Wife's labor supply and marital dissolution: evidence from the NLSY79

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Abstract

In response to the changing family and social structures in the United States, an accurate understanding of mechanisms and the driving forces of marrital dissolution is important in many aspects. For one, the knowledge helps policy and law makers to conjecture possible results of the legislation (e.g. unilateral divorce law, child alimony, or child custody), and the welfare system (e.g. welfare benefits to children and women after divorce) on marriages, divorces, and labor supply. Our goal is to provide additional evidence to a debatable issue in labor and family economics: Does married women's labor supply increases the chance of their future divorces? or is the relationship the other way around? Prior studies have produced conflicting results. We first propose and estimate a dynamic model, namely a divorce hazard analysis, that allows us to predict the risks of marital dissolution at different stages during the marital life course as a function of endogenous wife's labor supply. By estimating the proposed model on a more recent data set, the NLSY79, we hope to address econometrics issues occured in earlier studies, as well as present new evidence for these competing claims.

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1 The rise in marital dissolution and married women labor supply in the United States

Over the past decades, the U.S. has experienced a fluctuating cycle of the rise and fall in marriage and divorce rates. In particular, the divorce rates had been on the rise since the early 1960, reached its peak of 22.8 divorces per 1,000 married couples in 1979, and leveled off to 16.7 in 2005(Stevenson and Wolfers, 2007). Consequently, mechanisms and driving forces of marital dissolution have become a subject among which economists try to understand. This study aims to explore one of the factors believed among economist to influence divorce: the married women's market opportunities. Our main research question is whether it is the rise in probabability of divorce that causes a married woman to increase her labor supply, or it is the other way around. In contrast to prior studies mentioned below, we will incorporate time dimensions and the notion of instantaneous conditional probability of divorce into the model. Our hypothesis will be tested using a proportional hazard analysis on a more recent panel data, the National Longtitudinal Survey of Youth 1979.

In *A Treatise on the Family*(Becker, 2002), Gary Becker proposed a principal model of marital dissolution and family formation.The theory states that in the family formation, husband and wife will specialize in the production of market and domestic goods, respectively. Marital dissolution remains a less favorable choice as long as the gain from marriage (as a result of specialization) outweighs the joint gain from being single. The value of marriage, in turn, is determined by many factors and one of them is the married women's market opportunities.Between 1970 and 2007, married women's labor force participation rate had been rising almost steadily from 40.5 percent to 61.0 percent.[1] This increase in married women labor force participation was accompanied by the fructuating trend in divorce rates as described in the previous paragraph.Does the causal relationship between married women labor supply and marital dissolution run only in one direction? Or is it a mutual causation? According to Becker's model, the increase in wife's labor force participation reduces the time she spends producing domestic goods, thus reduces the degree of

[1] http://www.census.gov/compendia/statab/tables/09s0576.pdf

specialization. On one hand, this phenomena will lower the overall gains from marriage and probably encourage divorce. On the other hand, if the wife perceives a higher probability of future divorce, she might increase her current labor supply in order to hedge against the future loss of specialization if the divorce were to occur. These competing claims were tested empirically by many studies such as Green and Quester(Greene and Quester, 1982), Johnson and Skinner(Johnson and Skinner, 1986), Sen(Sen, 2000), South(South, 2001), and Poortman(Poortman, 2005). Apparently, all of these prior studies produced mixed results.

2 Previous work on the relationships between married women labor supply and the probability of marital dissolution

There are three studies that are of particular relevance to ours. The first one and the best known is the study by Johnson and Skinner (1986) on married women's labor supply and marital dissolution. In *Labor supply and marital separation*, Johnson and Skinner attempted to determine the direction of causality between married women current labor supply and the future probability of marital dissolution using simultaneous models.

In order to isolate the causal relationship, the authors estimated two structural models: 1) the labor supply of married women with endogenous future divorce, and 2) the probability of future divorce with endogenous labor supply decision. The first equation was estimated by first running a reduced-form probit of future divorce to obtain the predicted probability. Then the authors estimated another probit regression of married women's decision to work on the predicted future divorce calculated earlier and other exogenous variables. Similarly, the second equation was estimated by first running a reduced-form probit regression of wife's labor supply to obtain the predicted probability of workng. Then the authors estimated another probit of future divorce on the predicted labor supply decision obtained earlier and other exogenous variables. Another version, i.e. the tobit regression of work hours on the predicted future divorce and exogenous variables, is also estimated as another dimension of married women's labor supply.

Johnson and Skinner estimated the models using cross-sectional data from the Michigan

Panel Studey of Income Dynamics (PSID) in 1972, with future divorce outcome between 1973 to 1978. The sample consists of married women who had been married for at least four years in 1972, a fraction of whom experienced marital distuption between 1973 to 1978. The authors found no significant effect of wife's current labor supply on the future divorce. On the other hand, they found that higher divorce probabilities drive women without previous labor force experience to increase their current labor supply.

By estimating the model using cross-sectional data, the study does not take into account the possibility of having different risk of divorce at different historical periods (actual year) and marital life course (duration of marriage). However, as opposed to many other studies that overlook the endogenous nature of the decision to divorce and wife's labor supply, this study carefully incorporates the issue into clear testable models.

Two other relevant studies that take a more dynamic approach to the problem are those by South(2001) and Poortman(2005).

In his study, South explicitly tried to test whether the effect of wives' labor supply and educational attainment on marital dissolution varies across historical period (year) and across marital life course (duration of marriage). He estimated the annual discrete-time divorce hazard model (following Allison) measuring the probability of getting divorced at each instance in time, with the number of hours per week that wives' work in the respective year and other independent variables. The data in this study is taken from the PSID of 3,523 married couples observed between 1969 and 1993.

South found that the impact of wife's hours worked on the probability of divorce has become increasingly positive in the most recent periods in the study (1985-1992). Further, as marriages proceed, the effect of wife's employment on divorce become increasingly positive later in marriage.

Despite a thorough discussion on possible social changes that might have enhanced the impact of wife's employment on marital disruption , the study does not take into account the possible endogeneity associated with wife's employment. As opposed to Johnson and Skinner, South's study assumes the wife's labor supply to be exogenous and is not determined by the future probability to divorce.

Similar to South, a study by Poortman also tried to answer two key questions. The first one was whether women who work more hours are more likely to divorce. The second question is to look at the reverse problem, whether the anticipation to divorce drive up a married women's work hours. Poortman's approach to the second question is different from Johnson and Skinner's and indeed very interesting. Poortman simply test if the effect of wife's work on divorce would differ if the divorce were fully unexpected, rather unexpected, rather expected, or fully expected. He speculates that if the anticipatory behavior were at work, women with fully expected future divorces should have adjusted their labor supply prior to the divorce. In other words, the effect of wive's work should be more positive for the fully expected divorce than the rather expected, rather unexpected, and fully unexpected future divorces respectively.

To estimate the model for the first question, Poortman implemented a discrete-time divorce hazard analysis and include wife's labor supply as one of the explanatory variables. To answer the second question, he uses a competing risk event history analysis of the four types of divorces listed above. The sample used to estimate the model comes from the survey "Divorce in the Netherlands 1998". The sample consists of 1,285 women who married between 1943 and 1996 and experienced divorce between 1949 and 1998.

Poortman found that wife's employment increases the overall divorce risk in the sample by about 16%. Contrary to the results by Johnson and Skinner, the competing risk model shows only weak evidence that the wife's labor supply is the result of anticipated divorce. The discrepancy between the results might be due to the different welfare system in the Netherlands and the United States. A more extensive welfare system in the Netherlands, Poortman suggested, could have undermined the need for women to adjust their working effort prior to divorce.

With respect to these prior studies, our study aims to provide additional evidence to the same key questions. Unlike Johnson and Skinner's study, we allow the effect of wife's labor supply on the risk of getting divorce to differ acrossthe marital life course; unlike South's and Poortman's, wife's labor supply and the decision to divorce are taken to be endogenous in our model. This way, we can combine the best elements of these prior studies into a single one.

Following closely the models developed by Johnson and Skinner, we integrate the time dimension into the models by estimating the discrete-time divorce hazard instead of a one-year probability of divorce. We still account for the endogenous nature of future divorce and wife's labor supply decision by estimating the reduced-form equations for both divorce probability and wife's labor supply decision, then using the predicted values from the reduced-form models to estimate the two main structural equations.

The next section describes in detail the theoretical and emperical models from Johnson and Skinner. Section 4 discusses our empirical specifications and the estimation techniques. Section 5 describes the data set and gives summary statistics of the sample. Section 6 is the progress report.

3 Theoretical Dynamic Model of married women labor supply and marital dissolution

3.1 A closer look at Johnson and Skinner's theoretical model

This section describes the theoretical model developed by Johnson and Skinner that takes into account the endogeneity of wife's labor supply and the divorce decision. We start by considering the labor supply decision of a married woman with uncertain future marital status, i.e. with unknown probability of divorce. The economic theory of specialization in marriage predicts that a married woman who perceives a higher probability of divorce will lower the demand for marital-specific capital such as children and the amount of time spending in housework. As a result, a married women who anticipates a future divorce would increase her labor for participation and decrease the amount of time for nonmarket activities. For cross-sectional data, Johnson and Skinner model the wife's current labor supply as a function of probability of divorce and other exogenous factor. Formally,

$$L = f(\pi, X),$$

where L is wife's current labor supply, π is the probability of divorce, and X is a vector of exogenous variables. The author estimated the likelihood of labor force participation by a probit regression.

It is very likely that the probability of divorce is endogenous and is also a function of wife's labor supply. The argument follows again from the theory of specialization that posits that the value of marriage for both husband and wife depends in part on their degree of specialization. Therefore, holding other factors constant, the increse in wife's labor supply will reduce the economic value of the marriage relative to divorce. Incorporating the effect of unforeseen information (i.e. an unexpected changes in earnings and health) that becomes available in each period of marriage into the model, Johnson and Skinner propose that divorce occurs when the combined values of marriage and the new available information is negative. More formally, when

$$h(L, Y) + \varepsilon < 0,$$

where ε is the realized value of new information, and h is the combined value of marriage of both husband and wife (which is decreasing in wife's labor supply,L), and Y is a vector of exogenous variables. With an additional assumption that ε is distributed as a standard normal, we can write the probability of divorce as

$$\pi = \Phi(-h(L, Y)),$$

where Φ is the cumulative distribution function for a standard normal random variable.

Johnson and Skinner view the probability of divorce as a one-time decision and ignore how the probability of divorce changes over the course of marriage. However, the theory of marriage (Becker, 1977) suggests that the probability of dissolution increases in the early years of marriage due to surprises and new information about one's partner. At the later stage of the marriage, the theory posits that the probability of marital dissolution will decline as the duration of the marriage increases because of the accumulation of marital-specific capitals (e.g. children, house, other marital-specific assets). Taking this dynamical nature into account, we investigate the effect of each independent variable on the likelihood that the marriage will dissolve in the next period given that it has survived up to the current period. A *discrete-time hazard analysis* is the most appropriate estimation technique since it allows us to utilize the most information available in our data set as well as to answer our main research questions. A *divorce hazard* is generally defined as the probability of getting divorced in the next period conditional on having been married up to the current period. Since the time unit in this study is in years, the discrete-time version of the hazard analysis is used (as opposed to the continuous-time) since it can handle the issue tied failures. Correspondingly, we will estimate year-by-year probit equations for the probability to work as dynamical version of wife's labor supply decision.

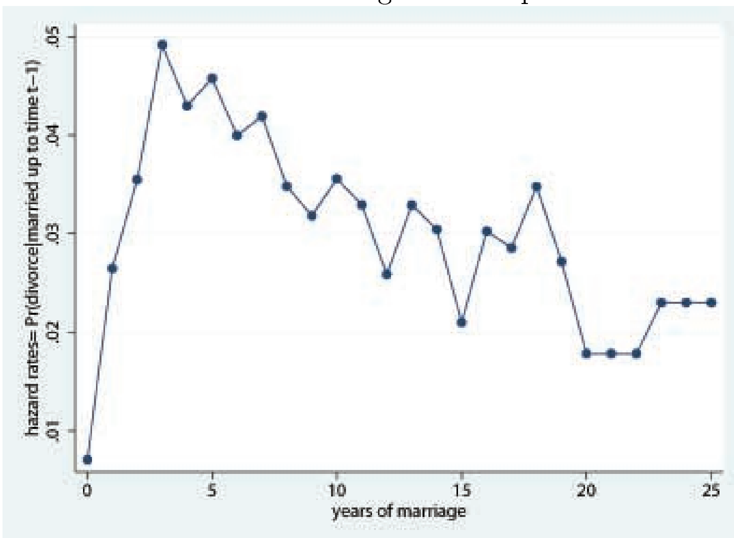
Figure 1, the empirical divorce hazard, displays the dynamic nature of the divorce risk over the marital life-course from the NLSY79 data set. Each data point in the empirical hazard curve represents the fraction of failures in each year, in our case the number of divorces divided by the number of women at risk (who are still married). The shape of the baseline hazard is consistent with the theory of marriage stated earlier. We expect the divorce hazard to increase during the early years (1-3 years) of the marriage because of the new information and surprises experienced during this period. Then we expect the divorce hazard to decline with the duration of marriage as the couple accumulate more marital-specific assets. We suspect that a small peak of divorce risk at about year 18th of marriage might be the result of some women delaying the divorce process until their children have grown up.

