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November 1999

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MPRA Paper No. 19288, posted 14 Dec 2009 02:19 UTC

The Impact of State Welfare Policies
on Women's Cohabitation*

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* Michael Boozer, Jennifer Hunt, and T. Paul Schultz deserve thanks for offering much advice on this paper. The views expressed in it do not necessarily reflect those of the U.S. Department of Veterans Affairs. Please forward any comments to mark.w.smith@aya.yale.edu.

I. Introduction

American adults usually live with other adults. While many of these are spouses, many others are not. Marriage and its relation to choices of fertility, work, and welfare receipt have been widely studied (among recent work, see Moffitt 1990; Schultz 1994; Moffitt *et al.* 1995a), yet little research has focused on nonmarital cohabitation. In recent years it has received increasing attention for two reasons. First, as the age at first marriage rises, the age of first union rises much less—more couples are cohabiting before marriage (Bumpass and Sweet 1989). Evidence shows that these premarital unions are last a shorter time than marriages (Teachman *et al.* 1991), but regardless, a society interested in marriage or in stable unions would be interested in the determinants of cohabitation if it plays a role in the probability of marriage or of stable unions. Another reason for renewed attention is the finding that state AFDC programs vary in their treatment of cohabitators' contributions toward the expenses of AFDC recipients. State legislators concerned about cohabitation or welfare expenditures would gain from knowing how public policies are affecting cohabitation in practice.

The Family Support Act of 1988 required that the AFDC-UP program be available in every state by the end of 1990, on the premise that it would lessen the incentive for poor women to avoid marriage. From this we may conclude that federal legislators are interested in poor women's marriage patterns, and further that they will consider using welfare policies to alter them. On the assumption that state legislators act similarly, one may discuss the impact of welfare program generosity and regulations in

light of how a legislator might use them to encourage marriage, discourage single motherhood, or give some other incentive.

This paper presents a multinomial logit model of a woman's major options: not cohabiting, cohabiting with a spouse and possibly others, or cohabiting with others but not with a spouse. Because cohabitation has the possibility of alleviating poor women's need for public assistance, I investigate the connection between state welfare policies and the cohabitation choice. The analysis moves beyond the typical measure of welfare generosity--the monthly benefit level--to include two sets of state welfare regulations that affect how cohabitators' contributions to household expenditures may affect the woman's welfare benefit. The use of Census data allows sufficient sample sizes for separate estimation for White and Black women.

I find that many personal and state variables substantially alter the choice of cohabitation, but welfare programs generally do not. The strongest impact of welfare programs falls on the choice of marriage, where I find support for the theory that more generous AFDC payments should be associated with fewer marriages. Although the patterns vary by race, the results reveal that other welfare policies do not exert a strong influence on women's choice of cohabitation and marriage.

II. Previous Research

There are a number of reasons why women might want to cohabit nonmaritally.¹

¹ For the sake of this discussion I will use the term 'premarital' to refer to unmarried man-woman couples. Of course many such pairs have no intention of marrying, but I am following the terminology used by other researchers. The broader term 'nonmarital' denotes all cohabiting groups except married couples; this would include unmarried sisters sharing an apartment, for example.

First, cohabitation may lead to economies of household expenditure on rent, food, utilities, or other matters. Haurin *et al.* (1993) and Ermisch and DiSalvo (1997), for example, find that the likelihood of a young adult leaving the parental home depends on the direct costs of living apart, such as housing. If shared apartments are cheaper than living alone, cohabitation would make separation from parents more viable. Second, cohabitators may enable the woman to work more if they provide childcare to her children (Blau and Robins 1989; Parish *et al.* 1991). Stack (1974) detailed how poor Blacks rely on a considerable network of kin for income insurance. Cohabitation may also provide income to replace or supplement that provided by those outside the household.

Cohabitation has a complex relation to welfare programs. By supplementing household income, a working cohabitor may reduce or eliminate a family's need (and eligibility) for welfare programs (Hill 1990). Alternatively, it may enable a woman to receive unreported supplements to welfare payments with low risk of detection by public officials. Such unreported income is common, as Edin (1991) found when analyzing the budgets of dozens of Chicago welfare recipients. Almost all relied from time to time on unreported income, including cash payments from family and current or former partners. Finally, specific state laws on the treatment of cohabitators' contributions to AFDC recipients may encourage the import or export of household members in order to maximize welfare benefits (Wolf 1984). Section III below discusses these laws in more detail.

From a social viewpoint, couples may consider cohabitation a proving ground before a potential marriage, or instead a substitute for it. Finally, premarital cohabitation

may simply be a matter of convenience that does not signal the relationship's quality (Teachman *et al.* 1991).

Relevant studies of cohabitation can be divided into two groups: demographic and economic. The former are mostly concerned with the number and duration of cohabiting households, especially among couples (*i.e.*, premarital unions). These include Bumpass and Sweet (1989) and Teachman *et al.* (1991), which look at the stability of premarital versus marital unions over time; Bumpass and Raley (1994), which considers how premarital cohabitation affects the duration of unmarried motherhood; and Manning (1992), which studies the link between premarital cohabitation and premarital fertility.

Economic studies have focused on the determinants of entry into premarital or marital cohabitation, or on the transition from premarital cohabitation to marriage or dissolution of the union. Such studies include Smock and Manning (1997), which investigates how the economic characteristics of each partner affect the likelihood of transition to marriage, and Winkler (1994), which studies how AFDC benefits and various state characteristics affect the probability of being married or being a household head. Goldscheider and DaVanzo (1989) investigate how the child's and parents' circumstances affect the child's transition from the parental household to group living, marriage, or other arrangements.

Two studies take advantage of recent findings on state AFDC programs' treatment of cohabitators' contributions to AFDC families, information first published by Hutchens, Jakubson and Schwartz (1989) and recently updated by Moffitt *et al.* (1995b). The first is Moffitt *et al.* (1995a), which uses the PSID and NLSY separately to study the impact of AFDC benefits on cohabitation and marital status. The authors estimate a multinomial

logit model with three choices for a woman: household head, premarital cohabitation, and marriage. Using PSID data, they find higher welfare benefits to be associated with fewer marriages and cohabitations among mothers aged 18-55. A similar model with NLSY data yields a negative coefficient for the married state but a positive (yet insignificant) coefficient for cohabitation. Their study has the drawback of not accounting for the link between fertility and household composition. By limiting the sample to mothers of minor children they omit nulliparous women, though this group is also of policy interest. Second, the independent variables include the number of children under 18 and under 6. These variables may be correlated with the unexplained error in the household composition model and thus endogenous to the choice of household composition.

The second paper is Hu (1997), which also assesses the impact of AFDC benefits on the likelihood of premarital cohabitation and of marriage. His data are from a California AFDC experiment in which randomly assigned treatment and control groups faced different welfare benefit levels. The author limits the sample to mothers who are former welfare recipients. He also estimates a multinomial logit model of household composition, employing the same as Moffitt *et al.* (1995a). Although AFDC benefits are found to have a negative impact on the likelihood of marriage or premarital cohabitation, the significance levels are not reported. The author then estimates a second model with 5 choices: single, cohabit with a nonfather (*i.e.*, not the father of her child), cohabit with a father, marry a nonfather, or marry a father. The results show "no consistent effect of welfare benefit levels on the likelihood of marriage relative to cohabitation." Like Moffitt *et al.* (1995a), Hu's paper limits the sample to women in premarital (rather than

nonmarital) unions. And the author's focus on mothers who have received welfare in the past may limit the external validity of the results.

Both papers limit their definition of cohabiting couples to those with one man and one woman. While premarital unions are of policy interest due to their potential substitutability for marriage, the incentives for cohabitation listed above apply nearly equally to all nonmarital cohabitants. This paper studies the broader issue of the determinants of nonmarital cohabitation, investigating how AFDC rules on cohabitators' contributions affect a woman's choice to live with other adults.

The next section reviews the AFDC program and its associated policies, as well as a number of other relevant public aid programs.

III. Review of Welfare Programs

Most studies of welfare focus on AFDC, Food Stamps, and Medicaid. Each of these has the potential to affect a woman's housing choice by creating a financial incentive concerning fertility or marital status. In this study I extend the investigation beyond these three programs to include a number of federal and state anti-poverty programs that may also alter women's choices. This section provides a brief overview of each.

AFDC

Aid to Families with Dependent Children (AFDC) is the primary means-tested income-support program for poor mothers and their children. It is jointly funded by the state and federal governments. Each state's funding share determined by its relative per-

capita income, with an upper limit of 50 percent. The unit of assistance is the family, defined as one or more children under age 18 in a household that meets certain income and asset limits. These limits are determined federally, but the states have wide discretion to determine the monthly payment level. Participation in AFDC confers categorical eligibility in several others programs, including Food Stamps, Medicaid, and federal housing assistance provided under LIHEAP, as well as income eligibility for WIC. Over time AFDC has been recast as a welfare-to-work program rather than simply an income-maintenance program. The Family Support Act of 1988 required every state to implement a combination of education, training, and supported work activities that would move recipients off the welfare rolls.

Although the primary recipients are families consisting of an unwed mother and one or two children, married-couple families and nulliparous pregnant women are also covered. Marriage does not disqualify a woman *per se*, but rather marriage to the father of any of her coresident dependent children. These are the "two-parent" families. If the woman married (or cohabited with) a man who was not the father of any such children, she was still eligible for AFDC. There are two general exceptions. In seven states, stepfathers are counted as fathers for the sake of determining benefits. Additionally, every state allows otherwise-eligible, two-parent families to obtain AFDC if one parent is sufficiently disabled.

A 1996 law replaced AFDC with Temporary Assistance to Needy Families (TANF). Aside from ending the program's entitlement status and moving it to block-grant funding, the law provides states with greater flexibility in spending the federal grant than was available under AFDC.

AFDC-UP

The Aid to Families with Dependent Children - Unemployed Parent (AFDC-UP) program serves married and cohabiting two-parent families that otherwise meet the requirements of the main AFDC program. It has the same funding system and income and asset requirements as AFDC. One parent is deemed the 'primary earner' and must be currently unemployed, defined as working no more than 100 hours per month. The primary earner must also show a history of labor-force attachment. Until 1990, the program was optional and had never been offered by more than 30 states. The 1988 Family Support Act mandated AFDC-UP coverage in every state as of September, 1990. By the mid-1990s, many states had obtained waivers of the 100-hour rule for intrastate welfare experiments.

