well as mothers who had remained stably single after the child's birth (results not reported: enter cores and exit cores slope = -.04, ns). Also from the figure we see that mothers who enter coresidential unions with biological fathers begin their trajectories at a higher income than mothers who enter coresidential unions with social fathers and this advantage is perpetuated over time (results not reported: enter cores w/bio, stay cores intercept = .24, $p < .001$; enter cores w/social, stay cores intercept = .06, ns).

Also in Table 3 are the numeric results from latent growth models of income-to-needs ratios and material hardship using the same models as described above. Looking across the models for all three economic wellbeing outcomes, the results are quite similar, especially with respect to the advantage that stably married families have over either stably cohabiting or stably single families (see Hypothesis 1). In general, mothers who exit coresidential unions experience declines in income-to-poverty ratios and increases in material hardship relative to mothers who remain in stable cohabiting unions with one exception: mothers who exit cohabiting unions do not experience significantly more hardship over time than mothers who remain stably cohabiting (see Hypothesis 2). The most divergent results occur among mothers who experience a birth in a non-coresidential union but later enter into a stable union with either the biological father or a new social partner. Although the coefficients are generally in the expected direction (i.e., new

unions are associated with increases in income-to-poverty ratios and declines in material hardship) the coefficients do not reach statistical significance (see Hypothesis 3). Thus, while income may increase in raw dollars, these families may still have difficulty making ends meet.

Family Structure Change and Changes in Economic Wellbeing: Time-Varying Variables

What we cannot tell from the analysis above, which uses the time-invariant family structure variables, is whether increased economic wellbeing is an antecedent or a consequence of exiting or entering a coresidential union because the ordering of the two events cannot be disentangled. In order to address the timing of family structure change and changes in economic wellbeing, as well as the possibility of selection into specific types of family structures based on economic wellbeing, we must turn to our time-varying measures of family structure change.

The next set of hypotheses addressed possible selection associated with movement out of and into coresidential unions. Based on theory and prior research, we hypothesized that exits from coresidential unions would be associated with income losses, and that loss associated with divorce being greater than the loss associated with exiting a cohabiting union (Hypothesis 5). We also hypothesized the entrances into marriages or cohabiting unions with either the biological father or a new partner would be associated with gains in economic wellbeing (Hypothesis 5).

For this stage of the analysis we use the time-varying family structure variables at Level 1 of the growth model (Equation 2) and focus on the first family transition after birth. As noted, a this model allows us to determine whether an income change occurs before or after a family structure change or whether these two events occur during the same time period. Results for household income (natural log) are presented in Table 4, results for income-to-needs ratios are presented in Table 5, and results for material hardship are presented in Table 6.

[Insert Tables 4, 5, and 6 about here.]

Exits From Coresidential Unions. The estimates reported in Tables 4 through 6 allow us to test our hypothesis about the timing of changes in family structure are associated with changes in economic wellbeing. We begin with exits from coresidential unions. According to Panel A within the Tables, mothers who exit marital unions experience significant time-specific declines in family economic wellbeing, although the coefficient at year one does not reach statistical significance (see coefficients on the diagonal; for LN household income: $\beta=-0.12$, ns at year one, $\beta=-0.60$, $p<.001$ at year three, and $\beta=-0.42$, $p<.001$ at year five; for income-to-needs ratios: $\beta=-0.52$, $p < .05$ at year one, $\beta=-0.79$, $p<.001$ at year three, and $\beta=-0.74$, $p<.001$ at year five; and for material hardship: $\beta=0.25$, $p<.10$ at year one, $\beta=0.37$, $p<.001$ at year three, and $\beta=0.38$, $p<.001$ at year five). Averaging across the three time-specific coefficients suggests that exiting a marriage results in a 38% decline in family income. The estimates for exiting cohabiting unions, in Panel B, show a similar pattern (see coefficients on the diagonal; for LN household income: $\beta=-0.22$, $p<.01$ at year one, $\beta=-0.18$, $p<.05$ at year three, and $\beta=-0.26$, $p<.001$ at year five; for income-to-needs ratios: $\beta=-0.20$, $p<.10$ at year one, $\beta=-0.25$, ns at year three, and $\beta=-0.34$, $p<.05$ at year five; and for material hardship: $\beta=0.19$, $p<.01$ at year one, $\beta=0.26$, $p<.001$ at year three, and $\beta=0.10$, ns). Separation from a cohabiting union results in roughly a 22% decline in family income. Translated into thousands of 2005 dollars, divorce is associated with losses of \$8,000, \$18,000, and \$17,000 at years one, three, and five, respectively, whereas separation from a cohabiting union is associated with losses of \$1,000, \$4,000, and \$6,000. This suggests that the decline in income that married families experience following a divorce is larger than the decline cohabiting families experience following the dissolution of a cohabiting union.