4 Dynamic Empirical Specification for married women labor supply and marital dissolution

4.1 Discrete-time hazard estimation

For simplicity and convenience of interpretation, we assume that the data are generated by the widely used continuous-time proprotional hazard model. Let $d_i(t)$, the discrete-time

Figure 1: Empirical Divorce Hazard



divorce hazard rate, be defined as $d_i(t) = P(T_i = t|T_i \geq t, \mathbf{x_{it}})$. In other words, $d_i(t)$is the probability that the marriage will end in the next period given that it has already lasted up to the most recent one. It follows that the discrete-time counterpart of this continuous-time proportional hazard models is defined as:

$$d_i(t) = 1 - exp[-exp(\delta' \mathbf{d_{i0}}(t) + \beta' \mathbf{x_{it}})] \tag{1}$$

where β is identical to the coefficient vector obtained from the continuous-time proportional hazard model, and $\boldsymbol{\delta' d_{i0}(t)}$ is the baseline hazard rates[2][3](Holford, 1976). Solving this equation yields the *complementary log-log function*:

$$log[-log(1 - d_i(t)] = \delta \mathbf{d_{i0}(t)} + \beta \mathbf{x_{it}} \tag{2}$$

We assume further that the baseline hazard rate is constant within the same year, i.e. $\delta \mathbf{d_{i0}(t)}$ is a vector of year-specific constants for $t = 1, 2, ...$ Estimating the baseline hazard simply requires us to create a dummy independent variable for each duration. Thus, $\boldsymbol{d_{i0}}$here

[2]For simplification, we are going to write $\beta \mathbf{x_{it}}$instead of $\beta' \mathbf{x_{it}}$, where $\beta'$is the transpose of the coefficients vector

[3]In this paper, boldfont letters stand for a vector (i.e. $\mathbf{x_{it}}$), while a normal letter refers to a single variable (i.e. $d_i(t)$)

is a vector of duration-specific dummy variables. In this study, we will use STATA's cloglog regression command to perform a maximum likelihood estimation of equation (1), which will return the values of 1) β, a vector of coefficients for covariates, 2) δ, a coefficient vector of the duration-specific dummy variables which is, by definition, the basedline hazard rates.

4.2 Estimation Model

Generalizing the model developed in the section 3, we have two simultaneous equations: divorce hazard and the wife's labor supply(in each year over the course of marriage). The analysis time t goes from 1,2,...,T, where $T = 29$ years. [4]

The wife's divorce hazard is

$$d_i(t) = 1 - exp[-exp(\beta_{\mathbf{c}}\mathbf{x_c} + \beta_{\mathbf{d}}\mathbf{x_d} + \gamma work_i(t) + \delta\mathbf{d_{i0}(t)}] \tag{3}$$

,the year-by-year probability of labor force participation is

$$P(work_i(t)) = \Phi(\alpha_{\mathbf{c}}\mathbf{x_c} + \alpha_{\mathbf{w}}\mathbf{x_w} + \lambda d_i(t)) \tag{4}$$

Here $d_i(t)$is the discrete-time divorce hazard rate defined as $d_i(t) = P(T_i = t|T_i \geq t, \mathbf{x_{it}})$, the probability that the marriage will end in the next period given that it has already lasted up to the most recent one.

$\mathbf{d_{i0}(t)}$ is a vector of duration-specific dummy variables whose coefficients(δ) constitute the baseline divorce hazard.

$work_i(t)$ is a married woman's labor force status in year t, $work_i(t) = 1$ if the woman works, and $work_i(t) = 0$ otherwise.

$\mathbf{x}_c$ is a vector of exogenous explanatory variables that are common to all equations.

$\mathbf{x}_d$ is a vector of exogenous explanatory variables that are unique to the divorce equation, thus over-identifying the work equation.

$\mathbf{x}_w$ is a vector of exogenous explanatory variables that are unique to the work equation, over-identifying the divorce hazard equation.

[4] The extent of wife's labor supply, i.e. annual hours worked, will be handled at a later stage of this study.

β is a vector of coefficients for the covariates in the divorce hazard equation.

δ is a vector of coefficients for the duration-specific dummy variables in the divorce hazard equation.

γ is the coefficient of the work status independent variable in the divorce hazard equation.

α is a vector of coefficients for the covariates in the work probit equation.

λ is the coefficient of the divorce hazard variable in the work probit equation.

Description of each set of explanatory variables is given in the Data Section below.

By definition, $d_i(t)$ and $work_i(t)$ are endogenous in this model.

Following a method suggested by Allison(Allison, 1982), we estimate equation(3) using a discrete-time divorce hazard analysis to measure the conditional probability of marital dissolution at each year of marriage. In particular, we model a discrete-time divorce hazard as a function of decision to work (at each year of marriage) and other exogenous variables. This method amounts to a two steps estimation that is equivalent the two-stage least square. The first step is to run a reduced form year-by-year probit regressions for married women's decision to work. The second step is to obtain the predicted labor supply decision and use the predicted value as an independent variable in the structural divorce hazard regression.

Our reduced-form model for married women's decision to work is:

$$P(work_i(t)) = \Phi(\mathbf{a_c x_c} + \mathbf{a_w x_w} + \mathbf{a_d x_d}) \tag{5}$$

Here, **a**'s are the vectors of coefficients for the reduced-form work probit equation.

For the wife's labor supply structural equation (4), we will first estimate a reduced-form divorce hazard using all the exogenous variables.

$$d_i(t) = 1 - exp[-exp(\mathbf{b_c x_c} + \mathbf{b_w x_w} + \mathbf{b_d x_d} + \mathbf{d d_{i0}(t)})] \tag{6}$$

where **b**'s are vectors of coefficients for the reduced form divorce hazard, and **d**is a vector of coefficients for the duration-specific dummy variables in the divorce hazard.

Then we calculate the predicted values for the divorce hazard at each duration of the marriage, $\hat{d}_i(t)$. This predicted value will be used as an independent variable for the structural probit regression of wife's labor supply.

The procedures can be summarized into six estimation steps:

1. For t=1979, 1980,...,2000, we estimate equation (5), a reduced-form, year-by-year *work probit* for married women. Then obtain $P(\widehat{work_i}(t))$ for each year. We then map the year-specific $P(\widehat{work_i}(t))$ to the respective duration of marriage. As shown in the following matrix, here P(W 8th yr)= the probability that woman i who got married in 1971 would worked in her 8th year of marriage (1979, the first year we observe her).

individual i	**Year of first marriage of individual i**				
year	**1971**	**...**	**1979**	**1980**	**1981**
1979	**P(W 8th yr)**	**...**	**P(W 1st yr)**	**.**	**.**
1980	**P(W 9th yr)**		**P(W 2nd yr)**	**.**	**.**
1981	**P(W 10th yr)**		**P(W 3rd yr)**	**P(W 1st yr)**	**.**
1982	**P(W 11th yr)**		**P(W 4th yr)**	**P(W 2nd yr)**	**P(W 1st yr)**
...	**...**	**...**	**...**	**...**	**...**
2000	**P(W 29th yr)**		**P(W 21th yr)**	**P(W 20th yr)**	**P(W 19th yr)**

2. Estimate equation (6), a reduced-form *divorce hazard*. Obtain $\widehat{d_i(t)}$, the conditional probability of getting divorced in the current period given that the observation has been married up to previous period.

3. Estimate equation (3), a structural *divorce hazard*, including the *time-varying(contemporaneous) predicted work status,* $P(\widehat{work_i}(t))$ obtained in the first step and other exogenous variables.

4. Estimate equation (4), a structural *work probit*, including the *time-varying predicted 3-year divorce hazard,* $\widehat{d_{i3}(t)}$, obtained in the second step and other exogenous variables. We construct the 3-year divorce hazard by summing up the probability that an individual will divorce in one of the next 3 years. Let $d_i(t)$ be the conditional probability that she will divorce in year t, $d_i(t+1)$ be the conditional probability that she will divorce in year$t+1$, and $d_i(t+2)$ be the conditional probability that she will divorce in year $t+2$. Then, the conditional probability of divorce in the next three years is equal to $d_{i3}(t) = d_i(t) + [1 - d_i(t)]d_i(t+1) + [1 - d_i(t)][1 - d_i(t+1)]d_i(t+2)$.

Two additional estimations are run to show how much difference it makes to if we account for the endogeneity of the work status and the divorce probability.

5. Estimate a structural *divorce hazard* that includes the *time-varying(contemporaneous) actual work status* and other exogenous variables as covariates.

6. Estimate a structural *work probit* on the *time-varying(contemporaneous) actual 3-year divorce outcome* and other exogenous variables.

5 The National Longitudinal Survey of Youth 1979

Data for this study comes from the panel of women from the National Longitudinal Survey of Youth 1979 (NLSY79). The panel consists of 12,686 respondents who were 13 to 21 in December 1978. [5] Due to the availability of the employment status variable, only the information from the survey year 1979 to 2000 will be included in the analysis. Our sample consists of 3,616 civilian women, of which 3,040 are ever married and 576 have never married. Of the 3,040 who are married, 1,476 (49%) have ended their first marriage (either in divorce, separation, or widowhood) during the period of the study (year 2000). The duration of marriage in the sample ranges from 0 to 29 years.

For the purpose of the analysis, the data set was transformed into a panel data with multiple observations for each individual. We first identify women who entered into first marriages during our study period, 1979-2000. We then calculate the information on variables that were fixed at the time of the woman's fist marriage (e.g. race, age at first marriage, education at first marriage, grow up in urban). Then we create a series of observations, one for each completed interview, beginning with the first year of marriage. This series of obser-

[5] http://www.nlsinfo.org/nlsy79/docs/79html/79text/front.htm

vations end either in the year of marital disruption or in the 2000 interview for women who had not ended their first marriage during the study period. Each observation in the series contains information on both the fixed variables and the time-varying variables (e.g. family income, health status, employment status) measured in each interview year. Our sample of 3,040 married women contributes to a total of 33,875 observations in the panel. The dependent variables in our model are 1) the employment status for each year interviewed, and 2) the marital status for each year interviewed.

Exogenous variables are classified into 3 groups as listed in table 1.

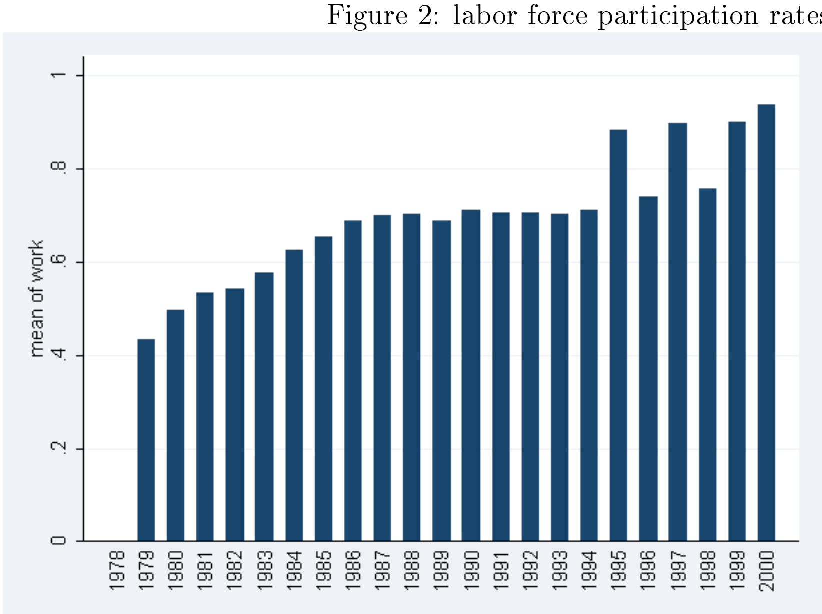
Table 1: list of exogenous variables

x_c(variables common to voth divorce and work equations)	x_d (variables specific to the divorce hazard equation)	x_w (variables specific to the work equation)
time-varying: • family income less wife's earning : *nwincome (non-wife income)* • whether has health limitation: *health* • wife's attitude toward market work and home production: *delinq, inflation, housework, traditional, notime wplace, happy, useful* *time-invariant*: • respondent's age at first marriage:*agemarried* • respondent's education at first marriage: *underhighsch, hichsch, somecol, collgrad, postgrad* • race: *white*	*time-invariant*: • religious affiliation: *catholic, protestant, otherrelig* • religiosity: *nonreligio, occasattend, regattend, freqattend* • whether grow up in urban area: *urban*	*time-invariant*: • The square and cube of age at first marrieage: *agemarried2* , *agemarried3*

Ideally we would like to use the county's unemployment rates to identify the divorce hazard equation. Unfortunately, the variable was censored from the NLSY79 public-use data file for confidentiality purpose. To overcome the problem, we follow the method used by Heim(Heim, 2007) by including $agemarried^2$and $agemarried^3$ to overidentify the divorce hazard equation. In all, the variables $agemarried^2$,and $agemarried^3$ over-identify our divorce hazard equation, while the variables in the vector x_d over-identify our year-by-year work probits.

