Romeo or Juliet, who wants the Divorce? Understanding Divorce filings and the Macroeconomy

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Abstract

Approximately 70% of divorce filings in the 1970's were done by wives in the USA. 75% when the couple had children, 83% when college educated women were married to non-college men and 56% between non-college women married to college men. Since 1970 these figures experienced a large decline, the average reaching 61% in 1985 and 56% in 2015. At the same time divorce rates sharply increased from 1960 until 1981 and declined since then. I construct a life cycle model of endogenous marriage and unilateral divorce to jointly explain these facts. I use the model to measure the contribution of changes in the gender wage gap, property division laws and child custody arrangements in explaining the above described patters. On one hand, higher relative wages increase the wife's value of divorce, making it easier for her to leave inconvenient marriage arrangements, on the other hand, women become choosier in the marriage market thus delaying marriage and raising the quality of newly formed matches. Children increase the value of divorce for the custodial parent; so a higher probability of child custody raises their chances to file for divorce. The model accounts for roughly 50% of the variation in divorce rates and divorce filings between 1970 and 2015. I find that rising relative wages and child custody arrangements are major drivers of these changes. Importantly, I find that failure to match divorce filing moments leads to opposite counterfactual results.

Keywords: Divorce, Divorce Filings, Gender wage gap, Child Custody
JEL Classification: D1, D14, D13, J12 ,J13, J21

1 Introduction

Divorce rates and the composition of divorce filings[1] in the USA have changed substantially since the 1970's. While the family economics literature has studied divorce rates and their relation with the major labor market changes happening in the USA since the 1970's, it has done so without using information on divorce filings. Using actual divorce filing data for 32 states I quantitatively assess the role of divorce filings in explaining divorce rates over a period of 46 years. I find that matching divorce filing data moments is crucial for accurately quantifying the effects of labor market changes on the structure of the family.

Around 70% of the divorces in the USA were initiated by wives and this number has been declining ever since. Moreover, divorce filing data exhibits important heterogeneity across education groups and between couples who had or not children. 75% of all divorces were initiated by wives when the couple had children. 83% when a college educated woman was married to a non-college man and 56% when non-college women were married to college men[2]. This heterogeneity suggests that divorce incentives for men an women are quite diverse and are potentially relevant in understanding the evolution of divorce rates over time. Divorce rates sharply increased since 1960 until they reached a peak in 1981 and a continuously declined since then, thus exhibiting a hump shape pattern, see Figure 1. Moreover, since the 1970's the USA went through very important socioeconomic and cultural changes that impacted gender roles in society. The typical gender roles within the household, namely the husband being the bread winner and the wife in charge of housework, began to change. The average size of the American household reduced as women started having less children. The average number of children per woman reduced from 2.48 to 1.84[3] between 1970 and 2015. The degree of assortative mating across education groups became more pronounced. Women's labor force participation rose, together with a significant increase in female wages relative to males. The gender wage gap reduced approximately 45% from 1970 until 2015, in the 1970's women used to earn 55 cents for every dollar earned by a man; in 2015, 80 cents [4]. Fathers started to spend more time with their children, and in case of divorce the idea of the father getting full custody of the children became more acceptable[5]. The probability of the husband in getting full custody of the children increased from 10% to

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[1]Alleging to whether it was the wife or the husband the one who initiated the legal divorce proceedings in court. Evidence shows that there is a high correlation between the record of who files for divorce and the person who actually "wanted more" the divorce, Brinig and Allen (2000), Sayer et al. (2011), Rosenfeld (2018).

[2]I classify an individual as "college" if he/she reported to have 16 years of education or more. For a more detailed description of the data used in this paper refer to the data Section 2.

[3]Source: World Bank Development indicators.

[4]Source: Computed using CPS data extracts.

[5]In the 1970s, the "Tender Years Doctrine", which tended to favor mothers in getting custodial rights, was replaced by "the best interests of the child" doctrine, which abstracted from specifying gender preferences when determining child custody in family courts.

20% between 1970 and 2015, nowadays it is more common for fathers to request custody of their children. Finally the USA underwent important changes in divorce laws, by switching from mutual consent divorce to no-fault/unilateral divorce and changing property division laws, from title based regimes to community property and equitable distribution regimes[6]. All these aspects, in particular, financial independence for women associated to the significant rise of female wages since 1970, more egalitarian property division rules upon divorce and child custody arrangements are important when analysing divorce filing behavior of couples.

The purpose of this paper is to understand the above described patterns of divorce rates and divorce filings, in a world with higher assortative mating, lower fertility, rising female wages, changing property division laws and more custodial fathers. The analysis aims to study the complete evolution of divorce rates and divorce filings starting in 1970 until 2015, thus encompassing 46 years of divorce data. I emphasize the importance of explaining divorce rates together with divorce filings, since abstracting from the later may lead to different conclusions about the response of divorce rates to changes in labor market outcomes. To do so I construct and estimate a life cycle model of endogenous marriage and unilateral divorce, where agents differ in age, gender, marital status, and education attainment. They make capital accumulation decisions and choose how much to work. If single they randomly meet unmarried people of the opposite gender and decide whether to marry; agents can break up the marriage any period unilaterally. Fertility is exogenous, children bring additional utility to the household and upon divorce the father or the mother get full custody of the child with a given (exogenous) probability. Children change the value of divorce for the custodial parent (more often the mother) which is crucial for matching divorce filing data. Another particular feature of the model (that aims to match divorce filing data) is that it allows for gender specific match quality at the moment of marriage, that is, men and women enjoy married life differently on average, this is not a new feature to the literature, a similar way to model love/match quality can be seen in Rios-Rull et al. (2010), however they don't explicitly target divorce filing moments in their estimation, as I do.

In the model, rising female wages affect marital outcomes in two difference ways: first, it increases the value of divorce for married women, this makes it easier for women to divorce and leave inconvenient marriage arrangements, thus increasing divorce rates and the number of divorces initiated by women. Second, it increases the value of singlehood for unmarried single women making them more selective with respect to their potential partner, this means that a potential candidate that she would have married with the previous income arrangement might get rejected under the current arrangement. In other words, women can now afford to wait longer in

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[6]The title based regime assigns assets to the respective title owner, community property makes a 50/50 split, and equitable distribution involves the courts discretion so that assets are "fairly" divided, but not necessarily 50/50.

the marriage market with the intention of securing a better match for themselves. This stronger selection mechanism translates into a delay in marriage an a lower number of marriages being formed. These new marriages exhibit higher average match quality for women, thus reducing the chance of divorce and lowering the share of divorces initiated by wives. I model children as a public good that brings additional utility to the couple; thus making marriage more attractive. Upon divorce, one of the couple members gets full custody of the child with a fixed probability. Once divorced, only the custodial parent enjoys the additional utility coming from the child. This feature of the model makes children increase the value of divorce for the custodial parent, thus raising his/her chances of filing for divorce. In the latest decades the probability of the father getting full custody of his children has increased, this is in line with the observed reduction of the share of divorce filings done by wives.

The model is set to match relevant data moments of 1970[7]. I then use the model to get a counterfactual prediction for 1985. To do this I update the education composition of the population, fertility, the gender wage gap, child custody arrangements and property division shares to their 1985 values. The model predicted values are then compared with their data counterparts, I repeat the same exercise for the period 1985 to 2015. The estimation of the model for 1970 reveals that women enjoy marriage less than men and that children bring additional utility to household they live in. Furthermore, we can see that the model predictions for 1985 are in line with the changes observed in the data. The model accounts for 41% of the rise in divorce rates and 53% of the decline in divorce filings from 1970 to 1985, and 50% of the decline in divorce rates and 52% of the decline in divorce filings from the 1985 to 2015.

Next, I decompose the above predictions by measuring the contribution of individual changes to the gender wage gap, property division laws and child custody arrangements. To this end I keep the 1985 parametrization fixed but set the gender wage gap to its 1970 value. I do the same for each one of the drivers individually. I repeat the same set of exercises for the period 1985 to 2015. These counterfactual experiments show that the reduction of the gender wage gap can explain large percentages of the changes seen in both time intervals. Rising relative wages account for 47% of the increase of divorce rates and 53% of the decline in divorce filings between 1970 to 1985. And 14% of the decrease of divorce rates and 75% of the overall decline in divorce filings by women between 1985 to 2015. Results show that the change in child custody arrangements is the most important driver behind the reduction in share of divorce initiated by wives, it accounts for almost 80% of the decline between 1970 and 1985 and all the variation between 1985 and 2015.

I then turn to analyse the relevance of matching divorce filing data in getting the above described results and show that failing to match divorce filing moments leads to opposite coun-

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[7]Importantly I target divorce rates and divorce filings by education of the couple.

terfactual results. To this end I propose a restricted version of the model that abstracts from the model features that allow it to match divorce filing moments; namely gender specific match quality and higher probability for the wife to get custody of the children. In the restricted model both men and women enjoy marriage equality and both have the same chance of becoming the custodial parent in case of divorce. After estimating the restricted version of the model for 1970, I get the counterfactual prediction for 1985 in the same spirit as before. Results show that the restricted the model fails to match divorce filings by women in 1970, predicting 48% compared to 71% in the data. Moreover, for the period 1970 to 1985, the model predicts a decline in divorce rates and an increase of the divorce filings by wives, results that are opposite to what is observed in the data. This occurs since in the restricted scenario most of the divorces come from husbands (as opposed from wives like in the data); therefore an increase in female wages will make married women more attractive to men, since men can now work less and wives more, thus reducing the number of divorces initiated by husbands.

Figure 1: Divorce filings and divorce rates

Notes:
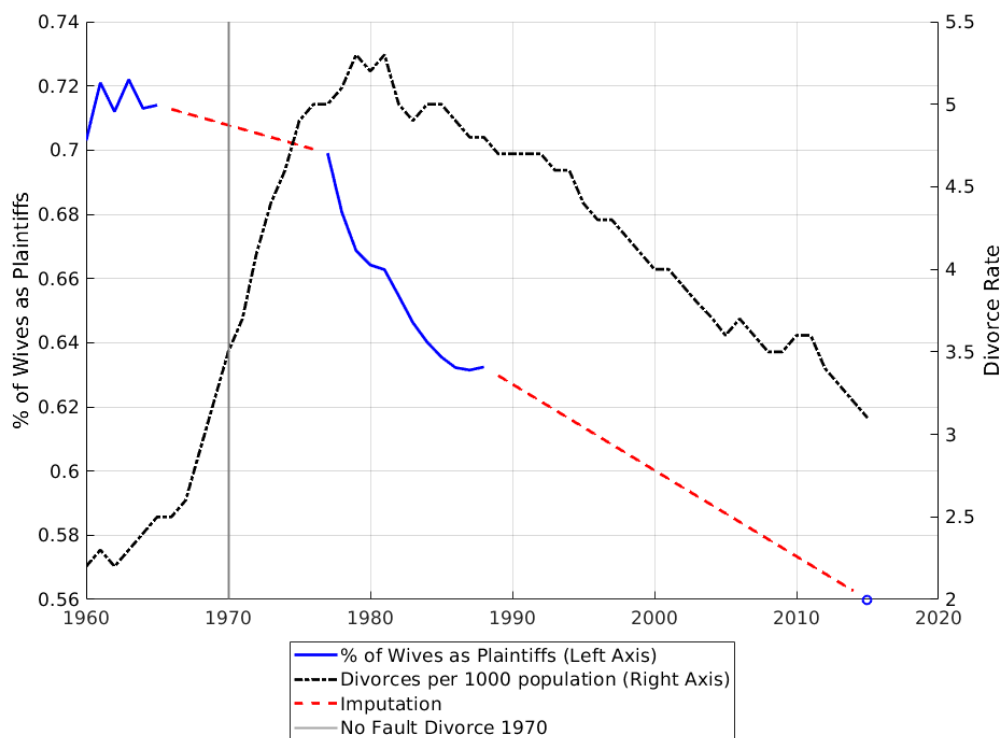
Divorce filing data is for a sample of 31 states, see List B, from the NBER collection of Marriage and Divorce, refer to NBER (1995). Divorce rates from the CDC/NCHS National Vital Statistics System reports. This graph uses divorce records for (ex)couples where the (ex)husband was between and 21-60 years old at the time of divorce.

