Marriage versus Employment:

Comparing Antipoverty Strategies for Mothers*

September 23, 2005

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Abstract

In recent years, several studies have shown that married women are much less likely than are single women to live in poverty. Another body of research has shown that women's employment, not surprisingly, is also negatively related to poverty. However, little is known about the role of marriage *compared* to the role of labor force participation in alleviating poverty among women. This issue is important because current debates over welfare policy center on whether work participation requirements should be increased and/or whether the government should actively encourage marriage among low-income single mothers. We use data from the National Longitudinal Survey of Youth (1979-2002) to analyze the impact of transitions into and out of marriage and employment on the likelihood of being poor among a sample of women. Two separate models estimate the impact of marriage and employment on short-term poverty and long-term poverty. Also, models are estimated separately by race because of important racial differences in the labor market and marriage market.

Marriage versus Employment: Comparing Antipoverty Strategies for Women

Background

This paper examines the relative impact of transitions into and out of marriage and employment on women's poverty status. In recent years, several studies have shown that married women are much less likely than are single women to live in poverty. Another body of research has shown that women's employment, not surprisingly, is also negatively related to poverty. However, little is known about the role of marriage *compared* to the role of labor force participation in alleviating poverty among low-income single women. This is important because current debates over welfare policy center on whether work participation requirements should be increased and/or whether the government should actively encourage marriage among low-income single mothers (Lichter 2001). A study that explicitly compares the impacts of both on women's economic well-being would add to research in the areas of family, poverty, work, and gender.

Furthermore, although many studies have examined the "marriage premium" question, most rely on cross-sectional data and as a result are unable to control for unmeasured stable variables. This could produce biased results. Longitudinal data provides more accurate estimates of causal impacts because the same individuals are followed over time. Being able to better identify the causal impacts of marriage and employment on poverty is also substantively important since the success of welfare work requirements and marriage promotion initiatives rests on the assumption of causality.

Prior studies also do not identify whether the economic boosts that come from marriage and/or employment are short-term or long-term in nature. Because comparisons of married and unmarried women are done at a point in time, it is difficult to tell whether any differences that do exist represent short-term or cumulative impacts of marital status (Lerman 2002b). If married and unmarried women are compared at only one point in time, the long-term benefits of marriage may

be overstated because many married women suffer economically if/when they divorce (Coontz and Folbre 2002; Lichter 2001). Alternatively, even if they do divorce, married women may be better off in the long-term compared to never married mothers because they are eligible for child support payments and other assets after divorce (Lerman 2002b).

Finally, previous studies do not incorporate potential interactive effects of marriage and employment on long-term financial well-being. Many studies show that women are likely to leave the labor force upon marriage, and, as a result, they may end up investing less in their own human capital than if they had remained single. Given the high rates of divorce, does marriage really make women financially better off, especially for those who have cut back on their labor force participation during their married years? In fact, these women might find themselves financially worse off compared to single women who worked continuously. Because marriages among poor individuals are substantially more likely to end in divorce compared to the non-poor (Cherlin 1992), this could have especially important ramifications for the long-term protectiveness of marriage among low-income women. Also, most prior studies have not examined racial differences in the impact of marriage and employment on poverty. This seems important given the fact that prior literature identifies many ways in which union formation and employment differ across race.

Addressing these issues is central to better understanding the causes of women's economic well-being. Poverty is an important issue to address because of its wide-reaching impacts on people's lives. For instance, people living in poverty are much more likely to be in poor health, to live in substandard conditions, to suffer mental health difficulties, and to experience familial conflict compared to the non-poor (Lott and Bullock 2001). Furthermore, children of poor parents do worse than children of non-poor parents on a variety of health, achievement, behavioral, and emotional outcomes (Duncan et al. 1998; McLanahan and Sandefur 1994). A focus on women and poverty is especially important since women are substantially more likely to be poor than men

(Iceland 2003), and low-income women and their children make up the majority of welfare recipients. This research also contributes to research on gender inequality by specifying the paths through which women are made more or less economically vulnerable.

The current study uses data from the National Longitudinal Survey of Youth (1979-2002) to analyze the impact of transitions into and out of marriage and employment on the likelihood of being poor among a sample of women. More specifically, this paper aims to answer the following questions:

1. What are the relative impacts of transitions into and out of marriage and employment on women's likelihood of being poor in the short term? (i.e., the first year after transition)

2. What are the relative impacts of a woman's marital history and employment history on the likelihood of being poor over the long-term? (i.e., 15 years after transition)

3. If employment helps, what are the "job specifics" that lead women out of poverty (e.g., wage rate, hours, occupation)? If marriage helps, what are the "spouse specifics" that lead women out of poverty (e.g., spouse's education, occupation, etc.)?

4. Do marriage and employment have interacting effects on poverty? Is the impact of marriage on poverty different for women who are employed versus those who are not?

