SHACKING UP OR SHELLING OUT:
INCOME TAXES, MARRIAGE, AND COHABITATION

James Alm
Andrew Young School of Policy Studies
Georgia State University

Leslie A. Whittington
Georgetown Public Policy Institute
Georgetown University[*]

Abstract

Anecdotal evidence suggests that the income tax penalty associated with marriage contributes to the decision to a couple to live together as a married versus a cohabiting couple. In this paper we estimate the impact of various factors, including the federal individual income tax, on a couple's decision to marry instead of cohabit. Using household data from the Panel Study on Income Dynamics, we estimate various models of the probability of cohabitation as a function of the change in tax burden caused by marriage, as well as several other variables. We find that the determinants of the *initial* marriage versus cohabitation decision are generally different than the determinants of the *transition* from cohabitation to marriage. In particular, the *initial* decision to form either a cohabiting or a married union is only marginally affected by the income tax consequences of one form of union versus another, and other factors play a more important role. However, for those already living together as a cohabiting couple, the decision to make the *transition* from a cohabiting to a married couple is significantly affected by the tax consequences of such a move. Here, an increase in the income tax at legal marriage, or an increase in the marginal tax rate with marriage, has a statistically significant and negative impact on the probability of transition from cohabitation to legal marriage. However, the actual magnitude of the tax impact is generally small, and other variables are more important determinants of this decision.

Over the last several decades, there has been a significant increase in the prevalence of couples in the United States choosing nonmarital cohabitation, both preceding eventual marriage and as an alternative to marriage. For example, Casper and Cohen (2000) estimate that the number of cohabiting couples increased from 1.1 million in 1997 to 4.9 million in 1997, or from 1.5 percent of all U.S. households in 1977 to 4.8 percent in 1997; although other estimates differ (Bumpass and Lu, 2000; U.S. Bureau of the Census, 2001; Baughman, Dickert-Conlin, and Houser, 2002), all studies show a steady and large increase in cohabitation.1 These cohabitations are typically shorter-lived than marriages, and many cohabitations are eventually converted to marriages. Still, both the number and the percentage of couples that choose never to enter a legal union have clearly increased over this period. Estimates from other countries indicate that the U.S. experience is not an isolated one (Landale and Forste, 1991; Murphy, 2000).

Reasons for the increase in cohabitation are, however, largely unknown. Some have suggested that a factor that may be associated with the trend is a decline in the social stigma once attached to living together outside of marriage, or what might be called the "Murphy Brown" phenomenon. Others have pointed to factors that are more economic in nature, reflecting the standard economic theory of the family (Waters and Ressler, 1999; Brien, Lillard, and Stern, 1999; Rao Sahib and Gu, 2002).

Of these economic factors, a potentially important one, and one that is under some public policy control, is the tax consequence of living together as a married couple versus as an unmarried couple. It is now well-known that a couple's joint income tax burden can change, often significantly, with marriage. For many couples, their income taxes when married are more than their combined tax liabilities as single filers, so that they pay a "marriage tax." Many other couples receive a "marriage subsidy" because their joint taxes fall with marriage. The presence of this marriage tax/subsidy has become quite controversial, and methods to measure it, to

determine its behavioral effects, and to remove it from the income tax have attracted

increasing attention.[2]

The relevance of the marriage tax/subsidy to cohabitation is obvious. A couple planning

to live together can choose to live together as unmarried singles; alternatively, the couple can

elect a legal (or a common law) marriage. Although nontax factors seem likely to be the major

determinants of this decision, it is also possible that tax factors play some role, especially given

the well-documented magnitude of the marriage tax/subsidy. In particular, if the two individuals

would pay more taxes if they choose marriage over cohabitation, then they might very well

decide to live together outside of a legal marriage; if they pay less taxes as a married couple,

then they may decide to marry.

In fact, there is increasing evidence that tax consequences affect family structure

decisions, in a variety of dimensions.   Alm and Whittington (1995, 1999) find that marriage is

less likely in the presence of a marriage tax, and there is evidence that the marriage penalty

affects the probability of divorce, especially for women (Whittington and Alm, 1997) and low-

income individuals (Dickert-Conlin, 1999).[3]   The marriage penalty may also affect the timing of

the marriage decision (Sjoquist and Walker, 1995; Alm and Whittington, 1997). Although the

magnitude of these tax effects often appears quite small, and other variables seem more

important factors, there is increasing evidence that taxes play some role in family decisions.