Relation to the literature   This paper speaks to the family economics literature that studies the links between marital structures and people's economic choices i.e labor market participation, wealth accumulation, investment in education and fertility among others (Greenwood et al. (2017), Yamaguchi et al. (2014)). See a comprehensive summary of the state of the art concerning the economics of the family in Doepke and Tertilt (2016). However to the best of my knowledge this paper is the first to quantitatively asses the role of divorce filings in explaining divorce rates using actual divorce filing data. I build on the work done by Rios-Rull et al. (2010), where the authors measure the contribution of changing wages on the share of single female households and other demographic facts. My framework is similar to theirs in that I also allow the utility of married individuals to differ by gender; which has the potential to generate gender asymmetries in divorce filings, however the authors do not explicitly target divorce filing moments, as I do. In addition, their model presents a similar mechanism where rising female wages induces single women to wait for a better match and men are more willing to marry since the earning power of their potential partners increased. My work can be seen as an extension to their framework by adding wealth accumulation and child custody arrangements, and a simplification by removing endogenous education attainment/sorting and fertility. The framework I present is also closely related to Santos and Weiss (2014). They focus on the effect of the rise of income volatility on the delay and decline of first-marriages; in the their model marriage entails consumption commitments that affect the gains from marriage. Increased volatility leads to agents waiting longer to get a high income draw before getting married, this in order to be able to meet the consumption commitments that come with marriage. In their analysis they abstract from modeling divorce decisions, therefore abstracting from divorce filings. Greenwood et al. (2016) present an economy with declining marriage, increasing divorce and rising assortative mating. Within that context they explain how the changing wage structure and the reduction in the price of durables affect marital structures, education attainment and female labor force participation and how all of these factors jointly determine income inequality. The authors explain how, in the presence of better technology at home, the economies of scale from marriage are lower, thus reducing the incentives to marry and promoting divorce. In contrast to Greenwood et al. (2016), I focus on explaining both the rise and fall of divorce rates overtime, together with the decline in the share of divorces initiated by wives. I do not model home production, but at first glance a reduction in the price of durables would reduce the value of marriage for married men more than for women, therefore contributing to the decline of filings done by wives.

My paper is also related to Guvenen and Rendall (2015), who explore the role of education as insurance against bad marriages, since education cannot not be divided upon divorce. In their model women endogenously respond to the change from mutual consent divorce to unilateral divorce by increasing their college enrollment. In my model I take the education composition of

the population as given, but this doesn't hinder college educated wives from being more prone to end bad marriages than their non-college counterparts. Knowles (2005) uses a model of marital bargaining to explain trends in US labour supply since the 1970's. The author shows that the standard model without bargaining, predicts a large decline in married-male labor supply in response to the reduction of the gender wage gap since until 2001. His results show that although bargaining has a small impact on aggregate labor supply it is critical in explaining the trends in female labor supply. Compared to my framework, the author abstracts from modeling wealth accumulation, fertility and child custody arrangements plus doesn't target divorce filing moments. However takes household bargaining seriously, models time use within the household in a more precise way and includes income taxes. I too propose aversion of my model where the intra-household allocation weights are set though Nash Bargaining, it turns out the endogenous the Pareto weights were similar to the ones found by Knowles (2005), and importantly there was little change in the weights between the 1970 calibration and the 1985 prediction. Fernández and Wong (2017) study the welfare effects from switching from mutual consent divorce to unilateral divorce. They use a model with endogenous family formation, where children stay with the mother upon divorce. They calibrate their model to match moments of the 1940 cohort, and conclude that women were better off under the mutual consent regime vs unilateral divorce. They model love as a public good but explore the option of allowing love draws to differ across partners, however they assume a common distribution across partners. I overcome this issue by disciplining the mean of the individual distributions of love to match divorce filing data by education and conditional on the presence of children. In their model the welfare losses from divorce are larger for women than for men, this because women earn less than men and bear a larger share of child rearing costs, thus more likely to benefit from a mutual consent regime. Voena (2015), studies the effects of switching from mutual consent divorce to unilateral divorce in states with a title based regime vs states with community property or equitable distribution regime[8]. She finds that the introduction of unilateral divorce in states with equal division of property, resulted in higher savings and lower female labor force participation. She estimates a model featuring, limited commitment to marriage, imperfectly transferable utility between spouses, and remarriage. In my model utility is non-transferable and I abstract from the possibility of remarriage. I would like to stress that none of the above mentioned research papers focus on divorce filings and their role in explaining divorce behaviour, aspect that is the backbone of my analysis.

Regarding the literature studying divorce filings and its determinants, most work comes from sociology and law and is empirical. I contribute to this literature empirically by documenting the steady decline in the share of divorce filings initiated wives in the last 45 years. I show that this decline is not purely a composition effect by showing that divorce filings by wives decline both by

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[8]For the definition of title based regime, community property and equitable distribution refer to Footnote 6.

education group of the couple and by the presence of children in the household. I then use my model to provide a quantification of the effects and a decomposition of the driving forces behind the decline. Friedman and Percival (1976) make a complete historical analysis on the evolution of divorce and divorce filings in the USA since 1870 until the late 1970's, their work gives a good perspective of the complexity of the topic. Brinig and Allen (2000) show empirically that filing behaviour depends on the spouse's relative power within the marriage, financial independence in case of divorce and anticipation of child custody, being the latter the most important determinant. Brinig and Allen (2000) were concerned by the fact that most (if not all) couples experience a separation time until the final divorce decision takes place, therefore the divorce filing record might not necessarily reflect the intention of the filing member to divorce when the separation period is long (larger than two years). They find evidence that within a period of two years between separation and divorce, the divorce filing does not appear to be simply a matter of convenience. Following this insight I control for the time form separation to divorce and only use divorce records where the time from separation to divorce did not exceed six years. Then the median time form separation to divorce used to produce the above mentioned statistics is two years. Dixon and Weitzman (1982) show that husbands who filed for divorce also revealed a strong preference for becoming the custodial parent. Kalmijn and Poortman (2006) emphasize that child custody affects the husband's decision to divorce more than for it does for wives. Fox and Kelly (1995) study the determinants of child custody arrangements upon divorce. They find that the odds of father custody were enhanced when the children where older but reduced by parental unemployment and prior support arrangements. Sayer et al. (2011) show that men unemployment affect equally the probability of either partner to file for divorce, however that female employment made women more likely to leave the marriage. Gunter and Johnson (1978) finds evidence that the passage of no-fault divorce was partially responsible for an increase in male divorce filings, suggesting a cultural and societal changes had a secondary role. Finally Rosenfeld (2018) document that women tend to report lower marital quality than husbands, which is in line with the estimation results coming from my model.

The remainder of the paper is organized as follows. Section 2 presents the data used in this paper. Section 3 describes the model and its main mechanisms. Section 4 explains the calibration and estimation procedure. Section 5 describes the main results and counterfactual experiments. Finally Section 6 concludes.

2   Data

This paper collects information from various data sets, these data sets are: The Panel Study of Income Dynamics (PSID), Current Population Survey (CPS) and Divorce filing data from

the National Vital Statistics System in complement with survey data coming from the HCMST project, see Rosenfeld (2018). Otherwise stated the numbers reported/used in this paper come from data extracts from the Current Population Survey that were accessed through IPUMS. Moreover, the relevant statistics were computed for couples where the husband was between 21 and 60 years old. In addition, I classify an individual as "college" if he/she reported to have 16 years of education or more. I now describe in detail the relevant variables and their sources.

Divorce filing data This paper uses divorce filing records that were directly collected from divorce certificates from 31 states across the USA from 1968 to 1995, see the list of states in List B. Public data can be downloaded from the NBER collection of Marriage and Divorce Data. This data set was compiled by the National Vital Statistics System of the National Center for Health Statistics, refer to NBER (1995). Unfortunately the collection of this data stopped in 1995 due to lack of funds.

The data set consist of more than 3 million observations and includes the relevant variables necessary for my analysis: level of education of husband and wife, number or children under 18, custody, marriage duration, time from separation to divorce, age, race, and state residency. Detailed information on the plaintiff (the person who filed for divorce) is only available from 1977 to 1988, therefore the average share of divorces initiated by wives for 1970 was imputed by interpolating the between the value for 1960 (reported by Friedman and Percival (1976)), which was 72% and the value for 1977. The respective numbers by education of the couple and filings in the presence of children were imputed accordingly. In addition, following Brinig and Allen (2000) I control for the time form separation to divorce and only use records where the time from separation to divorce did not exceed six years. Then the median time form separation to divorce used to produce the above mentioned statistics is two years

The value for the share of divorce initiated by wives in 2015 comes from survey data collected for the project, How Couples Meet and Stay Together, see Rosenfeld (2018). This data set consists of 3,009 record of married individuals and their partners. Follow-up surveys are conducted for one and two years after the original wave to study couple dissolution rates. Because of the limited sample size of this data set, I do not conduct analysis of divorce filings by education of the couple for the period 1981 to 2015. After classifying divorces by education of the couple, the number of surviving observations was to low to produce reliable statistics.

Divorce Rates Divorce rates were computed using PSID data. First, married heads in the PSID were paired with their respective spouses. I then follow couples across years, documenting whether the couple changes marital status from married to divorced from one year to the next. The divorce rate in question refers to the relative number of couples who switched marital status

from married to divorced between survey dates, separated couples are not included in the analysis. For the quantitative exercise I use divorce rates for the sample of 31 states for which divorce filing data is available. I show that the divorce rates at the national level and those computed using the sample of 31 states are not so different from one another.

Fertility   Data on fertility was collected from the OECD reports on fertility by mother's age at childbirth. The OECD collected data for the USA from 1960 until the present. Table 4 shows the evolution of fertility rates by age group of the mother for 1970, 1985 and 2015 .

Table 1: Fertility: Births per 1000 women, USA

Year	Age Group						
	15-19	20-24	25-29	30-34	35-39	40-44	45-49
1970	68.3	167.8	145.1	73.3	31.7	8.1	0.5
1985	51.0	108.3	111.0	69.1	24.0	4.0	0.2
2015	22.3	76.8	104.3	101.5	51.8	11.0	0.8

Notes: Source, OECD Stats, Fertility rates by mother's age at childbirth,

five-year age groups, 1960-2019

Labor market variables   The gender wage gap, female labor force participation and the average weekly number of hours worked by women were calculated from the Current Population Survey using CPS-IPUMS extracts. I use the sample for all married couples where the husband is between 21 ant 60 years of age, the CPS provides an easy way of linking spouse records. The CPS provides information on labor earnings per year, thus hourly salaries were computed by dividing the yearly labor earnings by the number of hours worked reported for that year. I then proceed to calculate life cycle trends; different trends were computed by education (college, non-college) and gender, these trends were later smoothed using a quadratic fit on age; that is $\mho_{age,g,e} = \alpha_0 + \alpha_1\,age + \alpha_2\,age^2$.

The CPS reports the employment status of the household members. It also reports the average number of hours worked per week if the respondent was active in the labor force. Using this information it is straight forward to calculate the female labor force participation and the female to male hours worked ratio h_f/h_m.

Trends in Divorce and Divorce filings   Between 1970 and 1985 the percentage of divorces initiated by wives in the USA declined from 70% to 63% (a 9.7% reduction) and from 1985 to 2015 from 63% to 56% (a 11.1% decline). Divorce rates increased 15% between 1977 and 1988, reached a peak in 1981 and declined ever since. By 2015 they had reached levels close to the

ones seen in the early 70's. Figure 1 summarizes these trends.

The declining trend in divorce filings by wives is also present when looking at cuts by education of the couple members and in the presence of children, see Figure 2. We observe that the decline is larger for non-college women married to college men, a 10.9% decline, whereas smaller for college women married to non-college men, a 5.9% decline. Note that at every point in time college educated women married to non-college educated men filed more, having a cross-year average of 73% and non-college women married to college men filed the least, 56%. The other two groups were in between, with 62% of women filing when both had a college education and 66% when none of the partners where college educated.

