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# **In Sickness or In Health?**

**Effects of Divorce Law on Hospitalization and Survival**

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## **Abstract**

This paper will create and test a model of marriage where an important gain from marriage is risk-sharing not available in the market. But this risk sharing is incomplete, because if the lucky spouse is required to pay too much they are better off ending the relationship rather than paying. The model predicts that when unilateral divorce is made easier unlucky spouses consume less. For the empirical tests I assume poor health is an incompletely insured shock and health care usage and survival is a measure of consumption. A one point increase in the ease of unilateral divorce index decreased reported hospitalizations for unhealthy adults of either sex by approximately 10% and decreased the likelihood an adult of either sex would be unhealthy by approximately 7.5%, possibly indicating higher death rates for the unhealthy. These results are consistent with a model of marriage as insurance and inconsistent with a model of marriage as a transfer to women or the naïve model of easy divorce law as an unqualified social good.

## **Introduction**

Clearly easy unilateral divorce is good for individuals who want to divorce and whose spouses don't and bad for individuals who don't want to divorce and whose spouses want to divorce. In Becker's model of household specialization women specialize in household production and childcare, which is not as valuable if a couple divorces, so women are expected to do worse when divorced and should prefer to stay married<sup>1</sup>. This paper introduces a very different model of marriage as a gender neutral institution that provides insurance for both spouses. The unlucky spouse gets far more from the marriage than the lucky spouse, and so is much less likely to want to divorce, regardless of their gender.

A typical couple marries for the first time in their twenties or thirties, and plans to remain married until one of them dies. Each individual has a lot of uncertainty about their income and needs over their lifetime. Some of those risks can be easily insured, for

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<sup>1</sup> The Economic Way of Looking at Life

example an individual worried about losing their spouse's income can buy life insurance. But many risks cannot be insured in the market, for example few people are able to insure against their career becoming obsolete.

One important risk individuals face is the risk of poor health. This is partially insurable through the market, individuals have health insurance to cover the financial cost of medical care and both Social Security and private companies provide disability insurance to partially cover lost earnings. But there no insurance to protect against the time, energy and incidental expenses of chronic illness and disability insurance typically pays only a portion of lost salary. So studying how unilateral divorce law affects the unhealthy is both important in of itself and also important because it provides clues how the unlucky in general are affected by easy divorce.

Another helpful aspect of focusing on health is that health care is a good that is frequently recorded in surveys and easily assignable to one individual. In contrast many goods purchased or produced by a household are either completely public, such as children or private but difficult to assign to one spouse such as food purchased and consumed communally. So it is relatively easy to test the hypothesis that when divorce is easy unhealthy individuals are relatively poorer, because we can observe a private good they consume.

In perfectly functioning markets a household has only one budget constraint, which can be expressed in dollars. But many goods can only be transferred within a relationship, so there is not even a credit market for them. For example most people need love and understanding after a hard day, but paid therapists are not a good substitute for spouses or friends. Similarly most sick people need not only medical care, but also nagging to take medicine and do exercises, research into what treatments are best and who provides the treatments, and emotional support during medical treatment. All these are difficult to measure but are likely to be extremely important for individuals with chronic illnesses. The model focuses on a household with only one budget constraint for analytical simplicity, the results would be similar if there were separate time, energy, emotional support and financial budget constraints.

This paper will start out by giving the background of what the different types of divorce law are and the existing research on the effects of divorce law on households and

general effects of contract law. Then I will present my model of marriage and solve for the effect of changes in divorce law. Finally I will show how the data is consistent with a model of marriage as insurance, but not consistent with the models of marriage as a systematic transfer between men or women, or a naïve hypothesis that easy unilateral divorce creates value by making routine divorce less costly.