5. Are the gains from marriage different across race (e.g., whites, Hispanics, blacks)?

Background

Marriage and Poverty

Married men and women are far more affluent than their single counterparts. Only 3 percent of married couples without children were poor in 1999, compared to 8 percent of single childless men and 10 percent of single childless women (Bishaw and Iceland 2003). Among those with children, the income differential between married and single individuals is even starker. Single-mother families are substantially more likely to be in poverty compared to married couple families. While the poverty rate of single-mother families was slightly over 35 percent and that of single-father families was about 20 percent, only 7 percent of married couple families with children had incomes below the poverty line in 2003 (U.S. Census Bureau 2004). Because of these large

differences, journalist Jonathan Rauch has speculated that "marriage is displacing both income and race as the great class divide in the new century" (Rauch 2001).

What explains the association between marriage and income? One of the main reasons married individuals are better off financially than non-married individuals is "economies of scale" (Waite and Gallagher 2000). For example, the increased earnings and/or reduced childcare costs that come with a spouse are likely to be greater than the costs of housing and feeding an additional adult. Economists further argue that marriage allows for increased specialization and a more efficient division of labor within the home (Becker1991). Because wives perform the majority of housework and childcare within families, husbands are free to concentrate exclusively on "breadwinning" and thus are able to earn higher wages and work more hours than single men (Daniel 1995; Lundberg and Rose 2000). Others suggest that the social norms and responsibilities associated with marriage may also lead married individuals to save more and invest more in their careers compared to singles (Waite and Gallagher 2000). Married individuals may also get extra financial help from relatives and extended kin compared to single individuals (Lerman 2002b).

In addition to the cause-and-effect interpretation, scholars have offered two alternative interpretations for the association between marriage and income: selection and reverse causation. Selection refers to the idea that certain individuals may be both more likely to marry and more likely to earn high incomes (Coontz and Folbre 2002; Sigle-Rushton and McLanahan 2002). These characteristics must be properly controlled for in statistical analyses in order to conclude that the marriage-income association is not spurious. For example, the work of Sigle-Rushton and McLanahan (2002) suggests that much of the association between family structure and poverty levels can be attributed to factors besides marital status, including age, education, and work experience. Another important factor is non-marital childbearing. Nonmarital childbearing has been shown to reduce the likelihood of subsequent marriage (Carlson, McLanahan, and England

2004; Graefe and Lichter 2002; Lichter, Graefe, and Brown 2003; Upchurch, Lillard, and Panis 2001) and to increase the likelihood of poverty (Ellwood and Jenks 2001; Lichter et al. 2003). There may be other (perhaps unmeasured) factors that promote selection into both marriage and economic well-being, such as attitudes, stability, commitment, motivation and drive.

Another problem in determining the causal impact of marriage on income is reverse causation bias; marriage may affect income, but income level also likely affects the probability of marriage. Indeed, several qualitative and quantitative studies have demonstrated that economic factors do play a central role in when and if marriages occur. At lower income levels, both men and women seek partners who have a solid education and good, stable employment (Blau, Kahn, and Waldfogel 2000; Carlson et al. 2004; Edin 2000; McLaughlin and Lichter 1997; Oppenheimer 1988; Graefe and Lichter 2002). From a strictly economic standpoint, marriage is only beneficial if the potential spouse's income contribution exceeds the additional expenses (e.g., housing and food) that he/she brings to the household. For instance, it would only make economic sense for a low-income woman to marry a man with reasonable earning power and/or employment opportunities to cover his associated costs. Some sociologists contend that in communities with high rates of male joblessness, there simply may not be enough "marriageable men" for single women (Lichter 2001; Wilson 1996).

In recent years, a number of studies have attempted to isolate the causal impact of marriage on women's income by statistically controlling for observed individual and family characteristics that are associated with both income and marital status (e.g., age, race, education, etc.). These cross-sectional studies find that single-mothers and children are much more likely than married mothers and children to live in poverty (Acs and Nelson 2004a, 2004b; Foster, Jones, and Hoffman 1998; Halpern 1999; Lerman 2002a; Lichter et al. 2003; Lichter and Crowley 2004; McLanahan and Sandefur 1994; Sigle-Rushton and McLanahan 2002; Thomas and Sawhill 2002; Waite and

Gallagher 2000). Some studies have used longitudinal data and fixed-effects regression techniques to control for observed *and* unobserved (fixed) differences between those who marry and those who do not. These studies generally show that marriage is associated with substantial economic benefits relative to remaining single (Lerman 2002b; Light 2004). Other researchers have explored cohabitation to examine whether it confers the same economic benefits as marriage. Analyses show that cohabitors are typically better off economically compared to singles, although the economic advantage associated with cohabitation is less than the marriage premium (Foster, Jones, and Hoffman 1998; Lerman 2002a; Manning and Brown 2003; Manning and Lichter 1996; Morrison and Ritualo 2000; Waite and Gallagher 2000). Some studies find that women who cohabit reap the same economic benefits as those who marry (Light 2004).