When looking at divorce filings in the presence of children we can see that kids are an important determinant in explaining women divorce filing behavior. In 1977, 74% of all divorces where initiated by women when the couple had children and 64% in the absence of children. Moreover, a declining trend is present for both groups, the reduction has been larger in magnitude for those couples who didn't have children a 9.7% reduction (from 64% to 58%) and a slightly smaller decline for couples with children, 8.6% reduction (from 74% to 67%).

Figure 2: Percentage of divorces initiated by wives by education of the couple and presence of children

(a) By education

(b) By presence of Children
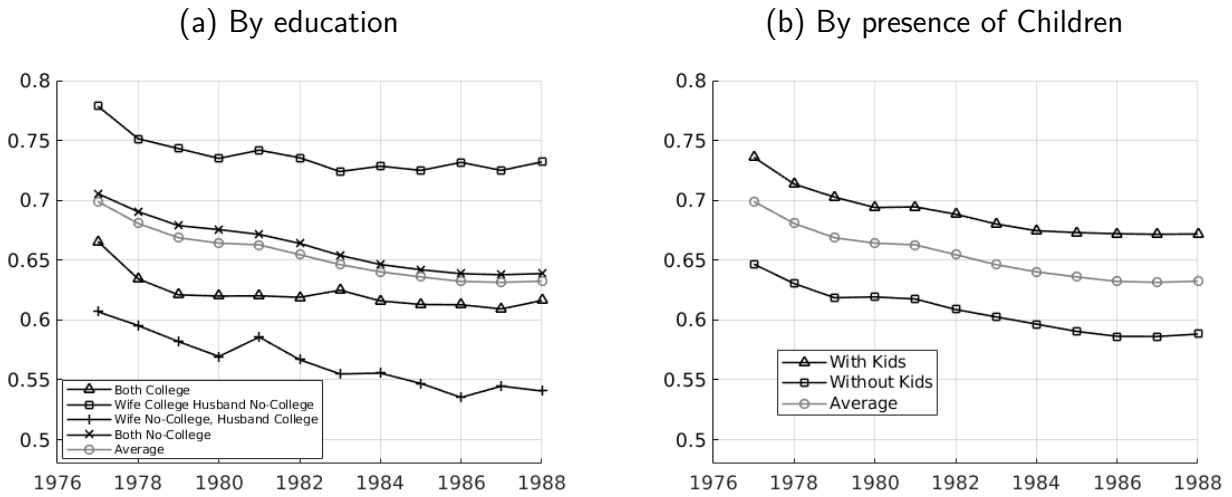
Source: NBER collection of Marriage and Divorce, refer to NBER (1995).

Table 2 summarizes information about divorce filings, divorce rates, gender wage gap and female labor supply by education group for 1970 and 1985. We can see that relative wages w_f/w_m are positively correlated with the percentage of divorces initiated by wives; the Pearson's

correlation coefficient is 0.7 between the two variables. This suggest a strong connection between wives filing behaviour and their income. We see that for 1970, the wage gap of college women married to non-college men is the lowest, with such women earning 69% their husbands wage; for non-college women married to college men the gap is the largest, with 37%. The gender wage gap of college women married to college men was 55% and for non-college women married to non-college men was 47%. On the contrary the divorce rate for college women married to college men is the lowest, and the divorce rate of college women married to non-college men is the largest.

Table 2: Divorce rates, divorce filings and labor market variables by education, USA 1970, 1985

	Education of the couple							
	Both College		Wife College Husband Not		Husband College Wife Not		None College	
	1970	1985	1970	1985	1970	1985	1970	1985
Divorce rate (%)	0.85	0.92	1.87	2.06	1.37	1.60	1.27	1.99
% of divorces initiated by wives	66.56	61.29	77.87	72.51	60.70	54.74	70.56	64.18
Gender wage gap w_f/w_m	0.55	0.60	0.69	0.74	0.37	0.44	0.47	.54
Working hours ratio h_f/h_m	0.72	0.8	0.85	0.83	0.69	0.74	0.78	.82
Married female labor force participation (%)	47.44	67.42	61.26	71.73	31.85	54.12	40.72	54.04
Sample shares (%)	8.10	14.87	4.73	7.34	8.69	9.68	78.48	67.97

Sources: Divorce filing data is from the NBER collection of Marriage and Divorce, refer to NBER (1995).
Divorce rates from PSID. Gender wage gap was computed form CPS-IPUMS extract.

3 The Model

3.1 Demographics

The economy is populated by generations of equal number of men and women, who at every point in their life are indexed by their age/generation t, gender $g \in \{m, f\}$, education attainment $e \in \{c, nc\}$ college, non-college respectively, marital status $\omega \in \{\mathcal{NM}, \mathcal{M}, \mathcal{D}\}$, never married, married and divorced respectively[9]. Additionally, married couples are indexed by the presence of children or not in the household $k \in \{1, 0\}$.

Men and women are born single and enter the model at age $t_m = 21$ and $t_f = 19$ respectively.

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[9]From the rest of the document the term "never married" and "single(s)" will be used interchangeably

Agents age deterministically and live a total of 39 periods, that is, men live until age $T_m = 60$ and women up to $T_f = 58$. A difference of 2 years between men and women has been chosen since men tend to marry women who are on average two years younger than them. In the model a generation t consists of all men aged t_m and women aged $t_m - 2$, for the rest of the document, otherwise stated, t will refer to the age of the man and his associated generation. .

Living Arrangements Every period, single and married agents decide over their marital status. Single agents decide whether or not to get married to another single individual of the opposite sex but same generation and education group. For simplicity I restrict marriage to happen only between individuals of the same generation and education group, that is, there is no intergenerational marriage. Married individuals decide whether to divorce their current partner or remain married for the rest of the period, after divorce there is no possibility of remarriage, therefore divorce is an absorbing state. Note that since agents are born single, divorce cannot happen at $t = 21$.

Education For simplicity, the education composition and the degree of assortative mating across education groups will be exogenously fed into the model. The education composition of the married population is summarised in contingency Table 3, where the shares ϕ_{e,e^*} will be directly taken from the data.

Table 3: Education composition of the married population

| | | Husbands's Education | |
		College	Non College
Wife's	College	$\phi_{c,c}$	$\phi_{c,nc}$
Education	Non College	$\phi_{nc,c}$	$\phi_{nc,nc}$

Such that: $\phi_{c,c} + \phi_{nc,c} + \phi_{c,nc} + \phi_{nc,nc} = 1$

The population in the model is then divided into four groups: $G1(c,c)$: composed of college men and college women, $G2(nc,c)$: non-college men and college women, $G3(c,nc)$: college men and non-college women, $G4(nc,nc)$: non-college men and women. Under this set up agents are restricted to interact solely with agents of their respective group, for example, a college woman of group $G1(c,c)$ can only meet and marry a college man of the same group and generation, but cannot marry a non-college man of group $G2(nc,c)$, only college women of group $G2(nc,c)$ can marry with non-college men.

Fertility Fertility is exogenous; children can be born within a dyad with probability φ_t, conditional of the couple not having children. There are no children born out of the wedlock and upon divorce the child stays with one of the parents. Children stick around with the couple or the custodial parent forever, see below.

3.2 Child Custody and Divorce Laws

Upon divorce one of the parents gets full custody of the child with exogenous probability ν_g, such that $\nu_m + \nu_f = 1$, where ν_m is the probability that the father gets full custody. The custodial parent inherits all the costs and benefits of raising the child.

Divorce causes the couple's savings (a_t) to be split among couple members according to parameter κ_g. Where κ_m is the share of the assets that the man keeps. Moreover, divorce has no monetary cost therefore $\kappa_m + \kappa_f = 1$.

3.3 Income

Agents provide labor supply h and receive wages $w_t^{g,e}$ that depend on gender and education. Wages are stochastic around a deterministic trend $\mho_t$ and assumed to follow an AR(1) process with persistence ρ and transition matrix Π:

$$log(w_t^{g,e}) = \mho_{t,g,e} + F_t \qquad \text{where: } F_t = \rho\, F_{t-1} + \epsilon_w \qquad \text{with: } \epsilon_w \sim \mathcal{N}(0, \sigma^2_{\epsilon_w})$$

Define $\delta = \overline{w_f}/\overline{w_m}$ as the average gender wage gap and $z = \overline{w_c}/\overline{w_{nc}}$ as the average college wage premium. Note that the income process does not depend on the agents marital status and so the income processes between spouses are independent of each other.

Markets are incomplete and households can save/borrow assets a, at a risk-free interest rate r. There are no borrowing constraints, no intergenerational transmission of assets and agents must pay all their debt before they die, that is $a_{T+1} \geq 0$.

3.4 Preferences

Agents are risk averse, enjoy consumption and dislike working. When married they get additional individual utility q_g associated to the current match. Individual match quality Q_g has a permanent component α_g that is drawn from distribution $\mathcal{N}(\textbf{L}_g, \sigma^2_{\epsilon_\alpha})$ at the time the couple met, and a stochastic component ϵ_q, marital bliss, that follows an i.i.d process distributed $\mathcal{N}(0, \sigma^2_{\epsilon_q})$. Moreover, if the couple has children $k = 1$ they enjoy extra utility η. In addition, there is a fixed utility cost f to the period utility of married individuals when female hours worked are strictly positive $h_f > 0$. This cost not present for neither single nor for divorced women. With the above

features individual period utility is given by:

$$u_g(c,h,q) + \mathbf{1}_{k=1}\eta + \mathbf{1}_{h_f>0}\, f(\omega) = \frac{c^{1-\sigma}}{1-\sigma} - \psi_g \frac{h^{1+\frac{1}{\xi}}}{1+\frac{1}{\xi}} + q_g(\omega) + \mathbf{1}_{k=1}\eta + \mathbf{1}_{h_f>0}\, f(\omega)$$

$$q_g(\omega) = \begin{cases} \alpha_g + \epsilon_q & \epsilon_q \sim \mathcal{N}(0,\sigma_{\epsilon_q}^2) & \text{if } \omega = \{\mathcal{M}\} \\ 0 & & \text{if } \omega = \{\mathcal{NM}, \mathcal{D}\} \end{cases}$$

$$f(\omega) = \begin{cases} 0 & \text{if } \omega = \{\mathcal{NM}, \mathcal{D}\} \\ < 0 & \text{if } \omega = \{\mathcal{M}\} \end{cases}$$

- Where α_g is drawn at the time of marriage from distribution $\mathcal{N}(\mathit{Ł}_g, \sigma_{\epsilon_\alpha}^2)$.

- ψ_g governs the disutility from labor supply.

- ξ is the Frish elasticity of labor supply.

- Denote A_q the transition matrix associated to q, and B_k the transition matrix governing fertility[10].

- People discount their future at a rate β.

We are now ready to describe the timing and decision making process.

3.5 Timing

The sequence of events occurring on a given period is summarized in Figure 3. At the beginning of the period income and marital shocks are revealed; single agents draw a random partner from the pool of singles ($\mathcal{NM}$), get a permanent match quality draw from $\mathcal{N}(\mathit{Ł}_g, \sigma_{\epsilon_\alpha}^2)$ and a temporary marital bliss shock ϵ_q. In addition, married couples get a fertility shock if they didn't have children already.

At this point married couples decide whether to get divorced from their current partner, and the never married/single agents marry or not their match. After the marriage decision has taken place, fertility is revealed for the newly wedded couple. The marriage decision is taken before fertility is revealed in order to avoid selection into marriage due to the presence of children. Divorce is an absorbing state, there is no possibility of remarriage.

---

[10] A_q is an $N_A \times N_A$ matrix where N_A is the number of discretized states of $q \in Q$, the elements of each row of A_q equal $1/N_A$, such that they sum to one. B_k is a 2×2 matrix with $b_{1,1} = 1 - \varphi(t), b_{1,2} = \varphi(t), b_{2,1} = 0$ and $b_{2,2} = 1$, where φ_t is the fertility of women of generation t.