## Background

From 1960 to 1980 US divorce rates skyrocketed from a little over .2% per person annually to over .5% per person annually. Between 1980 and 1990 divorce rates fell slightly, but showed no sign of returning to previous levels. During that same time period divorce laws were changed to make legal divorce at the request of only one spouse easier<sup>2</sup> and property division after divorce more fair<sup>3</sup>. This paper will look at four important differences in divorce law: 1) States can choose to allow divorce without proof of serious misconduct only if husband and wife agree on the divorce or they can allow it when either party requests a divorce. This will be referred to a mutual consent divorce versus unilateral divorce. 2) State can divide property, and award alimony, child support and child custody based on which spouse was at fault in the divorce and who filed for divorce, or they can ignore fault considerations completely. This will be referred to as fault settlement divorce versus no fault settlement divorce. 3) States can allow unilateral divorce immediately upon filing or require a separation of before divorce is finalized. This will be designated by specifying the length of separation required. 4) States can pick three possible assignments of property rights a) All property acquired during marriage is subject to distribution between the spouses at divorce. This concept originates in community property states where property is also held jointly throughout the marriage, but has been adopted by common law states with property held separately until divorce. b) All property held by either spouse is subject to redistribution during divorce depending on the needs of each. In theory this should result in even more redistribution of wealth, but these laws may have

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<sup>2</sup> Did Unilateral Divorce Raise Divorce Rates? Evidence from Panel Data

<sup>3</sup> Equitable Distribution of Property

been less serious about redistributing property than marital property laws<sup>4</sup>. c)all property held in marriage is assumed to be the property of the person whose name is on the title, this is known as common law property. Even under common law judges could take the amount of property held by each party into account in setting alimony or child support, but that was a less certain and less extensive form of redistribution, and was not available for couples where there were no children and the wife had enough earnings not to be eligible for alimony. States also differed in their treatment of child custody, the enforcement of child support and alimony, and the amount of government benefits available to single mothers. For simplicity these aspects will be ignored. By 1988 almost all states allowed unilateral divorce with marital or all property division<sup>5</sup>.

Economic theory is clear that when the costs of filing for divorce is low there will be more divorces per marriage, holding marriage quality constant, just like any other good. And like any other good individuals are better off when divorce is cheap rather than expensive. Of course society may be better off with costly divorce if there are negative externalities from divorce. Historically divorce by mutual agreement was sometimes extremely costly, for example until 1857 England required an act of Parliament for divorce<sup>6</sup>. By the mid 1960's the cost in the United States of divorce by mutual agreement seems to have been fairly low, even in states that required proof of fault<sup>7</sup>. Economic theory is less clear on the effect of unilateral divorce. Unhappily married spouses are better off because they can leave their marriages regardless of their spouses wishes, but happily

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<sup>4</sup> Equitable Distribution of Property, page 7. He suggested that because those laws still accepted 'his property' and 'her property' the courts treated division as a special remedy for serious inequity rather than a normal part of divorce.

<sup>5</sup> Arkansas, Delaware, Mississippi, New York had no unilateral divorce. Tennessee had only for couples with no children. Many states allowed unilateral divorce but had long separation period. In other papers some authors treated them as mutual consent divorce states. Throughout the paper I will simply include a dummy for a state requiring separation of a year or more before divorce, rather than making any judgment about how they should be classified. Taken from Friedberg Table 1 page 621-2. This is a subject of some disagreement, Jonathan Gruber provides a different table with far fewer states passing unilateral, but he provides no references, so I can't explain his differences. Most unilateral divorce information will be based on Friedberg's tables unless otherwise specified. Mississippi is the only state that didn't definitely switch property systems. In the early 80's the property system was switched by court decision, but that was reversed a few years later. Equitable Distribution of Property says that as of 1994 the legislature was working on the issue.