As noted above, our model allows us examine the economic wellbeing of mothers prior to a divorce or separation (see coefficients shown in gray) which is useful for assessing the

argument that changes in economic wellbeing, such as income loss, is a cause rather than a consequence of divorce. For mothers who divorce between years one and three, we have information on economic wellbeing at year one, and for mothers who divorce between years three and five, we have information on economic wellbeing at years one and three. Looking at the coefficients in the time period before the change (in gray) in Tables 4 through 6, there is very little evidence that declines in income are causing exits from marriage and cohabitation. However, we note that this finding does not rule out the possibility that the divorce was precipitated by an income change that occurred in the same year as the divorce.

Entrances Into Coresidential Unions. The next two panels, C and D, provide information on whether entering a coresidential union is associated with immediate gains in mothers' economic status and whether changes in economic status preceded entry into the union (Hypothesis 5). Here we distinguish between single mothers who enter unions with the biological father and mothers who enter unions with other partners. We do not distinguish between marital and cohabiting unions, however, because of sample size constraints.

The results suggest that mothers who enter coresidential unions from singlehood status experience increases in economic wellbeing relative to stably single mothers. According to our Level 1 model, moving in with or marrying the child's biological father is associated with a gain in economic status when it is measured with income (see coefficients on the diagonal; for LN of household income: $\beta=0.33$, $p<.001$ at year one, $\beta=0.15$, $p<.01$ at year three, and $\beta=0.41$, $p<.001$ at year five and for income-to-needs ratios: $\beta=0.43$, $p<.01$ at year one, $\beta=0.22$, ns at year three, and $\beta=0.41$, $p<.05$ at year five). However, entering into a union with the biological father does little to change the immediate family situation with respect to material hardship ($\beta=-0.02$, $p<.001$ at year one, $\beta=0.02$, $p<.01$ at year three, and $\beta=-0.13$, ns at year five). Averaging across all

years, entering a marriage or cohabiting union with the biological father is associated with a 30% gain in family income compared to remaining single. Yet this immediate gain in income appears to do little to alleviate the material needs of these families. The lack of an improvement in material hardship could be due to the fact that poor single mothers are spending a disproportionate share of family income on their child and thus the change in family structure does not affect a child's access to basic resources (Kenney, 2008).

In contrast to unions between biological parents, we find no significant gains associated with moving in with or marrying a social father, although the coefficients are in the expected direction (see coefficients on the diagonal; for LN of household income: $\beta=0.13$, ns at year one, $\beta=0.02$, ns at year three, and $\beta=0.21$, $p<.10$ at year five; for income-to-needs ratios: $\beta=0.15$, ns at year one, $\beta=0.15$, ns at year three, and $\beta=0.25$, ns at year five; and for material hardship: $\beta=0.03$, ns at year one, $\beta=0.08$, ns at year three, and $\beta=-0.13$, $p<.10$ at year five).

We can also use the estimates in C and D to address whether or not changes in economic status precede entry into coresidential unions. These estimates provide mixed evidence about whether mothers who move in with or marry the biological father of their child are doing better economically *prior to* the year in which the move occurs. For mothers who enter a union in year three, the income gain precedes the changes in residence. For mothers who enter a union in year five, however, we see no such gain in the earlier period.

DISCUSSION

This paper examined how changes in family structure during the first five years of a child's life are associated with trajectories in mothers' economic wellbeing, measured as household income, income-to-needs ratios, and material hardship. We argued that economic characteristics of the child's household, in this case where he or she resides for at least half of the

time during early childhood, were especially important given recent evidence that shows that parental investments during this period can have long-term consequences for healthy development (Heckman, 2008). Further, we argued that the economic consequences of the new family forms that are emerging may have important implications for child and family wellbeing although, to date, they have been understudied.