Food Stamps

The Food Stamp program provides coupons for food purchases. Counties administer the program under the oversight of state governments and the U.S. Department of Agriculture. The federal government fully funds Food Stamps and sets requirements for income, assets, and work. Gross household income must fall below 130 percent of the poverty line and net income below 100 percent (except households with elderly or disabled members). Countable resources cannot exceed \$2000, or \$3000 if the household includes someone over 60, and assets include the equity in a vehicle beyond a preset limit. Participants must work or agree to participate in work-training or job-search efforts. The benefit varies by household size, where household is defined as an individual or group of individuals who "customarily purchase food and prepare meals together for home consumption." Related family members living together are

automatically counted as one unit regardless of their actual food preparation habits, unless one person is elderly or disabled. People living in institutions and boarding houses are not eligible.

LIHEAP: Federal Energy Assistance

The Low Income Home Energy Assistance Program (LIHEAP) provides grants to defer the cost of home heating, cooling, and weatherization. The unit of assistance is the household, defined in statute as "any individual or group of individuals who are living together as one economic unit for whom residential energy is customarily purchased in common or who make undesignated payments for energy in the form of rent." Recipients of AFDC and Food Stamps are eligible, as are households with incomes no greater than 110 percent of the state poverty level or 60 percent of the median state income. At their option states may raise the upper income limit to 150 percent of the poverty level. States may also add other restrictions, such as asset tests and limitations for people living in subsidized housing or group living arrangements. Payments come in the form of cash, two-party checks, vouchers, or direct payments to energy suppliers.

AFDC Policies on Cohabitors' Income Contributions

Following Moffitt *et al.* (1995a; 1995b) I distinguish among three state policies regarding the treatment of cohabitators' income. For every state, a regular cash contribution to the woman's family is treated like earned income. Suppose that a cohabitor pays part of the family's housing cost. Under Policy A, the AFDC grant is not reduced. Under Policy B, the AFDC grant is reduced by the amount of the shelter allowance (a portion of the total grant) unless the woman also contributes toward her family's housing costs. If she contributes even \$1, she will receive the full AFDC grant.

Under Policy C, the AFDC grant is reduced by the full shelter allowance less the amount that the woman herself contributes.²

Using PSID data, Moffitt *et al.* (1995a) find that, relative to Policy C, a dummy variable signifying policy A had a large, positive effect on the probability of cohabitation outside of marriage. This conclusion held for both welfare recipients and non-recipients. The impact on the latter group could be spurious, but it could also reflect optimizing behavior on the part of women who may later become recipients.

While there is a similar effect in NLSY data for those receiving welfare, the effect drops more than 80 percent for those cohabiting but not on welfare. A dummy variable for states with policy B had a similar effect, which is expected since the two policies are almost identical in practice. Overall, then, the authors find that the disregards for shelter contributions in policies A and B substantially increase the probability of cohabitation outside of marriage.

Their survey of state policies also addressed the treatment of cash contributions to the AFDC family. Three questions were asked about how welfare agencies determine family income:

- * Do they disregard contributions for shared housing expenses other than rent?
- * Do they disregard unpredictable contributions?
- * Do they disregard \$30 in gift income per quarter?

The remaining columns of Appendix A show the treatment of cash contributions, by state. Fifty states (including D.C.) disregard at least one of the three sources, and forty-three disregard two. Only seven states disregard all three.

² That is, the woman receives {Total Grant – (Shelter Allowance – Own Contribution)}. See column (4) of Appendix A for a list of each state's policy.

These regulations are similar to policies A-C in that the income may come from cohabitators. There are two differences. First, policies A-C cover contributions toward housing costs only, while the others concern income used for any purpose. Second, penalties under policies B and C would reduce the AFDC shelter allowance (part of the entire grant) dollar for dollar, regardless of the woman's other income. Penalties under the other policies would *increase* the woman's total countable income, thereby potentially reducing her total AFDC grant. An example will illustrate the second distinction. Consider a woman living in a state that had Policy C and which did not disregard money from cohabitators going toward shared household expenses. If a cohabitor contributed \$50 per month toward the rent, under policy C the woman's shelter allowance would be reduced by \$50. If the cohabitor instead contributed \$50 toward other household expenses, the woman's countable income would rise by \$50. This would only reduce her AFDC grant to the extent that her countable income rose above a state-mandated income limit.

IV. Patterns of Women's Cohabitation

Households exhibit many different arrangements, such as married couples with children; unrelated, childless adults cohabiting nonmaritally; a single mother living with her parents and her child; and many others. When considering how to classify them into a manageable number of groups, a natural first distinction is this: women who live with other adults versus women who do not. This constitutes the choice of cohabitation in the broadest sense. But a woman's household composition includes both a decision about

marriage and a separate decision of whether to live with adults in addition to her husband. By lumping together married and unmarried women, the binary view may mask the true effect of factors affecting the probability of marriage, such as welfare benefit levels.³

A better model would allow marriage and nonmarital cohabitation to be affected differentially by explanatory variables. These two decisions--marry or not, and cohabit with other adults or do not—have four permutations, suggesting a four-way model. In order to clarify the choice between marriage and cohabitation, I will put all married women's households in one group, regardless of the presence of cohabiting adults. Thus three groups remain: married women, with or without other adults (the 'married'); unmarried women who cohabit with other adults (the 'cohabitators'); and unmarried women who do not cohabit with other adults (the 'lone women').⁴ Note that cohabitation does not imply any type of relationship between cohabitators; it could include two adult sisters living together, for example, as well as a woman living with her unmarried partner.

Each of the three choices could be split into two: one with children and one without. Fertility may be decided jointly with marriage, cohabitation, and work decisions over a multiyear horizon. Because there are no uncontroversial exogenous variables to identify the fertility choice, it will not be treated separately. Each category will include both women with children and those without. The clearest drawback is that AFDC and

³ Here and elsewhere in this paper, a 'married' woman is one who lives with her husband. Women who report being married-with-spouse-absent are always counted as 'unmarried' in my discussions and analyses.

⁴ Note that lone women are a subset of the frequently used 'female household heads.' The latter group includes any household with an unmarried (or married, spouse absent) woman and no unmarried adult male. The woman could live with another adult woman, or even with a married couple, and still be a female household head. In my terminology, 'lone adult' means the woman is only adult in the household. All instances of nonmarital cohabitation count as cohabitation.

AFDC-UP are only available to women with children. Splitting the parents and nonparents would reveal the fertility effect more clearly.

Proportions of American women in the married and cohabiting categories are shown in the top section of Table 1. The data, described in the next section, come from the 1990 U.S. Census and include women from every state and the District of Columbia. The difference in household composition across races is considerable. Among those ages 18-49, cohabiting women constitute 28.6 percent of Whites but 54.9 percent of Blacks, roughly double the level of Whites. This is mirrored in the 'married' category, which applies to 64.0 percent of Whites but only 36.7 percent of Blacks. Breaking those figures down into two age groups, 18-29 and 30-49, we see that while three-fourths of Whites aged 30-49 are married, the corresponding figure for Blacks is just under one-half. The difference is not in the 'lone' category, which applies to fewer than one in ten women of either race. Rather, Blacks are substituting cohabitation for marriage to a much greater extent than Whites.

In this paper I hypothesize that welfare benefits and regulations may alter the proportion of married and cohabiting women. To give a sense of the relative proportions of marriage and cohabitation among those likely to receive welfare, Table 1 also includes data from Hu (1997) and Moffitt *et al.* (1995a), both of which consider the household composition of former welfare recipients. Section II of Table 1 shows the proportions from Hu's sample of California women participating in a welfare demonstration program. Not surprisingly, women who received AFDC in late 1992 were quite unlikely to be married when interviewed 10-21 months later. Likewise, those receiving AFDC-UP in late 1992 were likely to be married during the same period. Section III shows Moffitt *et*

al.'s data from four separate national surveys, focusing on women who received AFDC during the previous year. Again the rates of marriage are much lower than in the Census sample of all women.

Both papers also tally the proportion of "cohabiting" women, which they define as an unmarried woman living with an unmarried man whom she identifies as her 'partner.'⁵ The Moffitt *et al.* data reveal a consistent proportion of unmarried man-woman cohabitation among former welfare recipients of 8.3-9.2 percent. The proportion is notably higher among younger women, 16.9 percent of former welfare recipients in the NLSY. Hu finds a similar figure for former AFDC-UP recipients (17.6 percent) but less than half as many among former AFDC recipients (8.2 percent).

Although the definitions of cohabitation vary across surveys, the sources cited in Table 1 show that marriage and cohabitation rates vary significantly by age and race. There is also substantially less marriage among former welfare recipients than among all women together, although the cause is not clear, suggesting that welfare programs and regulations could be affecting the proportion of women in these categories.

V. Data

In order to obtain sample sizes sufficient to identify each state and the District of Columbia, I use data drawn from the 1990 decennial Census. The sample is a 1-in-5

⁵ This definition of cohabitation is much narrower than my own. My data source is the University of Minnesota's IPUMS (Ruggles and Sobek 1997), an online archive and access system for Census data. The extensive set of family relations provided by IPUMS does not include the presence of an unmarried partner in the household. This precludes a separate analysis of women living with unmarried partners as done by Hu or Moffitt *et al.*

extract from the 5% Metropolitan PUMS, including White and Black women ages 18-49.⁶ The samples are nationally representative without the use of weights. Information on government programs comes mostly from the 1991 'Green Book' (U.S. House of Representatives 1991).

Descriptive statistics, definitions, and additional sources are given in Appendix B. Part B.1 shows the total sample means and standard deviations for each variable by race, with definitions and sources provided in B.2. Part B.3 contains the average benefit level of selected welfare programs by state. Appendix C gives the zero-order correlation matrix of the data.

The Black and White samples have some notable differences, as illustrated in Table 2. The table breaks down several key variables by race and cohabitation category. The first, age, reveals little difference across races. Lone and married women are of similar ages, while cohabiting women are 5-7 years younger on average. The difference is sharper in education, where we see that Blacks have less education on average than Whites. Across races, cohabiting women are roughly 30 percent more likely to lack a high school diploma or GED than are married women, and 50 percent more likely than lone women. Lone women of both races are the best educated, with more than 60 percent of both groups have at least some college education. Married women are somewhat less likely to be college educated, and cohabiting women even less likely. Moffitt *et al.* (1995b) also find marriage and cohabitation rates to vary with education among former welfare recipients. Women with less than a high school education are more likely to be

⁶See Ruggles and Sobek (1997) for details of the 5% and 1% samples. All Census measures are self-reported.

married and less likely to cohabit with an unmarried male partner than are other women in the CPS and NSFH surveys, although oddly the opposite patterns occur in the PSID.⁷

The most commonly studied welfare policy variable has been the monthly maximum AFDC benefit. It varies little across groups for Whites. There is a noticeable difference across groups for Blacks, however, suggesting that AFDC benefits may be affecting the marital choice of Blacks more than that of Whites. The relatively small differences in Table 2 may result from averaging over women of all incomes. The marriage proportion among former welfare recipients, shown in Table 1, are much lower than those for all women, providing at least some evidence that lower-income women's probabilities of marriage or cohabitation are being affected by welfare programs more than those of higher-income women.