Employing a different statistical approach, another class of studies has estimated the hypothetical effects of marriage transitions on child poverty rates by "simulating marriages" between single-mothers and single men of similar race, education, and age. These studies all use data from the March Current Population Survey to examine how child poverty rates would have changed over differing time periods if the hypothetical marriages had occurred. A study by Lerman (1996) finds that overall child poverty rates in 1989 would have fallen from 17 to 13 percent if the marriage rates for mothers in 1989 mirrored those of 1971. Thomas and Sawhill (2002) show similar results for the 1990s. Robert Rector and colleagues (2002) demonstrate that restoring marriage to 1960 levels would cut the 2000 child poverty rate by nearly a third, from 16 percent to 11 percent.

Finally, another line of research has approached the "marriage premium" question by observing the average change in income for married women and men after a divorce. These studies find that women's standard of living sharply declines, while men's standard, on average, increases after divorce (Angel et al. 2003; Bianchi, Subaiya, and Kahn 1999; Smock 1993, 1994; Smock,

Manning, and Gupta 1999). In fact, one study show that divorced women are worse off financially than women who have never married (Lichter et al. 2003). The gender gap in standard of living after divorce is typically attributed to women's lower levels of work experience and lower wages compared to men, and to women's frequent role of custodial parent (Holden and Smock 1991).

The methodological issues of selection and reverse causation are also important in the study of divorce and income. For instance, divorcees may differ from continuously married individuals in ways that are related to economic success, and so one must be careful when distinguishing between causation and correlation. One central difference between the poor and the non-poor is that the poor face more financial stress and as a result are more likely to divorce (Coontz and Folbre 2002; Holden and Smock 1991; Pear 1993). Researcher Theodora Ooms bolsters this viewpoint, stating that "successful marriages are more difficult when husbands and wives are poorly educated, lack access to jobs that pay decently, and cannot afford decent child care" (Ooms 2002). All in all, however, studies that comprehensively control for potential group differences find that negative impact of divorce on women's income remains (Smock et al. 1999).

It seems clear from these studies of marital status and income that forming a union (i.e., marriage or cohabitation) has a positive impact on women's financial well-being, and dissolving a union (i.e., divorce) has a negative impact. Does marriage have the same effect on economic well-being for all women? A few studies have shown that benefits associated with marriage are similar (Lerman 2002b) or even greater (Lichter et al. 2003) for poor women compared to non-poor women. This makes sense given that women with high incomes and good job opportunities before marriage are unlikely to be poor in the first place and so marriage will likely do little to prevent future poverty (although it may increase their overall financial well-being). Others have compared the marriage premium for women conditional on their parental status at the time of marriage; these studies also find that the benefits of marriage are similar for those who have a marital birth, a

"shotgun wedding" (i.e., married between first pregnancy and birth) (Lerman 2002b), or a non-marital birth (Lerman 2002b; Lichter et al. 2003; Driscoll et al. 1999).

It seems likely that marriage would have differential impacts on poverty by race since marriages tend to be racially homogamous, and women and men's earnings differ by race, on average. Compared to white men and women, black men and women earn less in the labor market, respectively; the gender gap in earnings is also smaller for blacks than it is for whites (Bowler 1999). Furthermore, compared to white and Hispanic women, black women are more likely to marry men with lower educational backgrounds than themselves (Blackwell and Lichter 2000), to have a pre-marital birth, and to divorce (Cherlin 1992). All of these differences may have implications for the short-term and long-term impact of marriage on economic well-being by race. The current evidence on the relationship between race, marital status and income is inconsistent. Lerman (2002a) finds that the positive impacts of marriage are much larger among blacks and Hispanics compared to whites, while Lerman (2002b), Manning and Brown (2003), and Smock et al. (1999) find that marriage boosts the income of whites more than blacks or Hispanics. Lichter et al. (2003) find no evidence that Hispanic or black women benefit differently from marriage than do white women.

Employment and Poverty

Individuals who work full-time, not surprisingly, are better off financially than those who do not work or who work part-time. For instance, among all families in 2000, those with two full-time workers experience the lowest poverty rates (1 percent) and those with no full-time workers experience the highest poverty rate (79 percent) (U.S. Census Bureau 2004). The work-poverty link is particularly evident among single-mother families. In 2000, the poverty rate of single-mother families with a full-time, part-time, and non-worker was 12 percent, 49 percent, and 74 percent, respectively (Lichter and Crowley 2003). Because of statistics like these, welfare policy makers

stressed that rapid labor force attachment was the best avenue towards self-sufficiency (Corcoran et al. 2000). They based their arguments on human capital theory, which suggests that as individuals gain work experience, they become more productive at their jobs and their wages increase.

It seems logical to expect that poverty levels are substantially lower in families in which women participate in the labor market, either on a full-time or on a part-time basis, than in households in which women are not economically active. However, it is important to note that the potential contribution of women's employment to their family's well-being is contingent on a number of factors: (1) availability of employment, (2) the wage rate, and (3) the number of hours worked (Stier and Lewin 2002).