Consistent with prior research, we find that mothers in stable marriages report the highest levels of economic wellbeing while single mothers report the lowest levels in the year after their child's birth. Interestingly, we do not find that stably married mothers accrue economic resources at a faster pace than mothers who are stably cohabiting; rather, married mothers simply maintain their initial advantage. This finding is inconsistent with the argument that marriage confers greater benefits than cohabitation. Finally stably single mothers start out with lower economic resources than other mothers and the gap in income widens over time.

Our models also show that ending a coresidential union after birth is associated with declines in mothers' economic wellbeing. Divorce is associated with an average decline in family income of about 38% (compared to remaining stably married) whereas the comparable decline associated with exiting a cohabiting union is 22% (compared to remaining stably cohabiting). These results fall within the bounds established by existing research which suggest that divorce is associated with a decline in household income ranging from 30% (Duncan & Hoffman, 1985) to 45% (Page & Stevens, 2004) while exiting a cohabiting union is associated with a decline of 33% (Avellar & Smock, 2005).

Entering a coresidential union (marriage or cohabitation) is associated with economic gains, although these mothers never catch up with their stably married or stably cohabiting counterparts. Our findings from the cumulative trajectory models are consistent with prior

research which indicates that the gains from marriage/cohabitation only last as long as the unions remain intact (Lichter, Graefe, & Brown, 2003). However, at 30%, they are smaller than the gains of 45% reported by Page and Stevens (2004). Our time-specific models reveal that the immediate income benefits associated with entering a coresidential union are limited to unions formed with the biological father and may not extend to material hardship. Entering a coresidential union with a social father does not yield the same immediate economic benefits as entering a union with the biological father, a finding that is consistent with research by Manning and Brown (2006) but inconsistent with Bzostek's (2009) work using the Fragile Families data.

Bzostek (2009) finds that mothers who experience a nonmarital birth but who later repartner actually "trade up" and have new partners who are more advantaged than the child's biological father in terms of social characteristics (e.g., education). Her results suggest that mothers who enter unions with these new partners should experience improvements in economic wellbeing. Differences in the results from our Level 2 cumulative trajectory models and our Level 1 time-specific models may explain the discrepancy between our findings and those predicted by Bzostek's work. Because we focus only on single mother families who later enter coresidential unions with social fathers, our sample is much more economically disadvantaged both at the time of the birth and at the time of the family structure transition than are Bzostek's families. So while longer term, cumulative trends show that these families do benefit from the new union, immediate benefits are not as apparent.

Our results provide some information about the extent to which family income may play a role in the selection of mothers into and out of certain family structures. We find that mothers who divorce or separate do not look any different from stably married or stably cohabiting mothers in the one to two years prior to union disruption, which is consistent with the findings

reported by Page and Stevens' (2004). In contrast, we find some evidence that mothers who move in with their child's biological fathers have higher incomes (relative to other single mothers) in the year prior to union formation.

Limitations

The study is not without limitations. First, we are unable to make causal claims about the relationship between family structure and economic wellbeing. Although the economic status of mothers who eventually divorced or separated is no different from mothers who were stably married/cohabiting in the two-year period prior to the union dissolution, we cannot identify the order of events in the period in which both the divorce and income change occurred. Moreover, we cannot rule out the possibility that something other than the divorce (e.g. job loss) led to both the union disruption and the income change.

Second, we do not account for non-cash aid from family members that mothers may receive, such as help with childcare. Incorporating non-cash aid would allow us to determine whether income losses are being supplemented by non-cash aid thereby allowing lower-income families to avoid experiencing material hardship (Sullivan et al., 2008). This in-kind support may be particularly important for child wellbeing as it may stabilize their access to necessities and buffer them from periods of hunger or deprivation. However, our results for material hardship suggest that such in-kind support is still not adequate enough to overcome income losses that occur among families that divorce or separate. Among low-income mothers, in-kind assistance from kin is likely to come from individuals who themselves are prone to be in similar economic situations and thus may have fewer resources to draw upon. Any support they do provide may still not be enough to alleviate the difficulties single-mother families face.

Finally, because our measure of economic wellbeing is a *family* based measure, they do not tell us about the distribution of income to individual children. Because multi-partner fertility is common among families in the FFCWS (Carlson & Furstenburg, 2006) it is possible that in single-mother households mothers differentially focus resources on children based on the non-resident father's contribution. Similarly, in cohabiting parent families, it could be that resources are less likely to be pooled for family use or that children's access to resources depend on who controls the money. Recent research based on these data suggests that when mothers control the money, children receive more resources (Kenny, 2008).