<sup>6</sup> From the Second Sex to the Joint Venture: An Overview of Women's Rights and Family Law in the United States During the Twentieth Century

<sup>7</sup> See The Silent Revolution. On page 33-4 it describes New Yorkers inventing adultery grounds or going to Nevada for six weeks to establish residency and then getting divorced. On page 47 it describes how in

married spouses are worse off because they risk being left. If the amount of surplus utility each spouse gets from being married versus single is fixed and not very correlated there may be many more divorces, because before both spouses had to be unhappy to divorce and now only one must be. Generally however the utility from marriage versus divorce is not fixed, a woman who is happier staying in an unhappy marriage if the alternative is living in poverty may feel differently if she gets enough alimony and child support to live adequately. Similarly a man might be divorcing rather than turning down a job offer if his wife is unwilling to move, but he will stay married if she is willing to move. Spouses can and do negotiate over a wide variety of decisions that effect both of their happiness from the marriage or if divorced. The Coase theorem suggests that if utility is transferable and transactions costs are near zero the divorce rate is unchanged by unilateral divorce. Under mutual divorce a couple divorces if the unhappy spouse can bribe the happy spouse to agree to a divorce, under unilateral divorce a couple divorces unless the happy spouse can bribe the unhappy spouse to stay married. Ability to obtain a legal divorce is valuable, giving that right to the unhappy spouse will make them better off, even if they use it to bargain for consumption rather than to get a divorce.

Existing economic literature on unilateral divorce has focused on testing or refuting Becker's prediction that wives are worse off when unilateral divorce is easy. Most papers find evidence consistent with a negative effect on women<sup>8</sup>, though a few have found evidence of positive effect on women<sup>9</sup>. There are far fewer economic papers explicitly analyzing the effect of changes in property law. This is partly because the effect seems obvious: men's greater labor force participation and higher wages results in more assets in their own name, so they are likely to do better under common law. Additionally many of the authors that looked at it seem to have used very different definitions of property law and different sources than mine, so results are not directly comparable. For example Jeffrey Gray distinguished between states that provide for equal and equitable distribution

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California one spouse would claim mental or physical cruelty for made up or trivial offenses.

<sup>8</sup> See Marriage and Divorce: Informational Constraints and Private Contracting; Marriage Market, Divorce Legislation and Household Labor Supply; Divorce Law Changes, Household Bargaining and Married Women's Labor Supply. There are also many others not listed.

<sup>9</sup> See Transfers among Divorced Couples: Evidence and Interpretations. They find easy divorce law results in a slight increase in the divorce settlement of women. Bargaining in the Shadow of the Law: Divorce Laws and Family Distress finds decreased suicide and homicide rates for women and decreased domestic violence for both sexes.

and he has only three states changing their laws between 1970 and 1978<sup>10</sup>, while I have 16.

This paper will introduce a new possible effect of common law versus marital or all property law. It is an observed fact that many households manage their assets jointly, with either one able to spend or transfer money without the consent of the other<sup>11</sup>. This lowers the costs of managing money, but requires each spouse to trust the other to use the money to maximize the utility of the household rather than each individual. If both spouses have the same costs to the financial trust in a marriage breaking down and the same expected probability the marriage will end this is neutral between the happy and unhappy spouse. But it is likely the unhappy spouse has better knowledge about the probability of marriage ending, perhaps she plans to file for divorce next week and he has no idea something is wrong; or cares less about lowering the value of the marriage, perhaps he already gets negative value from the marriage, but wants her to have less value so the alimony he needs to pay to get consent for a divorce is lower. If this model is true, then the ability to use household funds for personal uses acts as a bonus for filing for divorce. Under both property law systems spouses can spend money on themselves improperly, go to a nice restaurant rather than getting the car fixed. But only under common law can one spouse transfer the money into a separate bank account, which they have exclusive control over. If the utility from consumption is reasonably concave the spouse who abuses the trust gets far more value from spending \$10,000 over the next year to spending \$10,000 dollars over the next week. Common law lowers the cost of filing for divorce without cooperation of the other, possibly even below zero if the amount of money to be grabbed is very large.