Figure 3: Timing
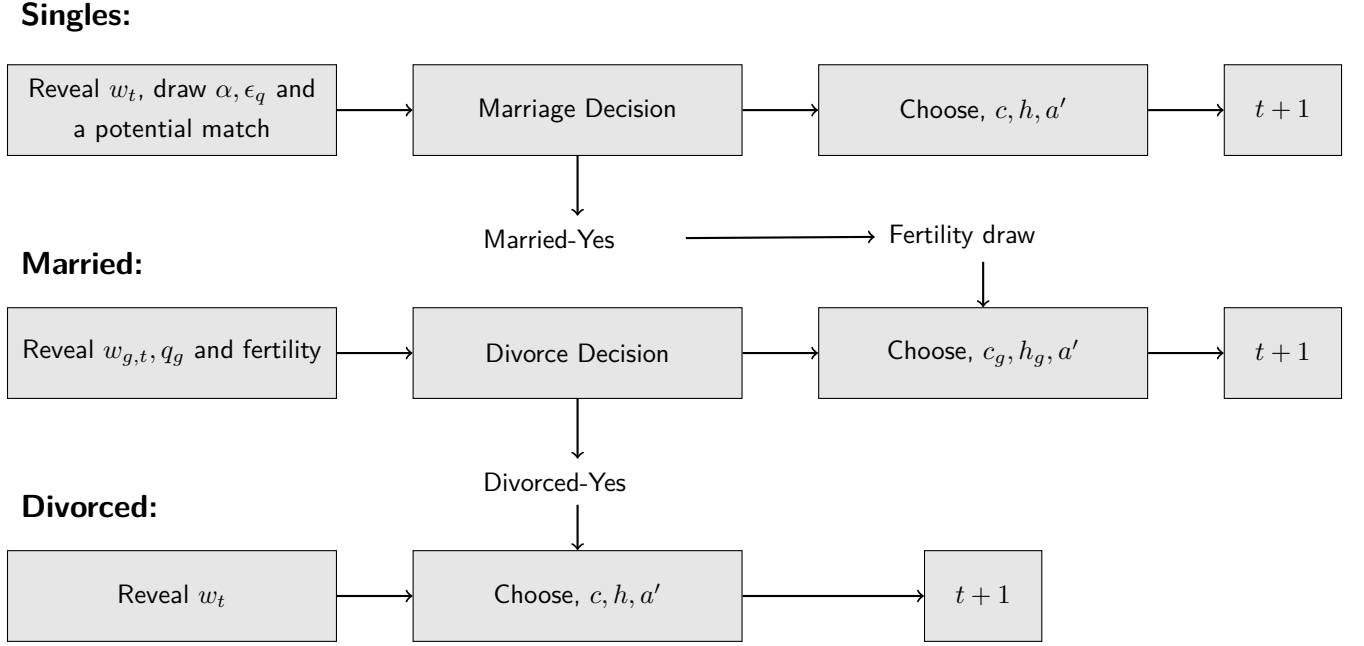
3.6 Decision Making

Singles Single agents must decide how much to consume c, save a and whether to marry of not the person they randomly meet at the beginning of the period. Single agents solve the following dynamic problem:

$$Vg_t^{\mathcal{NM}}(w, a) = \max_{c,h,a'} \quad u(c, h, 0) + \beta \int_{\Omega_{\mathcal{NM}}^{g*}} \sum_{w'} \sum_{q'} \sum_{k'} \pi_{w'|w} A_{q'|q} B_{k'|k} \tag{1}$$

$$\times \left\{ \mathcal{M}_{t+1} Vg_{t+1}^{\mathcal{M}}(w', w^{*'}, a', q', q^{*'}, k') + (1 - \mathcal{M}_{t+1}) Vg_{t+1}^{\mathcal{NM}}(w', a') \right\} d\Omega_{\mathcal{NM}}^{g*}(t+1)$$

s.t.

$$c + a' = w_t^{g,e} h + (1 + r)a \tag{2}$$

- Where $\mathcal{M}(t)$ is the marriage decision policy at period t, takes value of one if the 'potential' couple decided to marry, zero otherwise, see expression 3.

- $\Omega_{\mathcal{NM}}^{g*}(t)$ is the normalized distribution of singles of the opposite sex at period t.

- Define the Policy functions of the singles problem as follows: consumption policy $\mathcal{P}g_c^{\mathcal{NM}}(w, a, t)$, savings policy $\mathcal{P}g_a^{\mathcal{NM}}(w, a, t)$ and labor supply policy $\mathcal{P}g_h^{\mathcal{NM}}(w, a, t)$.

Marriage, occurs only if both parties agree, that is:

$$
\mathcal{M}_t =
\begin{cases}
1 & \text{only if } EVm_t^{\mathcal{M}} > Vm_t^{\mathcal{NM}} \text{ and } EVf_t^{\mathcal{M}} > Vf_t^{\mathcal{NM}} \\
0 & otherwise
\end{cases}
\tag{3}
$$

- Where $EVm_t^{\mathcal{M}}$ the expected value of marriage before the arrival of children, see 6.

Note that in order to solve the above problem single agents must be completely aware of the distribution of singles in $t+1$.

Married Married couples decide consumption c_m, c_f, whether the wife works $h_f > 0$ or not $h_f = 0$, labor supply of the husband h_m and how much to save a'. The couple maximizes the weighted sum of each members utility according to pareto weights $\mu_m + \mu_f = 1$[11] . Married individuals decide unilateraly whether they separate from their current partners. Because the pareto weights are fixed there is no mechanism by which a partner convinces the other to stay in case of divorce. A married household solves the following dynamic problem:

$$
V_t^{\mathcal{C}}(w, w^*, a, q_m, q_f, k) = \max_{c_m, c_f, h_m, h_f, a'} \eta \mathbf{1}_{k=1} + \mu^f u(c_f, h_f, q_f) + \mu^m u(c_m, h_m, q_m) + f\mathbf{1}_{h_f>0}
\tag{4}
$$

$$
+ \beta \sum_{w_g'} \sum_{q_g'} \sum_{k'} \pi_{w_m'|w_m} \pi_{w_f'|w_f} \ A_{q_m'|q_m} \ A_{q_f'|q_f} \ B_{k'|k}
$$

$$
\times \Big\{ \mathcal{D}_{t+1} \left[\mu^f \mathbb{E} \left(Vf_{t+1}^{\mathcal{D}}(w_f', a'\kappa_f, k') \right) + \mu^m \mathbb{E} \left(Vm_{t+1}^{\mathcal{D}}(w_m', a'\kappa_m, k') \right) \right]
$$

$$
+ (1 - \mathcal{D}_{t+1}) V_{t+1}^{\mathcal{C}}(w_g', a', q_g', k') \Big\}
$$

s.t.
$$
c_m + c_f + a' = w_t^{m,e} h_m + w_t^{f,e^*} h_f + (1+r)a
\tag{5}
$$

- Where $\mathscr{D}(t)$ is the divorce policy at t, taking the value one if the couple divorced and zero otherwise.

- The operator $\mathbb{E}$ is the expectation over custody of the child. The custodial parent gets the child custody with probability ν_g, such that $\nu_m + \nu_f = 1$.

- κ_m is the share of assets kept by the husband after divorce. The wife keeps $\kappa_f = 1 - \kappa_m$.

---

[11]Consistent with the unitary framework of the household as described in Chiappori and Donni (2009)

- Define the Policy functions of the married individuals as follows: consumption policy $\mathcal{P}g_c^{\mathcal{M}}(w, w^*, a, t)$, savings policy $\mathcal{P}g_a^{\mathcal{M}}(w, w^*, a, t)$, labor supply policy $\mathcal{P}g_h^{\mathcal{M}}(w, w^*, a, t)$, and married female labor force participation $\mathcal{P}f_f^{\mathcal{M}}(w, w^*, a, t)$.

- After solving the optimization problem described in 4, we can define the value of a married individual of gender $g \in \{f, m\}$ as:

$$
\begin{aligned}
Vg_t^{\mathcal{M}}(w, w^*, a', q, q^*, k) = {} & \eta \mathbf{1}_{k=1} + u(c, h, q) + f\mathbf{1}_{h_f>0} \\
& + \beta \sum_{w', w^{*\prime}} \sum_{q', q'^*} \sum_{k'} \pi_{w'|w} \pi_{w^{*\prime}|w^*} \ A_{q'|q} \ A_{q'^*|q^*} \ B_{k'|k} \\
& \times \Big\{ \mathscr{D}_{t+1} \mathbb{E}\left(Vg_{t+1}^{\mathcal{D}}(w', a'\kappa_g, k')\right) \\
& \quad + (1 - \mathscr{D}_{t+1}) Vg_{t+1}^{\mathcal{M}}(w', w^{*\prime}, a', q', q'^*, k') \Big\}
\end{aligned}
\tag{6}
$$

- Define $EVg_t^{\mathcal{M}} = \varphi_t * Vg_t^{\mathcal{M}}(k=1) + (1 - \varphi_t) * Vg_t^{\mathcal{M}}(k=0)$, as the expected value of marriage before the arrival of children.

Divorced   Divorced agents choose how much to consume c and save a'. They solve the following dynamic problem:

$$
Vg_{t+1}^{\mathcal{D}}(w, a, k) = \max_{c, h, a'} \quad \eta \mathbf{1}_{k=1} + u(c, h, 0) + \beta \sum_{w'} \pi_{w'|w} Vg_{t+1}^{\mathcal{D}}(w', a', k')
\tag{7}
$$

$$
\text{s.t.}
$$

$$
c + a' = w_t^{g,e} h + (1 + r)a
\tag{8}
$$

- Define the Policy functions of the divorced problem as follows: consumption policy $\mathcal{P}g_c^{\mathcal{D}}(w, a, t)$, savings policy $\mathcal{P}g_a^{\mathcal{D}}(w, a, t)$ and labor supply policy $\mathcal{P}g_h^{\mathcal{D}}(w, a, t)$,

Divorce occurs unilaterally, that is:

$$
\mathscr{D}_t = \begin{cases} 1 & \text{if } \ Vm_t^{\mathcal{D}} > Vm_t^{\mathcal{M}} \ \text{ and/or } \ Vf_t^{\mathcal{D}} > Vf_t^{\mathcal{M}} \\ 0 & \text{otherwise} \end{cases}
\tag{9}
$$

3.7 Population Dynamics

Singles The law of motion for single agents of gender g and education group $G(e, e^*)$ is:

$$\Omega^g_{\mathcal{NM}}(w', a', t+1) = \int_{\Omega^{g*}_{\mathcal{NM}}(w^*, a^*)} \sum_w \sum_q \sum_k \left\{ \mathbf{1}_{a'(w,a) \in A} \pi_{w'|w} A_{q'|q} B_{k'|k} \right.$$
$$\left. \times (1 - \mathcal{M}_t(w, w^*, a, q, q^*, k)) \Omega^g_{\mathcal{NM}}(w, a, t) \right\} d\Omega^{g*}_{\mathcal{NM}}(w^*, a^*, t) \qquad (10)$$

Normalize as needed for Problem 1:

$$\Omega^g_{\mathcal{NM}}(y, a, t) = \Omega^g_{\mathcal{NM}}(y, a, t) \bigg/ \int d\Omega^g_{\mathcal{NM}}(y, a, t)$$

Married The law of motion for married agents is:

$$\Omega^g_{\mathcal{M}}(w', w^{*'}, a', q', q^{*'}, k', t+1) = \sum_{w,w^*} \sum_{q,q^*} \sum_k \left\{ \mathbf{1}_{a'(w,w^*,a) \in A} \pi_{w'|w} \pi_{w^{*'}|w^*} \; A_{q'|q} \; A_{q'^*|q^*} \; B_{k'|k} \right.$$
$$\left. \times (1 - \mathcal{D}_t(w, w^*, a, q, q^*, k)) \; \Omega^g_{\mathcal{M}}(w, w^*, a, q, q^*, k, t) \right\}$$
$$+ \int_{\Omega^{g*}_{\mathcal{NM}}(w^*, a^*)} \sum_w \sum_q \sum_k \left\{ \mathbf{1}_{a'(w,w^*,a+a^*) \in A} \pi_{w'|w} A_{q'|q} B_{k'|k} \right.$$
$$\left. \times \mathcal{M}_t(w, w^*, a, q, q^*, k) \; \Omega^g_{\mathcal{NM}}(w, a, t) \right\} d\Omega^{g*}_{\mathcal{NM}}(w^*, a^*, t)$$
$$(11)$$

Normalized:

$$\Omega^g_{\mathcal{M}}(w, w^*, a, q, q^*, t) = \Omega^g_{\mathcal{M}}(w, w^*, a, q, q^*, t) \bigg/ \int d\Omega^g_{\mathcal{M}}(w, w^*, a, q, q^*, t)$$