In this paper we use data from the Panel Study of Income Dynamics (PSID) for the

period 1983 to 1997 to determine the effects of economic and noneconomic variables on a

couple's choice of the legal form of their taxable unit: marriage and filing as a married couple

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[1] For earlier but still relevant estimates, see Thornton (1988) and Bumpass and Sweet (1989).
[2] Alm, Dickert-Conlin, and Whittington (1999) review much of this work.
[3] For example, Alm and Whittington (1999) use individual longitudinal data from the Panel Study of Income Dynamics to estimate a hazard model of the time to first marriage. They find that probability of marriage falls as the marriage penalty increases; at the mean values of the variables a 10 percent rise in the marriage penalty leads to a 2.3 percent reduction in the possibility of first marriage, while at the level of the maximum tax penalty a 10 percent rise in the marriage penalty leads to a 12.5 percent fall in the probability of first marriage.

versus cohabitation and filing as single taxpayers. In particular, we ask whether the income tax causes individuals who are otherwise living together to maintain the tax status of their family unit as one type of unit rather than another (e.g., married filing jointly versus unmarried individuals filing single returns), in order to take advantage of the different tax treatments of these units. We focus upon the determinants of two separate but related marriage versus cohabitation decisions. First, what factors determine the *initial* decision to marry versus cohabit? Second, if individuals are already cohabiting, what factors determine the *transition* from cohabitation to marriage?

We find that the determinants of the *initial* marriage versus cohabitation decision are generally different than the determinants of the *transition* from cohabitation to marriage. In particular, the *initial* decision to form either a cohabiting or a married union is only marginally affected by the income tax consequences of one form of union versus another, and other factors play a more important role. However, for those already living together as a cohabiting couple, the decision to make the *transition* from a cohabiting to a married couple is significantly affected by the tax consequences of such a move. Here, an increase in the income tax at legal marriage, or an increase in the marginal tax rate with marriage, has a statistically significant and negative impact on the probability of transition from cohabitation to legal marriage. Regardless, however, the actual magnitude of the tax impact is generally small, and other variables are more important determinants of this decision.

Section 1 discusses the ways in which economic incentives, including the individual income tax, affect the decision to marry versus cohabit. Section 2 presents data and estimation methods. Estimation results are in section 3, and summary and conclusions are in section 4.

1. Taxes in the Economic Theory of Marriage versus Cohabitation

Economic models of the household assume that individuals decide to marry if they expect some positive flow of benefits from the union that is greater than that they would receive

if they remained single (Becker 1973, 1974; Grossbard-Shechtman, 1993). Economic incentives can therefore affect the marriage versus cohabitation decision if they influence the magnitude of the benefits or costs of marital status. Although the *initial* decision to cohabit versus marry is somewhat different than the subsequent decision to make the *transition* from cohabitation to marriage, the basic elements of these two decisions are the same. We therefore focus mainly on the initial decision to illustrate the nature of the economic, and tax, incentives.

Suppose that two individuals have already decided to form a committed relationship, and are choosing whether to marry or to cohabit. These individuals will marry when their joint utility is greater if married than if cohabiting. Utility is assumed to depend upon some single aggregate commodity denoted Z that is produced in the household by combining market goods and time inputs. This Z-good is produced in each period by the household, but for simplicity this time dimension is ignored so that Z is assumed to represent the total amount of the commodity produced over the lifetime of the household. The necessary condition for a couple to marry rather than to cohabit is that their utility is greater with marriage than with cohabitation, or

$$U^C(Z^C) \leq U^M(Z^M) \, , \tag{1}$$

where $U^C(\ )$ is the utility function with cohabitation, $U^M(\ )$ is the utility function with marriage, Z^C is consumption of the aggregate household good of a cohabiting household, and Z^M is consumption of a married household. The utility function may well differ between married and cohabiting status if, for example, the couple perceives some social stigma from living together outside of legal marriage. However, if the household utility function is assumed to be the same regardless of the legal status of the relationship, then the necessary condition for a couple to marry rather than to cohabit is that their consumption of the household good is greater with marriage than with cohabitation, or

$$Z^C \leq Z^M. \tag{2}$$

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The likelihood of cohabiting is then affected by economic factors that change the net returns to being cohabitors or being married, with marriage increasing if its net returns increase. There are, of course, numerous noneconomic factors that may affect these returns.