Overall, Table 2 reveals that the woman's own characteristics seem correlated with the marriage and cohabitation choices. The 'lone' category is more common among older and better educated women, while cohabiting women are younger and have less education. Married women have the same average age as the lone group but their typical education level falls between those of the lone and cohabiting women. Finally, race is linked to substantial differences in every category.

VI. Framework for Analysis

Utility Function and Budget Constraint

⁷ CPS=Current Population Survey. NSFH= National Survey of Families and Households. PSID = Panel Study of Income Dynamics.

The decision maker is the adult woman. She can have two types of cohabitators: a husband present in the household, and any other adults. Because she may derive utility separately from each, they have separate terms in the utility function: MS_i for marital status and Coh_i for other adults. She also values a composite consumption good C_i and leisure (L_i). Thus her utility function may be written as follows:

$$(1) \quad U_i = f(C_i, MS_i, L_i, Coh_i)$$

Income can come from several sources: the woman's earned wages; cash public assistance payments; property income, and gifts from cohabitators or others. Letting W_i be the woman's wage and H_w her hours of work, $PropI_i$ her property income, $PubT_i$ her income from welfare benefits and other public transfer programs, and $PrvT_i$ the private contributions of cohabitants, her husband, and possibly others (such as former husbands through alimony), her budget constraint may be written as

$$(2) \quad C_i \leq (H_i * W_i) + PropI_i + PubT_i + PrvT_i$$

I will estimate a reduced-form model. The exogenous variables in the models--including the woman's personal characteristics and state-level welfare benefits and regulations--are arguments to the demand for household composition.

A woman's income may both affect her cohabitation choice and be affected by it. Decisions about labor force participation may depend on current marital status and cohabitation, making observed income an endogenous regressor. The woman's observed

hourly wage would measure her potential earnings, were she to work. Since many women are not observed working in any particular month, studies such as Schultz (1994) use Heckman's method to correct for possible selection bias while determining predicted wages for each woman. The use of predicted variables in a nonlinear framework such as multinomial logit may cause inconsistency, however. I have decided not to predict the wage of women and men that might be relevant to the household composition choices of women; instead I include among the determinants of the reduced-form equations for these choices the variables that might reasonably be included in the wage functions. These include the woman's education, age, ethnicity, and regional labor market characteristics that affect employment opportunities for men and women.

These variables include those potentially affecting both labor supply and labor demand (education, age, disability status). Two direct measures of general labor demand are also included: the state-level unemployment rate for men, and the state-level ratio of men's to women's unemployment rates. Men's unemployment rates are included because they may determine the probability of marriage. Although women's unemployment rates may figure directly in the choice between cohabitation and other household compositions, they are so highly correlated with other variables that the resulting t-statistics would be unreliable. Instead the ratio of men's to women's rates will be used in conjunction with the men's rate.

Left unexplored here is the state-specific sex-age ratio (the proportion of single men to single women by age), another factor that could determine marriage rates (Bergstrom 1997). Although sufficient data exists for Whites, even the larger 5% public-use Census sample has too few observations on Blacks in many states to allow a

reasonable level of precision. The relevant pool may be “marriageable” men rather than the total age-specific population, as implied by Wilson’s (1987) theory that declining marriage rates among Blacks stem in part from worsening earnings potential among young urban Black males. As Mincy (1994) points out, however, this theory has not gathered convincing empirical support. A final issue is the possible bias arising from the aggregation of local marriage markets to the state level. Yet as with unemployment rates, this may be offset by the greater precision of measurement at the state level.

Other Explanatory Variables

The remainder of this section describes the remaining regressors used to predict women's household composition choices. Again, refer to Appendix B for descriptive statistics.

Person-Level Variables

A wide range of factors has been found to influence the cohabitation and marital status. Aside from welfare benefits, these include the woman's kin network (Hao 1995a), parental and family characteristics (Aquilino 1990; Avery *et al.* 1992). Community mores may also affect the probability of nonmarital cohabitation (Winkler 1994). Controlling for economic factors, long-term trends in marriage, nonmarital cohabitation, and nonmarital childbearing remain (Bumpass and Sweet 1989; Bumpass and Raley 1994; National Center for Health Statistics 1993).

The presence of a husband and cohabiters are assumed to relate to the woman's own demographics, including her age, Hispanic ethnicity, and immigrant status. With increasing age may come greater opportunities for marriage, since the number of potential spouses met will increase. For similar reasons the probability of cohabiting may

also rise with age. Finally, there may be changes in personal preference over time with regard to marriage and cohabitation, as well as changes in societal views. The square of age is included to allow for a nonlinear relation of age to each category.

Hispanic ethnicity and immigrant status are included to allow cultural differences to affect the choice of marriage versus cohabitation. Immigrants in particular may also have less information about American housing markets, increasing the possibility of multiple-family households. Finally, the greater density of Hispanics and immigrants within urban areas may affect the probability of each category due to the differences in housing markets in cities vis-à-vis suburbs and rural areas. These demographic dummy variables will pick up any effect that remains once other factors (such as rural residence, discussed below) are controlled for.

I also control for years of schooling. Greater education will raise the woman's expected wage, thereby altering the incentive to marry. It may also be linked to social views about the acceptability of premarital cohabitation. Education is represented by three dummy variables: less than, more than, or exactly a high school diploma or GED. The distinction is based on holding a diploma or GED rather than on years of completed schooling. People who report 12 years of completed schooling but who lack a diploma or GED fall into the 'less than' category. Likewise, GED and diploma holders may have less than 12 years of completed schooling. Anyone reporting some college study is classified as having 'more than' a diploma.

Appendix B shows the relative frequencies of each group among Black and White women ages 18-49. Roughly 14 percent of Whites and 23 percent of Blacks have no diploma, 32 percent of each group have a diploma and nothing more, while nearly 55

percent of Whites and 45 percent of Blacks have had some college education. Twenty-two percent of the polled population stopped at a high school diploma or GED, making it the mode level of education. This makes it a natural break point around which to create dummy variables. It is also of policy interest since state welfare programs often require recipients without high school diplomas to work toward a GED.

Another factor determining a woman's earnings potential is the presence of a disability that limits or prevents work. Such a limitation would not only affect the kind of employment available, but it could also affect the probability of finding a spouse and the range of available housing. Because the Census distinguishes between them, I include dummy variables for both partial and total work disability.⁸ I expect that the presence of these disabilities will be negatively related to the probability of being married. It is not clear whether cohabitation with other adults will be discouraged or not: someone with a serious disability might choose to cohabit in order to gain help with daily living activities or simply to provide (extra) income. At the same time, as with the marriage market there may be a disadvantage in the "cohabitation market" that comes with a work-limiting disability.

State-Level Variables

To measure the supply of housing I include a dummy variable for residence in a rural area, defined as one with no town exceeding 2,500 people. Women in rural areas may face different housing opportunities than those in metropolitan areas, such as a

⁸ Note that individuals may misreport disability status, potentially leading to errors-in-variables bias. The Census does not provide data with which to independently verify individual disability reports, so they will be treated as correct.

smaller supply of apartments and greater difficulty in finding unrelated cohabitants.

Social networks that vary across region may also affect household composition.⁹

To capture the incentive effect of AFDC and Food Stamps, I include the maximum combined grant available to a family of three. I supplement this with the maximum benefit levels for the other anti-poverty program described earlier, energy assistance (LIHEAP). I also test for the importance of the AFDC policies described above: two representing different policies regarding cohabitators' income contributions (Policy B and Policy C), and two that concern income unearned by the woman (Unpredicted Income, and Shared-Expenses Income). Each of these five is a dummy variable that equals '1' if the state has the relevant policy, and '0' otherwise. While no state can have both Policy B and Policy C, states can disregard any combination of gift income, unpredicted income, and shared expenses income.

VII. Method

A number of models allow joint estimation of the probabilities of competing outcomes. Theory does not imply a certain ordering of decisions among marriage and household compositions, thereby ruling out nested or hierarchical models. The multinomial probit model would be ideal because it avoids the assumption of independence of irrelevant alternatives (IIA). A multinomial logit framework will be used for maximum-likelihood estimation of the model due to its tractability given the

⁹An alternative would be a direct measure of apartment rental costs. Although statewide median and 25th-percentile rents are available for each state, they were not included as covariates due to their extremely high correlation with AFDC benefits.

very large sample sizes. Letting i subscript individuals and j subscript choices, the model can be written as follows:

$$(4) \quad \text{Prob}(Y_i = j) = \frac{e^{\beta_j x_i}}{\sum_{j=0}^2 e^{\beta_j x_i}}$$

where $j=0$ if a woman lives as the only adult in her household, $j=1$ if she is married with spouse present, and $j=2$ if she cohabits with another adult but is not married with spouse present. Standard errors of the logit estimates are modified to account for unobserved heteroscedasticity across states. Following Stata Corporation (1997), the general formula for the covariance matrix \mathbf{VH}_j for choice j may be written as follows:

$$(5) \quad \mathbf{VH}_j = \mathbf{V}_j \left(\sum_{s=1}^{51} \mathbf{u}_s' \mathbf{u}_s \right) \mathbf{V}_j$$

where \mathbf{V}_j is the conventional covariance matrix and s indexes states. Letting \mathbf{u}_i be individual i 's score of the log likelihood ($\mathbf{u}_i = \delta \ln L_i / \delta \beta$), \mathbf{u}_s is the sum of the scores contributed by individuals in each state:

$$(6) \quad \mathbf{u}_s = \sum_{i \in s} \mathbf{u}_i$$

Intercorrelations of State-Level Variables

Appendix C shows the intercorrelations of the variables, broken down by race.

It is best to avoid estimating models that include sets of highly intercorrelated variables since the intercorrelated variables will have unreliable t-statistics.