Much of the research examining the link between work and poverty for women focuses on welfare recipients. Some of this research supports the "work as a route out of poverty" expectation. For instance, Danziger et al. (2002) find that welfare recipients who leave welfare to work and those who combine work and welfare have higher household incomes and lower poverty rates than those who continue to receive cash assistance but do not work. However, other studies have shown, that among welfare recipients, a job does not guarantee economic well-being. In a study of "welfare leavers", Harris (1996) found that 46 percent of recipients who left welfare through work were poor one year after the exit. Cancian et al. (1999) find similar results for welfare leavers using the National Longitudinal Survey of Youth (NLSY): 55 percent of welfare leavers were poor one year after an exit, and 42 percent were poor five years later. Thus, for less-skilled, less-educated women who are paid close to the minimum wage, employment may have little impact on poverty status (Coontz and Folbre 2002). These women are likely part of the "working poor." In fact, among women who were in the labor force for 27 weeks or more in 2000, 8.9 percent were classified as such (Mosisa 2003). Low-wage jobs may not be a panacea for women's poverty, especially when work is associated with other costs such as childcare and transportation (Coontz and Folbre 2002;

Harris 1996; Edin and Lein 1997). Many mothers deal with the high costs of childcare by working part-time so that they can care for their children. This in turn negatively impacts their current and future earning potential.

Marriage, Employment, and Poverty

A handful of studies have compared the relative impact of employment and marriage on poverty. Although the samples, units of analysis, and approach of these studies differ, most find that employment transitions are more important than marital transitions when it comes to poverty. Below, we review the three main type of studies that exist: cross-sectional studies that predict women's poverty status, repeated cross-sectional studies that decompose trends in the national child poverty rate, and longitudinal studies that examine the events which trigger exists into and out of poverty spells.

Sigle-Rushton and McLanahan (2002) use data from the 1998 Fragile Families and Child-Wellbeing Study to compare married and unmarried parents on a variety of socio-demographic characteristics. Through a series of simulations, they estimate that the reduction in poverty would be greater if women were unmarried and working full-time compared to being married and sharing current earnings with a working spouse. Along the same lines, Halpern (1999) finds that a woman's current work status is a stronger predictor of poverty than her marital status at the time of her first childbirth.

Two other studies decompose changes in the national poverty rate to determine whether maternal employment or family structure is most important in driving poverty fluctuations. Lichter and Crowley (2003) find that increasing maternal employment accounted for about half of the decline in national child poverty rates between 1991 and 2000; changes in children's living arrangements accounted for very little. Haskins and Sawhill (2003) also simulate how the national poverty rate for families with children would change under different scenarios, including assigning

full-time work to all family heads (based on what they currently earn or what they would earn based on their education level) and "marrying" single-mothers to unmarried men of similar age, education, and race. They find that the poverty rate would drop 5.5 percentage points (from 13 to 7.5 percent) under the work scenario and 3.5 percentage points (from 13 to 9.5 percent) under the marriage scenario.

Another group of related studies use longitudinal data from the Panel Study of Income Dynamics (PSID) in order to model transitions in and out of poverty. These studies identify "poverty spells" and ask what triggers exits out of and entrances into these spells. Bane and Ellwood (1986) find that, during the 1980s, work was a more frequent route out of poverty than marriage among female heads with children. Antolín, Dang, and Oxley (1999) examine transitions into and out of poverty for households during the early 1990s. Their results show that the probability of such transitions is generally higher for employment-related "events" than for family-related "events." Finally, McKernan and Ratcliffe (2002) analyze the same data set over the period 1975-1997, and, like the previous studies, they also find that the likelihood of entering or exiting poverty is greatest for those families experiencing an employment shift, followed by families experiencing a household structure shift (the authors also examined the impact of other events, including: a child under 6 entering the household, the household head becoming disabled, and the economy weakening). Neither of the previous two PSID studies examines whether the trigger events have differing effects for men and women or whether they differ according to household type. Furthermore, while interesting and informative, they do not tell us how much marriage and work affect poverty; instead, these results show that poverty is often correlated with work and family transitions.

Current Investigation

In this paper, we build on this prior work and overcome several limitations. First, this study directly compares the effects of marriage and employment on women's poverty status using longitudinal data with detailed measures of labor supply (i.e., work status, work hours, work experience). Prior studies either omit measures of employment altogether or use incomplete measures (see Sigle-Rushton and McLanahan 2002). We also include controls for occupation, differentiate between part-time and full-time work experience, and included a measure of tenure. This makes the comparison between marriage and employment more comprehensive. Second, none of the prior studies discussed earlier differentiates between the impacts of marriage and employment on short-term poverty and chronic poverty. The use of longitudinal data in this paper means that women can be followed for many years after key life events such as a birth, marriage, or first job to see if they have lasting effects on economic well-being. Third, our study examines whether employment and marriage have interacting effects on poverty. This is important because potential behavioral shifts brought about by marriage, mainly the decrease in female labor force participation, may be key to long-term poverty status. Finally, we examine the influences of marriage and employment on poverty separately for black, Hispanic, and white women. This is important because marital and employment behavior have been shown to differ by race.