Consider the production of the composite good, say, of the married couple. The choice of the composite good must be consistent with the couple's market budget constraint. In the absence of income taxes this constraint is $[pX=(w_1L_1+w_2L_2)]$, where p is the price of a single aggregate market good consumed by the couple, w_i is the market wage rate of individual i of the couple ($i=1,2$), and L_i is the number of hours worked by individual i ($i=1,2$) in the market. Since total time T is the same for both members and is divided between market work L_i and household work H_i, the budget constraint can be rewritten as $[pX+(w_1H_1+w_2H_2)=(w_1+w_2)T]$. Assume for simplicity that the general production function of Z^M takes the form $X=aZ^M$ and $H_i=b_iZ^M$, where a (b_i) represents the fixed amount of X (H_i) required by individual i to produce one unit of Z^M. The budget constraint then becomes, $[(ap+b_1w_1+b_2w_2)Z^M=(w_1+w_2)T]$, which gives

$$Z^M = \frac{(w_1 + w_2)T}{[ap + (b_1w_1 + b_2w_2)]}. \tag{3}$$

The numerator of Z^M represents the "full income" of the married couple, and the denominator is the "full price" of the Z-good, consisting of the market or dollar cost per unit of Z^M (or ap) plus the time or opportunity cost of Z^M (or $b_1w_1+b_2w_2$). In the absence of taxes, the Z-good for a cohabiting couple is identical (assuming that the home production functions are unchanged by cohabitation versus marriage).

However, the presence of taxes changes the expression for the composite good, and we believe that there are valid reasons for the introduction of taxes.[4] Perhaps the most compelling reason for recognizing the potential impact of taxes is the magnitude, both positive and

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4 For a comprehensive discussion of the history of the U.S. income tax treatment of the family,

negative, of the tax change with marriage. There are now numerous studies that calculate the magnitude of the marriage tax/subsidy (Rosen, 1987; Feenberg and Rosen, 1995; U.S. General Accounting Office, 1996; Alm and Whittington, 1996; Congressional Budget Office, 1997; Bull, Holtzblatt, Nunns, and Rebilein, 1998; Dickert-Conlin and Houser ,1998; Whittington and Alm, 2001). These studies indicate the presence of a large and variable marriage tax whose magnitude has changed over time. For example, Alm and Whittington (1996) find that there has been on average a marriage tax whose magnitude has averaged roughly $400 in recent years. However, this overall average conceals much variation, both across families and over time. The percentage of families that pay a penalty has tended to rise since 1969, to nearly 60 percent in recent years; for these families the real average penalty has generally exceeded $1000 for most of the last twenty years. On the other hand, for those families that receive a subsidy the average subsidy over this period has also typically exceeded $1000, and the percentage of families receiving a subsidy has fallen over time to less than 30 percent. Although other studies often calculate different magnitudes, the broad outlines of the marriage tax/subsidy are quite similar. In particular, there is little question that the marriage tax/subsidy is still present in the individual income tax (Whittington and Alm, 2001).

To demonstrate the sources of the marriage tax/subsidy, consider the following illustrative examples, based upon the 2000 federal income tax. Suppose that two individuals each have adjusted gross income (AGI) of $30,000. If these individuals live together as unmarried cohabitors, each filing as a single taxpayer using the standard deduction for singles ($4400) and one personal exemption ($2800), then each pays taxes of $3424, for a combined tax liability of $6848. If instead they marry and file a joint tax return, using the marriage standard deduction of $7350 and two personal exemptions of $2800 each, then their taxes as a married couple are $7481.5 This couple faces a *marriage tax* because the couple pays $633

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see Bittker (1975), Rosen (1977), and Alm, Dickert-Conlin, and Whittington (1999).
5 Married couples may file taxes separately, but there is generally little gain from doing so.

more in taxes if they live together as married rather than as cohabiting. A *marriage subsidy* can also be easily illustrated. Suppose that the incomes of the partners are $60,000 and $0. Their combined taxes as unmarried cohabitors are $11,389, while their taxes as a married couple are again $7655, so this couple pays $3734 *less* in income taxes as married than as cohabiting. Many features of the tax (and transfer) system create these marriage nonneutralities (U.S. General Accounting Office, 1996; Congressional Budget Office, 1997).