Divorced The law of motion for divorced agents is:

$$\Omega^g_{\mathcal{D}}(w', a', k', t+1) = \sum_w \left\{ \mathbf{1}_{a'(w,a) \in A} \pi_{w'|w} \; \Omega^g_{\mathcal{D}}(w, a, k, t) \right\} \qquad (12)$$
$$+ \sum_{w,w^*} \sum_{q,q^*} \sum_k \left\{ \mathbf{1}_{a'(w,a,\kappa_g) \in A} \pi_{w'|w} \pi_{w^{*'}|w^*} \; A_{q'|q} \; A_{q'^*|q^*} \; B_{k'|k} \right.$$
$$\left. \times \mathcal{D}_t(w, w^*, a, q, q^*, k) \; \Omega^g_{\mathcal{M}}(w, w^*, a, q, q^*, k, t) \right\}$$

Normalized:

$$\Omega^g_{\mathcal{D}}(w, a, t) = \Omega^g_{\mathcal{D}}(w, a, t) \bigg/ \int d\Omega^g_{\mathcal{D}}(y, a, t)$$

Define the period t divorce rate for education group $G(e, e^*)$ as:

$$DIV(e, e^*) = \int \left(\mathscr{D}(t) \times \Omega_{\mathcal{M}}^g(t) \right) d\Omega_{\mathcal{M}}^g(w_{g,e}, w_{g,e^*}, a, q, q^*, t) \tag{13}$$

And the aggregate divorce rate

$$\widehat{DIV} = \sum_e \sum_{e^*} \phi(e, e^*) DIV(e, e^*) \tag{14}$$

3.8 Definition for the Stationary Equilibrium

A Stationary Equilibrium is a set of value functions by gender g and age t: for never married individuals $Vg_t^{\mathcal{NM}}(w, a)$, divorced $Vg_t^{\mathcal{D}}(w, a)$, married households $V^{\mathcal{C}}(w, w^*, a, q_m, q_f, k)$, consumption policy functions, $\mathcal{P}g_c^{\mathcal{NM},\mathcal{D}}(w, a)$ and $\mathcal{P}_c^{\mathcal{M}}(w, w^*, a)$, policy functions for savings $\mathcal{P}g_a^{g,\mathcal{NM},\mathcal{D}}(w, a)$ and $\mathcal{P}_a^{\mathcal{M}}(w, w^*, a)$, policy functions for labor supply $\mathcal{P}g_h^{\mathcal{NM},\mathcal{D}}(w, a)$ and $\mathcal{P}_h^{\mathcal{M}}(w, w^*, a)$, labor force participation for married women $\mathcal{P}_f^{\mathcal{M}}(w, w^*, a)$, divorce and marriage policy functions $\mathscr{D}, \mathscr{M}$ respectively, and stationary distributions of singles $\Omega_{\mathcal{NM}}^g$, married individuals $\Omega_{\mathcal{M}}^g$ and divorced $\Omega_{\mathcal{D}}^g$, such that:

- The policy functions $\mathcal{P}g_c^{\mathcal{NM}}(w, a), \mathcal{P}g_a^{\mathcal{NM}}(w, a), \mathcal{P}g_h^{\mathcal{NM}}(w, a)$, together with the marriage decision rule $\mathscr{M}$ and the distribution of potential partners $\Omega_{\mathcal{NM}}^g$, solves the singles problem described in 1.

- The policy functions $\mathcal{P}g_c^{\mathcal{M}}(w, w^*, a), \mathcal{P}g_a^{\mathcal{M}}(w, w^*, a), \mathcal{P}g_h^{\mathcal{M}}(w, w^*, a), \mathcal{P}g_f^{\mathcal{M}}(w, w^*, a)$, together with the divorce decision rule $\mathscr{D}$ solves the married household problem 4.

- The policy functions $\mathcal{P}g_c^{\mathcal{D}}(w, a), \mathcal{P}g_a^{\mathcal{D}}(w, a), \mathcal{P}g_h^{\mathcal{D}}(w, a)$ solves the divorce problem 7.

- The Marriage policy $\mathscr{M}$ is computed according to Equation 3, given $Vg_t^{\mathcal{NM}}(w, a)$ and $Vg_t^{\mathcal{M}}(w, w^*, a, q_m, q_f, k)$.

- The Divorce policy $\mathscr{D}$ is computed according to Equation 9, given $Vg_t^{\mathcal{D}}(w, a)$ and $Vg_t^{\mathcal{M}}(w, w^*, a, q_m, q_f, k)$.

- The stationary distributions for singles $\Omega_{\mathcal{NM}}^g$, married individuals $\Omega_{\mathcal{M}}^g$ and divorced $\Omega_{\mathcal{D}}^g$ are induced by the equilibrium policy function.

3.9 Solution Algorithm

We are interested in finding the Stationary Equilibrium described above for a given set of parameters $\Theta = \{\sigma, \xi, \mu_m, \rho, \sigma_{\epsilon_w}^2, \mho_t, \varphi_t, \beta, r, \kappa_m, \nu_m, \mathtt{L}_m, \mathtt{L}_f, \sigma_{\epsilon_\alpha}, \sigma_{\epsilon_q}, \phi_m, \phi_f, \eta\}$. Since agents are

fully rational, this requires single agents to know the exact distribution of potential partners $\{\Omega_{\mathcal{NM}}^g(w, a, t)\}_{t=21}^{T=60}$ at every point in their lives, this will involve making a guess of the underlying marital distribution of the population over the life cycle. The reasoning goes as follows the decision to marry today depends on the value of waiting to marry tomorrow, which in turn depends on the distribution of potential partners tomorrow, this extends until the last period of life. This involves solving for the optimal allocations backwards starting from the last period $T = 60$ until $t = 21$. Below I describe in more detail the computational steps to solve for the equilibrium:

Algorithm No.1: **Computation of the stationary equilibrium:**

Step 0: Provide a guess for the distribution of potential partners $\{\Omega_{\mathcal{NM}}^g(w, a, t)\}_{t=21}^{T=60}$ for every t.

Step 1: Compute the equilibrium policy functions and the value functions iterating backwards from the last period $T = 60$ until $t = 21$.

Step 2: With the help of the optimal policy functions, simulate forward the evolution of the population distribution from $t = 21$ to $T = 60$. Store the simulated distribution of never married individuals at every t, $\{\widehat{\Omega}_{\mathcal{NM}}^g(w, a, t)\}_{t=21}^{T=60}$.

Step 3: Compare the simulated distribution of potential partners $\{\widehat{\Omega}_{\mathcal{NM}}^g(w, a, t)\}_{t=21}^{T=60}$ with the initial guess of the same object. If they are not the same update the guess and go back to Step 1.

3.10   Mechanisms

Figure 4 and 5 present a comparative statics exercise from a simplified two period $T = 2$ version of the model that also abstracts from education differences and labor married female labor force participation. For a given parametrization of the model, panels (a) to (e) in Figure 4 show the response of divorce rates and the share of divorces initiated by women when changing the gender wage gap w_f/w_m, the asset sharing rule upon divorce κ_g and child custody arrangements ν_g. I propose four alternative parametrizations:

1. **Reference Scenario:** Represents a gender equality scenario in which there are no gender differences in the model, that is, set $w_f/w_m = 1, \kappa_m = 0.5, \nu_m = 0.5, \psi_m = \psi_f, \mu_g = 0.5, Ł_m = Ł_f = 4$. For the rest of the parameters see Appendix A.

2. **Alternative Scenario 1:** Sets somewhat more realistic gender differences, as found in the literature, $w_f/w_m = 0.55, \kappa_m = 0.6, \nu_m = 0.5, \psi_m < \psi_f, \mu_m = 0.6$ but keeps the mean of individual the match quality $\mathcal{L}_g$ symmetric between men and women $\mathcal{L}_m = \mathcal{L}_f = 4$.

3. **Alternative Scenario 2:** Keeps the parameter values of Alternative Scenario 1, but sets $\mathcal{L}_m > \mathcal{L}_f$, explicitly $\mathcal{L}_m = 4$ and $\mathcal{L}_f = 3$, that is men an women enjoy married life differently. With women having lower match quality than men.

4. **Alternative Scenario 3:** Keeps the parameter values of Alternative Scenario 2, but sets $\nu_m = 0.1$, that is women have a higher probability of getting custody of the children upon divorce.
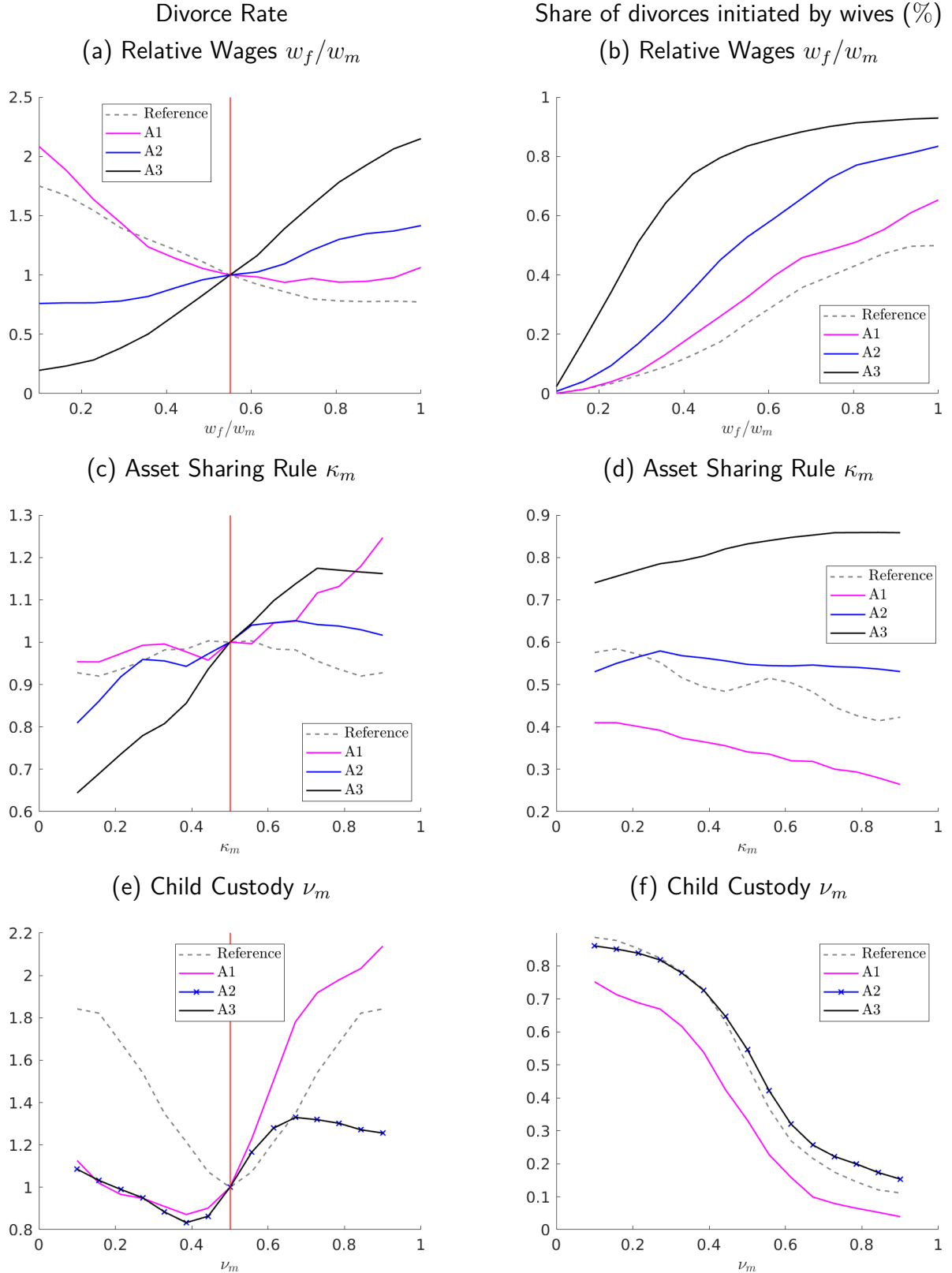
The divorce rates in panels (a), (c) and (e) of Figure 4 and panels (a) and (c) of Figure 5 are normalized to the values of the equality scenario that is $\kappa_m = 0.5, \nu_m = 0.5, \mathcal{L}_m = 4$ respectively, except for panel (a) in Figure 4, that is normalized to a gender wage gap of $w_f/w_m = 0.5$ for illustration purposes.