Among those measured at the individual level there are few sets of variables with correlation coefficients above .40 in absolute value, aside from the necessarily high correlations of age and age squared and of the different education levels.¹⁰ There is a notable correlation of Hispanic ethnicity and immigrant status for Whites ($r = .46$) although it is less for Blacks ($r=.27$).

Among state-level variables high intercorrelations occur several times. For both races, the AFDC benefit has a partial correlation exceeding .35 with three other potential covariates: the dummy for AFDC-UP, the dummy for AFDC Policy C, and the LIHEAP benefit. The particularly high partial correlation with AFDC-UP--.66 for Whites and .68 for Black--implies that it is best not to include both in the same specification. Because the AFDC variable is available in every state and figures prominently in previous analyses of marriage and cohabitation, I will keep it and exclude AFDC-UP from my analyses. The LIHEAP variable will likewise be excluded from the baseline specification.

Another very high correlation exists between two state policy variables: the Disregard of Gift Income (Gift Inc) and AFDC Policy C. Although both of these variables in theory could affect household composition, I believe the incentive is clearest for Policy C and thus the Gift Income Disregard variable will be dropped.

A high correlation also exists between the AFDC benefit and the proportion of state employment in services (% Svc Emp): .47 for Whites and .59 for Blacks. Although

¹⁰ Recall that the AFDC monthly benefit includes the value of Food Stamps, hence the abbreviation AFDC+FS.

these are high, I consider it important to have measures of women's labor demand in the analyses, especially in the absence of a separate measure of women's potential wages. The size of the service sector is a measure of women's labor market opportunities not captured by other covariates, so it will be included despite its high correlation with the AFDC benefit.

Two additional labor market measures are the race-specific state unemployment rates for men and women, correlated at .80 for Whites and .79 for Blacks. The women's unemployment rate is also highly correlated ($r > .40$) with the AFDC and LIHEAP benefit variables while the men's rate has lower correlations with both. I have chosen not to use the women's unemployment rate directly as a result. Two other variables are used instead. The first is the men's rate, measured by race and state. The second is the ratio of men's to women's rates, again by race and state. The men's rate and the ratio necessarily have a strong correlation (.53 for Whites, .55 for Blacks), but it is important to account for the relative labor-market opportunities of men and women.

Empirical specifications

Two empirical specifications will be estimated. The first, to be called the baseline model, contains the personal characteristics (X_i)--age and age squared, Hispanic ethnicity, education, immigrant status, rural status, and work disabilities--as well as the traditional measure of AFDC policy, the monthly maximum benefit level for a family of three in the woman's state (AFDC Ben_s). Regional labor-market conditions (Labor Market_s) are represented by the state-level unemployment rates for men and the proportion of total employment in services. The model includes separate dummy variables for two alternative state AFDC regulations, Policy B and Policy C (AFDC

B/C_s), which govern the treatment of cohabitators' contributions to household housing expenses. I expect to find results similar to those of previous studies, such as a negative partial correlation between AFDC benefits and the probability of being married. Letting HC_i be the woman's choice among the three household composition categories, we may write the baseline equation as

$$(7) \quad HC_i = f(X_f, \text{Labor Market}_s, \text{AFDC Ben}_s, \text{AFDC B/C}_s)$$

The second model extends the analysis of AFDC policy by adding the two dummy variables concerning the treatment of unplanned income, those for Shared Expenses income and Unpredicted income (AFDC Inc_s). It also includes a statewide average monthly benefit for LIHEAP_s, the federal energy assistance program. The extended model may then be written as follows:

$$(8) \quad HC_i = f(X_f, \text{Labor Market}_s, \text{AFDC Ben}_s, \text{AFDC B/C}_s, \text{AFDC Inc}_s, \text{LIHEAP}_s)$$

Testing these additional policy variables will reveal whether they are exerting significant effects on women's cohabitation choice. If so, it would suggest that policy makers may have a previously unrecognized tool for encouraging or discouraging various patterns of cohabitation. The opposite result--no significant effects--would signal that these policy variables are not important determinants of cohabitation, and thus that previous studies have not been biased by their omission.

VIII.1. Estimation Results for the Baseline Model

Estimation results for the baseline model appear in Table 3 for Whites and Table 4 for Blacks. Logit coefficients themselves are not directly interpretable, so I report the marginal effects and their standard errors. For variable x and choice j , the number shown is the marginal change in the probability of choosing j associated with a one-unit change in variable x , all else equal. Although during logit estimation there is necessarily an "omitted" category, the marginal effects are calculated for all categories.¹¹ The required restriction is that the marginal effects for each variable sum to 0 across categories.

As Greene (1991) points out, in a multinomial framework there is no necessary connection between the significance or sign of a logit coefficient and the significance or sign of its associated marginal effect. Hence it is necessary to show the t-statistics of the marginal effects themselves rather than those of the logit coefficients.

Individual-Level Variables

The demographic variables have a substantial effect on cohabitation. Age shows little relation to the probability of being a lone woman for either race, although the marginal effects are usually significant. The probability of being a cohabiting woman falls steadily until roughly age 40, after which it rises. The opposite pattern holds for married women. Chi-square tests reveal that age and age squared are jointly significant across the three categories.

Greater education is expected to raise the probability of being a lone woman and reduce the probability of being married. The latter effect depends on greater education

being associated with higher potential earnings, so that women with more education will have less potential economic gain from marriage than women with less education (Becker 1981). This pattern holds for White women having 13 or more years of completed education, relative to the omitted group who have high-school or GED diplomas. Among Black women, however, there is a positive effect of higher education on the probability of being married. Similarly, lower education should decrease the probability of being a lone woman and raise the probability of marriage. Instead I find sizable and negative coefficients on both the married and lone-woman categories.

The differential impact by race of women's resources (proxied here by education) has been noted elsewhere. Using 1980 Census data, Schultz (1994) finds that higher property income and higher predicted wages make Black women more likely to marry but White women less likely. Census data from 1990 again reveal a negative relation between White women's predicted wages and marriage, while for Blacks the wage is now insignificant for those aged 25-44 (Schultz 1998). The welfare system, by increasing women's potential resources, would tend to further the movement of White women out of marriage into cohabitation. As detailed below, a similar pattern emerges for Blacks, but the marginal effects are so small that the total impact of AFDC and LIHEAP benefits is minimal.

Hispanic ethnicity and immigrant status have strong but differing effects on women's cohabitation choice. Hispanic White women are more than eight percentage points more likely to be cohabiting than are others, while being less likely to be married or lone women. By contrast, Hispanic ethnicity has small and mostly insignificant effects

¹¹ This is true because the marginal effect of variable x for category j depends on the logit coefficients of x for every category. Thus even though the coefficients for the "omitted" category are set to zero, the

for Blacks. Across races, immigrant status exerts a sizable positive effect on the probability of being married: 7.5 percentage points for Whites, and 12.7 points for Blacks. Immigrants are less likely to be cohabiting or living as lone women, again for both races.

Rural residence also has a substantial impact on cohabitation. For both races, rural women are more likely to be married and less likely to cohabit or be the sole household adult. Relative to women in urban areas, rural White women are more than 14.2 percentage points more likely to be married; for Black women the figure is 8.3 percent. These follow theoretical expectation if rural areas have fewer apartments than do urban areas. If they also have more conservative social views (as is typical of rural states in the Midwest, for example), premarital cohabitation may be less common.

The woman's labor force potential is captured through several variables. At the individual level these include the presence of a woman's partial or total work disability. Both levels of disability have large, negative impacts on the probability of marriage. For Whites with total work disability, the impact is -23.7 percentage points—the largest marginal effect of any variable. This accords with my expectation that women with disabilities will find fewer potential husbands. An alternative explanation is that the onset of disability precipitates divorce. The positive sign on cohabitation may reflect disabled women living with their families or others who can provide support. The positive marginal effect on being a lone woman may be due to the availability of government support for the disabled, as through the Medicaid and Social Security programs.

State-Level Variables

marginal effects are not constrained. See Greene (1993) or Greene (1995) for details.

Next come three labor-demand factors measured at the state level: the unemployment rate for men, the ratio of men's to women's unemployment rates, and the proportion of state employment in the service sector. Greater economic opportunities for women and fewer opportunities for men are expected to correspond to a lower probability of marriage, with a consequently greater probability of the cohabiting and lone-woman categories. I find higher unemployment rates for men relative to women to be associated with fewer marriages among Blacks. A higher proportion of employment in services, which serves here as a proxy for women's labor demand, is likewise associated with fewer marriages.

The men's unemployment rate is insignificant among Whites for each category. Two of three marginal effects are significant for Blacks in the base model and have signs that match theoretical expectation, but the magnitudes are quite small: a three-percentage-point rise in the men's unemployment rates would be associated with just a one-percentage-point rise in the probability of cohabiting, all else equal.

The ratio of men's to women's unemployment rates are also insignificant across all choices for White women in the base model while being significant for the cohabitation and marriage categories among Blacks. A test of joint significance for the two unemployment variables was performed due to their naturally high correlation. For Whites the two variables are significant at the 95-percent-confidence level, a signal that they add explanatory power to the model despite the individual insignificance of the marginal effects. For Blacks the two variables are significant at beyond the 99-percent confidence level and follow the expected pattern: as the ratio rises women's economic opportunities are rising relative to men's, making marriage less attractive.

The proportion of employment in services is significantly related to White women's marriage and cohabitation choices but never reaches conventional significance levels for Blacks. A one-standard-deviation rise in the proportion of service employment for Whites (.245) is associated with a rise in the likelihood of cohabitation of 15.4 percentage points, all else equal, and a similar fall in the probability of marriage.

The remaining variables refer to welfare programs, including benefit levels and the treatment of income from cohabitators and those outside the recipient family. If benefits are available to unmarried women only, I expect to find positive marginal effects for lone and cohabiting women and negative effects for married women. Policies that treat income from cohabitators and other sources more leniently should have the same pattern: lower probability of marriage, higher probability of cohabitation.

The combined AFDC and Food Stamp benefit (AFDC+FS) is generally available only to unmarried women, cohabiting or not.¹² The marginal effects of the monthly benefit are all insignificant at conventional levels for Black women in the base model (Table 4), while there is mixed significance in the extended model (Table 6). In the latter, I find that a \$100 rise in monthly benefits would decrease the probability of marriage by 0.77%, a rather small amount. For Whites the AFDC benefit is significant at the 95% confidence level or greater in both models, although the marginal impact is likewise limited. A \$100 rise in monthly benefits, for example, would decrease the probability of a White woman being married by 1.9 percentage points in both models.