CONCLUSION

This study examined the association between family structure, emphasizing non-traditional family types, and economic wellbeing during the first five years after a child's birth. From a child wellbeing standpoint this is arguably the most important period in development and investments that parents make during this critical juncture have long-lasting consequences for children's own economic wellbeing, mental and physical health, and family formation later in life. Not surprisingly, children who reside in stable, coresidential families have a distinct advantage over those who experience family structure change. Although exits from unions are associated with declines in economic wellbeing, these declines are not long-standing if mothers stably repartner. Children do appear to benefit financially from families that come together after a non-marital union but this conclusion also rests on the assumption that these families experience no subsequent upheaval in terms of family structure. Overall, our results point to the importance of stability in children's family lives as a key predictor of child wellbeing.

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Table 1.

Descriptive Statistics for Dependent Variables (N = 3,576).

	Baseline		Year 1		Year 3		Year 5	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
HH Income ^a	28.61	27.80	28.93	29.55	33.03	33.50	37.15	36.15
Income-to-Needs Ratio	2.31	2.47	1.85	2.12	1.98	2.53	1.98	2.27
Material Hardship ^b	na		0.43	0.78	0.52	0.84	0.52	0.85
Number of Children in HH	2.25		2.31		2.32		2.52	
Number of Adults in HH	2.31		2.19		2.05		1.97	

Notes: na = not available. ^aIn \$1,000s of 2005 dollars. ^bRange is 0 to 4. ^cWhite is the reference category. ^dHigh

School is the reference category. ^e1 = yes, 0 = no.

Table 2.

Time-Varying Family Structure Change Variables (N = 3,571).

	Total		Baseline to Year One		Year One to Year Three		Year Three to Year Five	
	N	%	N	%	N	%	N	%
	<u>Family Structure Change^a</u>							
Exit Marriage	167	4.68	29	0.81	50	1.40	88	2.46
Exit Cohabitation	552	15.46	257	7.20	151	4.23	144	4.03
Enter Cores w/Bio	407	11.40	113	3.08	220	6.27	74	2.02
Enter Cores w/Social	390	10.92	43	1.20	191	5.40	156	4.39
Cohabitation to Marriage	365	10.22	163	4.56	109	3.05	93	2.60
<u>Stability</u>								
Stably Married	765	21.42						
Stably Cohabiting	280	7.84						
Stably Single	534	14.95						
Multiple Transitions ^b	111	3.11						

Notes: ^aRefers to primary transition.^bOnly includes mothers with three or more transitions.

Table 3.

Latent Growth Model of Time-Invariant Family Structure and Economic Wellbeing Trajectories Using Full Information Maximum Likelihood Estimation (N = 3,576).

<i>Measure of Economic Wellbeing</i>	(LN) Household		Income-to-Needs		Material	
	Income ^a		Ratio ^b		Hardship ^c	
	<u>Intercept</u>	<u>Slope</u>	<u>Intercept</u>	<u>Slope</u>	<u>Intercept</u>	<u>Slope</u>
<i>Married at Baseline:</i>						
Stably Married	1.99***	.20***	.66***	.13**	.36***	.002
Exit Marriage, Remain Single	-.06	-.13***	-.08	-.17***	.15*	.06*
Exit Marriage, Enter Cores	-.11	-.02	-.08	-.14*	.17	.02
<i>Cohabiting at Baseline:</i>						
Stably Cohabiting	-.24***	.007	-.30**	.01	.19***	.01
Exit Cohabitation, Remain Single	-.39***	-.05**	-.39***	-.07*	.32***	.02
Exit Cohabitation, Enter Cores	-.33	-.01	-.36**	-.02	.30***	.02
Cohabitation to Marriage	-.13*	.02	-.17†	-.01	.16**	.04*
Enter Marriage, Exit Marriage	-.29*	-.07	-.25	-.19*	.20	.05
<i>Single at Baseline:</i>						
Stably Single	-.54***	-.03†	-.55***	-.03	.26***	.02
Enter Cores w/Bio, Stay Cores	-.29***	.04*	-.23*	.00	.19***	.004
Enter Cores w/Social, Stay Cores	-.48***	.006	-.39***	-.01	.24***	.004
Enter Cores and Exit Cores	-.42***	-.07***	-.37***	-.08*	.33***	.02
Multiple Transitions	-.27***	-.03	-.16†	-.07	.30***	.01

Notes: All models control for mother's age at baseline, education, race, immigrant status, first birth, and the baseline measure of the outcome in question (if available) at Level 2.