Table 2 reports summary statistics for the two mutually exclusive groups: *Married* refers to married women who never end their first marriage, and *Divorced* refers to married women who ended their first marriage within year 2000. Statistics for the time-varying variables are taken from their first year of marriage. The fraction of married women who work in each year is displayed in figure 2. Clearly, the married women labor supply rates have been on a

Figure 2: labor force participation rates



constant rise.

Table 2: Summary Statistics of selected variables

Variable	Description	Married mean	Married SD	Divorced mean	Divorced SD	Whole sample mean	Whole sample SD
sample size		3,040		1,482		3,616	
time-constant							
white	1=white, 0=non-white	0.72	0.45	0.69	0.46	0.70	0.46
agemarried	age of the respondent at first marriage	24.33	5.41	21.44	4.37	22.93	5.14
edumarried:	Education level at first marriage:	-	-	-	-	-	-
underhighsch	under highschool? (1=yes, 0=no)	0.02	0.14	0.02	0.15	0.02	0.15
highsch	highschool or vocational school graduate?	0.26	0.44	0.32	0.47	0.29	0.45
somecol	some college?	0.31	0.46	0.27	0.44	0.29	0.45
collgrad	college graduate?	0.25	0.43	0.24	0.42	0.24	0.43
postgrad	higher than college?	0.13	0.33	0.12	0.33	0.12	0.33
catholic	whether the respondent is a Catholic (1=yes,0=no)	0.37	0.48	0.31	0.46	0.34	0.48
protestant	whether the respondent is a Pretestant (1=yes,0=no)	0.27	0.44	0.32	0.47	0.29	0.46
otherrelig	whether the respondent has other religion affiliation	0.36	0.48	0.37	0.48	0.36	0.48
religiosity	degree of the respondent's religiosity :	-	-	-	-	-	-
nonreligio	no religious attendance (1=yea, 0=no)	0.12	0.33	0.16	0.36	0.14	0.35
occasattend	religious attendance several times a year	0.22	0.42	0.26	0.44	0.24	0.43
regattend	religious attendance 1-3 times a month	0.23	0.42	0.21	0.41	0.22	0.41
freqattend	religious attendance more than once a week	0.39	0.49	0.33	0.47	0.36	0.48
urban	whether the respondent grew up in urban area	0.79	0.40	0.80	0.40	0.80	0.40
time-varying	values as of the first year of marriage						
nwincome	family income-wife's earning, in $1,000	22.49	51.45	15.67	21.82	19.21	40.17
work	whether work in the current year (1=yes, 0=no)	0.74	0.44	0.66	0.47	0.71	0.46
health	whether have health limitation (1=yes, 0=no)	0.05	0.21	0.06	0.23	0.05	0.22
family attitude:	attitude toward market work and home production (1=agree,	-	-	-	-	-	-
delinq	0=not agree)	0.20	0.40	0.24	0.42	0.22	0.41
inflation	wife's employment leads to jouvenile delinquency?	0.82	0.38	0.84	0.40	0.83	0.38
housework	inflation necessitate employment of both parents?	0.92	0.44	0.89	0.31	0.91	0.29
traditional	men should share housework?	0.26	0.44	0.28	0.45	0.27	0.44
notime	traditional husband/wife role best?	0.14	0.35	0.18	0.39	0.16	0.37
wplace	wife with family has no time for other employment?	0.10	0.29	0.11	0.32	0.10	0.31
happy	woman place is in home?	0.22	0.42	0.22	0.42	0.22	0.42
useful	women are happier in traditional roles?	0.57	0.50	0.61	0.49	0.59	0.49
	working wife feel more useful?						

*bold texts represent binary variables, while normal texts represent continuous variables

NLSY79 data and coding issues

There are a few points worth noting about how some variables from NLSY79 are treated in this study. The first issue which we put the most seious concern on is the information on our main depdent variable, the labor force participation status. The information for the work status is unavailable for year 1995, 1997, 1999, and 2000. Apparently, the question about employment status was not asked during these years. Replicating the NLSY's coding from previous available years was proved to be too complicated and time-consuming. Therefore, we imputed the work status for these missing years by taking the maximum value of the work status for the previous 3 years. For example, if the individual works in 1992, 1993, but left the labor force in 1994, her labor force status in 1995 is coded as 'working'. We are concerned that this method could induce an upward bias of the work status.

Similarly, variables that reflect attitudes toward market work and home productions are availble only in 1979, 1982, and 1987. As a result, we assume that the attitudes remain the same until the next survey year.

The income-related variables (family income, respondent's income) are top-coded in every year for confidentiality reason. Top-coding prevents us from utilizing the information on the very high incomes individuals. To gain back some variations in the high income ranges, we try to impute these top-coded income based on the assumption that the trend in income movement should be the same. As a result, we replace the top-coded income by its 3-year moving averages.

6 Empirical evidence from the simultaneous hazard and probit analysis

6.1 The divorce hazards

Table 3 reports the results of the structural and reduced-form divorce hazard estimations. For the ease of interpretation, numbers reported in the table are all **exponentiated coefficients** rather than the coefficients themselves. The actual signs of the coefficients are reflected through the signs of the corresponding t-statistics. Column (1) shows the result of the reduced-form divorce hazards in equation (6). Corresponding to equation (3), columns (2) and (3) show the two variance of the structural divorce hazard. Column (2) is the structural divorce hazard estimated using the fitted probability of working, whereas column (3) shows the results of the structural divorce hazard using the actual work status. Specification in column (1) excludes the work status variables (*pwork, work*) that appear in (2) and (3), while includes extra two variables *(agemarried2, agemarried3*) that do not appear in (2) and (3). Specification in column (2) includes the predicted probability of working (*pwork)* as an independent variable. Specification in column (3) includes the actual work status (*work)* as an independent variable. Each panel in figure 3 plots the empirical hazard (hollow squares) versus the average of the predicted divorce hazard (circles) for colum (1), (2), and (3).

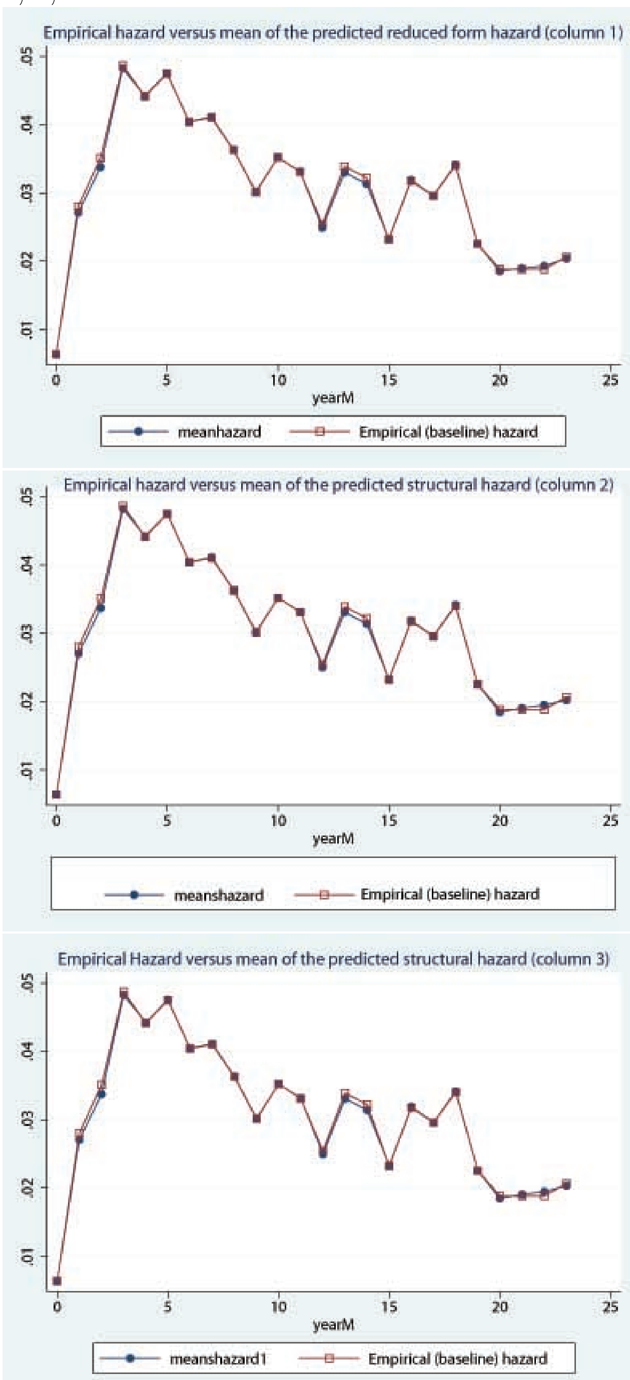
Table 3: Reduced-form and Structural Divorce Hazard

Specification	(1) $d_i(t)$ reduced-form	(2) $d_i(t)$ fitted probability of working ($pwork$)	(3) $d_i(t)$ actual work status ($work$)
pwork		1.601	
		(1.48)	
work			1.409***
			(4.66)
nwincome	0.994***	0.994***	0.994***
	(-18.38)	(-17.92)	(-18.11)
agemarried	1.423	0.934***	0.938***
	(1.08)	(-5.64)	(-7.33)
agemarried2	0.981		
	(-1.42)		
agemarried3	1.000		
	(1.60)		
highsch	1.258	1.223	1.231
	(1.85)	(1.62)	(1.68)
somecol	1.135	1.102	1.109
	(1.00)	(0.76)	(0.81)
collgrad	1.208	1.179	1.187
	(1.46)	(1.28)	(1.33)
postgrad	1.303	1.266	1.271
	(1.84)	(1.65)	(1.67)
white	0.957	0.934	0.943
	(-0.63)	(-0.95)	(-0.85)
health	0.992	1.067	1.047
	(-0.07)	(0.51)	(0.38)
delinq	1.111	1.117	1.112
	(1.22)	(1.27)	(1.23)
inflation	1.067	1.006	1.020
	(0.74)	(0.06)	(0.23)
housework	0.873	0.823	0.834
	(-1.21)	(-1.66)	(-1.61)
traditional	0.850	0.874	0.867
	(-1.92)	(-1.57)	(-1.69)
notime	1.118	1.138	1.134
	(1.11)	(1.28)	(1.26)
wplace	0.798	0.823	0.815
	(-1.82)	(-1.56)	(-1.65)
happy	0.822*	0.851	0.842*
	(-2.36)	(-1.89)	(-2.07)
useful	1.166*	1.148*	1.153*
	(2.48)	(2.21)	(2.30)
catholic	0.828*	0.841*	0.836*
	(-2.52)	(-2.29)	(-2.39)
protestant	1.063	1.062	1.061
	(0.81)	(0.80)	(0.79)
urban	1.140	1.144	1.139
	(1.76)	(1.80)	(1.76)
occasattend	0.944	0.922	0.929
	(-0.63)	(-0.87)	(-0.80)
regattend	0.758**	0.739**	0.747**
	(-2.78)	(-3.02)	(-2.95)
freqattend	0.746**	0.711***	0.723***
	(-3.20)	(-3.61)	(-3.57)
N	33875	33875	33875
chi2	12078.4	12082.5	12037.8
p	0.000	0.000	0.000

Exponentiated coefficients; t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 3: Empirical hazard and the average predicted hazard from regression specification 1, 2, and 3



As stated earlier in section 4, the complementary log-log discrete-time hazard model is the discrete counterpart of the continuous-time cox proportional model. Therefore, the exponentiate individual coefficient has the interpretation of the ratio of the hazard rates for a one-unit change in the corresponding covariate. Hence, variables with coefficients greater than one shift the divorce hazard up, while the variables with coefficients less than one shift the hazard down. For example, in model (1), (2) and (3), we interpret the coefficient for *nwincome*=0.994 as having $1,000 increase in non-wife income results in approximately a 0.6% decrease in the divorce rates. Wife's predicted labor force participation does not significantly shift up the divorce hazard rates in model (2), while the actual labor force participation raises the hazard rates by 40% in model (3). One year increase in age at first marriage decreases the hazard rates by 7% in model (2) and by 6% in model (3).