Each state's policy on cohabitators' contributions to housing costs is captured by the variables Policy B and Policy C. Recall that the omitted category, Policy A, is one in

¹² A married woman was eligible for the main AFDC program if her husband was not the father of any of her coresiding children.

which women receiving AFDC are not penalized (*i.e.*, do not receive reduced benefits) if they have cohabitators who contribute toward housing costs. I expect the marginal effects of Policy B to be insignificant since it mandates no benefit reduction if the woman contributes even one dollar to her own housing costs. Not surprisingly, Policy B is often insignificant. Although it reaches the 90-percent confidence level for the cohabitation category for Whites, the magnitude is nearly zero.

Policy C calls for the woman's AFDC benefit to be reduced dollar-for-dollar with any rise in cohabitor contributions. It should have a negative effect on cohabitation, all else equal. Here I find an unexpected negative and significant coefficient for Policy C for both Whites and Blacks. The sign on lone women is positive for Whites, as theory would suggest, although negative and insignificant for Black women. A chi-square test reveals policies B and C to be jointly significant across all three choices for both races.

The unusual results for Policy C may stem from the fact that only two states had it in 1990: New York and New Hampshire. Having roughly 20 times the population of New Hampshire, New York contributes most of the observations for which Policy C = 1. The unusual correlation of Policy C with more cohabitation may simply reflect a large proportion of cohabiting women in New York state, rather than the effect of the policy itself. Or New York may have the policy but choose not to enforce it, thereby encouraging cohabitation.

VIII.2. Estimation Results for the Full Model

The baseline model included only a sparse set of welfare variables. The full model, reported in Tables 5 and 6, adds three additional variables: two representing state AFDC policies on the treatment of unearned income and one representing the statewide average benefit for LIHEAP, the federal energy assistance program.

The importance of adding these variables can be assessed through a joint significance test across the three household composition categories. As reported at the end of Tables 5 and 6, I find that the three new (starred) variables are highly significant, with p-values well below .01 across races. For Blacks the significance appears to rely on a single variable, however—the monthly LIHEAP benefit.

Individual-Level Variables

The marginal effect for variables measured at the individual level are quite similar to those of the baseline model. Factors associated with greater likelihood of marriage include higher age, having a high school education or GED, immigrant status, and rural residence. More cohabitation is associated with work disabilities and having less than, or more than, a high-school diploma or GED. Those more likely to be lone women are younger, have more than a high-school education, have a work disability, and live in urban areas. For both Blacks and Whites, the addition of the three policy variables does not have a substantive effect on the signs or magnitudes of the individual-level variables.

State-Level Variables

The two unemployment measures achieve joint significance for both races. The men's unemployment rate again has a sizable impact on women's cohabitation and marriage choices. A 3-percentage-point rise would lead to a 2-percentage-point rise in the likelihood of cohabitation among Whites, and about half that amount among Blacks.

The marginal effects for marriage are similar in size, with the opposite sign. The ratio of men's to women's unemployment rates also has a large effect. A one-standard-deviation rise in the ratio would increase marriage among White women by about 1 percentage point, while lowering it roughly 1.4 percentage points for Blacks. The positive sign for Whites is difficult to explain, since in theory there should be a negative relation between women's rising economic opportunities and their probability of marriage. As in the baseline model, a rise in the proportion of state employment in the service sector is associated with fewer marriages and more cohabitation.

Looking at AFDC, the marginal effects are now somewhat smaller for Blacks, but the signs are the same as in the baseline model for both races. Higher monthly AFDC and Food Stamp benefits are associated with fewer lone women and fewer married women. The variable representing Policy B is again insignificant at conventional levels for Whites and Blacks, as expected. Policy C is associated with more cohabitation and fewer marriages for both races, as before.

The next two policies concern unearned income which cohabitators might contribute to an AFDC recipient. These are dummy variables coded as '1' if the state disregards income of each type, and '0' otherwise. Each disregard increases the woman's potential income while on welfare. Since most welfare recipients are unmarried, these variables ought to be positively correlated with being a lone woman and with cohabitation and negatively correlated with marriage. The most consistent finding is a negative relation between these policies and the probability of marriage, which follows theoretical expectation. Among Whites the marginal effects are insignificant for the Shared Expenses variable. The Unpredicted Income policy variable is positively and

significantly related to cohabitation, but has a small, negative marginal effect on the lone-woman category. Among Blacks these two variables have only insignificant effects.

The final variable, LIHEAP, should have a negative effect on the probability of living as a lone woman. I find a significant impact on each category. As theory would suggest, the marginal effect on the probability of being a lone woman is negative for both races. The magnitudes are quite small, however: a \$100 rise in the statewide average LIHEAP benefit would reduce the rate of lone womanhood by a fraction of one percentage point.

IX. Conclusion

This paper has presented a multinomial logit model of a woman's cohabitation choice. It investigated the connection between cohabitation and state welfare policies, including benefit levels and regulations on how cohabitators' contributions to household expenditures are counted. It also extended previous analyses by including separate estimation for White and Black women without limiting them to subgroups such as married women or mothers.

Aside from welfare programs, many variables were found to substantially alter the choice of cohabitation. Across races a pattern appears in which marriage probabilities rise until age 40, probably replacing cohabitation. After 40 marriage falls while cohabitation and living alone rise. Other factors associated with a fewer marriages include partial and total work disabilities and having exactly 12 years of education. Immigrant status appears to have a strong, positive effect on the probability of marriage

and a simultaneous negative impact on being a lone woman. Partial and total work disabilities are associated with more cohabitation.

I expected to find that women would react to financial incentives created by the AFDC program, including both benefits and regulations. I find that higher monthly AFDC and Food Stamps benefits have the expected negative association with marriage rates. Policy B has little effect on marriage and cohabitation choices, while Policy C has an unexpected positive impact on cohabitation rates. In the extended models, the disregard for Shared Expenses income from cohabitators is always insignificant, while the Unpredicted Income disregard has the predicted positive impact on cohabitation among White women.

One measure of the impact of these regulations is the difference in the probability of being in each cohabitation category under the most lenient and most restrictive state welfare regimes. The combination of welfare regulations that would be most lenient towards cohabitators' income contributions would be Policy A (the omitted choice in these regressions) and a value of '1' for the dummy variables representing the Shared Expenses, and Unpredicted Income categories (meaning the state disregarded each type of income). The most restrictive stance toward cohabitators would occur if a state followed Policy C and had none of three income disregards. Table 7 shows the results of this thought experiment using the marginal effects of the full model (Tables 5 and 6). Each figure is the total impact on each race-category pair of a change from the most to the least restrictive policies. Accompanying each number is the result of a chi-square test of significance, with the associated p-value in parentheses below.

I find a surprising difference in magnitudes and significance across races. Moving from most to least restrictive policies would decrease the proportion of lone White women, as expected, but would raise it at least slightly for Blacks. Contrary to theory, among Blacks there would be a fall in the proportion of cohabiting women, all else equal. The proportion of married women would rise almost 1 percent for Whites and 4.2 percent for Blacks.

Several other conclusions may be drawn from the results of this paper. First, the notable difference in outcomes across races suggests that states may wish to take the racial distribution of their poor population into account when determining expected outcomes of AFDC policies. Second, the AFDC policies studied here appear to exert substantial effects on marriage and cohabitation, although they are not consistent across races. Still, these results point to the usefulness of including AFDC regulations in models of household composition in addition to the usual AFDC benefit level. Third, the omission of LIHEAP benefits from previous models has probably not led to substantial bias. Although they are usually significant here, the marginal effects are quite small.

Table 1

Proportions of Cohabiting and Married Women from Selected Data Sources

I. 1990 Census: all women

	Whites 18-49	Blacks 18-49	Whites 18-29	Blacks 18-29	Whites 30-49	Blacks 30-49
Married:	.640	.367	.441	.216	.761	.472
Cohabiting:	.286	.549	.495	.718	.160	.431
Lone	.073	.084	.064	.066	.079	.097

Note: Married women live with their husbands and may or may not live with other adults besides. Cohabiting women live with other adults (of either sex) and are either unmarried or are married but do not live with their husbands.

II. Hu (1997) : former welfare recipients in California

	Former AFDC Recipients	Former AFDC-UP Recipients
Married:	.101	.718
Cohabiting:	.082	.176

Note: The data include 2164 mothers living in four California counties, all of whom received AFDC or AFDC-UP in December, 1992. Thirty-one percent are Black. All were interviewed between October 1993 and September 1994. Hu does not define any of the categories explicitly, but her discussion implies that the “cohabiting” women are unmarried and live with an unmarried man. Source: Appendix Table 1.

III. Moffitt *et al.* (1995a) : women receiving AFDC in the previous year

survey:	CPS	NSFH	PSID	NLSY
year:	1990	1988	1987	1987
ages:	18-55	19-55	18-55	22-29
Married:	.233	.300	.196	.263
Cohabiting:	.083	.086	.092	.169

Notes: The proportion of Blacks is not provided. Definitions of each survey’s universe follows, quoted from the source. CPS: Universe includes all women who were family or nonfamily heads or spouses in one-family or two-family households. Cohabitators are defined as those women in the universe who live in the same two-family household as an unrelated adult male. AFDC reciprocity is based on receipt by the woman, her spouse, or her male cohabitor. NSFH: Universe includes all respondent women (headship is not a criterion). Welfare reciprocity includes Food Stamps and is based on receipt by the woman, her spouse, or her male cohabitor. PSID: Universe includes all women who were household heads, spouses of heads, or cohabitators of heads (subfamily heads are excluded). AFDC reciprocity is based on receipt by the woman, her spouse, or her male cohabitor. NLSY: Universe includes all women (headship is not a criterion). AFDC reciprocity is based on receipt by the woman or her spouse. Source: Table 1.

Table 2

Values of Selected Variables, by Race and Cohabitation Category¹

	Lone	Cohabiting	Married
<i>White Women Ages 18-49</i>			
Age	34.5	28.1	35.4
Less than a High School Diploma or GED	.059	.185	.124
More than a High School Diploma or GED	.746	.517	.534
State AFDC + FS Benefit	\$ 634.71	\$ 643.88	\$ 623.29
Cohabitation Category	.073	.286	.640
<i>Black Women Ages 18-49</i>			
Age	34.7	30.0	35.5
Less than a High School Diploma or GED	.147	.280	.176
More than a High School Diploma or GED	.618	.390	.495
State AFDC + FS Benefit	\$ 610.60	\$ 602.81	\$ 587.63
Cohabitation Category	.084	.549	.367

Source: 1990 Census. See Ruggles and Sobek (1997).