^aChi-square (df) = 35.266 (23), $p < .05$; CFI = .998; TLI = .995; RMSEA = .012.

^bChi-square (df) = 47.005 (23), $p < .05$; CFI = .997; TLI = .992; RMSEA = .017.

^cChi-square (df) = 42.107 (22), $p < .01$; CFI = .989; TLI = .968; RMSEA = .016.

^dRefers to intercept and slope of the omitted group.

† $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

Table 4.

Latent Growth Model of Time-Varying Family Structure Change and Log of Household Income Trajectories Using Full Information Maximum Likelihood Estimation (N = 3,576).

Family Structure Transitions	Year One		Year Three		Year Five	
	Unstandardized Coefficient	SE	Unstandardized Coefficient	SE	Unstandardized Coefficient	SE
A. Exit Marriage vs. Stably Married^a						
Baseline to Year One	-0.12	0.15	-0.003	0.14	-0.15	0.15
One Year to Three Year	-0.17	0.11	-0.60***	0.11	-0.44***	0.12
Three Year to Five Year	0.01	0.09	-0.03	0.08	-0.42***	0.09
B. Exit Cohabitation vs. Stably Cohabiting^b						
Baseline to Year One	-0.22**	0.07	-0.18**	0.07	-0.18*	0.07
One Year to Three Year	0.03	0.08	-0.15*	0.07	-0.21**	0.08
Three Year to Five Year	-0.06	0.08	-0.01	0.07	-0.26***	0.08
C. Enter Cores w/Bio vs. Stably Single^c						
Baseline to Year One	0.33***	0.08	0.37***	0.08	0.50***	0.08

One Year to Three Year	0.24**	0.06	0.15**	0.06	0.26***	0.07
Three Year to Five Year	-0.09	0.10	0.16†	0.09	0.41***	0.10
D. Enter Cores w/Social vs. Stably Single^c						
Baseline to Year One	0.13	0.12	0.03	0.12	0.13	0.12
One Year to Three Year	-0.04	0.06	0.02	0.06	0.08	0.07
Three Year to Five Year	0.05	0.07	0.09	0.07	0.12†	0.07

Notes: All models control for mother's age at baseline, education, race, immigrant status, first birth, log of HH income, number of adults in HH, and number of children in HH at baseline at Level 2. At Level 1, controls include the number of adults and the number of children in the household.

^aChi-square (df) = 56.55 (29), $p < .01$; CFI = .996, TLI = .986; RMSEA = .016. Mean trajectory intercept is 1.74 ($p < .001$) and mean slope is .26 ($p < .001$).

^bChi-square (df) = 55.41 (29), $p < .01$; CFI = .997, TLI = .986; RMSEA = .016. Mean trajectory intercept is 1.50 ($p < .001$) and mean slope is .27 ($p < .001$).

^cChi-square (df) = 59.35 (29), $p < .001$; CFI = .996, TLI = .984; RMSEA = .017. Mean trajectory intercept is 1.24 ($p < .001$) and mean slope is .24 ($p < .001$).

† $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

Table 5.

Latent Growth Model of Time-Varying Family Structure Change and Income-To-Needs Ratio Trajectories Using Full Information Maximum Likelihood Estimation (N = 3,576).

Family Structure Transitions	Year One		Year Three		Year Five	
	Unstandardized Coefficient	SE	Unstandardized Coefficient	SE	Unstandardized Coefficient	SE
A. Exit Marriage vs. Stably Married^a						
Baseline to Year One	-0.52*	0.26	0.001	0.36	-0.61†	0.32
One Year to Three Year	-0.04	0.20	-0.79**	0.27	-0.70**	0.25
Three Year to Five Year	0.06	0.15	-0.11	0.21	-0.74***	0.19
B. Exit Cohabitation vs. Stably Cohabiting^b						
Baseline to Year One	-0.20†	0.12	-0.37*	0.15	-0.32*	0.15
One Year to Three Year	0.08	0.14	-0.25	0.17	-0.33†	0.17
Three Year to Five Year	-0.05	0.14	-0.04	0.17	-0.34*	0.17
C. Enter Cores w/Bio vs. Stably Single^c						
Baseline to Year One	0.43**	0.14	0.45*	0.19	0.54**	0.17