Perhaps the most interesting result comes from Figure 4 panel (a) and (b). In these figures we see that on the reference/equality scenario, the relationship between the gender wage gap and divorce rates is negative, and its relationship with the share of divorces initiated by wives is positive. However we can see, that the maximum share of divorces by wives that can be reached under this set up is just 50%, by setting $w_f/w_m = 1$. This begins to change as we move to Alternative 1. On one hand, by adding gender differences in the way consumption is split within the household, asset splitting rules and making women dislike work more than men, we see that the slope of the line in panel (b) becomes steeper. On the other hand we observe that the relationship between the gender wage gap and divorce rates takes a U shape. reaching a minimum right around a gender wage gap of $w_f/w_m = 0.8$, which happens to be the value where the share of divorce initiated by wives surpasses 50%. The slope of the blue line in panel (b) becomes steeper when moving to Alternative two and the relationship between divorce rates and the gender wage gap becomes positive. Finally this becomes more evident when looking at alternative 3, that makes women more prone to get custody of the children. Moreover, panel (a) and (b) illustrate that only the alternatives 2 and 3 are capable or reaching a share of divorce filings by wives that we observe in the data (around 70%). And that these alternative imply a different responses of aggregate divorce rates to changes in the gender wage gap, than the alternatives 1 and 2, that don't reach a higher level of divorce filings by women. This is very important at the moment of quantifying the individual effects of changes in the gender wage gap, more so in the presence of heterogeneity in divorce filings and wages across education groups. For example for college women married to non-college men the share of divorces initiated by wives is higher and the

gender wage gap lower, which would put this group above $w_f/w_m = 0.5$ in panels (a) and (b), but for non-college women married to college men, the gender wage gap will be around 0.5 and the share of divorces initiated by wives lower, position this group of people at the middle. We can see that higher relative wages increases divorce rates, this since higher wages increases the value of divorce for women relative to marriage, then already married women who were stuck in inconvenient marriage arrangements can now afford to divorce.

The relationship between unobservable individual match qualities shown in Figure 5 are straight forward, higher match quality either for men or women, lower divorce rate and lower share of divorces initiated by husbands and wives respectively. However the interaction between the realized match quality and higher wages for women is more involved. Consider that the higher the value of single hood for women associated to higher wages, the longer they will wait for a higher match quality. In the long run, this will result in the new matches having a higher average match quality than before, thus exhibiting a lower aggregate level of divorce coming from women. In this way, women become more selective in the marriage market thus increasing the average age at first marriage and contributing in building a larger pool of never married individuals. On the contrary, higher wages for women would make men eager to get married even if this means settling for a lower match quality. It is in this two ways that higher relative wages contribute to the decline in divorce rates and the decline in the share of divorces initiated by wives.

Figure 4: Comparative Statics, Observables

Divorce Rate
(a) Relative Wages w_f/w_m

Share of divorces initiated by wives (%)
(b) Relative Wages w_f/w_m

(c) Asset Sharing Rule κ_m

(d) Asset Sharing Rule κ_m

(e) Child Custody ν_m

(f) Child Custody ν_m

Notes: The reference line solves the model with $w_f/w_m = 1, \kappa_m = 0.5, \nu_m = 0.5, \phi_m = \phi_f, \mu_m = 0.5$, and $\mathrm{Ł}_m = \mathrm{Ł}_f = 4$ The Alternative 1 uses $w_f/w_m = 0.55, \kappa_m = 0.6, \nu_m = 0.5, \phi_m < \phi_f, \mu_m = 0.67$ and $\mathrm{Ł}_m = \mathrm{Ł}_f = 4$. Alternative 2 sets $\mathrm{Ł}_f = 3$ and $\mathrm{Ł}_m = 4$ in addition to Alternative 1. Alternative 3 sets $nu_m = 0.1$ on top of Alternative 2. See Appendix A for the values of the rest of the parameters used in this example.

Figure 5: Comparative Statics, Unobservables
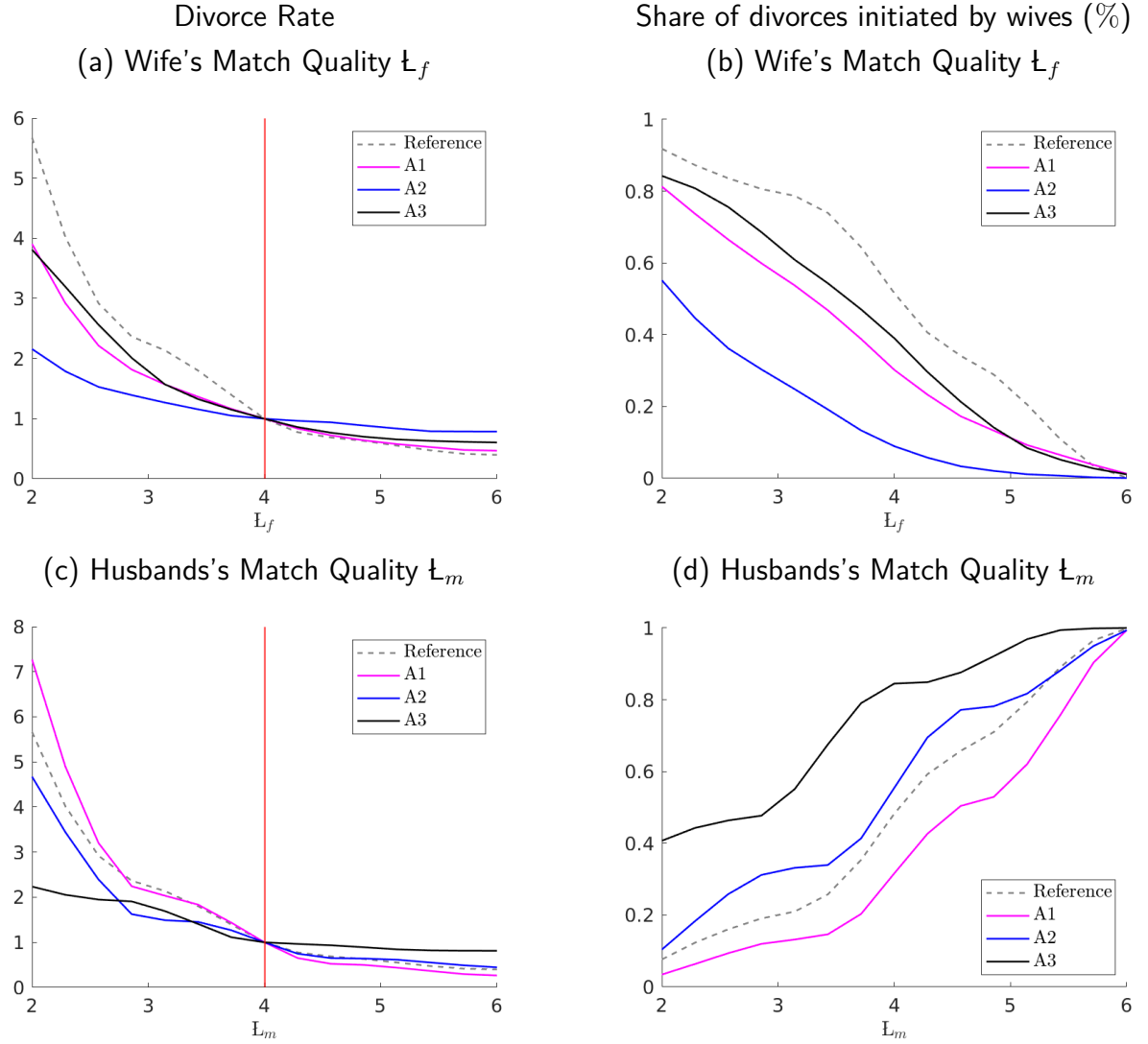
Divorce Rate
(a) Wife's Match Quality Ł_f

Share of divorces initiated by wives (%)
(b) Wife's Match Quality Ł_f

(c) Husbands's Match Quality Ł_m

(d) Husbands's Match Quality Ł_m

Notes: The reference line solves the model with $w_f/w_m = 1, \kappa_m = 0.5, \nu_m = 0.5, \phi_m = \phi_f, \mu_m = 0.5$, and $Ł_m = Ł_f = 4$ The Alternative 1 uses $w_f/w_m = 0.55, \kappa_m = 0.6, \nu_m = 0.5, \phi_m < \phi_f, \mu_m = 0.67$ and $Ł_m = Ł_f = 4$. Alternative 2 sets $Ł_f = 3$ and $Ł_m = 4$ in addition to Alternative 1. Alternative 3 sets $nu_m = 0.1$ on top of Alternative 2. See Appendix A for the values of the rest of the parameters used in this example.

4 Calibration strategy

In this Section I describe the calibration strategy. Parameters which have direct observable data analogs were assigned its respective values, some other parameters take values that are commonly used in the literature $(\sigma, \xi, \mu_m, \rho, \sigma^2_{\epsilon_w}, \mho_t, \varphi_t, \beta, r, \kappa_m, \nu_m)$. The rest of the parameters $(\textsf{Ł}_m, \textsf{Ł}_f, \sigma_{\epsilon_\alpha}, \sigma_{\epsilon_q}, \phi_m, \phi_f, \eta)$ were picked to match several moments in the data. I select the same number of data moments (7) than the number of free parameters in the model (7), thus achieving exact identification.

This procedure involves finding a set of parameters Θ that minimize the distance between the model generated moments and the moments observed in the data. Specifically, let the targeted moments be $\mathcal{M}(\Theta) = [\mathbf{m} - \widehat{\mathbf{m}}(\Theta)]$ where $\mathbf{m}$ is a vector of observed moments and $\widehat{\mathbf{m}}(\Theta)$ is the vector of model generated moments given parametrization Θ. Then, we construct the objective function $\min_\Theta \ \mathcal{M}(\Theta)^T W \mathcal{M}(\Theta)$, where the weighting matrix W is the diagonal matrix.

A summary of the parameter values resulting from the calibration exercise for 1970 is presented in Table 5. Below I describe in detail the calibration choices for 1970.

4.1 Calibration to 1970

4.1.1 Externally calibrated parameters

We have to choose values for $\sigma, \xi, \mu_m, \rho, \sigma^2_{\epsilon_w}, \mho_t, \varphi_t, \beta, r, \kappa_m, \nu_m$.

Coefficient of relative risk aversion σ Agents are risk averse with coefficient of relative risk aversion σ. Estimates for the coefficient of relative risk aversion range from 1 to 4. I select a coefficient of risk aversion of $\sigma = 2$, which is standard in the literature , Ortigueira and Siassi (2013), Ríos-Rull (1996), Santos and Weiss (2014).

Frish elasticity of labor supply ξ Estimates for the Frish elasticity for labor supply vary, see Bredemeier et al. (2021) and Domeij and Floden (2006). Blundell et al. (2016) estimate the Frish elasticity for men to be 0.52 and 0.85 for women. Ortigueira and Siassi (2013) target a value of 0.5 for men and 0.85 for females. Following these references I choose $\xi = 0.5$.

Husbands Pareto weight μ_m There is very little guidance on how to select this parameter, choices in the literature are diverse. Cubeddu and Rios-Rull (1997) choose a values of 0.5 and 0.4, the latter since usually the wife takes the children after divorce. Voena (2015) estimate a value of 0.75, following this insight Fernández and Wong (2017) use a value of 0.3. Knowles (2005) estimates a value of 0.67 for 1970 and a value of 0.57 for 1990. I set, $\mu_m = 0.67$ and keep it constant thoughout, I later conduct robustness on this value. Other papers determine

the weights through Nash bargaining Knowles (2005), Greenwood et al. (2002), I too propose a version of the model where the weights are set though Nash Bargaining, it turns out the estimates for 1970 were around 0.6 and there was little change for 1985.