¹ The categories here are the same as those used in the regression analysis. They are defined as follows. 'Lone Women' have no other adults in the household. They can be married only if the husband is absent. 'Cohabiting Women' have other adults in the household. They too can be married, again only if the husband is not present. 'Married Women' are those who identify themselves as married *and* living with their husbands. They may have, but are not required to have, other adults in the household.

Table 3

Multinomial Logit Model of White Women's Household Composition:
Marginal Effects for Baseline Model

	Lone	Cohabiting	Married
<u>Personal Characteristics</u>			
Intercept	-.1166 (5.46)	1.851 (36.5)	-1.735 (31.6)
Age	-.001506 (1.64)	-.1254 (55.1)	.1269 (53.1)
Age Squared (x 10 ⁻²)	.002983 (2.40)	.1597 (65.6)	-.1627 (61.0)
Chi-Square Statistic (Age and Age Squared)	7460. (p < .01)		
Less than High School or GED	-.01575 (4.54)	.05567 (11.6)	-.03992 (6.67)
More than High School or GED	.05113 (29.0)	.01294 (5.18)	-.06407 (20.9)
Hispanic	-.03854 (7.15)	.08456 (7.67)	-.04602 (3.12)
Immigrant	-.02569 (5.88)	-.04913 (6.96)	.07482 (8.62)
Rural Area	-.06651 (25.5)	-.07530 (18.3)	.1418 (34.8)
Partial Work Disability	.03113 (12.2)	.1011 (13.3)	-.1322 (17.2)
Total Work Disability	.03786 (10.4)	.1990 (30.6)	-.2368 (28.8)
<u>State-Level Variables</u>			
Men's Unemployment Rate (%)	.09542 (.771)	.1846 (.731)	-.2800 (1.06)

Table 3, cont'd

	Lone	Cohabiting	Married
Ratio, Men's to Women's Unemployment Rates	.001994 (.243)	-.02206 (1.07)	.02007 (.944)
Chi-Square Statistic (Unemployment Vars.)	12.57 (p = .05)		
Proportion of Employment in Services	.02903 (.548)	.6294 (3.44)	-.6584 (3.36)
AFDC + FS (x 10 ⁻³)	-.02820 (2.09)	.2170 (6.84)	-.1888 (6.64)
<i>State AFDC Policies on Cohabitators' Contributions</i>			
AFDC Policy B	.001511 (.558)	-9.427e-5 (2.01)	-.001417 (.127)
AFDC Policy C	.01295 (4.20)	.01425 (2.01)	-.02720 (3.64)
Chi-Square Statistic (Policies A & B)	689.5 (p < .01)		
Chi-Square Statistic (All Variables)	5.976e6 (p < .01)		
Actual Probability: (mean of dependent var.)	.073	.286	.640
No. Obs:	232,094		

Note: absolute value of asymptotic t-statistics (in parentheses) reflects correction for state-level heteroscedasticity.

Table 4

Multinomial Logit Model of Black Women's Household Composition:
Marginal Effects for Baseline Model

	Lone	Cohabiting	Married
<u>Personal Characteristics</u>			
Intercept	-.3451 (14.0)	2.124 (32.2)	-1.779 (25.5)
Age	.008939 (8.89)	-.1189 (43.6)	.1100 (36.6)
Age Squared (x 10 ⁻²)	-.009980 (6.99)	.1493 (37.8)	-.1393 (31.0)
Chi-Square Statistic (age and age squared)	3.399e5 (p < .01)		
Less than High School or GED	-.01087 (2.93)	.1084 (14.1)	-.09758 (15.4)
More than High School or GED	.04905 (17.2)	-.07847 (14.5)	.02942 (6.51)
Hispanic	-.007411 (17.2)	-.007986 (.933)	.01540 (1.19)
Immigrant	-.02940 (4.17)	-.09773 (5.50)	.1271 (7.57)
Rural Area	-.06390 (13.5)	-.01937 (2.03)	.08327 (9.74)
Partial Work Disability	.008026 (1.21)	.08565 (7.42)	-.09368 (7.78)
Total Work Disability	.02819 (4.92)	.1416 (14.2)	-.1698 (16.6)
<u>State-Level Variables</u>			
Men's Unemployment Rate (%)	-.006218 (.0916)	.3326 (3.50)	-.3264 (3.20)

Table 4, cont'd

	Lone	Cohabiting	Married
Ratio, Men's to Women's Unemployment Rates	.009270 (.647)	.06712 (2.58)	-.07639 (2.82)
Chi-Square Statistic (Unemployment Vars.)	90.15 (p < .01)		
Proportion of Employment in Services	.05545 (.458)	.3119 (1.42)	-.3673 (1.19)
AFDC + FS (x 10 ⁻³)	.005285 (.281)	.08710 (1.07)	-.09238 (1.10)
<i>State AFDC Policies on Cohabitators' Contributions</i>			
Policy B	.004434 (.562)	-.02313 (1.35)	.01870 (1.01)
Policy C	-.003689 (.724)	.03786 (3.56)	-.03417 (2.72)
Chi-Square Statistic (policies B & C)	80.65 (p < .01)		
Chi-Square Statistic (all variables)	6.212e6 (p < .01)		
Actual Probability: (mean of dependent var.)	.084	.549	.367
No. Obs:	64,497		

Note: absolute value of asymptotic t-statistics (in parentheses) reflects correction for state-level heteroscedasticity.

Table 5

Multinomial Logit Model of White Women's Household Composition:
Marginal Effects for Full Model

	Lone	Cohabiting	Married
<u>Personal Characteristics</u>			
Intercept	-.1140 (5.28)	1.855 (33.7)	-1.741 (30.0)
Age	-.001496 (1.59)	-.1254 (52.0)	.1269 (51.7)
Age Squared (x 10 ⁻²)	.002967 (2.36)	.1597 (55.2)	-.001627 (54.3)
Chi-Square Statistic (age and age squared)	6.317e4 (p < .01)		
Less than High School or GED	-.01581 (4.61)	.05597 (11.8)	-.04017 (6.833)
More than High School or GED	.05094 (32.6)	.01322 (5.47)	-.06416 (22.3)
Hispanic	-.03938 (7.04)	.08748 (7.85)	-.04810 (3.27)
Immigrant	-.02566 (5.91)	-.04894 (7.01)	.07460 (8.66)
Rural Area	-.06636 (29.2)	-.07552 (19.7)	.1419 (36.2)
Partial Work Disability	.03778 (10.4)	.1993 (30.0)	-.2371 (28.5)
Total Work Disability	.03102 (12.8)	.1012 (13.4)	-.1322 (17.1)
<u>State-Level Variables</u>			
Men's Unemployment Rate (%)	-.03049 (.218)	.6693 (2.65)	-.6388 (2.26)

Table 5, cont'd

	Lone	Cohabiting	Married
Ratio, Men's to Women's Unemployment Rates	.01278 (1.23)	-.06686 (2.86)	.05408 (2.22)
Chi-Square Statistic (Unemployment Vars.)	87.72 (p < .01)		
Proportion of Employment in Services	.02261 (.407)	.5952 (3.20)	-.6178 (3.07)
AFDC + FS (x 10 ⁻³)	-.03075 (3.66)	.2183 (7.72)	-.1876 (6.31)
<i>State AFDC Policies on Cohabitators' Contributions</i>			
Policy B	.003700 (1.47)	-.004983 (.466)	-.001282 (.118)
Policy C	.01316 (6.50)	.01239 (1.72)	-.02555 (3.12)
Chi-Square Statistic (policies B & C)	409.0 (p < .01)		
<i>State AFDC Policies on Unearned Income</i>			
* Shared Expenses	.001889 (.753)	.004878 (.724)	-.006768 (1.06)
* Unpredicted Income	-.005992 (2.05)	.01495 (1.90)	-.008960 (1.08)
<i>Other Public Assistance</i>			
* LIHEAP Avg. Benefit (x 10 ⁻³)	-.02239 (1.91)	.09579 (2.99)	-.07340 (2.48)
Chi-Square Statistic (starred variables)	275.0 (p < .01)		
Chi-Square Statistic (all variables)	9.536e6 (p < .01)		
Actual Probability:	.073	.286	.640
No. Obs:	232,094		

Note: absolute value of asymptotic t-statistics (in parentheses) and reflect correction for state-level heteroscedasticity.

Table 6

Multinomial Logit Model of Black Women's Household Composition:
Marginal Effects for Full Model

	Lone	Cohabiting	Married
<u>Personal Characteristics</u>			
Intercept	-.3497 (7.33)	2.140 (29.2)	-1.790 (20.5)
Age	.008936 (4.77)	-.1189 (31.9)	.1100 (24.6)
Age Squared (x 10 ⁻²)	-.009973 (4.35)	.1493 (30.8)	-.001393 (24.2)
Chi-Square Statistic (age and age squared)	2.836e4 (p < .01)		
Less than High School or GED	-.01081 (2.39)	.1083 (16.5)	-.09744 (13.8)
More than High School or GED	.04904 (6.80)	-.07828 (15.0)	.02924 (7.30)
Hispanic	-.007259 (1.20)	-.008259 (.625)	.01552 (1.03)
Immigrant	-.02904 (4.42)	-.09927 (9.94)	.1283 (14.7)
Rural Area	-.06377 (6.19)	.02016 (2.31)	-.08394 (15.8)
Partial Work Disability	.007943 (2.53)	.08598 (8.36)	-.09392 (10.4)
Total Work Disability	.02791 (4.55)	.1427 (13.9)	-.1706 (16.9)
<u>State-Level Variables</u>			
Men's Unemployment Rate (%)	.001066 (.00645)	.3301 (1.03)	-.3314 (1.17)

Table 6, cont'd

	Lone	Cohabiting	Married
Ratio, Men's to Women's Unemployment Rates	.01172 (1.04)	.05134 (1.69)	-.06305 (2.31)
Chi-Square Statistic (Unemployment Vars.)	48.98 (p < .01)		
Proportion of Employment in Services	.05620 (.953)	.3067 (1.34)	-.3629 (1.68)
AFDC + FS (x 10 ⁻³)	.008339 (.779)	.06824 (1.92)	-.07658 (2.40)
<i>State AFDC Policies on Cohabiters' Contributions</i>			
Policy B	.001293 (.386)	-.01560 (1.16)	.01431 (1.20)
Policy C	-.005023 (2.55)	.04436 (4.99)	-.03933 (4.56)
Chi-Square Statistic (policies B & C)	277.7 (p < .01)		
<i>State AFDC Policies on Unearned Income</i>			
* Shared Expenses	.003494 (.999)	-.006926 (.785)	.003432 (.484)
* Unpredicted Income	.003296 (.878)	-.003153 (.319)	-.0001429 (.01603)
<i>Other Public Assistance</i>			
* LIHEAP Avg. Benefit (x 10 ⁻³)	-.02201 (1.55)	.1071 (2.61)	-.08514 (2.65)
Chi-Square Statistic (starred variables)	133.2 (p < .01)		
Chi-Square Statistic (all variables)	4.589e7 (p < .01)		
Actual Probability:	.073	.286	.640
No. Obs:	64,497		

Note: absolute value of asymptotic t-statistics (in parentheses) and reflect correction for state-level heteroscedasticity.