It is straightforward to introduce income taxes in this model. Suppose for simplicity that taxes consist of a constant marginal tax rate on market income and a lumpsum guarantee, where these income tax parameters vary for singles and for married couples. The Z-good for the married couple becomes in the presence of taxes

$$Z^M = \frac{(w_1 + w_2)(1 - \tau') \, T + \varphi'}{[ap + (b_1 w_1 + b_2 w_2)(1 - \tau')]} \, , \tag{4}$$

where (τ', φ') are the tax parameters for the married couple. The Z-good for a cohabiting couple is derived in a similar manner to give

$$Z^C = \frac{[w_1 (1 - \tau_1) + w_2 (1 - \tau_2)] \, T + 2\varphi}{[ap + (b_1 w_1 (1 - \tau_1) + b_2 w_2 (1 - \tau_2))]} \, , \tag{5}$$

where τ_i is the marginal tax rate facing individual *i* if he or she files as a single taxpayer and φ is the lumpsum guarantee for a single individual. The condition for cohabitation versus marriage remains unchanged.

Equations (4) and (5) indicate that income taxes affect the decision to cohabit versus marry decision in two ways, through their impact on full income and on the cost of the household good; that is, the choice between married and cohabiting status will now depend both on the total amount of taxes paid for married couples versus cohabiting couples and on the marginal tax rates they face. If marriage increases total taxes without changing the marginal tax

rates, then the gains from marriage clearly fall. However, if marriage increases the marginal

tax rate alone, then there are conflicting effects of taxation: an increase in the marginal tax rate

at marriage increases the taxes paid by married couples, but a higher marginal tax rate also

reduces the cost of the married household good. In any event, measures of both the total taxes

paid and the marginal tax rates faced by married versus cohabiting couples affect the

household decision.

This framework therefore suggests that a couple is likely to choose marriage over

cohabitation in the presence of a marriage subsidy, while the presence of a marriage tax will

encourage the couple to cohabit. The impact of a change in marginal tax rates is ambiguous.

Of course, there are also numerous other factors that may affect the decision. The next section

presents our approach for estimating the impact of these factors.

2. Data and Estimation Methods

2.1. Data

Our data are from various data sets drawn from the Panel Study on Income Dynamics

(PSID). The PSID originated in 1968 with 5000 families, and over time has tracked both the

original members of the sample and any new family units created by children of these members.

 In particular, the family data set of the PSID contains information on the family unit, while the

individual data set provides information on one person in the family. In 1985 a retrospective

marital history of all current respondents to the survey was conducted, and the marital history

has been subsequently updated. Respondents were asked when their first and most recent

marriages occurred, and if, how, and when those marriages ended. Also, in 1990 a

representative national sample of 2000 Latino households was added to the PSID. We use

information from the original PSID individual and family data sets, the retrospective marital

history data set, and the Latino data set in our analysis.6

Recall that we are focusing upon two issues: the factors that determine the *initial* decision to marry versus cohabit, and the factors that determine the *transition* from cohabitation to marriage, given that individuals are already cohabiting. We use several variants on our basic data set to examine the two issues, although for both issues we examine individuals aged 18 or older. For the first issue - the determinants of the initial decision to marry or cohabit - our sample includes 1007 observations on individuals aged 18 years or more in the first year of a cohabiting or married relationship. We call this *Sample 1*. For the second issue, which examines individuals who are already in a cohabiting relationship, we consider couples who are already cohabiting, and we examine the factors that determine whether the couple makes the transition from cohabiting to marriage. There are 1693 observations in *Sample 2*.

A potential difficulty is the identification of cohabiting versus married couples. Beginning in 1983 the PSID defined "permanent" cohabiting couples as unmarried couples who have lived together for one year or more.7 However, prior to 1983, the PSID made no distinction between married and cohabiting couples. For this reason, we begin our analysis in 1983. The numbers of both married and cohabiting households have tended to rise over time, but the increase is significantly greater for cohabiting couples. By 1997, the proportion of first-time couples cohabiting rather than marrying had nearly tripled from its 1983 level, and was close to 45 percent.