The coefficient for the actual labor force participation in the current period is positive and significant in column (3). However, after controlling for endogeneity and measurement error of the work status (by using the fitted probability in column (2)), the coefficient on the predicted probability of work is no longer statistically significant, though retaining the same sign. This result rules out the conclusion that the probability (or decision) to work in the current period actually drives up the divorce hazard. Nonetheless, the positive effect of working on the divorce hazard is consistent with the theory of marital specialization: wife's market work reduces the degree of marital specialization and at the same time increase her economic independence. As a result, for women who are in the labor force, the values of marriage should be lower while the probability of getting divorced should be higher .

In every column, the conditional probability of divorce (divorce hazard) at each duration is lower the higher the non-wife current income (family income less wife's earning). This result is supported by the assumption that positive assortative mating is optimal. Couples with higher level of marital assets gain more from marriage compare to those with lower joint assets and hence have a lower probability of getting divorce. Here, the variable *nwincome* is a direct measure of a current joint marital asset. Therefore, higher non-wife current income shifts down the divorce hazard. Additionally, in model (2) and (3), we can interpret the coefficients on non-wife income as follows: controlling for the work status, women with higher non-wife income does not need to work long hours, thus would have more time to spend on household production and raise the value of marriage. To test the hypothesis that the intensity of labor supply matters in the divorce process, we need a further analysis using wife's work hours as an independent variables in the divorce hazard. (though in that case we also need to correct for the sample selection bias)

In column (2) and (3), the conditional probability of divorce at each duration of marriage shift down as age at first marriage goes up. This is a direct evidence of what Becker, Landes, and Michael (1977) have claimed: that marital dissolution is a response to new information whether it be favorable or unfavorable.(Becker et al., 1976) Women who get married at a higher age tend to have spent more time searching for the best matches and/or have gathered more information about their future spouses. Consequently, this group of women should experience less shocks after they got married (or, in a technical term used by Becker, Landes, and Michael, a smaller variance in the distribution of realized wealth) and have lower chance of getting divorced.

The positive effect of education level on the probability of divorce is opposite of what we have expected. In their theoretical model, Becker, Landes, and Michael (1977) argued that on one hand, high education level is a good predictor of the partner's high levels of market and nonmarket skills. Thus, higher-educated couples gain more from marriage compared to the lower-educated couples. On the other hand, a wife with higher education tends to participate more in labor force and involve less in household specialization resulting in a lower gain from marriage. Our results from every column suggest that the effect of education level at first marriage on the divorce hazard are invariant whether or not we control for the labor force participation. Thus, if the education level does not affect divorce through the labor force participation channel, it should does so through the correlation with nonmarket skills. Then we should expect a wife with higher education at first marriage to have higher nonmarket skills (for home production), higher gain from marriage, and become less likely to get divorced.

The next set of variables, *delinq, inflation, housework, traditional, notime, wplace, happy, useful,* represent attitudes toward market work and home production. Since they are related to the market work, we expect these variable to be endogenous in the model. Evidence from the regression results lead us to conclude that these variable are exogenous since controlling for endogeneity (column (2) and (3)) result in the coefficients of similar magnitudes and signs to the result in column (1). Two variables in this set show up to statistically affect the divorce hazard. First, the variable *happy,* which takes on value one if the respondent agree that women are happier in traditional roles. We expect respondents who agree to this statement to engage more in nonmarket work and thus face a lower risk of divorce. The coefficient of 0.822 in model(1) and 0.842 in model(2) mean these women face a lower probability of divorce, which is consistent with what we expected. Second, the variable *useful* takes on value one if the respondent thinks that working wife feel more useful. Respondents who agree to this statement are believed to put more weight on market work than home production. Again, the coefficients of 1.166, 1.148, 1.153 in model (1), (2), and (3) all suggest that these women have higher probability of divorce–consistent with our prediction.

Another interesting and somewhat predictable result are that the conditional of probability of divorce goes down with the degree of religiosity and being a Catholic (compared to other religions). These characteristics generally highly correlelate with the individual being conservative (which we cannot observe), thus making divorce a mentally costly process. As a result, we expect these variables to shift down the divorce hazard rates.

Another regression reported in table 8 in the appendix tests the restrictions regarding the significance of the whole set of variables on wife's attitudes toward market work and home production. We ran a restricted reduced-form hazard model without all these eight variables and constructed a likelihood ratio test for the null hypothesis that the coefficients are the same between the unrestricted and the restricted reduced-form model. The likelihood ratio test returned the chi-square value of 32.52 for degree of freedom eight. Therefore, we reject the null hypothesis at 1% significant level. Hence, we can conclude that the whole set of variables on wife's attitude toward market work and home production are jointly significant in determining the divorce hazard.

Year-by-year structural work probits

Table 4 to 11 in the appendix report the year-by-year structural work probits from year 1979 to 2000. There are two columns for each year. The dependent variable here is wife's labor force participation. In the first column of each year, the independent variable treated endogenously is $dhazard$, the fitted conditional probability of divorce in the next three years. The second column of each year uses the actual 3-year future divorce outcome, $fdivorce$, as an independent variable. The first two rows of every model report two statistics: (1) $P(\overline{work})$, the predicted wife's labor force participation rates conditioning on the mean values of all other independent variables, and (2) $\overline{work}$, the sample mean of wife's labor force participation rates. Interestingly, all of our probit models overpredicted the wife's labor force participation rates. [6]

Our main results here is not conforming with those found by Johnson and Skinner. In particular, coefficients for the predicted future divorce hazard are positive and statistically significant only in year 1979, 1981, 1994, 1996, and 1999. This evidence indicates that the probability of future divorce affects the decision to work in the current period in these years. However, in all other years, the coefficients for the predicted future divorce hazard are not statistically significant and even have some unexpected negative signs. Moreover, the coefficients for the actual future divorce are barely statistically significant in any year. Taken to gather, our results suggest that there is a weak evidence on the impact of future divorce on wife's current labor supply.

One possible explanation is that an individual usually make a decision if he/she wants to work full-time early in her life, probably before getting into a marriage. A prior study by Goldin suggests that one important determinant of women's labor force persistence is the early occupational choice(Goldin, 1989). According to Goldin, there were two revolutionary indicators of the change in female labor force participation beginning in late 1970(Goldin,

[6] Readers should be caution on the accuracy of the regression results for year 1995, 1997, 1999, and 2000 as the work status dependent variables (both actual and fitted) are imputed from the work history from the previous three years since the NLSY79 survey is conducted only on even year starting in 1994 onward. This imputation procedure could have overestimated the work status since the values for both $P\overline{work}$ and $\overline{work}$ are unusually higher than the year before and the year after.

2006). First, young women of this generation had expanded time horizons–they could more accuraltly anticipate their future career lives and invest more in their education. As a result, the college attendance and graduation rates of the female cohort born in late 1940 greatly increased relative to males. This expanded time horizons, Goldin argued, raise the years of accumulated job experience as well as the return to job experience. Second, there was a decrease in income and substitution elasticities in the labor supply function as a result of a fundamental transformation in the way women view their employment. In other words, viewing their employment as a long-term career that determine their satisfaction in life caused women to become more attached to labor force. Taking the two factors together, women who decided to work full-time will tend to stay working full-time regardless. In that case, one might suspect her decision to work to be invariant with her future probability of divorce. Given that she decided to work full-time, women who perceive a higher probability of future divorce might instead increase her work hours in the current period. Future research can formally test the effect of labor force attachment by looking at how the probability of future divorce affect the current labor supply for two groups of women: women who work full-time (constantly in the labor force), and women who switch in and out of the labor force according to their family circumstance. If the hypothesis laid by Goldin is correct, then we could specualte that the higher future divorce probability should have a very small or nonsignificant effect on the current labor supply decision of women who always work full-time. On the other hand, we could expect that the higher future divorce risk would hamper the labor force participation for the second group of women because of their stronger attachment to household production.

We expect the effect of non-wife current income on the probability of working to be negative. By calling it *non-wife income*, we define it as the family income less wife's earning in the hope that it is exogenous in the model[7]. Because of the substitution between household production and market production, women with higher family income face lower economics constraint that necessitate participation in the market work and thus are less likely to be in the labor force. Our regression results suggest a weak, but negative effect of the non-wife

[7] wife's earning is obvously correlated with her wage, making it endogenous in the work equation

income on the probability of work. Interestingly, this effect increases over time with the negative and statistically significant coefficients from 1994 onward.

Generally, one should expect the probability of working in each year to be higher for those with higher level of education at first marriage. Specifically, people who completed a post-graduate or college degree before the first marriage should have a higher probability to work compared to people with lower than highschool education (which is our reference group). Our results for education at first marriage variables do not suggest so. Not only the sign of the coefficients oscillate between positive and negative, these variables are also statistically insignificant in the model. Clearly, the level of education at first marriage is not a good predictor of the current education level and the labor force participation. In fact, individuals could earn higher degree later in their marriage.

Attitudes toward market work and home production turn out to have desirable effects on the labor force participation. In particular, coefficient on *delinq* should be negative because the belief that wife's employment leads to jouvenile delinquency should discourage wife's participation in the market work. Women who think that inflation necessitates employment of both parents should be more likely to enter the labor force, making the expected sign for *inflation* positive. Similarly, we expect a positive impact of *housework* on wife's labor force participation since the attitude that men should share housework reflects wife's degree of substitution from home production toward market work. Positive response(agree) in the variables *traditional, notime, wplace, and happy* all reflect wife's inclination toward specialization in nonmarket sector, thus we expect them to have negative impact on labor force participation. Lastly, the variable *useful* reveals how married women think their identities are determined by their careers. Therefore, we expect respondent wtih positive response for this variable to have a higher rate of labor force participation.

7 Conclusion: a seemingly weak relationship is not the end of the story...

We found only a weak evidence of the positivie effect of married women current labor supply on the conditional probability of getting divorced. In table 2, the actual work status significantly shifts up the divorce hazard. However, the effect gets much weaker once we control for endogeneity and measurement errors by using the fitted probability of working instead of the actual work status. Similarly, there is no strong evidence that the probability of future divorce causes married women to become more likely to enter the labor force.

Our results are comparable to Johnson and Skinner's previous work. In their structural divorce probit regression, Johnson and Skinner also found a weak support that the labor force participation significantly increases the probability of divorce. In their structural work probit, Johnson and Skinner handled the issue of the past fertility and the past labor force participation being endogenous by running two versions of the structural work probit equations. First, assuming the past fertility and the past labor force participation are endogenous, they ran a "limited work probit" without any of these two variable. They found no significant effect of the future probability of divorce on the current labor force participation. Second, assuming the past fertility and the past labor force participation are exogenous, they estimated an "extended work probit" including the past decision about children and the past labor force status as extra independent variables. It is in this extended work probit that they found a positive and significant effect of the future divorce probability on the current labor supply. Our structural work probit regression model developed at this stage is equivalent to the limited work probit version of Johnson and Skinner's. For a more complete picture, future work should include these two variables in the analysis and examine how the results change if we treat them as exogenous.

Married women can be grouped into two categories based on their labor force status: those who work full-time (constantly in the labor force) and those who work part-time (in and out of the labor force). As discussed earlier, these two groups of women tend to have different preference in terms of substitution rates between household production and the market work. Women who work full-time are more attached to the labor force, while women who work part-time move in and out of the labor force according to their family circumstances. This observation leads to a very interesting ground for another future work to test how much the effect of the divorce risk on married women's labor force participation would differ among the two groups.

Lastly, it will be very interesting to look at the other dimension of wife labor supply, the hours worked. The extent to which the hours worked have changed could reveal much more information about relationship between wife's labor supply and the divorce probability. It is likely that the relationship is reflected more through the intensity of wife's labor supply than her decision to work at all. Taking the case of married woman who decided to work full-time for her entire career for example, a higher divorce risk clearly will not make her switch into or out of the labor force. Instead, we can speculate that she could increase her work hours in respond to the negative income effect (from losing husband's earning after divorce) or the loss in household specialization, or both.