Income Process I borrow the estimates for ρ and σ_ϵ^2 from Santos and Weiss (2014). They estimate the income process using PSID data from 1964 and 2009, for individuals aged 18 to 64 years old. The estimates yield a highly persistent process with $\rho = 0.98$ and variance $\sigma_\epsilon^2 = 0.011$. The life cycle trend component $\mho_{age,g,e}$ was computed using CPS data extracts for 1970, 1985 and 2015 for couples where the husband had between 21 and 60 years of age. Different trends were computed by education (college, non-college[12]) and gender. The trends were later smoothed using a quadratic fit on age[13]. The average gender wage gap and college premium were calculated from $\mho_{age,g,e}$, for the purpose of the model I take non-college males aged 21 as the reference group that is $w(t = 21, g = m, e = nc) = 1$. Note that the life cycle trend component does not depend on marital status, that is because in the model more productive individuals are endogenously sorted into marriage.

Fertility φ_t The OECD reports fertility rates by mother's age at childbirth for the USA from 1960 until the present. Table 4 shows the values for 1970, 1985 and 2015 used in the calibration.

Table 4: Fertility: Births per 1000 women, USA

Year	Age Group						
	15-19	20-24	25-29	30-34	35-39	40-44	45-49
1970	68.3	167.8	145.1	73.3	31.7	8.1	0.5
1985	51.0	108.3	111.0	69.1	24.0	4.0	0.2
2015	22.3	76.8	104.3	101.5	51.8	11.0	0.8

Notes: Source, OECD Stats, Fertility rates by mother's age at childbirth,

five-year age groups, 1960-2019

Property division rules κ_m Around the 1970's, title based regimes were predominant across the majority of stated in the USA, Voena (2015) estimates that in title based states [14], around 60% of the assets went to the husband. I follow that estimate and set $\kappa_m = 60\%$ for the 1970

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[12] I classify an individual as "college" if he/she reported to have 16 years of education or more.

[13] That is $\mho_{age,g,e} = \alpha_0 + \alpha_1\, age + \alpha_2\, age^2$

[14] The title based regime assigns assets to the respective title owner, community property makes a 50/50 split, and equitable distribution involves the courts discretion so that assets are "fairly" divided, but this is not necessarily 50/50. For a detailed timeline showing the years in which states switched from title based regimes to equitable distribution or community property see Voena (2015).

calibration. By 1985, most states transited to either equitable distribution or community property regimes, therefore I set $\kappa_m = 50\%$ in the 1985 and 2015 calibrations.

Child custody arrangements ν_m The census bureau [15] reports that the percentage of children living only with their father was 10% in 1970, 15% in 1985 and 20% in 2015, I take this as a proxy for the evolution of the probability of the husband in getting full custody of the child ν_m. For a more exhaustive analysis on the characteristics of single-father headed families with children see Meyer and Garasky (1993). In recent years, joint custody became more common, in my model I do not allow for joint custody arrangements.

Other parameters   I choose a discount factor of $\beta = 0.98$ and a yearly real risk-free interest rate of $r = 2\%$ following Fernández and Wong (2017) and Blundell et al. (2016) respectively.

4.1.2   Estimated parameters and targeted moments

The following parameters, $Ł_m, Ł_f, \sigma_{\epsilon_\alpha}, \sigma_{\epsilon_q}, \phi_m, \phi_f, \eta$ were picked to match several data moments. The average marital quality by gender $Ł_m, Ł_f$ were chosen to match divorce rates and the average share of divorces initiated by wives. The value of the public good η, is aimed to match the share of divorces initiated by wives with children. The standard deviation of the initial match quality σ_{ϵ_α} and the standard deviation of the marital quality shock σ_{ϵ_q} govern the % of never married agents in the economy and the median age at first marriage. Finally, the female and male disutilities from work ϕ_m and ϕ_f directly are set to match the amount of work hours supplied by each couple member, see values in Table 2. I further normalize the amount of hours worked supplied by men to unity. Divorce filing data is taken from the NBER collection of Marriage and Divorce Data NBER (1995), divorce rates were computed using PSID data, the rest of the data moments were computed from CPS-IPUMS data extracts. I compute these moments for couples where the husband had between 21 and 60 years old.

4.2   Estimation Results

Table 5 shows the estimation results for 1970. We can see that $Ł_m < Ł_f$, this means that on average women enjoy marriage less than men, this result is not new in the literature, Rios-Rull et al. (2010) find results in the same direction, moreover, this results is consistent with marital satisfaction surveys where wives report on average lower marital quality than their husbands Rosenfeld (2018). We can also see that $\eta > 0$ meaning that children bring additional utility to the marriage, thus making marriage more attractive for both men and women, however, since wives have a higher probability of keeping the children upon divorce, children raise the value of

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[15] In a report authored by Hemez and Washington (2021)

divorce for wives more than for husbands which justifies why the % of wives filing for divorce is larger in the presence of children. Finally, the estimation makes $\phi_m < \phi_f$, meaning that men have a comparative advantage in the labor market, relative to women.

Table 5: Calibration for 1970

Description	Symbol	Value
Preferences		
Risk aversion	σ	2
Frish elasticity	ξ	0.5
Disutility from work Men	ϕ_m	0.98
Disutility from work Women	ϕ_f	2.7
Value of the public good/children	η	1.35
Husbands utility share	μ_m	0.67
Income Process		
Persistence	ρ	0.98
Variance wage shock	σ_ϵ^2	0.011
Gender wage gap	w_f/w_m	0.55
Life cycle trend	$\mho_t$	CPS
Marital Shocks		
Average marital quality Man	$Ł_m$	2.9
Average marital quality Woman	$Ł_f$	2.2
St. deviation of initial marital quality draw	σ_{ϵ_α}	1.01
St. deviation of marital quality shock	σ_ϵ	11.0
Fertility		
Fertility	φ_t	OECD Charts
Other		
Discount factor	β	0.98
Risk free rate	r	0.02
Husbands share of assets	κ_m	0.6
Wife share of assets	κ_f	0.4
Probability the husbands gets child custody	ν_m	0.1

Notes: Parameters in red are those which were estimated rather than set apriori.

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Model fit 1970 Table 6 shows the results of the estimation process, we see that the model performs fairly well in matching most of the targeted moments.

Table 6: Model Fit 1970

Moment	1970	
	Model	Data
Divorce Rate	1.34	1.30
% of wives as plaintiffs	71.59	71.60
% of wives w/kids as plaintiffs	76.94	75.80
% of Never married	11.48	12.40
Male hours	1.05	1.00
Female hours	0.75	0.77
Male median age at first marriage	25.45	22.00

5 Counterfactual experiments

5.1 Counterfactual prediction for 1985

The purpose of this exercise is to generate model predictions for 1985. To do so I exogenously change the value of fertility, the gender wage gap, child custody arrangements, and asset splitting rules and set them to their 1985 values. With these values, the model is simulated and the moment predictions compared with their data counterparts for 1985.

From 1970 to 1985 the relative wages increased from $w_f/w_m(1970) = 0.55$ to $w_f/w_m(1085) = 0.65$, the probability of the husband in getting custody of the children increased from 10% to 15%, the share of assets that went to the husband after divorce decreased from 60% to 50%. Finally, fertility decreased, see Table 4. For 1985 I re-estimate the values of ϕ_m and ϕ_f such that they match the new ratio between male hours and female hours $h_f/h_f(1985) = 0.8$, otherwise the rise in relative wages causes male hours to reduce and female hours to increase.

Model predictions for 1985 Table 7 shows that the model can account for 40% of the total change in divorce rates between 1970 and 1985, 53% of the change in the share of divorces initiated by wives, 33% in the rise of the share of never married individuals and 30% in the delay in marriage, reflected by an increase in the median age at first marriage.

Table 7: Model Fit 1985

Moment	1970		1985		%Δ	
	Model	Data	Model	Data	Model	Data
Divorce Rate	1.34	1.30	1.58	1.87	17.79	43.85
% of wives as plaintiffs	71.59	71.60	66.13	61.30	-7.63	-14.39
% of wives w/kids as plaintiffs	76.94	75.80	62.28	64.70	-19.05	-14.64
% of Never married	11.48	12.40	13.98	20.50	21.82	65.32
Male hours	1.05	1.00	1.08	1.00	-	-
Female hours	0.75	0.77	0.83	0.80	-	-
Male median age at first Marriage	25.45	22.00	26.54	25.00	4.25	13.64

5.2 Counterfactual prediction for 2015

The objective is to generate model predictions for 2015 and compare them with their respective data counterparts. I follow the same logic that is described above. Between 1985 and 2015 relative wages increased from $w_f/w_m(1985) = 0.65$ to $w_f/w_m(2015) = 0.80$, the probability of the husband in getting custody of the children increased from 15% to 20%, the share of assets that went to the husband after divorce remained constant, fertility decreased, see Table 4. This time the values of ϕ_m and ϕ_f were kept as in 1985 since the new ratio between male hours and female hours remained roughly constant $h_f/h_f(2015) = 0.83$.

Model predictions for 2015 We can see from Table 8 that the change in divorce rates generated by the model between 1985 and 2015, represents 95% of the total change in the data, 52% of the change in the share of wives as plaintiffs, 4% in the share of never married and 26% of the change in the median age at first marriage of males. Moreover simple calculations, show that the model accounts for 54% of the overall decline in divorces initiated by wives between 1970 and 2015, 17% in the rise of the share of never married and 26% of the rise in the median age at first marriage for men.

Table 8: Model Fit 2015

Moment	1985		2015		$\%\Delta$	
	Model	Data	Model	Data	Model	Data
Divorce Rate	1.58	1.87	1.12	1.30	-28.96	-30.48
% of wives as plaintiffs	66.13	61.30	63.47	56.60	-4.02	-7.67
% of wives w/kids as plaintiffs	62.28	64.70	54.40	59.00	-12.65	-8.81
% of Never married	13.98	20.50	14.21	29.20	1.66	42.44
Male hours	1.08	1.00	1.08	1.00	-	-
Female hours	0.83	0.80	0.90	0.84	-	-
Male median age at first Marriage	26.54	25.00	27.62	29.00	4.10	16.00

5.3   Decomposition of effects

I'm interested in measuring the contribution of each driver: the rise of relative wages w_f/w_m, change in the probabilities of becoming custodial parent ν_m and an change in property division laws κ_m, in explaining the observed changes in divorce rates. To this end I propose the following counterfactual experiments:

1. Take the parametrization used for the 1985 simulation but set w_f/w_m to its value in 1970 $\left(w_f/w_m(1970)=0.55\right)$.

2. Take the parametrization used for the 1985 simulation but set κ_m to its value in 1970 $\left(\kappa_m(1970)=0.6\right)$.

3. Take the parametrization used for the 1985 simulation but set ν_m to its value in 1970 $\left(\eta_m(1970)=0.1\right)$.