One Year to Three Year	0.31**	0.11	0.22	0.14	0.21	0.15
Three Year to Five Year	0.12	0.17	0.41†	0.22	0.41*	0.21
D. Enter Cores w/Social vs. Stably Single^c						
Baseline to Year One	0.15	0.21	0.24	0.29	0.29	0.27
One Year to Three Year	0.07	0.11	0.15	0.15	0.08	0.15
Three Year to Five Year	0.14	0.12	0.17	0.16	0.25	0.15

Notes: All models control for mother's age at baseline, education, race, immigrant status, first birth, and poverty ratio at baseline at Level 2.

^aChi-square (df) = 45.85 (15), $p < .001$; CFI = .997, TLI = .980; RMSEA = .024. Mean trajectory intercept is .68 ($p < .001$) and mean slope is .14 ($p < .01$).

^bChi-square (df) = 32.98 (15), $p < .001$; CFI = .998, TLI = .988; RMSEA = .018. Mean trajectory intercept is .38 ($p < .05$) and mean slope is .15 ($p < .01$).

^cChi-square (df) = 32.52 (15), $p < .001$; CFI = .998, TLI = .988; RMSEA = .018. Mean trajectory intercept is .13 (ns) and mean slope is .11 ($p < .05$).

† $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

Table 6.

Latent Growth Model of Time-Varying Family Structure Change and Material Hardship Trajectories Using Full Information Maximum Likelihood Estimation (N = 3,576).

Family Structure Transitions	Year One		Year Three		Year Five	
	Unstandardized	SE	Unstandardized	SE	Unstandardized	SE
	Coefficient		Coefficient		Coefficient	
A. Exit Marriage vs. Stably Married^a						
Baseline to Year One	0.25†	0.14	0.26†	0.16	0.14	0.16
One Year to Three Year	0.10	0.11	0.37***	0.12	0.34**	0.12
Three Year to Five Year	0.14	0.09	0.23*	0.09	0.38***	0.08
B. Exit Cohabitation vs. Stably Cohabiting^b						
Baseline to Year One	0.19**	0.06	0.18**	0.07	0.22**	0.07
One Year to Three Year	0.02	0.07	0.26***	0.08	0.07	0.09
Three Year to Five Year	0.07	0.09	0.07	0.08	0.10	0.09
C. Enter Cores w/Bio vs. Stably Single^c						
Baseline to Year One	-0.02	0.08	-0.06	0.08	-0.14	0.09

One Year to Three Year	-0.09	0.06	0.02	0.06	-0.02	0.07
Three Year to Five Year	-0.13	0.09	-0.18†	0.10	-0.13	0.10
D. Enter Cores w/Social vs. Stably Single^c						
Baseline to Year One	0.03	0.12	0.20	0.13	-0.02	0.13
One Year to Three Year	0.14*	0.06	0.08	0.07	0.02	0.08
Three Year to Five Year	-0.09	0.07	0.03	0.07	-0.13†	0.08

Notes: All models control for mother's age at baseline, education, race, immigrant status, and first birth at baseline at Level 2.

^aChi-square (df) = 19.56 (14), ns; CFI = .997, TLI = .981; RMSEA = .011. Mean trajectory intercept is .35 ($p < .001$) and mean slope is .00 (ns).

^bChi-square (df) = 19.65 (14), ns; CFI = .997, TLI = .981; RMSEA = .011. Mean trajectory intercept is .54 ($p < .001$) and mean slope is .01 (ns).

^cChi-square (df) = 22.60 (14), $p < .10$; CFI = .995, TLI = .971; RMSEA = .013. Mean trajectory intercept is .61 ($p < .001$) and mean slope is .02 (ns).