2.2. Estimation Methods

The dependent variable (M_i) in our estimation is binary, and equals 1 if couple *i* chooses to live together as a legally married union and 0 if the couple chooses to be unmarried

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6 For information on the structure of the PSID sample and response rates, see Becketti et al. (1988) and Institute for Social Research (1984, 1991).
7 Couples who have lived together for less than one year are considered "temporary" cohabitors.

cohabitors. For Sample 1, we estimate the factors that determine the likelihood that a couple

in their first year of living together chooses to do so as cohabiting or married. A reduced-form

model of the probability that a couple chooses to marry rather than cohabit can be written as

$$P(M_i) = f(\alpha + \beta X_i), \tag{6}$$

where $P(M_i)$ is the probability of marriage of couple i, X_i is a vector of explanatory variables that

affect the decision of couple i, and (α, β) are parameters. We use a logit transformation of a

linear probability function, or

$$\log \frac{P(M_i)}{[1 - P(M_i)]} = \alpha + \beta X_i \tag{7}$$

The standard logistic likelihood function, or

$$L = \prod P_i^{M_i} (1 - P_i)^{(1-M_i)}, \tag{8}$$

is maximized for all observations.

The estimation procedure for Sample 2 is similar but slightly modified. Here we estimate

the factors that affect the transition from cohabitation to marriage, given that a couple is already

cohabiting (Sample 2). For this issue, we estimate a discrete-time approximation to a

continuous hazard model of the time to marriage for couples who start in a cohabiting

relationship. Many of the relevant variables now have a time dimension t. For example, the

dependent variable in this estimation is now $M_{i\,t}$, which equals 1 if cohabiting couple i marries in

year t, and equals 0 if the couple remains cohabiting. Similarly, several of the independent

variables also have a time dimension (e.g., the change in income tax liabilities or marginal tax

rates); such time-varying independent variables are lagged one year because we are looking at

marriage that occurred in the period since the previous year, rather than at the exact time that

the marriage occurred. Consequently, the reduced-form probability of marriage is rewritten as

$$P(M_{i\,t}) = f(\alpha + \beta\, X_i + \gamma\, X_{i,t\text{-}1}),$$ $\qquad\qquad\qquad\qquad\qquad$ (6)′

where $P(M_{it})$ is the probability of marriage of couple i in year t, $X_{i,t\text{-}1}$ is a vector of explanatory variables that affect the decision of couple i, and γ is the parameter on $X_{i,t\text{-}1}$. The logit transformation becomes

$$\log \frac{P(M_{i\,t})}{[1 - P(M_{i\,t})]} = \alpha + \beta X_i + \gamma\, X_{i,t\text{-}1}$$ $\qquad\qquad\qquad\qquad\qquad$ (7)′

The likelihood function is unchanged.

There are numerous factors that may account for these decisions, and we include several explanatory variables in X_i (or $X_{i,t\text{-}1}$). Our theory suggests that both the change in income tax liability and the change in the marginal tax rate with marriage versus cohabitation will affect the cohabitation decision. We expect that individuals who experience a marriage penalty will be more likely to cohabit rather than marry, while couples who experience a marriage subsidy are less likely to cohabit and instead will marry in order to capture the subsidy. The marginal tax rate has competing effects, and may therefore increase or decrease the probability of cohabiting.

The change in tax liability caused by a change in marital status depends on statutory individual income tax rates and brackets, deductions and exemptions, and the incomes of the two members of the couple. The PSID now generates estimates of the federal tax liability of respondent households, but it has not made these calculations for all years, and, especially in the early years, there are numerous missing values for the tax liability. The PSID obviously does not calculate the change in taxation upon marriage. We therefore must compute the tax liabilities.

We calculate the marriage tax/subsidy in several steps. First, we calculate the income tax liability of the couple if they file as a legally married family unit, by combining their individual

incomes and applying the federal tax code of the relevant year; where appropriate, we assume that eligible couples take the two-earner deduction, the earned income tax credit, and other relevant tax features, and we apply the tax schedule for married couples filing jointly. In the absence of other information, we assume that the couples takes the family standard deduction and the appropriate number of personal exemptions.8 This calculation gives us a measure of the total tax obligation of the couple upon marriage if they decide to marry in that year.