Table 7

Combined Marginal Effects of Changes in Welfare Variables
on Women Ages 18-49, by Race *

	Lone	Cohabiting	Married
Whites	-.01726	.007437	.009822
Chi-square statistic (all choices)	47.04 (p < .01)		
Blacks	.01181	-.05444	.04262
Chi-square statistic (all choices)	32.66 (p < .01)		

Notes

* These figures derive from Tables 5 and 6 the full models. They measure the percentage-point change in the probability of living in each category based on a change from the least lenient to the most generous AFDC policies regarding unearned income. To calculate each number, find the sum of the coefficients for Shared Expenses and Unpredicted Income, then add the coefficient for Policy C multiplied by -1. For instance, consider the 'Lone' category for White women (Table 5). The sum is $(-1 \times .01316) + .001889 + (-.005992) = -.01726$. The chi-square test for each race has the null hypothesis that the three coefficients sum to 0 for lone women, for cohabiting women, and for married women simultaneously. This constitutes three restrictions, so each test has three degrees of freedom. The p-values are reported in parentheses.

Appendix A

State AFDC Policies

Column (1) 'x' denotes disregard of contributions for shared household expenses

Column (2) 'x' denotes disregard of unpredictable contributions

Column (3) 'x' denotes disregard of \$30 per quarter in gift income

Column (4): Shelter-Grant Reduction Policy

A: AFDC grant is not affected if recipients receive free shelter

B: AFDC grant reduced by shelter grant amount if free shelter provided, unless recipients contribute any money

C: AFDC grant reduced by shelter grant amount if free shelter provided, or by amount of recipients' contribution if any contribution is made

	(1)	(2)	(3)	(4)
<u>Southeast</u>				
Alabama	-	-	x	A
DC	x	-	x	A
Florida	x	x	x	B
Georgia	x	-	-	A
Kentucky	-	-	x	A
Louisiana	-	-	x	A
Maryland	x	-	-	A
Mississippi	-	-	x	A
No. Carolina	x	-	x	A
So. Carolina	x	x	x	A
Tennessee	x	-	x	A
Texas	x	-	x	A
Virginia	-	x	x	A
W. Virginia	x	-	-	A
<u>West</u>				
Arizona	-	x	x	B
California	x	-	x	A
Colorado	-	-	-	B

Appendix A, cont'd

Hawaii	x	-	x	A
Nevada	x	-	x	A
New Mexico	-	-	x	B
Oklahoma	x	-	x	B
Oregon	x	-	x	A
Utah	x	x	x	A
Washington	x	-	x	B
<u>Northeast</u>				
Connecticut	-	-	x	A
Delaware	-	-	x	A
Massachusetts	x	-	x	B
New Hampshire	x	x	x	C
New Jersey	-	-	x	A
New York	x	-	-	C
Pennsylvania	x	-	x	A
Rhode Island	-	-	x	A
<u>Midwest</u>				
Arkansas	-	-	x	A
Illinois	x	-	x	A
Indiana	x	x	x	A
Kansas	-	-	x	A
Michigan	-	-	x	A
Minnesota	x	-	x	A
Missouri	-	x	x	A
Nebraska	x	x	x	B
Ohio	x	x	x	A
Wisconsin	x	-	x	A

Source: Moffit, Reville and Winkler (1995b) Appendix Tables B1, B2

Appendix B.1

Descriptive Statistics for the Entire Sample, by Race: Whites and Blacks¹

	Whites	Whites	Blacks	Blacks
	Mean	Std. Dev.	Mean	Std. Dev.
Lone Women	.074	.261	.084	.278
Married Women	.641	.480	.367	.482
Cohabiting Women	.285	.452	.549	.498
Age (yrs.)	33.2	8.73	32.4	8.93
Age ² (yrs. / 100)	11.79	5.88	11.3	5.92
Hispanic	.073	.260	.019	.137
Less than a High School Diploma or GED	.137	.344	.231	.421
High School Diploma or GED	.317	.465	.322	.467
More than a High School Diploma or GED	.546	.500	.448	.497
Partial Work Disability	.029	.169	.033	.178
Total Work Disability	.022	.146	.040	.196
Immigrant Status	.062	.241	.071	.257
Rural Area	.266	.442	.118	.322
Men's Unemployment Rate (%)	5.54	1.27	13.9	4.38
Ratio, Men's to Women's Unemp. Rates	1.06	.180	1.10	.226
Proportion of Employment in Services	.245	.034	.241	.040
AFDC + Food Stamps Benefit (\$)	630.02	124.18	597.90	128.78
AFDC Policy B (Cohabitors' Income)	.180	.385	.090	.286
AFDC Policy C (Cohabitors' Income)	.079	.270	.101	.302
AFDC Policy on Shared-Expenses Income	.698	.459	.691	.462
AFDC Policy on Unpredictable Income	.224	.417	.206	.404
LIHEAP Benefit (\$)	188.63	121.98	172.57	111.09
Number of Observations [*]	232,094		64,497	

Note

^{*}These numbers represent the samples used throughout the paper.

Appendix B.2

Definitions and Sources

State-Level Variables

Men's Unemployment Rate; Ratio, Men's to Women's Unemployment Rates: 1990 unemployment rates by sex and state. Source: IPUMS (Ruggles and Sobek 1997).

Proportion of Employment in Services: 1989 employment in services as a proportion of all nonfarm employment, by state, as classified in the 1987 Standard Industrial Classification Manual. Service employment excludes the finance, insurance and real estate industries. Source: Statistical Abstract of the U.S. (1992), Table 668.

LIHEAP: average 1990 assistance given to LIHEAP cases in the woman's state. Source: House of Representatives (1991), Appendix O, Table 37.

AFDC + Food Stamps: the maximum monthly combined benefit of AFDC plus Food Stamps for a family of three with no other income, in real (1995) dollars, by state and year. The family is assumed to have no other countable income and to have the full deductions allowed under the Food Stamp program.

Source: U.S. House of Representatives (1991), Section 7, Table 7.

AFDC Policies Source: Moffitt *et al.* (1995b)

AFDC Policy B: A dummy variable equaling '1' if the state has the following policy: the monthly AFDC grant is reduced by the amount of the shelter allowance if the woman receives free shelter, unless she contributes any money to her own shelter expenses.

Appendix B.2, cont'd

AFDC Policy C: A dummy variable equaling '1' if the state has the following policy: the monthly AFDC grant is reduced by the amount of the shelter allowance if the woman receives free shelter; if her shelter costs are partly paid by another person, her grant is reduced by the amount of that contribution, up to the level of the shelter allowance.

AFDC Policy on Shared-Expenses Income: A dummy variable equaling '1' if the state disregards contributions from cohabitators for shared household expenses.

AFDC Policy on Unpredictable Income: A dummy variable equaling '1' if the state disregards unpredictable income earned by the woman.

Person-Level Variables

Source: 1990 Census (Ruggles and Sobek 1997)

Lone women: women 18 and older who have no other adults in the same household.

Married women: women 18 and older who report being married and living with their husbands. They may or may not live with other adults as well.

Cohabiting women: women 18 and older who report being unmarried (or married but not living with a husband) and who live with at least one other adult.

Years of Completed Schooling: highest grade completed.

Hispanic: Dummy variable that equals 1 if the woman claimed Hispanic ethnicity.

Immigrant: Dummy variable that equals 1 if the woman was born outside the United States, except for children of American parents born abroad.

Rural Area: Dummy variable that equals 1 if the woman does *not* live in a municipality or Census-defined "area" having 2,500 people or more.

Appendix B.2, cont'd

Partial Work Disability: Dummy variable that equals 1 if the woman has a disability that limits but does not prevent work.

Total Work Disability: Dummy variable that equals 1 if the woman has a disability that prevents work.

Appendix B.3

Average Monthly Benefits in 1990 Dollars, by Program and State, for Selected Programs

State	AFDC-UP available in 1990 ¹	AFDC + Food Stamps (family of 3)	LIHEAP (household) FY 1990
Alabama	-	378	101
Arizona	-	551	138
Arkansas	-	464	96
California	x	832	69
Colorado	-	595	266
Connecticut	x	801	516
Delaware	x	579	321
District of Columbia	x	633	245
Florida	-	552	65
Georgia	-	533	179
Hawaii	x	940	180
Illinois	x	609	376
Indiana	-	548	255
Kansas	x	643	200
Kentucky	-	488	109
Louisiana	-	450	86
Maryland	x	641	269
Massachusetts	x	724	472
Michigan	x	730	151
Minnesota	x	719	371
Mississippi	-	380	100
Missouri	x	549	199
Nebraska	x	601	215
Nevada	-	577	172
New Hampshire	-	700	383
New Jersey	x	651	400
New Mexico	-	524	158
New York	x	766	206
North Carolina	x	532	108
Ohio	x	584	107
Oklahoma	-	473	87
Oregon	x	684	185
Pennsylvania	x	641	219
Rhode Island	x	765	364
South Carolina	x	466	90
Tennessee	-	444	200
Texas	-	444	38
Utah	-	617	198
Virginia	-	594	270
Washington	x	714	214
West Virginia	x	509	113
Wisconsin	x	708	260

¹A value of 'x' signifies that AFDC-UP was available.