† $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

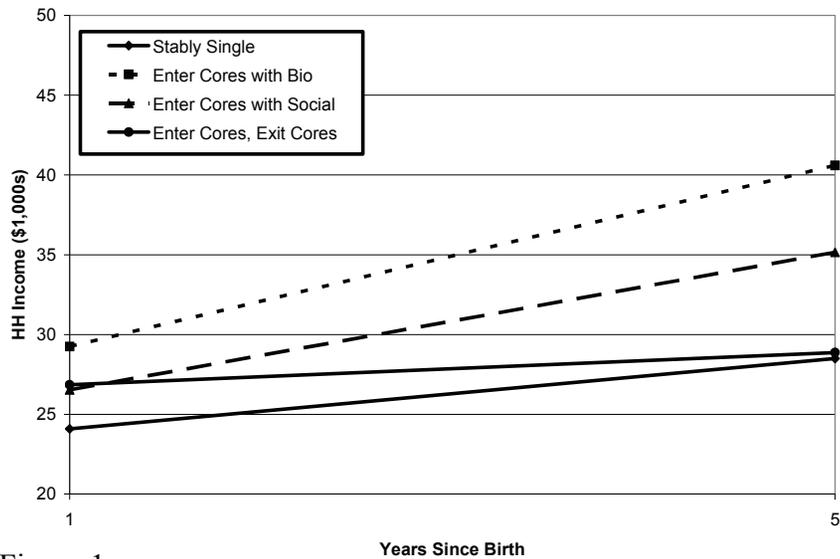
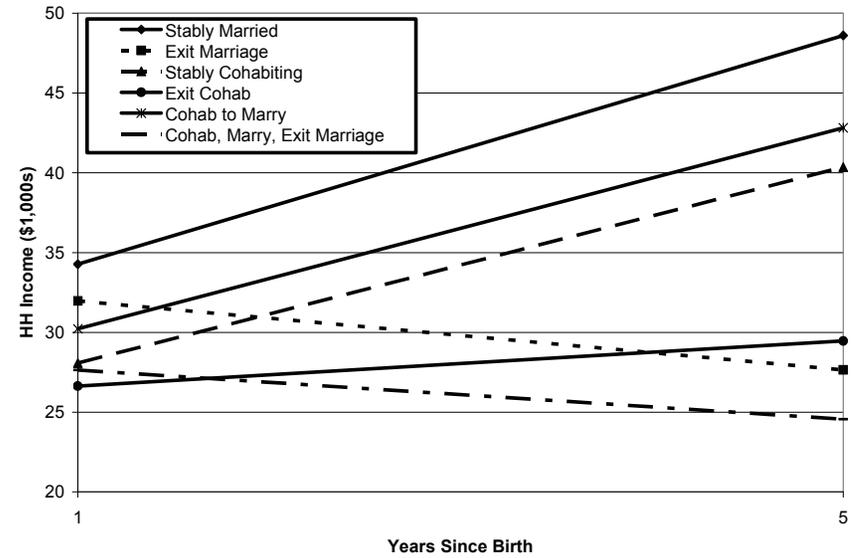
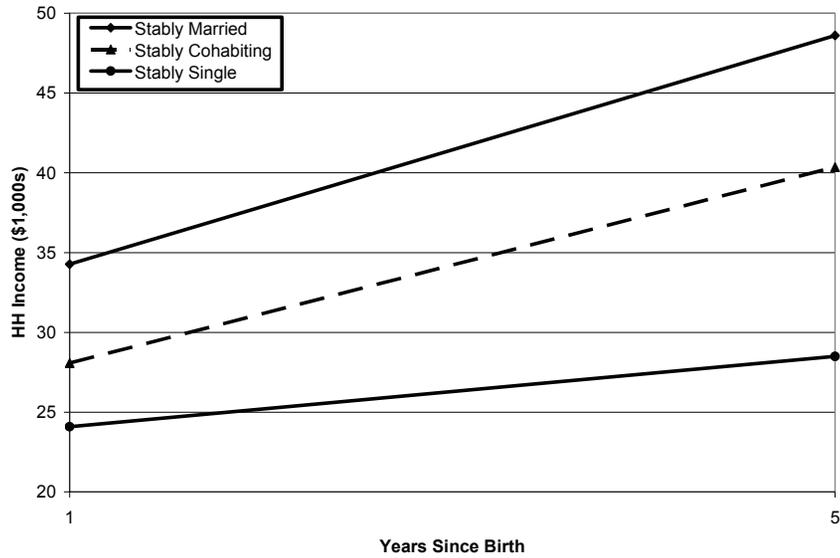


Figure 1.

Trajectories of Household Income (in \$1,000s) by Family Structure. Model controls for mother's age at baseline, education, race, immigrant status, and household income at baseline at Level 2.