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9 Appendix

Table 4: Year-by-year structural work probits

	(1)	(2)	(3)	(4)	(5)	(6)
	work79	work79	work80	work80	work81	work81
Specification	fitted hazard	actual divorce	fitted hazard	actual divorce	fitted hazard	actual divorce
$P(\overline{work})$	0.49	0.50	0.53	0.53	0.54	0.54
$\overline{work}$	0.50	0.50	0.53	0.53	0.54	0.54
dhazard	2.615*		0.734		1.888*	
	(2.18)		(0.73)		(2.00)	
fdivorce		0.499		0.141		0.385
		(1.72)		(0.71)		(1.71)
agemarried	-6.159	-6.035	3.124	3.033	-3.492	-3.620
	(-1.03)	(-1.01)	(0.61)	(0.59)	(-1.06)	(-1.12)
agemarried2	0.374	0.367	-0.136	-0.131	0.210	0.216
	(1.12)	(1.10)	(-0.49)	(-0.48)	(1.21)	(1.26)
agemarried3	-0.00722	-0.00710	0.00204	0.00195	-0.00395	-0.00406
	(-1.17)	(-1.16)	(0.42)	(0.40)	(-1.29)	(-1.34)
nwincome	-0.00595	-0.00703	0.00948	0.00939	-0.00705	-0.00711
	(-0.74)	(-0.87)	(1.47)	(1.45)	(-1.31)	(-1.32)
highsch	-0.192	-0.119	-0.131	-0.111	-0.293*	-0.269
	(-1.20)	(-0.76)	(-0.87)	(-0.75)	(-2.01)	(-1.86)
somecol	-0.113	-0.0773	-0.0969	-0.0957	-0.176	-0.189
	(-0.65)	(-0.45)	(-0.62)	(-0.61)	(-1.18)	(-1.27)
collgrad	-0.184	-0.119	-0.0297	-0.0260	-0.219	-0.201
	(-1.02)	(-0.67)	(-0.19)	(-0.17)	(-1.43)	(-1.32)
postgrad	0.207	0.291	0.395	0.407	-0.0839	-0.0591
	(0.74)	(1.05)	(1.85)	(1.90)	(-0.44)	(-0.31)
white	0.424**	0.416**	0.242*	0.238*	0.426***	0.419***
	(3.09)	(3.05)	(2.04)	(2.01)	(4.04)	(3.98)
health	-0.129	-0.137	-0.0415	-0.0454	-0.518**	-0.548**
	(-0.63)	(-0.67)	(-0.24)	(-0.26)	(-2.77)	(-2.93)
delinq	-0.0276	0.000512	-0.206	-0.196	0.0323	0.0303
	(-0.20)	(0.00)	(-1.71)	(-1.62)	(0.30)	(0.29)
inflation	-0.104	-0.0741	-0.0908	-0.0864	0.0740	0.0885
	(-0.72)	(-0.52)	(-0.74)	(-0.71)	(0.71)	(0.86)
housework	0.442**	0.403**	0.183	0.176	0.400***	0.386***
	(2.89)	(2.65)	(1.42)	(1.37)	(3.41)	(3.29)
traditional	-0.144	-0.157	-0.0225	-0.0267	0.0381	0.0257
	(-1.06)	(-1.16)	(-0.20)	(-0.24)	(0.38)	(0.26)
notime	0.0427	0.0505	-0.0392	-0.0422	-0.0789	-0.0718
	(0.28)	(0.33)	(-0.30)	(-0.32)	(-0.68)	(-0.62)
wplace	-0.439*	-0.480**	-0.0678	-0.0806	-0.262	-0.298*
	(-2.50)	(-2.76)	(-0.45)	(-0.54)	(-1.93)	(-2.23)
happy	0.0434	-0.0297	0.122	0.114	-0.0430	-0.0606
	(0.31)	(-0.22)	(1.02)	(0.96)	(-0.40)	(-0.57)
useful	0.0869	0.125	0.0725	0.0801	-0.0148	-0.00459
	(0.73)	(1.06)	(0.71)	(0.79)	(-0.16)	(-0.05)
_cons	31.02	30.86	-24.49	-23.79	17.12	18.40
	(0.87)	(0.87)	(-0.78)	(-0.76)	(0.83)	(0.91)
N	555	555	737	737	932	932
chi2	84.41	82.71	81.31	81.27	117.9	116.9
p	0.000	0.000	0.000	0.000	0.000	0.000

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 5: Year-by-year structural work probits

	(1)	(2)	(3)	(4)	(5)	(6)
	work82	work82	work83	work83	work84	work84
Specification	fitted hazard	actual divorce	fitted hazard	actual divorce	fitted hazard	actual divorce
$P(\overline{work})$	0.52	0.52	0.59	0.59	0.61	0.61
$\overline{work}$	0.52	0.52	0.58	0.58	0.61	0.61
dhazard	1.390		-0.150		-1.021	
	(1.49)		(-0.17)		(-1.09)	
fdivorce		0.446*		-0.00979		0.351*
		(2.43)		(-0.05)		(1.96)
agemarried	1.253	1.239	-3.400	-3.406	0.164	0.0423
	(0.43)	(0.43)	(-1.87)	(-1.87)	(0.11)	(0.03)
agemarried2	-0.0517	-0.0517	0.185*	0.185*	0.00322	0.00906
	(-0.34)	(-0.35)	(2.01)	(2.01)	(0.04)	(0.12)
agemarried3	0.000798	0.000795	-0.00317*	-0.00317*	-0.000163	-0.000246
	(0.31)	(0.31)	(-2.06)	(-2.06)	(-0.13)	(-0.20)
nwincome	0.00852	0.00879	0.00625	0.00631	0.00712*	0.00846*
	(1.83)	(1.89)	(1.58)	(1.60)	(2.00)	(2.40)
highsch	0.106	0.132	-0.0690	-0.0717	0.263	0.232
	(0.75)	(0.94)	(-0.49)	(-0.52)	(1.91)	(1.71)
somecol	0.109	0.109	0.111	0.110	0.181	0.159
	(0.75)	(0.75)	(0.77)	(0.76)	(1.30)	(1.14)
collgrad	-0.131	-0.106	-0.0544	-0.0567	0.228	0.206
	(-0.88)	(-0.71)	(-0.37)	(-0.38)	(1.59)	(1.45)
postgrad	0.0484	0.0548	-0.179	-0.182	0.263	0.229
	(0.27)	(0.31)	(-1.05)	(-1.07)	(1.58)	(1.39)
white	0.119	0.106	0.229**	0.230**	0.262**	0.257**
	(1.27)	(1.14)	(2.62)	(2.63)	(3.17)	(3.10)
health	-0.212	-0.206	0.0678	0.0678	-0.160	-0.165
	(-1.24)	(-1.20)	(0.40)	(0.40)	(-1.03)	(-1.07)
delinq	0.110	0.110	-0.120	-0.122	-0.0134	-0.0296
	(0.99)	(0.99)	(-1.16)	(-1.17)	(-0.13)	(-0.30)
inflation	0.370***	0.385***	0.246*	0.245*	0.358***	0.356***
	(3.39)	(3.53)	(2.41)	(2.41)	(3.69)	(3.66)
housework	0.375**	0.383**	0.394**	0.397**	0.275*	0.289*
	(2.73)	(2.78)	(2.97)	(3.01)	(2.13)	(2.27)
traditional	-0.194	-0.209*	-0.0687	-0.0659	-0.219*	-0.192*
	(-1.92)	(-2.10)	(-0.72)	(-0.70)	(-2.40)	(-2.16)
notime	-0.253*	-0.221	-0.280*	-0.282*	-0.146	-0.162
	(-2.02)	(-1.76)	(-2.39)	(-2.41)	(-1.34)	(-1.49)
wplace	-0.00763	-0.0569	-0.0923	-0.0886	-0.0545	-0.0248
	(-0.06)	(-0.41)	(-0.69)	(-0.67)	(-0.43)	(-0.20)
happy	-0.0399	-0.0659	-0.104	-0.100	-0.251**	-0.229*
	(-0.39)	(-0.66)	(-1.07)	(-1.06)	(-2.69)	(-2.51)
useful	0.106	0.129	0.0883	0.0856	0.0518	0.0330
	(1.28)	(1.58)	(1.13)	(1.12)	(0.68)	(0.45)
_cons	-11.59	-11.18	19.08	19.09	-3.752	-3.132
	(-0.63)	(-0.61)	(1.60)	(1.60)	(-0.37)	(-0.31)
N	1099	1099	1256	1256	1390	1390
chi2	136.8	140.7	166.9	166.9	166.8	169.6
p	0.000	0.000	0.000	0.000	0.000	0.000

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 6: Year-by-year structural work probits

	(1)	(2)	(3)	(4)	(5)	(6)
	work85	work85	work86	work86	work87	work87
Specification	fitted hazard	actual divorce	fitted hazard	actual divorce	fitted hazard	actual divorce
$P(\overline{work})$	0.65	0.65	0.69	0.69	0.72	0.72
$\overline{work}$	0.64	0.64	0.68	0.68	0.70	0.70
dhazard	-0.425		1.199		0.865	
	(-0.45)		(1.27)		(0.87)	
fdivorce		0.133		0.188		-0.0612
		(0.82)		(1.02)		(-0.34)
agemarried	0.160	0.137	1.241	1.387	-0.266	-0.141
	(0.13)	(0.11)	(1.10)	(1.24)	(-0.26)	(-0.14)
agemarried2	0.00128	0.00233	-0.0499	-0.0567	0.0202	0.0144
	(0.02)	(0.04)	(-0.93)	(-1.06)	(0.42)	(0.30)
agemarried3	-0.0000958	-0.000109	0.000700	0.000798	-0.000370	-0.000286
	(-0.10)	(-0.11)	(0.83)	(0.95)	(-0.50)	(-0.39)
nwincome	0.00238	0.00297	-0.000225	-0.000507	0.000389	0.000133
	(0.73)	(0.92)	(-0.26)	(-0.60)	(0.44)	(0.16)
highsch	0.227	0.211	0.193	0.229	0.210	0.235
	(1.68)	(1.61)	(1.39)	(1.68)	(1.48)	(1.70)
somecol	0.206	0.198	0.161	0.180	0.249	0.263
	(1.52)	(1.47)	(1.15)	(1.30)	(1.76)	(1.87)
collgrad	0.246	0.231	0.104	0.129	0.201	0.218
	(1.75)	(1.68)	(0.73)	(0.91)	(1.39)	(1.53)
postgrad	0.203	0.189	0.0621	0.0929	-0.0707	-0.0465
	(1.26)	(1.20)	(0.38)	(0.58)	(-0.44)	(-0.29)
white	0.302***	0.302***	0.292***	0.286***	0.111	0.108
	(3.84)	(3.83)	(3.81)	(3.74)	(1.41)	(1.37)
health	-0.215	-0.215	-0.285	-0.289	-0.241	-0.252
	(-1.40)	(-1.40)	(-1.80)	(-1.83)	(-1.50)	(-1.57)
delinq	0.0548	0.0560	0.00828	0.0113	-0.0383	-0.0296
	(0.57)	(0.59)	(0.09)	(0.12)	(-0.39)	(-0.30)
inflation	0.257**	0.252**	0.236*	0.245**	0.521***	0.528***
	(2.75)	(2.70)	(2.54)	(2.64)	(5.70)	(5.80)
housework	0.282*	0.288*	0.208	0.199	0.489***	0.481***
	(2.31)	(2.37)	(1.72)	(1.65)	(3.59)	(3.54)
traditional	-0.216*	-0.211*	-0.354***	-0.362***	-0.0745	-0.0892
	(-2.46)	(-2.43)	(-4.08)	(-4.19)	(-0.79)	(-0.95)
notime	-0.0984	-0.0994	-0.148	-0.153	-0.208	-0.200
	(-0.94)	(-0.95)	(-1.40)	(-1.45)	(-1.82)	(-1.75)
wplace	-0.140	-0.133	-0.217	-0.225	-0.0309	-0.0526
	(-1.15)	(-1.10)	(-1.81)	(-1.89)	(-0.24)	(-0.41)
happy	-0.182*	-0.174*	0.00896	-0.00603	-0.388***	-0.401***
	(-2.02)	(-1.96)	(0.10)	(-0.07)	(-4.36)	(-4.58)
useful	-0.100	-0.106	-0.00596	0.00656	0.322***	0.336***
	(-1.38)	(-1.50)	(-0.08)	(0.09)	(4.36)	(4.67)
_cons	-3.247	-3.167	-10.66	-11.53	-0.528	-1.289
	(-0.37)	(-0.37)	(-1.37)	(-1.49)	(-0.07)	(-0.18)
N	1510	1510	1595	1595	1652	1652
chi2	143.8	144.3	164.3	163.8	237.9	237.2
p	0.000	0.000	0.000	0.000	0.000	0.000

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 7: Year-by-year structural work probits