The only paper I am aware of that explicitly mentions an effect of divorce law on insurance within a marriage is a recent working paper that mentions it but does not develop it further<sup>12</sup>. A conceptually similar problem much better studied is the effect of law prohibiting firms from penalizing workers for leaving. This literature was pioneered by Bengt Holmstrom in *Equilibrium Long-Term Labor Contracts*, and has since been extended by many other authors. Most of these papers simply take as given that when

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<sup>10</sup> Divorce-Law Changes, Household Bargaining, and Married Women's Labor Supply, page 5

<sup>11</sup> For example Money in the Bank: Transaction Costs and Economic Organization of Marriage finds 64.4% of households have only joint accounts and 82% have some joint accounts. This is probably an underestimate because they don't count joint credit cards and ATM and credit cards can be used unofficially by a spouse not on the account.

<sup>12</sup> Cohabitation, Marriage, and Divorce in Equilibrium

contracts cannot be enforced there is less insurance, they are focused on examining how workers and firms respond to the lack of insurance. In later papers I hope to examine how household responds to changes in divorce law, but this paper is just focused on showing that there is a direct effect similar to predicted by incomplete contract theory.

## The Model

In this model individuals live for at most one period, but they can die prematurely. A couple marries at the beginning of the first period, before they know whether they will be disabled. After a couple learns their health endowment each spouse has the option to divorce unilaterally at a cost  $c > 0$  or the couple can separate mutually at 0 cost. For simplicity assume that all men are identical and all women are identical, so there is no issue of finding a good match. There are no insurance markets, so a household consumes what it earns. Each spouse gets their own income in each period and the couple receives a surplus  $M$  from the marriage if they remain married in the second period. Because a couple can divorce without cost the model is unchanged when  $M$  is limited to  $M \geq 0$ . There are two types of private goods, consumption and survival. Individuals invest in health to prevent death in the current period. Disability is bad because it lowers wages and increases the risk of death holding medical care constant. However disabled individuals get a larger mortality reduction from investing in health, so they are able to reduce if not eliminate the effect of illness.

Intuitively the dynamics of the model are that an optimizing household will transfer resources to the disabled because they tend to have low earnings and a high marginal return on investments in their health. But this transfer is limited by the ability of the healthy spouse to leave the marriage if they are asked to give so much they are better off unilaterally divorcing rather than paying. When unilateral divorce is easier the healthy spouse is willing to give less, and so there is less risk sharing. This model does not explicitly contain altruism, which is an important part of most marriages. But the surplus from marriage  $M$ , is not really about saving money on taxes or rent, if marriage was only about that remarriage would be instant and costless. Instead  $M$  represents the love between

spouses. When M is high the healthy spouse is willing to give a higher share to disabled spouse, holding divorce law constant. This is similar to the effect of effect of altruism in models of marriage that contain it.

The household's maximization problem can be constructed as a contract offered to the wife by the husband in the beginning of the first period where he maximizes his expected utility subject to wife receiving her reservation utility  $H^*$ , and neither party divorcing unilaterally. The mathematics for this can be written as

$$\text{Max}(\sum_{i=0}^q \sum_{j=0}^p d_{ih} d_{iw} (u(c_{hd_{ih}d_{jw}}) + s_{hd_{ih}} (h_{hd_{ih}d_{jw}}^1 \dots h_{hd_{ih}d_{jw}}^k)))$$

subject to the budget constraints:  $c_{hd_{rh}d_{sw}} + c_{wd_{rh}d_{sw}} + \sum_{i=1}^k h_{hd_{rh}d_{sw}}^i + h_{wd_{rh}d_{sw}}^i = M + w_{hd_{rh}} + w_{wd_{sw}} \quad \forall r, s$

the ex post incentive constraints:

$$c_{hd_{rh}d_{sw}} + \sum_{i=1}^k h_{hd_{rh}d_{sw}}^i \geq w_{hd_{rh}} - c \quad \forall r \text{ and } c_{wd_{rh}d_{sw}} + \sum_{i=1}^k h_{wd_{rh}d_{sw}}^i \geq w_{wd_{sw}} - c \quad \forall s$$

and the ex ante participation constraint for the wife:

$$H^* \leq \sum_{i=0}^q \sum_{j=0}^p d_{iw} d_{ih} (u(c_{wd_{ih}d_{jw}}) + s_{wd_{iw}} (h_{wd_{ih}d_{jw}}^1 \dots h_{wd_{ih}d_{jw}}^k))$$

$w$  is the wage,  $h^j$  is the investment in health good  $j$ ,  $s$  is the survival probability, and  $d_i$  is the probability of getting disability  $i$ .