Data and Sample

We use data from the National Longitudinal Survey of Youth (NLSY) 1979-2002. This is a nationally representative sample of 12,686 individuals age 14-22 in 1979. The respondents include an overrepresentation of blacks, Hispanics, and economically disadvantaged non-blacks/non-Hispanics. Respondents were interviewed annually from 1979-1994, and biannually from 1994 to 2002. We restrict the analytic sample to women who were between the ages of 14-18 in 1979, and who were never-married and non-parents at that time. This is done in order to have a measure of

pre-marital pre-motherhood poverty-status. We further exclude those who were childless by the end of the survey; at this time the sample was between the ages of 37- 41. Only mothers are included in the analysis because the marriage-income differences are most stark between single mothers and married mothers; also, from a policy perspective it is low-income mothers - not childless women - who are the subject of much debate. The sample is further limited to women who had non-missing data on these key variables: family income, work history, and martial history. The unit of analysis is the person-year, with each individual contributing multiple person-year observations to the sample. Those respondents contributing only one person-year are excluded form the model, because the fixed-effects technique requires at least two observations per respondent.

Measures

Except for those variables that remain constant over time (e.g., race, family background, etc.), all variables are measured at each survey year. Our main dependent variable is the respondent's *poverty status*. This is a dummy variable set equal to 1 if the total family income is below the official poverty line, and is set equal to 0 if the total family income is equal to or above the poverty line. Data on the official poverty line are gathered from the Office of Management and Budget. The poverty line is a function of year, household size, and age of family members. It does not vary by region. For example, in 2002, the poverty income threshold for a family of four was $18,660. Family annual income includes the summation of the woman's earned income, cash payments from welfare, child support, alimony, unemployment and worker's compensation, potential spouse's income, and any other family member's income. In a series of sensitivity analyses, we expand the definition of income to include a cohabitating partner's income (and/or other non-family members living in the household), the dollar amount of food stamps, and money received from the Earned Income Tax Credit.

Both short-term and long-term measures of poverty are created from the poverty status indicator. The *short-term* measure is simply equal to the women's poverty status in the current survey year. The *long-term* measure is only created for the last survey year (i.e., 2002). In order to create this measure we sum the number of previous years the respondent was categorized as poor, and define *chronic poverty* as being poor for at least five years. Five years is a commonly used benchmark to indicate chronic poverty because those who are poor for five years will likely be poor their entire lives (Corcoran and Chaudry 1997).

The main independent variables in our models are the variables that represent *marital status* and *employment status*. We identify *marital status* with a dummy variable equal to one if the woman is in a particular state and 0 if not (e.g., never married, married, divorced/separated, and widowed). If the woman is not married, we also identify whether or not she is *cohabiting* or *living with another adult*. *Full-time employment status* is equal to 1 if the respondent is working 35 hours or more per week, and 0 otherwise. *Part-time employment status* is equal to 1 if the respondent is working between 1-34 hours per week and 0 otherwise. *Not employed* is equal to 1 if the respondent is not working, and 0 otherwise. The second main set of predictor variables measure the *duration (in months) of the current marital status* and *duration (in months) at the specific job* (i.e., tenure). These measures are created using the detailed marital and employment histories found in the NLSY. Each respondent provides the month and year of marital transitions (e.g., when they became divorced) and employment transitions (e.g., when they stopped working).

Control variables are in three groups: human capital, demographics, and regional characteristics. Demographics include a measure of the *respondent's age*, *respondent's health*, *age and number of children*, and a series of dummy variables indicating *motherhood status*, and, if a mother, whether the *first birth was before marriage*. We also include an indicator of whether the woman was a *teenager at the time of her first birth*. If the respondent is married, "spouse

characteristics" are also included. These include *spouse's age*, *spouse's education*, and *spouse's employment status*. Human capital variables include measures of *years of completed education*, *years of full-time and part-time work experience*, and a series of dummy variables indicating *occupation* (upper white collar, lower white collar, upper blue collar, and lower blue collar). Finally, regional characteristics include the *local unemployment rate*, as well as indictor of the *region of residence* (living in the South or not).

Finally, we create two measures to identify whether the respondent has particularly low test scores or comes from a disadvantaged background. We do this because these women are more likely to have low-income and so by examining them separately from the full-sample we will be able to tell whether employment and marriage impacts them in the same was as more advantaged women. This is important from a policy perspective because the discussion of marriage initiatives and work requirements focus on low-income women, not middle-class women. The first, *low AFQT score*, is equal to 1 if the respondent scored in the bottom quartile of this general intelligence test (i.e. the Armed Forces Qualification Test), and 0 otherwise (Lerman 2002b). The second, *disadvantaged background*, is equal to one if the respondent was raised in single-parent family *and* if the respondent's mother was a high-school dropout or did not work during the respondent's childhood (Lichter et al. 2003). We also create a series of dummy variables to indicate the *respondent's race/ethnicity* (white, black, or Hispanic). These variables are used to run the models separately by race.