Appendix C

Intercorrelations of Variables: Whites

	Lone	Cohabit	Married	Age	Age Sq	Educ <12	Educ >12
<i>Dependent Variables</i>							
Lone	1.0000						
Cohabit	-0.1778	1.0000					
Married	-0.3762	-0.8449	1.0000				
<i>Person-level Independent Variables</i>							
Age	0.0413	-0.3729	0.3286	1.0000			
Age Sq	0.0379	-0.3360	0.2957	0.9922	1.0000		
Educ <12	-0.0658	0.0899	-0.0489	-0.0460	-0.0298	1.0000	
Educ >12	0.1179	-0.0354	-0.0308	0.0040	-0.0105	-0.4360	1.0000
Hispanic	-0.0430	-0.0509	0.0789	-0.0496	-0.0481	0.2026	-0.1067
Immigrnt	-0.0313	0.0076	0.0099	0.0237	0.0230	0.1615	-0.0726
Rural	-0.0982	0.1405	-0.0925	0.0519	0.0515	0.0426	-0.1273
Pt Disab	0.0230	-0.0259	0.0142	0.0434	0.0435	0.0324	-0.0240
Tot Dsab	0.0115	-0.0456	0.0418	0.0679	0.0709	0.1138	-0.0827
<i>State-Level Independent Variables</i>							
AFDC+FS	0.0103	-0.0739	0.0725	0.0001	-0.0017	-0.0432	0.0716
AFDC-UP	0.0017	-0.0458	0.0476	0.0041	0.0034	-0.0467	0.0305
Policy B	0.0092	-0.0096	0.0049	0.0036	0.0032	-0.0179	0.0285
Policy C	0.0113	-0.0396	0.0356	0.0026	0.0027	-0.0096	0.0103
Share In	0.0128	-0.0337	0.0284	-0.0010	-0.0014	-0.0018	0.0180
Unprd In	-0.0077	0.0160	-0.0126	-0.0024	-0.0016	0.0034	-0.0278
Gift Inc	-0.0117	0.0224	-0.0170	-0.0064	-0.0068	-0.0005	-0.0031
LIHEAP	-0.0007	-0.0185	0.0201	0.0057	0.0046	-0.0670	0.0367
Men U	0.0048	-0.0287	0.0277	-0.0010	-0.0010	0.0060	-0.0093
Women U	0.0004	-0.0101	0.0105	-0.0022	-0.0016	0.0548	-0.0261
U Ratio	0.0080	-0.0245	0.0214	0.0005	-0.0005	-0.0580	0.0175
%Svc Emp	0.0205	-0.0795	0.0726	0.0005	-0.0003	-0.0297	0.0541
	Hispanic	Immi-grant	Rural	Part Disab	Total Disab	AFDC+FS	AFDC-UP
Hispanic	1.0000						
Immigrnt	0.4568	1.0000					
Rural	-0.1236	-0.1129	1.0000				
Pt Disab	-0.0151	-0.0186	0.0014	1.0000			
Tot Disab	0.0038	-0.0101	0.0111	-0.0258	1.0000		
AFDC+FS	0.0740	0.1195	-0.1523	0.0039	-0.0046	1.0000	
AFDC-UP	-0.0266	0.0352	-0.0511	0.0001	0.0014	0.6624	1.0000
Policy B	0.0180	0.0087	-0.0480	0.0075	-0.0019	-0.0544	-0.2056
Policy C	0.0528	0.0559	-0.0225	-0.0066	0.0046	0.3152	0.1706
Share In	0.0746	0.0690	-0.0877	0.0018	-0.0026	0.2221	0.2076
Unprd In	-0.0450	-0.0312	0.0154	0.0034	-0.0027	-0.2642	-0.2486
Gift Inc	-0.0273	-0.0241	-0.0058	0.0050	-0.0062	-0.1415	-0.0213
LIHEAP	-0.1017	-0.0421	-0.0085	-0.0008	-0.0136	0.2946	0.3337
Men U	0.0554	0.0335	-0.0325	0.0030	0.0155	0.2810	0.2277
Women U	0.1061	0.0516	-0.0123	0.0008	0.0203	-0.0499	-0.1748
U Ratio	-0.0448	-0.0178	-0.0337	0.0044	-0.0038	0.4318	0.4850
%Svc Emp	0.1272	0.1276	-0.1971	-0.0037	-0.0073	0.4748	0.1593

Appendix C, cont'd

	Policy B	Policy C	Share Income	Unpred Income	Gift Income	LIHEAP	Men's U Rate
Policy B	1.0000						
Policy C	-0.1381	1.0000					
Share In	-0.0253	0.1722	1.0000				
Unprd In	0.2457	-0.1070	-0.0147	1.0000			
Gift Inc	0.0260	-0.6943	-0.1203	0.1776	1.0000		
LIHEAP	0.0627	0.0933	-0.1380	-0.1140	-0.0486	1.0000	
Men U	0.0344	0.2126	0.0532	-0.1883	-0.1560	-0.0401	1.0000
Women U	-0.0183	0.0714	-0.0562	-0.2289	-0.0651	-0.4273	0.7395
U Ratio	0.0705	0.1880	0.1250	-0.0544	-0.0880	0.4531	0.5301
%Svc Emp	0.2397	0.3068	0.3180	-0.1203	-0.1806	0.2028	0.1934
	Women's U Rate	Unemp Ratio	Proportion Svc Emp				
Women U	1.0000						
U Ratio	-0.1527	1.0000					
%Svc Emp	0.0102	0.2490	1.0000				

Appendix C, cont'd

Intercorrelations of Variables: Blacks

	Lone	Cohabit	Married	Age	Age Sq	Educ <12	Educ >12
<i>Dependent variables</i>							
Lone	1.0000						
Cohabit	-0.3344	1.0000					
Married	-0.2305	-0.8400	1.0000				
<i>Person-level Independent Variables</i>							
Age	0.0781	-0.2961	0.2608	1.0000			
Age Sq	0.0729	-0.2694	0.2362	0.9921	1.0000		
Educ <12	-0.0605	0.1292	-0.0985	0.0130	0.0318	1.0000	
Educ >12	0.1038	-0.1282	0.0726	0.0008	-0.0173	-0.4932	1.0000
Hispanic	-0.0100	0.0026	0.0031	-0.0113	-0.0125	0.0468	-0.0177
Immigrnt	-0.0204	-0.0347	0.0476	0.0114	0.0069	0.0230	0.0134
Rural	-0.0664	-0.0307	0.0699	0.0041	0.0058	0.0598	-0.1021
Pt Disab	0.0100	0.0123	-0.0184	0.0642	0.0644	0.0302	-0.0229
Tot Disb	0.0196	0.0379	-0.0504	0.1177	0.1226	0.1384	-0.0979
<i>State-level Independent Variables</i>							
AFDC+FS	0.0298	0.0421	-0.0606	0.0133	0.0135	-0.0569	0.0737
AFDC-UP	0.0218	0.0517	-0.0659	0.0156	0.0164	-0.0502	0.0420
Policy B	0.0042	-0.0139	0.0119	-0.0012	-0.0012	0.0249	-0.0068
Policy C	0.0001	0.0365	-0.0378	0.0093	0.0110	0.0107	0.0032
Share In	0.0172	0.0014	-0.0113	0.0084	0.0080	-0.0223	0.0194
Unprd In	-0.0029	-0.0198	0.0221	0.0036	0.0033	0.0266	-0.0361
Gift Inc	-0.0015	-0.0139	0.0153	-0.0047	-0.0053	-0.0142	0.0094
LIHEAP	0.0063	0.0417	-0.0466	0.0097	0.0103	-0.0217	0.0186
Men's U	0.0021	0.0125	-0.0142	-0.0078	-0.0059	0.0269	0.0004
Women U	-0.0055	-0.0227	0.0251	-0.0081	-0.0058	0.0346	-0.0153
U Ratio	0.0334	-0.0776	0.0565	0.0206	0.0220	-0.0388	0.0460
%Svc Emp	0.0301	0.0397	-0.0584	0.0181	0.0184	-0.0248	0.0371
	Hispanic	Immi- grant	Rural	Part Disab	Total Disab	AFDC+FS	AFDC-UP
Hispanic	1.0000						
Immigrnt	0.2717	1.0000					
Rural	-0.0418	-0.0931	1.0000				
Pt Disab	-0.0060	-0.0253	-0.0088	1.0000			
Tot Dsab	-0.0043	-0.0380	0.0146	-0.0377	1.0000		
AFDC+FS	0.1158	0.2047	-0.2842	0.0136	-0.0130	1.0000	
AFDC-UP	0.0618	0.0963	-0.1523	0.0124	-0.0076	0.6789	1.0000
Policy B	0.0210	0.1080	-0.0460	0.0037	-0.0095	-0.0344	-0.2602
Policy C	0.1605	0.3166	-0.1149	-0.0080	-0.0086	0.4384	0.2755
Share In	0.0442	0.1040	-0.0946	0.0067	-0.0113	0.2771	0.2990
Unprd In	-0.0319	-0.0166	0.0667	-0.0068	-0.0051	-0.1836	-0.1654
Gift Inc	-0.1070	-0.2135	0.0425	0.0102	0.0070	-0.2637	-0.0066
LIHEAP	0.0375	0.0810	-0.1391	0.0044	-0.0216	0.3592	0.4050
Men U	0.0273	0.0332	-0.2240	0.0132	0.0193	0.2388	0.2882
Women U	-0.0261	-0.0868	-0.0097	0.0089	0.0337	-0.1287	-0.0785
U Ratio	0.0769	0.1714	-0.3308	0.0091	-0.0128	0.5149	0.5307
%Svc Emp	0.1050	0.2376	-0.3042	0.0103	-0.0209	0.5887	0.2602

Appendix C, cont'd

	Policy B	Policy C	Shared Income	Unpred Income	Gift Income	LIHEAP	Men's U Rate
Policy B	1.0000						
Policy C	-0.1054	1.0000					
Share In	0.1376	0.2239	1.0000				
Unprd In	0.3819	-0.1698	0.0064	1.0000			
Gift Inc	0.1000	-0.7395	-0.2771	0.2301	1.0000		
LIHEAP	-0.1028	0.1026	-0.0807	-0.1289	-0.0987	1.0000	
Men U	-0.1139	0.1506	-0.0917	-0.1303	0.0483	0.1865	1.0000
Women U	-0.1029	-0.0776	-0.3461	-0.0843	0.1517	-0.1131	0.7641
U Ratio	-0.0484	0.3356	0.2631	-0.1542	-0.0897	0.4333	0.5479
%Svc Emp	0.2725	0.3668	0.3380	-0.0699	-0.1571	0.2854	0.1331
	Women's U Rate	Men's U Rate	Proportion Svc Emp				
Women U	1.0000						
U Ratio	-0.0910	1.0000					
%Svc Emp	-0.2606	0.5710	1.0000				

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