This model of marriage is completely consistent with models that assume women tend to lose when divorce is easy. If there is no health investment or health risk this model simplifies to

$$\text{Max}(u(c_h)) \text{ subject to the budget constraints: } c_h + c_w = M + w_h + w_w$$

the ex post incentive constraints:  $c_h \geq w_h - c$  and  $c_w \geq w_w - c \quad \forall s$

and the ex ante incentive constraint for the wife:  $H^* \leq u(c_w)$

Becker's model of marriage assumes women make sunk investments in the relationship very early in the marriage, for example quitting her job or having children. In the extreme in societies that prefer virgin brides women make a large sunk investment in the first night of the marriage. Because individuals prefer to smooth consumption the wife prefers to get less than her contribution to the relationship early in the marriage and more than her contribution later in the marriage. This implicit "lending" is limited by the ex post constraint on the husband: he will not repay more than the cost of separating unilaterally. Under these circumstances married women lose and married men gain from an unexpected

liberalization of divorce law, their husbands will ‘repay’ less than what was otherwise agreed, because a wife who demands what was originally agreed will be divorced and get nothing.

For more insight into the complicated model we can create a Lagrangean:

$$\begin{aligned}
L = & \sum_{i=0}^q \sum_{j=0}^p d_{ih} d_{iw} (u(c_{hd_{ih}d_{jw}}) + s_{hd_{ih}} (h_{hd_{ih}d_{jw}}^1 \dots h_{hd_{ih}d_{jw}}^k)) - \\
& \sum_{i=0}^q \sum_{j=0}^p d_{ih} d_{jw} \lambda_{hd_{ih}d_{jw}} * (c_{hd_{ih}d_{jw}} + c_{wd_{ih}d_{jw}} + \sum_{i=1}^k h_{hd_{ih}d_{jw}}^i + h_{wd_{ih}d_{jw}}^i - M - w_{hd_{ih}} - w_{wd_{jw}}) \\
& - \sum_{i=0}^q \sum_{j=0}^p d_{ih} d_{jw} \mu_{d_{ih}d_{jw}}^h * (c_{hd_{ih}d_{jw}} + \sum_{i=1}^k h_{hd_{ih}d_{jw}}^i - w_{hd_{ih}} + c) - \\
& \sum_{i=0}^q \sum_{j=0}^p d_{ih} d_{jw} \mu_{d_{ih}d_{jw}}^w (c_{wd_{ih}d_{jw}} + \sum_{i=1}^k h_{wd_{ih}d_{jw}}^i - w_{wd_{jw}} + c) + \\
& \eta((-H * + \sum_{i=0}^q \sum_{j=0}^p d_{iw} d_{ih} (u(c_{wd_{ih}d_{jw}}) + s_{wd_{iw}} (h_{wd_{ih}d_{jw}}^1 \dots h_{wd_{ih}d_{jw}}^k)))
\end{aligned}$$

Solving for the second period first we find

$$\partial L / \partial c_{hd_{ih}d_{jw}} = d_{ih} d_{jw} * (u'(c_{hd_{ih}d_{jw}}) - \lambda_{hd_{ih}d_{jw}} - \mu_{hd_{ih}d_{jw}}^h) = 0 \text{ at the optimum;}$$

$$\partial L / \partial c_{wd_{ih}d_{jw}} = d_{ih} d_{jw} * (\eta u'(c_{wd_{ih}d_{jw}}) - \lambda_{hd_{ih}d_{jw}} - \mu_{hd_{ih}d_{jw}}^w) = 0 \text{ at optimum}$$

The budget constraint is an equality, so  $\lambda_{hd_{ih}d_{jw}} > 0$ ,

the prohibition against unilateral divorce is an inequality, so  $\mu_{hd_{ih}d_{jw}}^h, \mu_{hd_{ih}d_{jw}}^w \geq 0$ .