Models

To compare the short-term effects of marriage and employment on poverty status (question #1), we estimate a fixed-effects logit model predicting current poverty status as a function of marital status, employment status, and the set of control variables. A logit model is used because my dependent variable is binary. The model is:

$$\Pr(y_{i,t} = 1 \mid \alpha_i, \beta) = \frac{\exp(\alpha_i + x_{i,t}\beta)}{1 + \exp(\alpha_i + x_{i,t}\beta)} \quad ,$$

where *y* represents poverty status of the *i* th individual in the *t* th wave. *X* represents the set of independent variables and α_i is an individual-specific heterogeneity term (Powers and Xie 2000). This model specification works off of an individual's change or variation over time. Therefore, those women who remain "never married" throughout the entire observation period drop out of the analysis. The coefficients from this model could also be obtained by estimating a standard logit model, where a separate dummy variable has been included for each individual (with appropriate omitted categories). The logit coefficients from the marriage and employment coefficients will be used to predict the probability of being poor for a number of "hypothetical" women. This technique will clearly identify the relative impacts of work versus marriage on poverty. These models will also analyzed separately by race (to answer question #5).

To compare the long-term effects of marriage and employment on poverty status (question #2), we estimate a traditional logit model predicting chronic poverty status in 2002. The model is:

$$\Pr(y_i = 1 \mid \alpha_i, \beta) = \frac{\exp(\alpha_i + x_i\beta)}{1 + \exp(\alpha_i + x_i\beta)},$$

where *i* represents the individual, *x* represents the set of independent variables, and *y* represents chronic poverty status. In this model, we include *durations* of prior marital and employment states, including: number of years married, divorced, etc. and number of years employed, unemployed, etc. As in the earlier example, the estimated coefficients will be used to predict the probability of being chronically poor for a series of hypothetical women. These models will also be analyzed separately by race (to answer question #5).

Interactions of *spouse characteristics* with the dummy variable indicating *married*, as well as interactions of *job characteristics* with the dummy variable indicating *employed* are also included

in the two previous models. These interactions allow us to test whether certain *types* of marriage and certain *types* of employment help women more than others (question #3).

In order to test for interaction effects of marriage and employment on poverty (question #4), we will re-analyze the previous two models with the following series of interaction terms: *never married*employed, married*employed*, *divorced/separated*employed*, and *widowed*employed*. One marital category will be excluded and treated as the reference group. The statistical significance of these interactions will allow us to determine whether the impact of marriage on poverty is different for women who are employed versus those who are not. These "current status" interactions will be used in the "short-term" model; similar interactions with "years in given marital status" and "years in given employment status" will be included in the long-term model.

References

Angel, Jacqueline L., Cynthia J. Buckley, Ronald J. Angel, and Maren A. Jimenez. 2003. "The Economic Consequences of Marital Disruption for Pre-Retirement Age African-American, Hispanic, and Non-Hispanic White Women." *Working Paper.*

Antolín, Pablo, Thai-Thanh Dang and Howard Oxley. 1999. "Poverty Dynamics in Four OECD Countries." *OECD Economics Department Working Paper No. 212*.

Acs, Gregory and Sandy Nelson. 2004a. "Should We Get Married in the Morning? A Profile of Cohabiting Couples with Children." *Urban Institute Working Pape*r.

_____. 2004b. "What Do "I Do"s Do? Potential Benefits of Marriage for Cohabiting Couples with Children." *Urban Institute Working Pape*r.

Bane, Mary Jo and David T. Ellwood. 1986. "Slipping into and out of Poverty: The Dynamics of Spells." *Journal of Human Resources* 21:1-23.

Becker, Gary. 1991. *A Treatise on the Family*. Cambridge, MA: Harvard University Press.

Bianchi, Suzanne, Lekha Subaiya, and Joan R. Kahn. 1999. "The Gender Gap in Economic Well Being of Non-resident Fathers and Custodial Mothers." *Demography* 36:95-203.

Bishaw, Alemayehu and John Iceland. 2003. "Poverty: 1999." *Census 2000 Brief Series*, C2KBR-19, U.S. Census Bureau.

Blackwell, Debra L. and Daniel T. Lichter. 2000. "Mate Selection Among Married and Cohabiting Couples." *Journal of Family Issues* 21: 275-302.

Blau, Francine D., Lawrence W. Kahn and Jane Waldfogel. 2000. "Understanding Young Women's Marriage Decisions: The Role of Labor and Marriage Market Conditions." *Industrial and Labor Relations Review* 53:624-48.