Second, we calculate the tax liability of each member of the couple as a single taxpayer, based upon his or her reported income and the federal tax code of the relevant year. This liability measures how much each of the two individuals would pay in taxes if they cohabit and file as single taxpayers. Again, we assume in these calculations that each individual uses the standard deduction and takes the personal exemption. Also, we assume that the couple allocates any tax preferences between the partners so as to minimize their combined tax burden.9 The sum of the two partners' single tax liabilities measures their income taxes if cohabiting.

Third, the marriage tax/subsidy (or *Change in Income Tax Liability)* is the difference between taxes paid if married and combined taxes paid if cohabiting. A couple who pays more in taxes if married than if cohabiting has a positive marriage tax, while a negative number indicates a marriage subsidy. We follow a similar procedure in calculating the *Change in Marginal Tax Rate* with marriage, as the difference between the top marginal tax rate if married less the top marginal tax rate on the combined single incomes of the two partners if cohabiting. As discussed earlier, the economic theory of marriage suggests a couple is more likely to marry rather than cohabit, or is more likely to continue to make the transition from cohabitation to

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8 The PSID has recently begun asking whether taxpayers itemize deductions on their federal tax return. However, for most years we do not know whether the people are itemizers. We therefore assume that everyone takes the standard deduction. This is the same approach used by Rosen (1987) and Feenberg and Rosen (1995) in those instances in which they do not have information on itemized deductions.
9 See Feenberg and Rosen (1995) and Alm and Whittington (1996) for a detailed discussion of

marriage, in the presence of a marriage subsidy, while the presence of a marriage tax will encourage cohabitation. The impact of a change in marginal tax rates is ambiguous.

We also include numerous other explanatory variables (see Tables 1 and 2). Because there is a relationship between tax burdens and income, we control for income in our estimation. Like the marginal tax rate, *Combined Partner Income* (after-taxes) has competing effects on the benefits of cohabitation versus marriage. The *Age* of the respondent may also affect the decision. We expect that younger couples may be more likely to cohabit rather than marry, but this pattern need not occur. We include dummy variables for race of the respondent (*White*) and for rural versus urban residence (*Rural*). We also include the *Number of Previous Marriages* of the couple and the *Number of Children*, as well as a variable (*Year*) for the current year of the observation.

Weighted sample characteristics for the marriage tax/subsidy (and for all other variables) are in Tables 1 and 2. For Sample 1 over all years, couples on average receive a marriage subsidy of $357 (*Change in Income Tax Liability*); in contrast, couples in Sample 2 pay on average a small marriage tax of $77. However, there is great variation across couples in both samples, as revealed by the size of the standard deviation of the marriage tax/subsidy. The *Change in Marginal Tax Rate* with marriage follows a similar pattern. Couples in Sample 1 face a lower marginal tax rate with marriage, while those in Sample 1 face a higher marginal tax rate with marriage. Other descriptive statistics (e.g., the combined after-tax income of the partners, the percent living in rural areas, the percent white, the average age of the household head, the number of previous marriages, the number of children) tend to be similar across the two samples.

In order to identify the effect of taxes on cohabitation, as distinct from the impact of income, there must be variation in the tax code independent of variation in income. Identification is achieved through several channels. First, there has been substantial change in

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this procedure.

federal tax policy over the years we explore, including the numerous changes in tax preferences in the Tax Reform Act of 1986 and rate schedule changes in 1984, 1985, 1986, 1987, 1988, 1989, 1990, and 1993. Second, the marriage tax/subsidy is affected both by the absolute level of single and marital income and, more importantly, by the relative incomes of the husband and wife; that is, the marriage penalty depends on income, but it also depends more on the split of income between the partners. When there is only one earner in the household, an increase in income typically decreases the marriage tax (or increases the marriage subsidy), but an increase in income generally increases the penalty when both members work. In general, the more similar the incomes of the partners, the greater the penalty, at all income levels. Third, the marriage tax/subsidy depends in a non-linear way on income, given the rate structure of the income tax. The marriage penalty is therefore not simply a function of income, but rather depends upon tax policy changes, relative male/female incomes, and nonlinearities in the tax code. Empirical results are reported in the next section.

3. Estimation Results

In Tables 3 and 4 we present the maximum likelihood estimation results for Samples 1 and 2. We have also estimated several alternative specifications. These results are available upon request.