We can combine the equations to get  $u'(c_{hd_{ih}d_{jw}}) = (\mu_{hd_{ih}d_{jw}}^h - \mu_{hd_{ih}d_{jw}}^w) + \eta u'(c_{wd_{ih}d_{jw}})$ .

Similarly  $\forall i, j$  health investments we get  $\partial s_{hd_{ih}} / \partial h_{hd_{ih}d_{jw}}^i = (\mu_{hd_{ih}d_{jw}}^h - \mu_{hd_{ih}d_{jw}}^w) + \eta \partial s_{wd_{jw}} / \partial h_{wd_{ih}d_{jw}}^i$ .

If a household could share risk optimally they would always have relative marginal utilities equal, but there may be a wedge  $\mu_{d_{ih}d_{jw}}^h - \mu_{d_{ih}d_{jw}}^w$  from the threat of unilateral divorce.

The loss to the household from the incomplete risk sharing is

$$\int_0^{\mu_{d_{ih}d_{jw}}^h - \mu_{d_{ih}d_{jw}}^w} (u'(c_{hd_{ih}d_{jw}}) - \eta u'(c_{wd_{ih}d_{jw}})) \approx 1/2 (\mu_{d_{ih}d_{jw}}^h - \mu_{d_{ih}d_{jw}}^w)^2$$

for each good not shared properly. So the total loss is  $(\mu_{d_{ih}d_{jw}}^h - \mu_{d_{ih}d_{jw}}^w)^2$

The model in the paper simplifies a great deal by assuming that households have complete information. Models of insurance typically have incomplete risk-sharing because of either adverse selection or moral hazard. Adverse selection on health is extremely unlikely to be a factor in the marriage market. Individually typically marry for the first time in their twenties and thirties, well before chronic health problems become

common. Couples date for months or years before marriage, during which they automatically get an idea of their future spouse's health. Individuals are legally free to demand a complete checkup prior to marriage, the fact this almost never occurs suggests that adverse selection is not an issue. If moral hazard is a factor a household will not completely insure in order to provide incentives for proper care. But they will still insure partially, and will have lower utility when partial insurance is impossible. So results are identical to the model without moral hazard.

## Predictions

As previously stated in the insurance model of marriage spouses protect each other against the risk of poor health. This produces the effect that when divorce law is easy there is less implicit health insurance, so sick spouses regardless of gender are poorer and will purchase less healthcare and die sooner, assuming healthcare is a normal good. In contrast if divorce law affects health only through lowering the bargaining power of women very different effects will be observed: a) Women will be poorer whether or not they are currently healthy; b) Men will be richer whether or not they are currently healthy. Under the naïve view of divorce easy unilateral divorce costs raise total welfare by making it easier for spouses to dissolve a marriage they both want to dissolve. So both men and women are richer regardless of whether they are currently healthy.

Under the marriage as insurance sick individuals die faster. So the probability an individual will be ill is unambiguously reduced for both men and women. The effect of bargaining power on the percentage of healthy is theoretically ambiguous, healthy individuals are more likely to stay healthy and sick individuals are more likely to stay alive. Empirically factors like education and wealth which are similarly theoretically ambiguous increase the likelihood of an individual being healthy, so bargaining power within a marriage should work similarly. So if easy divorce lowers the bargaining power of women it should be associated with a lower likelihood of being healthy for women and a higher likelihood of being healthy for men. And if the naïve view is correct both men and women are more likely to be healthy and more likely to purchase healthcare if sick.