	(1)	(2)	(3)	(4)	(5)	(6)
	work88	work88	work89	work89	work90	work90
Specification	fitted hazard	actual divorce	fitted hazard	actual divorce	fitted hazard	actual divorce
$P(\overline{work})$	0.70	0.70	0.70	0.70	0.73	0.73
$\overline{work}$	0.69	0.69	0.68	0.68	0.71	0.71
dhazard	1.053		1.033		-0.254	
	(1.04)		(0.92)		(-0.23)	
fdivorce		0.0565		0.245		0.161
		(0.30)		(1.27)		(0.80)
agemarried	1.104	1.172	1.163	1.197	0.261	0.243
	(1.24)	(1.32)	(1.57)	(1.62)	(0.39)	(0.36)
agemarried2	-0.0466	-0.0496	-0.0508	-0.0522	-0.00875	-0.00797
	(-1.13)	(-1.21)	(-1.52)	(-1.56)	(-0.29)	(-0.27)
agemarried3	0.000684	0.000725	0.000757	0.000773	0.000112	0.000102
	(1.10)	(1.16)	(1.52)	(1.55)	(0.26)	(0.23)
nwincome	-0.000359	-0.000615	-0.000240	-0.000452	-0.00104	-0.000964*
	(-0.49)	(-0.91)	(-0.43)	(-0.93)	(-1.92)	(-2.04)
highsch	0.225	0.252	0.0750	0.0952	-0.000856	-0.00374
	(1.59)	(1.81)	(0.53)	(0.68)	(-0.01)	(-0.03)
somecol	0.196	0.210	0.172	0.179	0.0279	0.0280
	(1.38)	(1.48)	(1.20)	(1.25)	(0.19)	(0.19)
collgrad	0.166	0.183	0.116	0.133	0.000110	-0.00336
	(1.15)	(1.28)	(0.79)	(0.92)	(0.00)	(-0.02)
postgrad	0.142	0.174	0.00864	0.0323	-0.0506	-0.0552
	(0.86)	(1.07)	(0.05)	(0.20)	(-0.31)	(-0.34)
white	0.162*	0.156*	0.148*	0.146*	0.133	0.135
	(2.12)	(2.04)	(1.99)	(1.97)	(1.76)	(1.81)
health	0.00163	0.00562	-0.0716	-0.0654	-0.281	-0.280
	(0.01)	(0.04)	(-0.43)	(-0.39)	(-1.75)	(-1.74)
delinq	-0.0992	-0.0901	-0.00834	0.000861	-0.151	-0.151
	(-1.04)	(-0.95)	(-0.09)	(0.01)	(-1.60)	(-1.61)
inflation	0.495***	0.501***	0.588***	0.599***	0.515***	0.513***
	(5.54)	(5.62)	(6.69)	(6.81)	(5.85)	(5.84)
housework	0.492***	0.483***	0.305*	0.302*	0.183	0.184
	(3.48)	(3.42)	(2.23)	(2.21)	(1.33)	(1.35)
traditional	-0.104	-0.121	-0.0681	-0.0819	-0.122	-0.119
	(-1.13)	(-1.33)	(-0.75)	(-0.92)	(-1.32)	(-1.31)
notime	-0.0694	-0.0571	-0.173	-0.163	-0.0200	-0.0227
	(-0.61)	(-0.51)	(-1.56)	(-1.48)	(-0.18)	(-0.20)
wplace	-0.00145	-0.0237	-0.0774	-0.0946	-0.176	-0.171
	(-0.01)	(-0.19)	(-0.61)	(-0.76)	(-1.36)	(-1.33)
happy	-0.283**	-0.301***	-0.352***	-0.373***	-0.479***	-0.471***
	(-3.22)	(-3.49)	(-3.99)	(-4.38)	(-5.42)	(-5.48)
useful	0.246***	0.264***	0.160*	0.177**	0.160*	0.154*
	(3.47)	(3.81)	(2.29)	(2.63)	(2.27)	(2.26)
_cons	-9.713	-10.07	-9.563	-9.714	-2.594	-2.491
	(-1.53)	(-1.59)	(-1.78)	(-1.81)	(-0.52)	(-0.50)
N	1684	1684	1746	1746	1763	1763
chi2	176.2	175.2	176.9	177.7	191.3	191.9
p	0.000	0.000	0.000	0.000	0.000	0.000

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 8: Year-by-year structural work probits

	(1)	(2)	(3)	(4)	(5)	(6)
	work91	work91	work92	work92	work93	work93
Specification	fitted hazard	actual divorce	fitted hazard	actual divorce	fitted hazard	actual divorce
$P(\overline{work})$	0.72	0.72	0.72	0.72	0.71	0.71
$\overline{work}$	0.70	0.70	0.71	0.71	0.70	0.70
dhazard	-0.0723		0.877		1.798	
	(-0.06)		(0.64)		(1.27)	
fdivorce		0.260		0.236		0.263
		(1.31)		(1.11)		(1.33)
agemarried	0.305	0.305	-0.301	-0.308	0.381	0.364
	(0.54)	(0.54)	(-0.60)	(-0.61)	(0.80)	(0.77)
agemarried2	-0.0115	-0.0115	0.0147	0.0150	-0.0138	-0.0132
	(-0.47)	(-0.46)	(0.67)	(0.69)	(-0.68)	(-0.66)
agemarried3	0.000164	0.000163	-0.000205	-0.000212	0.000182	0.000173
	(0.46)	(0.46)	(-0.67)	(-0.69)	(0.65)	(0.62)
nwincome	-0.00155	-0.00146*	-0.00106	-0.00130*	-0.000428	-0.000711
	(-1.79)	(-2.11)	(-1.62)	(-2.32)	(-0.97)	(-1.89)
highsch	0.0473	0.0372	-0.0108	-0.00152	0.0207	0.0525
	(0.32)	(0.26)	(-0.07)	(-0.01)	(0.14)	(0.37)
somecol	0.00264	-0.00306	-0.0589	-0.0537	0.00690	0.0254
	(0.02)	(-0.02)	(-0.40)	(-0.37)	(0.05)	(0.18)
collgrad	-0.0165	-0.0219	-0.0370	-0.0276	-0.0660	-0.0391
	(-0.11)	(-0.15)	(-0.25)	(-0.19)	(-0.45)	(-0.27)
postgrad	0.0976	0.0864	0.0410	0.0519	-0.0590	-0.0226
	(0.58)	(0.53)	(0.24)	(0.31)	(-0.36)	(-0.14)
white	0.0924	0.0901	0.0540	0.0435	0.105	0.0879
	(1.25)	(1.22)	(0.72)	(0.59)	(1.42)	(1.20)
health	-0.790***	-0.787***	-0.691***	-0.689***	-0.879***	-0.873***
	(-6.58)	(-6.57)	(-6.20)	(-6.18)	(-7.36)	(-7.32)
delinq	-0.0854	-0.0934	-0.145	-0.141	-0.139	-0.135
	(-0.92)	(-1.01)	(-1.58)	(-1.54)	(-1.49)	(-1.44)
inflation	0.463***	0.456***	0.414***	0.416***	0.376***	0.384***
	(5.33)	(5.26)	(4.79)	(4.84)	(4.36)	(4.47)
housework	0.362**	0.363**	0.221	0.211	0.299*	0.283*
	(2.69)	(2.70)	(1.62)	(1.57)	(2.19)	(2.09)
traditional	-0.132	-0.133	-0.0435	-0.0531	0.00643	-0.0131
	(-1.47)	(-1.50)	(-0.48)	(-0.59)	(0.07)	(-0.14)
notime	-0.198	-0.195	-0.0741	-0.0689	0.00872	0.0237
	(-1.83)	(-1.81)	(-0.67)	(-0.63)	(0.08)	(0.21)
wplace	-0.110	-0.104	-0.261*	-0.275*	-0.254*	-0.279*
	(-0.87)	(-0.84)	(-2.08)	(-2.22)	(-2.01)	(-2.24)
happy	-0.343***	-0.345***	-0.239**	-0.254**	-0.220*	-0.250**
	(-3.94)	(-4.09)	(-2.72)	(-3.01)	(-2.50)	(-2.94)
useful	0.139*	0.140*	0.129	0.141*	0.0925	0.115
	(2.01)	(2.08)	(1.84)	(2.10)	(1.32)	(1.71)
_cons	-2.910	-2.927	1.774	1.917	-3.760	-3.433
	(-0.69)	(-0.69)	(0.46)	(0.50)	(-1.03)	(-0.94)
N	1832	1832	1819	1819	1801	1801
chi2	212.3	214.0	180.3	181.2	169.8	169.8
p	0.000	0.000	0.000	0.000	0.000	0.000

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 9: Year-by-year structural work probits

Specification	(1) work94 fitted hazard	(2) work94 actual divorce	(3) work95 fitted hazard	(4) work95 actual divorce	(5) work96 fitted hazard	(6) work96 actual divorce
$P(\overline{work})$	0.72	0.72	0.91	0.91	0.73	0.73
$\overline{work}$	0.71	0.71	0.89	0.89	0.72	0.72
dhazard	3.121*		2.262		4.751**	
	(2.10)		(1.18)		(2.65)	
fdivorce		0.346		0.0466		0.179
		(1.80)		(0.19)		(0.73)
agemarried	-0.762	-0.768	-0.360	-0.339	0.239	0.288
	(-1.84)	(-1.86)	(-0.78)	(-0.73)	(0.65)	(0.78)
agemarried2	0.0342*	0.0343*	0.0192	0.0182	-0.0108	-0.0133
	(1.99)	(1.99)	(0.99)	(0.94)	(-0.72)	(-0.89)
agemarried3	-0.000480*	-0.000481*	-0.000295	-0.000280	0.000161	0.000199
	(-2.05)	(-2.06)	(-1.13)	(-1.07)	(0.81)	(1.00)
nwincome	-0.000440	-0.000942*	-0.000701	-0.00103*	-0.000421	-0.000923*
	(-0.81)	(-1.97)	(-1.18)	(-1.96)	(-1.02)	(-2.54)
highsch	-0.299	-0.253	0.0572	0.0947	-0.0609	0.0247
	(-1.94)	(-1.67)	(0.31)	(0.53)	(-0.39)	(0.16)
somecol	-0.302*	-0.278	-0.0815	-0.0626	-0.0401	0.00500
	(-1.96)	(-1.82)	(-0.45)	(-0.35)	(-0.26)	(0.03)
collgrad	-0.424**	-0.389*	0.0984	0.128	-0.142	-0.0709
	(-2.71)	(-2.51)	(0.53)	(0.69)	(-0.90)	(-0.46)
postgrad	-0.284	-0.233	-0.0605	-0.0252	-0.0701	0.0165
	(-1.65)	(-1.37)	(-0.30)	(-0.13)	(-0.40)	(0.10)
white	0.190*	0.167*	0.302**	0.283**	0.0829	0.0360
	(2.55)	(2.28)	(3.22)	(3.07)	(1.05)	(0.47)
health	-0.821***	-0.830***	-0.570***	-0.564***	-0.892***	-0.884***
	(-6.80)	(-6.87)	(-4.25)	(-4.21)	(-7.69)	(-7.62)
delinq	-0.107	-0.0801	-0.147	-0.129	-0.0822	-0.0552
	(-1.12)	(-0.85)	(-1.27)	(-1.13)	(-0.84)	(-0.57)
inflation	0.365***	0.379***	0.547***	0.555***	0.343***	0.371***
	(4.15)	(4.32)	(5.32)	(5.40)	(3.74)	(4.08)
housework	0.340*	0.309*	0.191	0.169	0.379**	0.310*
	(2.45)	(2.24)	(1.17)	(1.04)	(2.63)	(2.18)
traditional	-0.0910	-0.130	-0.0724	-0.101	-0.154	-0.203*
	(-0.97)	(-1.41)	(-0.62)	(-0.89)	(-1.56)	(-2.12)
notime	-0.100	-0.0761	-0.0898	-0.0744	-0.106	-0.0752
	(-0.89)	(-0.68)	(-0.67)	(-0.56)	(-0.90)	(-0.65)
wplace	-0.169	-0.210	-0.177	-0.207	-0.0980	-0.158
	(-1.32)	(-1.66)	(-1.20)	(-1.42)	(-0.73)	(-1.20)
happy	-0.136	-0.180*	-0.194	-0.225*	-0.0217	-0.0824
	(-1.52)	(-2.08)	(-1.78)	(-2.12)	(-0.23)	(-0.90)
useful	0.0503	0.0891	0.0182	0.0440	0.0386	0.0997
	(0.71)	(1.31)	(0.20)	(0.50)	(0.52)	(1.42)
_cons	5.295	5.672	2.199	2.284	-1.980	-1.852
	(1.62)	(1.74)	(0.60)	(0.63)	(-0.66)	(-0.62)
N	1751	1751	1752	1752	1661	1661
chi2	159.3	158.3	131.0	129.7	147.8	141.3
p	0.000	0.000	0.000	0.000	0.000	0.000

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 10: Year-by-year structural work probits