Bowler, Mary. 1999. "Women's Earnings: An Overview." *Monthly Labor Review* 122(12):13-21.

Cancian, Maria, Robert Haveman, Thomas Kaplan, Daniel Meyer, and Barbara Wolfe. 1999. "Work, Earnings, and Well- Being after Welfare: What Do We Know?" Pp. 161-186 in E*conomic Conditions and Welfare Reform*, edited by Sheldon Danziger. Kalamazoo, Michigan: W.E. Upjohn Institute for Employment Research

Carlson, Marcia, Sara McLanahan and Paula England. 2004. "Union Formation in Fragile Families." *Demography* 41:237-262.

Cherlin, Andrew J. 1992. *Marriage, Divorce, Remarriage* (2nd edition). Cambridge, MA: Harvard University Press.

Coontz, Stephanie and Nancy Folbre. 2002. "Marriage, Poverty, and Public Policy: A Discussion Paper from the Council on Contemporary Families." Prepared for the Fifth Annual CCF Conference, April 26-28.

Corcoran, Mary E., Sandra K. Danzinger, Ariel Kalil, and Kristin S. Seefeldt. 2000. "How Welfare Reform Is Affecting Women's Work." *Annual Review of Sociology* 26:241-69.

Corcoran, Mary E. and Ajay Chaudry. 1997. "The Dynamics of Childhood Poverty." *The Future of Children* 7(2): 40-54.

Daniel, Kermit. 1995. "The Marriage Premium." Pp. 113-125 in *The New Economics of Human Behavior*, edited by Mariano Tommasi and Kathryn Ierulli. Cambridge, England: Cambridge University Press.

Danziger, Sheldon, Colleen M. Heflin, Mary Corcoran, Elizabeth Oltmans, and Hui-Chen. Wang. 2002. "Does It Pay to Move from Welfare to Work?" *Journal of the Association for Policy Analysis and Management* 21:671-692

Driscoll, Anne K., Gesine K. Hearn, V. Jeffrey Evans, Kristin A. Moore, Barbara W. Sugland, and Vaughn Call. 1999. "Nonmarital Childbearing Among Adult Women." *Journal of Marriage and the Family* 61(1): 178-187.

Duncan, Greg J., Wei-Jun Yeung, Jeanne Brooks-Gunn, and Judith Smith. 1998. "How Much Does Childhood Poverty Affect the Life Chances of Children?" *American Sociological Review* 63(3): 406-423.

Edin, Kathryn. 2000. "A Few Good Men: Why Poor Mothers Don't Marry or Remarry?" *The American Prospect* 28:26-31.

Edin, Kathryn and Laura Lein. 1997. *Making Ends Meet*. New York, NY: Russell Sage Foundation.

Ellwood, David and Christopher Jenks. 2001. "The Growing Differences in Family Structure: What Do We Know? Where Do We Look for Answers?" *Working Paper*

Foster, E. Michael, Damon Jones, and Saul D. Hoffman. 1998. "The Economic Impact of Nonmarital Childbearing: How Are Older, Single-mothers Faring?" *Journal of Marriage and the Family* 60(1):163–174.

Graefe, Deborah and Daniel T Lichter. 2002. "Marriage Among Unwed Mothers: Whites, Blacks and Hispanics Compared." *Perspectives on Sexual and Reproductive Health* 34:286-293.

Halpern, Ariel. 1999. *Poverty among Children Born Outside of Marriage-Preliminary Findings from the National Survey of America's Families*. Washington, DC: The Urban Institute.

Harris, Kathleen Mullan. 1996. "Life After Welfare: Women, Work, and Repeat Dependency." *American Sociological Review* 61:479-492

Haskins, Ron and Isabel V. Sawhill. 2003. "Work and Marriage: The Way to End Poverty and Welfare." *The Brookings Institute, Welfare Reform and Beyond Policy Brief No. 28.*

Holden, Karen and Pamela Smock. 1991. "The Economic Costs of Marital Dissolution: Why Do Women bear a Disproportionate Cost?" *Annual Review of Sociology* 17:51-58.

Iceland, John. 2003. *Poverty in America*. Berkeley, CA: University of California Press.

Lerman, Robert I. 2002a. "Impacts of Marital Status and Parental Presence on the Material Hardships of Families with Children." *Urban Institute Working Paper.*

_____. 2002b. "Married and Unmarried Parenthood and Economic Well-Being: A Dynamic Analysis of a Recent Cohort." *Urban Institute Working Paper.*

_____. 1996. "The Impact of the Changing U.S. Family Structure on Poverty and Income Inequality." *Economica* 63: S119-S139.

Lichter, Daniel T. 2001. *Marriage as Public Policy*. Washington, D.C: Progressive Policy Institute.

Lichter, Daniel T. and Martha L. Crowley. 2004. "Welfare Reform and Child Poverty: Effects of Maternal Employment, Marriage, and Cohabitation." *Social Science Research* 33:385-408.