I repeat the above experiments for the period 1985 to 2015, this involves fixing the parameters used for the 2015 simulation and setting one by one the values of $w_f/w_m, \kappa_m$ and ν_m to their respective 1985 levels, that is: $w_f/w_m(1985)=0.8, \kappa_m(1985)=0.5$ and $\eta_m(1985)=0.15$. The Results for these experiments are shown in Tables 9 to 11

5.4 Shutting down relative wages (w_f/w_m)

Table 9: Shutting down Relative wages w_f/w_m

| Moment | 1970 | 1985 | | Experiment: 1985 with w_f/w_m of 1970 | |
	Model	Model	Data	Result	% of data variation explained by $\Delta w_f/w_m$
Divorce Rate	1.34	1.58	1.87	1.31	47.54
% of wives as plaintiffs	71.59	66.13	61.30	71.68	53.87
% of wives w/kids as plaintiffs	76.94	62.28	64.70	62.80	4.68
% of Never married	11.48	13.98	20.50	12.30	20.74
Male hours	1.05	1.08	1.00	1.02	-
Female hours	0.75	0.83	0.80	0.77	-
Male median age at first Marriage	25.45	26.54	25.00	25.85	22.83
Moment	1985	2015		Experiment: 2015 with w_f/w_m of 1985	
	Model	Model	Data	Result	% of data variation explained by $\Delta w_f/w_m$
Divorce Rate	1.58	1.12	1.30	1.21	14.65
% of wives as plaintiffs	66.13	63.47	56.60	67.02	75.49
% of wives w/kids as plaintiffs	62.28	54.40	59.00	51.75	-46.52
% of Never married	13.98	14.21	29.20	12.37	21.12
Male hours	1.08	1.08	1.00	1.02	-
Female hours	0.83	0.90	0.84	0.80	-
Male median age at first Marriage	26.54	27.62	29.00	25.92	42.60

5.5 Shutting down changes in property division ($\kappa_{\mathbf{m}}$)

Table 10: Shutting down changes in property division κ_m

Moment	1970 Model	1985 Model	Data	Experiment: 1985 with κ_m of 1970 Result	% of variation explained by $\Delta\kappa_m$
Divorce Rate	1.34	1.58	1.87	1.41	30.61
% of wives as plaintiffs	71.59	66.13	61.30	69.76	35.28
% of wives w/kids as plaintiffs	76.94	62.28	64.70	63.95	14.99
% of Never married	11.48	13.98	20.50	14.84	-10.62
Male hours	1.05	1.08	1.00	1.12	-
Female hours	0.75	0.83	0.80	0.85	-
Male median age at first Marriage	25.45	26.54	25.00	26.77	-7.88
Moment	1985 Model	2015 Model	Data	Experiment: 2015 with κ_m of 1985 Result	% of variation explained by $\Delta\kappa_m$
Divorce Rate	1.58	1.12	1.30	1.12	0.00
% of wives as plaintiffs	66.13	63.47	56.60	63.47	0.00
% of wives w/kids as plaintiffs	62.28	54.40	59.00	54.40	0.00
% of Never married	13.98	14.21	29.20	14.21	0.00
Male hours	1.08	1.08	1.00	1.08	-
Female hours	0.83	0.90	0.84	0.90	-
Male median age at first Marriage	26.54	27.62	29.00	27.62	0.00

5.6 Shutting down changes in the probability of becoming the custodial parent (ν_{m})

Table 11: Shutting down changes in the probability of the father in getting full custody of the child ν_m

| Moment | 1970 | 1985 | | Experiment: 1985 with ν_m of 1970 | |
	Model	Model	Data	Result	% of variation explained by $\Delta\nu_m$
Divorce Rate	1.34	1.58	1.87	1.61	-6.01
% of wives as plaintiffs	71.59	66.13	61.30	74.32	79.55
% of wives w/kids as plaintiffs	76.94	62.28	64.70	65.56	29.51
% of Never married	11.48	13.98	20.50	14.11	-1.56
Male hours	1.05	1.08	1.00	1.08	-
Female hours	0.75	0.83	0.80	0.82	-
Male median age at first Marriage	25.45	26.54	25.00	26.58	-1.54
Moment	1985	2015		Experiment: 2015 with ν_m of 1985	
	Model	Model	Data	Result	% of variation explained by $\Delta\nu_m$
Divorce Rate	1.58	1.12	1.30	1.07	-8.74
% of wives as plaintiffs	66.13	63.47	56.60	68.64	109.83
% of wives w/kids as plaintiffs	62.28	54.40	59.00	59.84	95.43
% of Never married	13.98	14.21	29.20	14.21	0.03
Male hours	1.08	1.08	1.00	1.08	-
Female hours	0.83	0.90	0.84	0.90	-
Male median age at first Marriage	26.54	27.62	29.00	26.61	25.42

5.7 Importance of matching divorce filings

In this section I show that failure to match divorce filing data moments delivers different (potentially misleading) counterfactual results. To this end I propose a restricted version of the model where I abstract from the model features that allow the model to match divorce filings. I set the restriction that $Ł_m = Ł_f$, that is, now men and women on average enjoy marriage equally, and I set $\nu_m = 0.5$, that is both husband and wife have the same probability of getting the custody of the child after divorce. With this restrictions I re-calibrate the model to match the data moments of 1970 described in Section 4.1.2, except for divorce filing moments. I repeat the exercise described in Section 5.1 to get the calibration for 1985, then I conduct the corresponding

counterfactual experiments to disentangle the effects of relative wages and property division laws. Results are shown in Tables 12 to 13.

Model fit of the restricted model, 1970 to 1985 We see that the model matches the targeted moments very closely, however delivers a large share of divorce filings coming from men 52% compared to 29% in the data. For the period 1970 to 1985, the restricted model predicts a decline in divorce rates and an increase of the divorce filings by wives, these results are opposite to what is observed in the data. The intuition behind the results is the following: since in the restricted scenario most of the divorces come from husbands (as opposed from wives like in the data); therefore an increase in female wages will make married women more attractive to men, since men can work less and wives more, thus reducing the number of divorces initiated by husbands.

Table 12: Model Fit 1985

Moment	1970		1985		$\%\Delta$	
	Model	Data	Model	Data	Model	Data
Divorce Rate	1.34	1.30	1.02	1.87	-23.94	43.85
% of wives as plaintiffs	48.09	71.60	48.95	61.30	1.79	-14.39
% of wives w/kids as plaintiffs	50.54	75.80	41.79	64.70	-17.30	-14.64
% of Never married	13.38	12.40	13.47	20.50	0.64	65.32
Male hours	1.03	1.00	1.00	1.00	-3.05	-
Female hours	0.72	0.77 0	0.79	0.80	8.99	-
Male median age at first Marriage	25.65	22.00	26.20	25.00	2.15	13.64

Table 13: Counterfactual experiments

Moment	1970 Model	1985 Model	1985 Data	Experiment: 1985 with w_f/w_m of 1970 Result	Experiment: 1985 with w_f/w_m of 1970 % of data variation explained by $\Delta w_f/w_m$
Divorce Rate	1.34	1.02	1.87	1.21	-34.14
% of wives as plaintiffs	48.09	48.95	61.30	59.03	97.80
% of wives w/kids as plaintiffs	50.54	41.79	64.70	66.36	221.30
% of Never married	13.38	13.47	20.50	12.62	10.47
Male hours	1.03	1.00	1.00	1.02	-
Female hours	0.72	0.79	0.80	0.82	-
Male median age at first Marriage	25.65	26.20	25.00	25.87	11.11
Moment	1970 Model	1985 Model	1985 Data	Experiment: 1985 with κ_m of 1970 Result	Experiment: 1985 with κ_m of 1970 % of variation explained by $\Delta\kappa_m$
Divorce Rate	1.34	1.02	1.87	1.16	-24.64
% of wives as plaintiffs	48.09	48.95	61.30	41.38	-73.57
% of wives w/kids as plaintiffs	50.54	41.79	64.70	34.70	-63.89
% of Never married	13.38	13.47	20.50	12.97	6.15
Male hours	1.03	1.00	1.00	1.00	-
Female hours	0.72	0.79	0.80	0.76	-
Male median age at first Marriage	25.65	26.20	25.00	25.61	19.66

6 Conclusions

In this paper I quantitatively assess the role of divorce filings in explaining divorce rate trends in the USA from 1970's until 2015. To do so, I construct and estimate a model with endogenous marriage and unilateral divorce that matches divorce filing data for the USA in 1970. The model includes two features that allow it to match divorce filing data: first, gender specific marital quality, this means that men and women enjoy marriage differently. Second, child custody arrangements with wives having a larger chance to get custody of the children after divorce. Equipped with this model I generate counterfactual predictions for 1985 and 2015 and show that the proposed model does a good job in describing the joint dynamics of divorce rates and divorce filings. The model accounts for roughly 50% of the variation in divorce rates and divorce filings by wives between 1970 and 2015.

In further counterfactual experiments I quantify the effects of changes in the gender wage gap, property division laws and child custody arrangements, in accounting for the observed trends in divorce rates and divorce filings by wives. Results show that relative wages and changes in child custody arrangements are largely responsible for the rise and later decline in divorce rates and the overall decline in divorce filings by women. Rising relative wages account for 47% of the increase of divorce rates between 1970 to 1985 and 14% of their decrease between 1985 and 2015. They also account for 75% of the overall decline in divorce filings by women between 1985 to 2015. Child custody arrangements are the most important driver behind the reduction in the share of divorce initiated by wives. The change in the probability of the husband in getting custody of the children accounts for almost 80% of the decline in divorce filing's by wives between 1970 and 1985, and all the variation between 1985 and 2015.

Importantly, I show that failing to match divorce filing data delivers opposite counterfactual results, thus stressing the importance of matching divorce filing moments when explaining divorce rates. A restricted version of the model that does not match divorce filing moments predicts a decline in divorce rates and an increase of the divorce filings by wives for the period 1970 to 1985 (as opposed to the data). Behind this result lies the fact that it is crucial to distinguish whether divorce rates are driven by divorces by husbands or by wives. If divorces are driven by husbands (opposite to what we see in the data) higher relative wages for women will make these women more attractive to men, thus reducing the number of divorces triggered by men and as a consequence reducing aggregate divorce rates.

The model presented in this paper can be extended to study other related questions, like the rise in married female labor force participation or welfare implications of changes in child custody laws or property division rules upon divorce. Furthermore, I currently make steady state comparisons between 1970 and 2015; ideally one would want to compute transitional dynamics between these years. The mechanism of the model will then deliver endogenously the trends in divorce and divorce filings observed in the data.

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Appendix

A Parametrization of the two period model

We need to assign values to for $\sigma, \xi, \rho, \sigma^2_{\epsilon_w}, \varphi, \eta, r$ and β. Since this is a qualitative example most of the parameters set apriori. I choose a coefficient of relative risk aversion $\sigma = 2$ following Ortigueira and Siassi (2013). The Frish Elasticity of labor supply ξ is set to 0.5 following Blundell et al. (2016). The parameters for the income process are borrowed from Greenwood et al. (2016), with $\rho = 0.98$ and $\sigma^2_{\epsilon_w} = 0.011$. I select a risk free interest rate of $r = 2\%$ and a discount factor of $\beta = 0.98$ that are standard in the literature. The value of the public good η is adhoc set to one. Finally fertility is set to $\varphi = 0.57$ which is the share of married households with children in 1970.

The rest of the parameters $\mu_g, \kappa_g, \nu_g, \phi_g, \mathcal{L}_g, \sigma_{\epsilon_\alpha}, \sigma_{\epsilon_q}$ are calibrated depending on the following scenarios:

1. **Reference Scenario**: This is a gender equality scenario, that is, there are no differences between men and women. I set $w_f/w_m = 1, \kappa_m = 0.5, \nu_g = 0.5, \mu_g = 0.5$ and $\phi_m = \phi_f, \mathcal{L}_m = \mathcal{L}_f$. I calibrate the values for ϕ_g such that the average number of hours worked is equal to 1. I set $\sigma_{\epsilon_\alpha} = sigma_{\epsilon_q}$ such that everyone gets married in period 1, finally, $\mathcal{L}_g$ is set to have a divorce rate larger than 1% in the second period.

2. **Alternative Scenario 1**: Sets some more realistic gender differences, as found in the literature and in the data, I set $w_f/w_m = 0.55, \kappa_m = 0.6, \mu_m = 0.6$. I calibrate $\phi_m < \phi_f$ such that the ratio of hours worked by women with respect to men is equal to 0.7. This scenario keeps the mean of individual the match quality $\mathcal{L}_g$ symmetric between men and women $\mathcal{L}_m = \mathcal{L}_f = 4$ and keeps the same probability of getting custody of the children across gender $\nu_g = 0.5$.

3. **Alternative Scenario 2**: Keeps the parameter values of Alternative Scenario 1, but sets $Ł_m > Ł_f$, explicitly $L_m = 4$ and $L_f = 3$, that is men an women enjoy married life differently. With women having lower match quality than men.

4. **Alternative Scenario 3**: Keeps the parameter values of Alternative Scenario 2, but sets $\nu_m = 0.1$, that is women have a higher probability of getting custody of the children upon divorce.

B   List of States with reported divorce filing records

Alabama, Alaska, Arkansas, Connecticut, Delaware, Georgia, Hawaii, Idaho, Illinois, Iowa, Kansas, Kentucky, Maryland, Massachusetts, Michigan, Missouri, Montana, Nebraska, New Hampshire, New York, Ohio, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Utah, Vermont, Virginia, Wisconsin, Wyoming. A total of 31 states.