	(1)	(2)	(3)	(4)	(5)	(6)
	work97	work97	work98	work98	work99	work99
Specification	fitted hazard	actual divorce	fitted hazard	actual divorce	fitted hazard	actual divorce
$P(\overline{work})$	0.91	0.91	0.77	0.77	0.92	0.91
$\overline{work}$	0.89	0.89	0.75	0.75	0.89	0.89
dhazard	1.046		-0.457		6.581*	
	(0.50)		(-0.22)		(1.97)	
fdivorce		0.476		0.197		-0.234
		(1.31)		(0.76)		(-0.89)
agemarried	-0.240	-0.243	0.830*	0.817*	0.132	0.146
	(-0.62)	(-0.63)	(2.35)	(2.33)	(0.35)	(0.39)
agemarried2	0.0113	0.0112	-0.0330*	-0.0324*	-0.00260	-0.00354
	(0.73)	(0.72)	(-2.34)	(-2.32)	(-0.18)	(-0.24)
agemarried3	-0.000159	-0.000155	0.000423*	0.000415*	0.00000880	0.0000253
	(-0.79)	(-0.77)	(2.31)	(2.29)	(0.05)	(0.13)
inwincome	-0.00147**	-0.00157**	-0.00607***	-0.00589***	-0.00356**	-0.00473***
	(-2.73)	(-3.20)	(-5.79)	(-6.78)	(-3.23)	(-4.93)
highsch	-0.0168	-0.00421	0.264	0.252	0.0320	0.108
	(-0.09)	(-0.02)	(1.62)	(1.60)	(0.16)	(0.57)
somecol	-0.0457	-0.0455	0.114	0.107	-0.0300	0.0134
	(-0.24)	(-0.24)	(0.71)	(0.68)	(-0.16)	(0.07)
collgrad	-0.0206	-0.0176	0.118	0.110	-0.00136	0.0588
	(-0.10)	(-0.09)	(0.73)	(0.69)	(-0.01)	(0.30)
postgrad	-0.0228	-0.0150	0.110	0.0969	0.000364	0.0764
	(-0.11)	(-0.07)	(0.61)	(0.56)	(0.00)	(0.35)
white	0.175	0.166	-0.0696	-0.0646	0.130	0.119
	(1.79)	(1.73)	(-0.82)	(-0.76)	(1.22)	(1.12)
health	-0.493***	-0.504***	-0.802***	-0.806***	-0.840***	-0.837***
	(-3.78)	(-3.85)	(-7.05)	(-7.07)	(-6.59)	(-6.57)
delinq	0.0714	0.0741	-0.0554	-0.0572	-0.0200	-0.0165
	(0.59)	(0.62)	(-0.53)	(-0.55)	(-0.16)	(-0.13)
inflation	0.535***	0.546***	0.273**	0.275**	0.391***	0.405***
	(5.03)	(5.16)	(2.81)	(2.84)	(3.44)	(3.56)
housework	0.233	0.230	0.121	0.127	0.337	0.292
	(1.40)	(1.40)	(0.80)	(0.84)	(1.95)	(1.71)
traditional	-0.279*	-0.291*	-0.332***	-0.325**	-0.354**	-0.378**
	(-2.37)	(-2.51)	(-3.30)	(-3.27)	(-2.92)	(-3.14)
notime	-0.179	-0.176	0.0414	0.0351	-0.102	-0.0756
	(-1.33)	(-1.31)	(0.34)	(0.29)	(-0.71)	(-0.52)
wplace	-0.0920	-0.115	-0.0280	-0.0192	0.125	0.0715
	(-0.61)	(-0.77)	(-0.20)	(-0.14)	(0.75)	(0.43)
happy	-0.175	-0.177	-0.197*	-0.191*	-0.143	-0.207
	(-1.55)	(-1.60)	(-1.98)	(-2.00)	(-1.19)	(-1.77)
useful	0.0144	0.0293	0.168*	0.160*	0.121	0.169
	(0.15)	(0.32)	(2.15)	(2.13)	(1.21)	(1.76)
_cons	2.175	2.319	-6.047*	-5.993*	-1.074	-0.817
	(0.69)	(0.73)	(-2.11)	(-2.09)	(-0.35)	(-0.26)
N	1681	1681	1594	1594	1583	1583
chi2	110.6	112.3	171.7	172.3	139.5	136.3
p	0.000	0.000	0.000	0.000	0.000	0.000

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 11: Year-by-year structural work probits

	(7)	(8)
	work2000	work2000
Specification	fitted hazard	actual divorce
$P(\overline{work})$	0.96	0.96
$\overline{work}$	0.94	0.94
dhazard	7.870	
	(0.86)	
fdivorce		-0.0892
		(-0.21)
agemarried	-0.302	-0.289
	(-0.69)	(-0.65)
agemarried2	0.0184	0.0177
	(1.06)	(1.02)
agemarried3	-0.000296	-0.000283
	(-1.35)	(-1.29)
nwincome	-0.00324*	-0.00388***
	(-2.52)	(-3.65)
highsch	0.217	0.266
	(0.85)	(1.07)
somecol	-0.129	-0.0931
	(-0.52)	(-0.38)
collgrad	0.0884	0.136
	(0.34)	(0.54)
postgrad	0.0268	0.0902
	(0.09)	(0.32)
white	0.333*	0.315*
	(2.36)	(2.26)
health	-0.865***	-0.852***
	(-5.48)	(-5.44)
delinq	0.0397	0.0475
	(0.24)	(0.28)
inflation	0.705***	0.711***
	(4.79)	(4.83)
housework	0.309	0.283
	(1.43)	(1.33)
traditional	-0.450**	-0.472**
	(-2.81)	(-2.98)
notime	-0.0235	-0.00543
	(-0.12)	(-0.03)
wplace	0.205	0.175
	(0.93)	(0.81)
happy	-0.175	-0.218
	(-1.08)	(-1.41)
useful	-0.0926	-0.0610
	(-0.68)	(-0.47)
_cons	1.693	1.827
	(0.46)	(0.50)
N	1343	1343
chi2	116.5	115.8
p	0.000	0.000

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 12: Restricted vs non-restricted divorce hazard

	(1)	(2)
Specification	$d_i(t)$	$d_i(t)$
inwincome	0.994***	0.994***
	(-18.38)	(-18.66)
agemarried	1.423	1.461
	(1.08)	(1.16)
agemarried2	0.981	0.980
	(-1.42)	(-1.48)
agemarried3	1.000	1.000
	(1.60)	(1.63)
highsch	1.258	1.268
	(1.85)	(1.92)
somecol	1.135	1.146
	(1.00)	(1.07)
collgrad	1.208	1.217
	(1.46)	(1.53)
postgrad	1.303	1.322
	(1.84)	(1.95)
white	0.957	0.942
	(-0.63)	(-0.86)
health	0.992	0.980
	(-0.07)	(-0.16)
catholic	0.828*	0.822**
	(-2.52)	(-2.62)
protestant	1.063	1.057
	(0.81)	(0.74)
urban	1.140	1.129
	(1.76)	(1.64)
occasattend	0.944	0.944
	(-0.63)	(-0.63)
regattend	0.758**	0.746**
	(-2.78)	(-2.95)
freqattend	0.746**	0.721***
	(-3.20)	(-3.60)
delinq	1.111	
	(1.22)	
inflation	1.067	
	(0.74)	
housework	0.873	
	(-1.21)	
traditional	0.850	
	(-1.92)	
notime	1.118	
	(1.11)	
wplace	0.798	
	(-1.82)	
happy	0.822*	
	(-2.36)	
useful	1.166*	
	(2.48)	
N	33875	33875
chi2	12078.4	12152.2
p	0.000	0.000

Exponentiated coefficients; t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 13: Year-by-year reduced-form work probits

	(1)	(2)	(3)	(4)	(5)	(6)
	work79	work89	work81	work82	work83	work84
$P(\overline{work})$	0.49	0.53	0.54	0.52	0.59	0.61
$\overline{work}$	0.50	0.53	0.54	0.52	0.58	0.61
agemarried	-5.746	1.506	-4.551	1.021	-3.452	-0.117
	(-0.96)	(0.30)	(-1.37)	(0.36)	(-1.90)	(-0.08)
agemarried2	0.350	-0.0487	0.266	-0.0414	0.187*	0.0166
	(1.05)	(-0.18)	(1.52)	(-0.28)	(2.03)	(0.22)
agemarried3	-0.00677	0.000468	-0.00494	0.000632	-0.00319*	-0.000362
	(-1.10)	(0.10)	(-1.61)	(0.25)	(-2.08)	(-0.29)
nwincome	-0.00784	0.00845	-0.00824	0.00732	0.00619	0.00794*
	(-0.95)	(1.31)	(-1.52)	(1.57)	(1.57)	(2.26)
highsch	-0.135	-0.116	-0.301*	0.105	-0.0871	0.214
	(-0.85)	(-0.77)	(-2.06)	(0.74)	(-0.62)	(1.57)
somecol	-0.0495	-0.0870	-0.178	0.110	0.107	0.160
	(-0.29)	(-0.55)	(-1.19)	(0.76)	(0.74)	(1.15)
collgrad	-0.115	-0.0270	-0.225	-0.122	-0.0650	0.202
	(-0.64)	(-0.17)	(-1.47)	(-0.82)	(-0.44)	(1.42)
postgrad	0.354	0.370	-0.0636	0.0561	-0.192	0.232
	(1.27)	(1.72)	(-0.33)	(0.31)	(-1.12)	(1.41)
white	0.434**	0.268*	0.489***	0.165	0.256**	0.278**
	(3.08)	(2.17)	(4.48)	(1.71)	(2.83)	(3.24)
health	-0.104	-0.0296	-0.548**	-0.233	0.0724	-0.160
	(-0.50)	(-0.17)	(-2.91)	(-1.36)	(0.42)	(-1.04)
delinq	0.00183	-0.234	0.0134	0.114	-0.124	-0.0270
	(0.01)	(-1.92)	(0.12)	(1.02)	(-1.19)	(-0.27)
inflation	-0.0505	-0.0745	0.0916	0.387***	0.246*	0.358***
	(-0.35)	(-0.61)	(0.88)	(3.55)	(2.40)	(3.67)
housework	0.414**	0.153	0.388**	0.360**	0.395**	0.288*
	(2.68)	(1.18)	(3.28)	(2.61)	(2.99)	(2.25)
traditional	-0.152	-0.00700	0.0333	-0.230*	-0.0743	-0.205*
	(-1.11)	(-0.06)	(0.33)	(-2.28)	(-0.78)	(-2.29)
notime	0.0867	-0.0247	-0.0658	-0.228	-0.280*	-0.155
	(0.56)	(-0.19)	(-0.56)	(-1.82)	(-2.39)	(-1.42)
wplace	-0.556**	-0.113	-0.298*	-0.0435	-0.0921	-0.0454
	(-3.12)	(-0.75)	(-2.20)	(-0.32)	(-0.70)	(-0.36)
happy	-0.0312	0.110	-0.0485	-0.0660	-0.0999	-0.235*
	(-0.23)	(0.92)	(-0.45)	(-0.66)	(-1.05)	(-2.57)
useful	0.118	0.0512	0.00600	0.133	0.0846	0.0295
	(0.99)	(0.50)	(0.07)	(1.61)	(1.09)	(0.40)
catholic	0.000546	-0.228	-0.361***	-0.160	-0.0580	-0.117
	(0.00)	(-1.90)	(-3.32)	(-1.62)	(-0.64)	(-1.34)
protestant	0.0630	-0.125	-0.00521	-0.0438	-0.00927	-0.0722
	(0.43)	(-1.01)	(-0.05)	(-0.44)	(-0.10)	(-0.79)
urban	-0.258	0.123	0.127	0.120	-0.00265	-0.100
	(-1.90)	(1.06)	(1.22)	(1.25)	(-0.03)	(-1.15)
occasattend	0.194	0.406**	0.233	0.223	0.0258	-0.0110
	(1.16)	(2.69)	(1.72)	(1.77)	(0.22)	(-0.09)
regattend	0.0918	0.178	0.220	0.324*	0.152	0.111
	(0.52)	(1.14)	(1.54)	(2.48)	(1.22)	(0.92)
freqattend	0.140	0.425**	0.173	0.315*	0.0912	0.103
	(0.77)	(2.69)	(1.25)	(2.53)	(0.78)	(0.92)
_cons	29.22	-14.63	23.89	-9.889	19.39	-1.916
	(0.82)	(-0.48)	(1.16)	(-0.55)	(1.63)	(-0.19)
N	555	737	932	1099	1256	1390
chi2	85.36	94.43	129.7	144.8	169.3	171.9
p	0.000	0.000	0.000	0.000	0.000	0.000

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 14: Year-by-year reduced-form work probits