Lichter, Daniel T., Deborah Roempke Graefe, and J. Brian Brown. 2003. "Is Marriage a Panacea? Union Formation Among Economically Disadvantaged Unwed Mothers." *Social Problems* 50:60-86.

Light, Audrey. 2004. "Gender Differences in the Marriage and Cohabitation Income Premium." *Demography* 41:263-284.

Lott, Bernice and Heather E. Bullock. 2001. "Who are the Poor?" *Journal of Social Issues* 57: 189-206.

Lundberg, Shelly and Elaina Rose. 2000. "Parenthood and the Earnings of Married Men and Women." *Labor Economics* 7:689-710.

Manning, Wendy D. and Daniel T. Lichter. 1996. "Parental Cohabitation and Children's Economic Well-Being." *Journal of Marriage and the Family* 58:998-1010.

Manning, Wendy D. and Susan Brown. 2003. "Children's Economic Well-Being in Cohabiting Parent Families: An Update and Extension." Working Paper. Bowling Green, OH: Center for Family and Demographic Research, Bowling Green State University.

McKernan, Signe-Mary and Caroline Ratcliffe. 2002. *Transition Events in the Dynamic of Poverty*. Washington, D.C.: The Urban Institute.

McLanahan, Sara and Gary D. Sandefur. 1994. *Growing up in a Single-Parent Family.* Cambridge, MA: Harvard University Press.
McLaughlin, Diane and Daniel T. Lichter.1997. “Poverty and the Marital Behavior of Young Women." *Journal of Marriage and the Family* 59:582-94.
Morrison, Donna Ruane and Amy R. Ritualo. 2000. “Routes to Children’s Economic Recovery After Divorce: Are Maternal Cohabitation and Remarriage Equivalent?” *American Sociological Review* 65:560-580.
Mosisa, Abraham. 2003. “ Profile of the Working Poor, 2001.” Washington. D.C.: U.S. Department of Labor, Bureau of Labor Statistics.
Ooms, Theodora. 2002. "Marriage-Plus." *The American Prospect* 13(7). April 8.
Oppenheimer, Valerie Kincade. 1988. “A Theory of Marriage Timing.” *American Journal of Sociology* 94(3): 563-591.
Pear, Robert. 1993. “Poverty Termed a Divorce Factor.” *New York Times*, January 15, p.A10.
Powers, Daniel A. and Yu Xie. 2000. *Statistical Methods for Categorical Data Analysis.* San Diego: Academic Press.
Rauch, Jonathan. 2001. “The Widening Marriage Gap: America’s New Class Divide,” *National Journal*, May 18.
Rector, Robert, Kirk A. Johnson, and Patrick F. Fagan. 2002. “The Effect of Marriage on Child Poverty.” *The Heritage Foundation, Center for Data Analysis Report* #02-04.
_____. 2001. “Understanding Differences in Black and White Child Poverty Rates.” *The Heritage Foundation, Center for Data Analysis Report* #01-04.
Sigle-Rushton, Wendy and Sara McLanahan. 2002. “For Richer or Poorer?: Marriage as an Anti-Poverty Strategy in the United States.” *Population* 57:509-526.
Smock, Pamela J. 1994. “Gender and the Short-Run Economic Consequences of Marital Disruption.” *Social Forces 7*3:243-262.
_____. 1993. “The Economic Costs of Marital Disruption for Young Women in the United States: Have They Declined over the Past Two Decades?” *Demography* 30:353-371.
Smock, Pamela J., Wendy D. Manning, and Sanjiv Gupta. 1999. "The Effect of Marriage and Divorce on Women's Economic Well-Being." *American Sociological Review* 64:794-812.
Stier, Haya and Alisa C. Lewin. 2002. “Does Women's Employment Reduce Poverty? Evidence from Israel.” *Work, Employment & Society* 16:211-228.
Thomas, Adam and Isabell Sawhill. 2002. “For Richer or Poorer: Marriage as an Anti-Poverty Strategy.” *Journal of Policy Analysis and Management* 21:587-599
Upchurch, Dawn M., Lee A. Lillard, and Constantijn W. A. Panis. 2001. “The Impact of Nonmarital Childbearing on Subsequent Marital Formation and Dissolution.” Pp. 344–80 in Lawrence L. Wu and Barbara Wolfe (Eds.), *Out of Wedlock: Causes and Consequence*s *of Nonmarital Fertility.* New York, NY: Russell Sage Foundation.
U.S. Census Bureau. 2004. http://ferret.bls.census.gov/macro/032004/pov/new03_100_01.htm.
Waite, Linda J. and Maggie Gallagher. 2000. *The Case for Marriage: Why Married People Are Happier, Healthier, and Better Off Financially.* New York, NY: Doubleday.
Wilson, William Julius. 1996. *When Work Disappears: The World of the New Urban Poor.* New York: Alfred A. Knopf.