Consider first the Sample 1 results (Table 3), which examine the initial decision to cohabit rather than marry in the first year of any union. (Recall that the dependent variable equals 1 if a couple marries in the first year of the union, and 0 if the couple cohabits.) The initial decision to marry versus cohabit is largely unaffected by the total income taxes paid by the couple; the coefficient on *Change in Income Tax Liability* is negative, as expected, but the coefficient is not statistically significant. As for the *Change in Marginal Tax Rate*, this coefficient is negative and highly significant, so that a higher marginal tax rate with marriage decreases the likelihood of an initial married union. This latter result suggests that the impact of a higher

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marginal tax rate on marriage via its effect on the price of home production is less than its effect via income.

Other variables seem to be more important determinants of the initial decision to marry. For example, higher *Combined Partner Income* increases the likelihood of marriage. *Age* also affects the decision, with older respondents less likely to form a married union. White couples are more likely to marry than black couples, as are couples living in rural areas, although the coefficient on *Rural* is not statistically significant. Couples in which one or both members have been previously married are also more likely to marry. The presence of children has a positive but insignificant impact on the decision.

The impacts of many of these variables are generally in the same direction when looking at the transition from cohabitation to marriage (Sample 2). Now, however, the income tax liability plays a statistically significant role in the transition. As shown in Table 4, an increase in the income tax with marriage has a negative and significant impact on the likelihood that an already cohabiting couple makes the transition from cohabitation to marriage; that is, couples are less likely to marry when marriage increases the taxes they would pay. Evaluated at the mean values of the variables, an increase of 10 percent in the taxes paid at marriage decrease the likelihood of marriage by 1 percent, for an implied elasticity of 0.1. Similarly, an increase in the marginal tax rate with marriage has a negative and significant impact on the transition to marriage. Other factors also affect the transition. An increase in *Combined Partner Income* increases the likelihood that a couple makes the transition from cohabitation to marriage, and couples that are white are also more likely to marry. Older respondents are again less likely to marry. Other variables are not statistically significant.

4. Conclusions

It is now well recognized that a progressive income tax system must choose between achieving *marriage neutrality*, where taxes do not change with marriage, and *horizontal equity*

across families, in which families with equal family income pay equal taxes. No progressive

tax system can achieve both of these goals. By opting for the family as the unit of taxation via

income splitting, the United States has implicitly chosen to treat families with equal income

equally. However, this choice necessarily implies that income taxes will change with marriage.

If individuals respond to these tax effects, then marital decisions will be affected by the tax

system.

Our results in this paper suggest that economic variables, including income taxes, play

some role in marriage versus cohabitation decisions. In particular, although the *initial* decision

to cohabit versus marry is only somewhat affected by the tax consequences, the decision to

make the *transition* from cohabitation to marriage is much more significantly affected by taxes.

Put differently – and colloquially – the initial decision seems determined more by "passion" than

"economics", but "cold reality" seems more likely to enter the calculus of the transition decision.

 These results are consistent with evidence from other work that taxes affect marriage and

divorce, as well as the timing of these decisions, with potentially large and serious

consequences.

These tax effects on marital decisions need not occur: it is well-known that the unit of

taxation can be chosen to make the income tax more, if not perfectly, marriage-neutral. In fact,

there are increasing calls in Congress for legislation to reduce the marriage tax because of

concern that it encourages precisely the behavior that we examine here, and many current

proposals are directed toward the goal of marriage-neutral income taxation (Alm, Dickert-Conlin,

and Whittington, 1999). However, it is just as likely that, unless carefully structured, tax

changes may well exacerbate the income tax consequences of marriage (Alm and Whittington,

2001).

Regardless, the appropriate tax treatment of the family is unclear and controversial. At a

time when "family values" is increasingly the focus of public discussion, it is important to identify

the magnitude of any impacts of income taxes on family structure and to design tax policies that

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either minimize these tax impacts or use any responses to taxes in the most appropriate

manner.