	(1)	(2)	(3)	(4)	(5)	(6)
	work85	work86	work87	work88	work89	work90
$P(\overline{work})$	0.65	0.69	0.72	0.71	0.70	0.73
$\overline{work}$	0.64	0.68	0.70	0.99	0.63	0.71
agemarried	-0.166	1.323	-0.227	1.000	1.118	0.183
	(-0.13)	(1.17)	(-0.22)	(1.11)	(1.50)	(0.27)
agemarried2	0.0166	-0.0544	0.0182	-0.0424	-0.0486	-0.00582
	(0.27)	(-1.01)	(0.38)	(-1.02)	(-1.44)	(-0.19)
agemarried3	-0.000329	0.000771	-0.000340	0.000625	0.000719	0.0000770
	(-0.34)	(0.91)	(-0.46)	(0.99)	(1.44)	(0.18)
nwincome	0.00316	-0.000379	0.000424	-0.000307	-0.000318	-0.000858
	(0.98)	(-0.45)	(0.50)	(-0.45)	(-0.64)	(-1.80)
highsch	0.185	0.212	0.221	0.232	0.0817	-0.0179
	(1.40)	(1.55)	(1.59)	(1.66)	(0.58)	(-0.12)
somecol	0.194	0.187	0.267	0.216	0.186	0.0300
	(1.44)	(1.35)	(1.88)	(1.52)	(1.29)	(0.21)
collgrad	0.237	0.149	0.232	0.202	0.148	0.0123
	(1.71)	(1.05)	(1.61)	(1.40)	(1.01)	(0.08)
postgrad	0.171	0.101	-0.0672	0.166	0.0329	-0.0572
	(1.08)	(0.63)	(-0.42)	(1.02)	(0.20)	(-0.35)
white	0.331^{***}	0.310^{***}	0.170^{*}	0.227^{**}	0.197^{*}	0.175^{*}
	(4.05)	(3.90)	(2.07)	(2.83)	(2.53)	(2.22)
health	-0.216	-0.278	-0.258	-0.00354	-0.0773	-0.284
	(-1.40)	(-1.76)	(-1.60)	(-0.02)	(-0.47)	(-1.76)
delinq	0.0453	0.00245	-0.0314	-0.0904	-0.000614	-0.151
	(0.47)	(0.03)	(-0.32)	(-0.95)	(-0.01)	(-1.61)
inflation	0.264^{**}	0.258^{**}	0.552^{***}	0.548^{***}	0.626^{***}	0.539^{***}
	(2.81)	(2.77)	(5.99)	(6.06)	(7.05)	(6.08)
housework	0.284^{*}	0.190	0.491^{***}	0.492^{***}	0.293^{*}	0.184
	(2.33)	(1.57)	(3.61)	(3.48)	(2.13)	(1.34)
traditional	-0.229^{**}	-0.386^{***}	-0.0925	-0.135	-0.0788	-0.127
	(-2.61)	(-4.43)	(-0.99)	(-1.48)	(-0.88)	(-1.39)
notime	-0.109	-0.142	-0.219	-0.0727	-0.178	-0.0296
	(-1.04)	(-1.34)	(-1.91)	(-0.64)	(-1.61)	(-0.26)
wplace	-0.141	-0.246^{*}	-0.0596	-0.0350	-0.107	-0.183
	(-1.16)	(-2.05)	(-0.47)	(-0.27)	(-0.85)	(-1.42)
happy	-0.178^{*}	-0.00251	-0.416^{***}	-0.313^{***}	-0.389^{***}	-0.477^{***}
	(-2.00)	(-0.03)	(-4.71)	(-3.61)	(-4.52)	(-5.52)
useful	-0.110	0.00973	0.328^{***}	0.263^{***}	0.170^{*}	0.159^{*}
	(-1.54)	(0.14)	(4.53)	(3.77)	(2.51)	(2.32)
catholic	-0.0105	-0.180^{*}	-0.0710	-0.0842	-0.0320	-0.0430
	(-0.13)	(-2.19)	(-0.85)	(-1.04)	(-0.41)	(-0.54)
protestant	0.0445	-0.0176	0.126	0.108	0.0885	0.0850
	(0.50)	(-0.20)	(1.39)	(1.21)	(1.01)	(0.96)
urban	-0.131	-0.00670	-0.108	-0.122	-0.230^{**}	-0.0363
	(-1.55)	(-0.08)	(-1.27)	(-1.46)	(-2.79)	(-0.44)
occasattend	0.0367	-0.0316	0.132	0.0820	0.0604	0.0143
	(0.33)	(-0.27)	(1.15)	(0.73)	(0.54)	(0.13)
regattend	0.102	-0.00506	0.215	0.301^{*}	0.228	0.0547
	(0.86)	(-0.04)	(1.78)	(2.54)	(1.95)	(0.47)
freqattend	0.240^{*}	0.159	0.221^{*}	0.336^{**}	0.209^{*}	0.209
	(2.21)	(1.43)	(2.00)	(3.13)	(1.97)	(1.94)
_cons	-1.074	-10.96	-0.810	-8.956	-9.174	-2.082
	(-0.12)	(-1.41)	(-0.11)	(-1.40)	(-1.70)	(-0.42)
N	1510	1595	1652	1684	1746	1763
chi2	154.5	174.0	248.8	198.3	194.4	200.5
p	0.000	0.000	0.000	0.000	0.000	0.000

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 15: Year-by-year reduced-form work probits

	(1)	(2)	(3)	(4)	(5)	(6)
	work91	work92	work93	work94	work95	work96
$P(\overline{work})$	0.72	0.72	0.71	0.72	0.91	0.73
$\overline{work}$	0.70	0.71	0.70	0.71	0.89	0.72
agemarried	0.221	-0.311	0.335	-0.794	-0.372	0.256
	(0.39)	(-0.61)	(0.71)	(-1.91)	(-0.80)	(0.69)
agemarried2	-0.00829	0.0149	-0.0121	0.0349*	0.0193	-0.0121
	(-0.33)	(0.68)	(-0.60)	(2.03)	(0.99)	(-0.80)
agemarried3	0.000124	-0.000205	0.000160	-0.000485*	-0.000292	0.000184
	(0.35)	(-0.66)	(0.57)	(-2.07)	(-1.11)	(0.92)
nwincome	-0.00147*	-0.00133*	-0.000705	-0.000932	-0.000974	-0.000963**
	(-2.12)	(-2.35)	(-1.86)	(-1.94)	(-1.83)	(-2.61)
highsch	0.0382	-0.00182	0.0389	-0.259	0.0821	0.0210
	(0.27)	(-0.01)	(0.27)	(-1.70)	(0.45)	(0.14)
somecol	0.00616	-0.0440	0.0302	-0.264	-0.0536	0.0262
	(0.04)	(-0.30)	(0.21)	(-1.72)	(-0.30)	(0.17)
collgrad	-0.00256	-0.0158	-0.0219	-0.356*	0.158	-0.0350
	(-0.02)	(-0.11)	(-0.15)	(-2.29)	(0.85)	(-0.22)
postgrad	0.0946	0.0485	-0.0282	-0.237	-0.0393	0.0341
	(0.58)	(0.29)	(-0.17)	(-1.39)	(-0.19)	(0.20)
white	0.134	0.0794	0.131	0.203**	0.326***	0.0812
	(1.73)	(1.02)	(1.69)	(2.61)	(3.35)	(0.99)
health	-0.775***	-0.680***	-0.868***	-0.808***	-0.560***	-0.893***
	(-6.42)	(-6.08)	(-7.25)	(-6.67)	(-4.17)	(-7.64)
delinq	-0.0890	-0.144	-0.127	-0.0907	-0.133	-0.0471
	(-0.96)	(-1.56)	(-1.36)	(-0.96)	(-1.16)	(-0.48)
inflation	0.485***	0.429***	0.403***	0.402***	0.577***	0.375***
	(5.57)	(4.96)	(4.68)	(4.55)	(5.56)	(4.09)
housework	0.363**	0.208	0.272*	0.313*	0.167	0.326*
	(2.70)	(1.54)	(2.01)	(2.27)	(1.02)	(2.28)
traditional	-0.137	-0.0550	-0.0198	-0.135	-0.111	-0.210*
	(-1.54)	(-0.61)	(-0.22)	(-1.46)	(-0.97)	(-2.18)
notime	-0.202	-0.0695	0.0181	-0.0841	-0.0726	-0.0821
	(-1.87)	(-0.63)	(0.16)	(-0.75)	(-0.54)	(-0.70)
wplace	-0.124	-0.284*	-0.306*	-0.233	-0.223	-0.191
	(-0.99)	(-2.28)	(-2.44)	(-1.83)	(-1.51)	(-1.44)
happy	-0.343***	-0.260**	-0.250**	-0.182*	-0.231*	-0.0679
	(-4.05)	(-3.05)	(-2.92)	(-2.08)	(-2.15)	(-0.74)
useful	0.143*	0.142*	0.118	0.0942	0.0386	0.100
	(2.11)	(2.11)	(1.74)	(1.37)	(0.43)	(1.42)
catholic	-0.103	-0.0943	-0.0934	-0.117	-0.0832	-0.171*
	(-1.32)	(-1.21)	(-1.20)	(-1.47)	(-0.82)	(-2.08)
protestant	0.00938	0.00768	0.0638	0.0316	0.0789	0.105
	(0.11)	(0.09)	(0.73)	(0.35)	(0.69)	(1.13)
urban	-0.0763	-0.0790	-0.141	-0.0996	-0.0911	-0.0345
	(-0.93)	(-0.97)	(-1.73)	(-1.20)	(-0.85)	(-0.41)
occasattend	0.155	0.279*	0.158	0.186	0.227	0.105
	(1.43)	(2.53)	(1.42)	(1.65)	(1.60)	(0.87)
regattend	0.211	0.269*	0.144	0.186	0.170	-0.0929
	(1.89)	(2.39)	(1.28)	(1.62)	(1.19)	(-0.77)
freqattend	0.282**	0.257*	0.243*	0.314**	0.302*	0.0954
	(2.75)	(2.49)	(2.32)	(2.93)	(2.25)	(0.85)
_cons	-2.376	1.826	-3.251	5.810	2.421	-1.603
	(-0.56)	(0.47)	(-0.89)	(1.78)	(0.66)	(-0.53)
N	1832	1819	1801	1751	1752	1661
chi2	223.2	190.5	180.2	168.5	137.6	155.4
p	0.000	0.000	0.000	0.000	0.000	0.000

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 16: Year-by-year reduced-form work probits

	(1)	(2)	(3)	(4)
	work97	work98	work99	work2000
$P(\overline{work})$	0.91	0.77	0.92	0.97
$\overline{work}$	0.89	0.75	0.89	0.94
agemarried	-0.249	0.794*	0.164	-0.274
	(-0.64)	(2.23)	(0.43)	(-0.61)
agemarried2	0.0111	-0.0320*	-0.00477	0.0168
	(0.71)	(-2.25)	(-0.32)	(0.95)
agemarried3	-0.000151	0.000415*	0.0000462	-0.000271
	(-0.74)	(2.25)	(0.24)	(-1.22)
nwincome	-0.00157**	-0.00596***	-0.00468***	-0.00386***
	(-3.17)	(-6.87)	(-4.87)	(-3.60)
highsch	0.00217	0.255	0.104	0.280
	(0.01)	(1.60)	(0.54)	(1.10)
somecol	-0.00777	0.137	0.0453	-0.0308
	(-0.04)	(0.87)	(0.24)	(-0.13)
collgrad	0.0379	0.150	0.0981	0.224
	(0.19)	(0.94)	(0.50)	(0.87)
postgrad	0.00821	0.108	0.0940	0.133
	(0.04)	(0.61)	(0.43)	(0.46)
white	0.214*	-0.0232	0.182	0.388**
	(2.08)	(-0.26)	(1.62)	(2.59)
health	-0.491***	-0.820***	-0.862***	-0.864***
	(-3.75)	(-7.14)	(-6.70)	(-5.36)
delinq	0.0813	-0.0473	0.00173	0.0430
	(0.68)	(-0.45)	(0.01)	(0.25)
inflation	0.562***	0.284**	0.431***	0.712***
	(5.27)	(2.92)	(3.76)	(4.76)
housework	0.218	0.125	0.295	0.267
	(1.31)	(0.82)	(1.71)	(1.23)
traditional	-0.306**	-0.338***	-0.396**	-0.493**
	(-2.62)	(-3.38)	(-3.25)	(-3.02)
notime	-0.175	0.0417	-0.107	0.0000459
	(-1.30)	(0.34)	(-0.74)	(0.00)
wplace	-0.125	-0.0603	0.0532	0.0964
	(-0.82)	(-0.43)	(0.32)	(0.43)
happy	-0.193	-0.191*	-0.200	-0.173
	(-1.72)	(-1.96)	(-1.68)	(-1.08)
useful	0.0248	0.166*	0.177	-0.0508
	(0.27)	(2.21)	(1.82)	(-0.38)
catholic	-0.105	-0.135	-0.142	-0.216
	(-1.01)	(-1.56)	(-1.30)	(-1.47)
protestant	0.121	0.136	0.179	0.251
	(1.02)	(1.38)	(1.42)	(1.39)
urban	-0.0150	0.0151	-0.0161	-0.136
	(-0.14)	(0.17)	(-0.14)	(-0.84)
occasattend	0.196	0.239	0.244	0.262
	(1.32)	(1.91)	(1.55)	(1.15)
regattend	0.0357	-0.0567	0.0408	-0.168
	(0.24)	(-0.45)	(0.26)	(-0.81)
freqattend	0.267	0.238*	0.283	0.0858
	(1.92)	(2.03)	(1.93)	(0.42)
_cons	2.272	-5.875*	-1.086	1.778
	(0.71)	(-2.02)	(-0.34)	(0.48)
N	1681	1594	1583	1343
chi2	119.8	191.4	147.9	129.3
p	0.000	0.000	0.000	0.000

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$