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Table 1. Weighted Descriptive Statistics for Sample 1, 1983-1997: First Year of Cohabitation or Marital Union[a]

Variable and Description	Mean	Standard Deviation
Married Dummy variable equal to 1 if couple is legally married and 0 if couple is cohabiting	0.80	---
Change in Income Tax Liability Taxes if married less taxes if cohabiting (in constant 1983 dollars)	-357	5306
Change in Marginal Tax Rate Top marginal tax rate if married less top marginal tax rate on combined incomes if cohabiting (in percentage points)	-2.75	28.76
Combined Partner Income Total after-tax income of partners (in thousands of constant 1983 dollars)	17.76	77.15
Age Age of respondent (in years)	30.85	35.26
White Dummy variable if respondent is white and 0 otherwise	0.76	---
Rural Dummy variable equal to 1 if couple lives in rural area and 0 otherwise	0.32	---
Number of Previous Marriages Number of previous marriages of partners	0.48	2.86
Number of Children Number of children from previous unions	0.27	3.05
Number of Observations	1007	---

[a] All sample means are weighted by the population weights, except for the dependent variable, which is presented as unweighted.

Table 2. Weighted Descriptive Statistics for Sample 2, 1983-1997: Couples Already in Cohabiting Unions[a]

Variable and Description	Mean	Standard Deviation
Married Dummy variable equal to 1 if couple is legally married and 0 if couple is cohabiting	0.21	---
Change in Income Tax Liability Taxes if married less taxes if cohabiting (in constant 1983 dollars)	77	3693
Change in Marginal Tax Rate Top marginal tax rate if married less top marginal tax rate on combined incomes if cohabiting (in percentage points)	3.33	54.29
Combined Partner Income Total after-tax income of partners (in thousands of constant 1983 dollars)	18.96	54.29
Age Age of respondent (in years)	32.88	25.46
White Dummy variable if respondent is white and 0 otherwise	0.66	---
Rural Dummy variable equal to 1 if couple lives in rural area and 0 otherwise	0.28	---
Number of Previous Marriages Number of previous marriages of partners	0.61	3.28
Number of Children Number of children from previous unions	0.85	4.03
Number of Observations	1693	---

[a] All sample means are weighted by the population weights, except for the dependent variable, which is presented as unweighted.

Table 3. Determinants of the Initial Marriage Versus Cohabitation Decision (Chi-square statistic in parentheses)[a]

Independent Variable	Coefficient
Change in Income Tax Liability[b]	-0.00003 (2.1233)
Change in Marginal Tax Rate	-0.0103*** (15.8794)
Combined Partner Income[b]	0.0048*** (11.7849)
Age	-0.0037* (3.1575)
White	0.0566** (4.0425)
Rural	0.0419 (1.9328)
Number of Previous Marriages	0.0599** (4.8173)
Number of Children	0.0181 (1.1938)
Year	-0.0117*** (9.2693)
Chi-square for Covariates (9 degrees of freedom)	99.4404***

* : $p \leq .10$;   ** : $p \leq .05$;   *** : $p \leq .01$

[a] The dependent variable equals 1 if the couple marries in the first year of the union and 0 if the couple cohabits. All coefficients are transformed to the partial derivative $\partial P/\partial X$, evaluated at mean values, so the constant is not presented.

[b] The *Change in Income Tax Liability* is measured in constant 1983 dollars, and *Combined Partner Income* is measured in thousands of constant 1983 dollars.

Table 4. Determinants of the Transition from Cohabitation to Marriage for Couples Initially Cohabiting (Chi-square statistic in parentheses)[a]

Independent Variable	Coefficient
Change in Income Tax Liability[b]	-0.00002** (5.7403)
Change in Marginal Tax Rate	-0.0036*** (6.9351)
Combined Partner Income[b]	0.0027*** (9.9620)
Age	-0.0081*** (12.7725)
White	0.0588*** (7.0352)
Rural	0.0167 (0.4748)
Number of Previous Marriages	0.0156 (1.5251)
Number of Children	-0.0037 (0.1019)
Year	-0.0004 (0.1278)
Chi-square for Covariates	65.7269***

* : $p \leq .10$;   ** : $p \leq .05$;   *** : $p \leq .01$

[a] The dependent variable equals 1 if the couple marries in year *t* and 0 if the couple remains as cohabitors. All coefficients are transformed to the partial derivative $\partial P / \partial X$, evaluated at mean values, so the constant is not presented.

[b] The *Change in Income Tax Liability* is measured in constant 1983 dollars, and *Combined Partner Income* is measured in thousands of constant 1983 dollars.