	Marriage as insurance	Marriage as good for women	Marriage as bad for men and women
Average men's health	+	+	+
Average women's health	+	-	+
Healthcare for sick men	-	+	+
Healthcare for sick women	-	-	+

## Data

The main data used in this paper is taken from the National Health Interview Surveys from 1970 to 1984. This survey was a telephone survey where households were randomly called and asked about demographics and health for every member of the household. Unfortunately for my purposes the public data only gives location for households in the top 30 major metropolitan areas, so the sample population does not represent the US population<sup>13</sup>. The administrators of the data stated in personal correspondence that better location data is not available to the public, even under confidentiality restrictions. This makes the test less powerful because the sample is only 1/3 of the original, and the urban population may differ systematically from the national. But it is unlikely that restricting the data to an urban population biases the sample.

Percent female	53.34%
Percent under 45	45.64%
Percent over 65	17.58%
Mean years education	12.01
Standard error education	3.51
Percent education valid	98.82%
Percent healthy	85.85%
Percent health status valid	86.30%
Percent hospitalized if unhealthy	26.00%

<sup>13</sup> The cities are: Boston, New York City, Philadelphia, Pittsburg, Detroit, Chicago, Cincinnati, Los Angeles, San Francisco, Baltimore, Atlanta, Buffalo, Cleveland, Minneapolis, Milwaukee, Kansas City, St. Louis, Houston, Dallas, DC, Seattle, San Diego, Anaheim, Miami, Denver, San Bernadino, Indianapolis, San Jose, New Orleans, Tampa and Portland.

This paper will only test health results for whites over 25. Blacks faced very different and rapidly changing marriage conditions during the 70's, so they should not be included with the whites, but they are too small a group to handle separately. I focus on adults because model presented in this paper does not include public goods like children, so it makes no predictions how households will change investment in children. I include the never married, which biases results downwards. But it is possible that divorce law affects who selects into marriage, which means excluding the never married risks spurious results if the less healthy are less likely to get married under easy divorce.

### Likelihood an Individual is Healthy<sup>14</sup>

	Adults		Men		Women		Adults		Men		Women	
Years of Education	0.136	***	0.130	***	0.148	***	0.135	***	0.128	***	0.140	***
	0.002		0.002		0.002		0.002		0.002		0.002	
State Allows Unilateral Divorce	0.077	*	0.069		0.083	*	0.071	*	0.065		0.074	
	0.041		0.056		0.049		0.041		0.056		0.049	
No Fault Property Settlement	0.063		0.041		0.080		0.060		0.038		0.079	
	0.041		0.057		0.049		0.041		0.057		0.049	
Separation Required	0.036		0.023		0.049		0.038		0.027		0.051	
	0.050		0.069		0.061		0.050		0.069		0.061	
Marital Property System	-0.082	***	-0.073	**	-0.090	***	-0.080	***	-0.071	*	-0.088	***
	0.026		0.036		0.032		0.026		0.036		0.032	
All Property System	-0.065		-0.058		-0.073		-0.063		-0.055		-0.070	
	0.046		0.063		0.056		0.047		0.063		0.056	
Ease of Divorce Index	0.076	***	0.064	**	0.086	***	0.072	***	0.061	**	0.082	***
	0.018		0.025		0.021		0.018		0.025		0.021	
Controls for Marital Status	No		No		No		Yes		Yes		Yes	

\* p<.1, \*\*p<.05, \*\*\* p<.01

This table is consistent with the gender neutral model of insurance rather than a pure transfer from one sex to the other. This table would also be consistent with a model of easy divorce law reducing the stress of divorce, raising over health.<sup>15</sup>

<sup>14</sup> Table is from a binary logistic regression of the likelihood an individual reports or is reported in excellent, very good or good health. Controls are included for year and city of residence, so all results are difference in differences estimates generated by law changes across states. Standard errors are corrected for clustering by household and city. Ease of divorce index was created by adding 1 for allowing unilateral divorce, 1 for no fault settlement and subtracting .5 for separation required, and adding 1 for marital property or all property. Years of education is included to give an idea of the magnitude of the effects.

<sup>15</sup> If spouses generally lived separately this would be consistent with the disabled being relatively poorer, so less able to afford urban environments. But most couples remain married after a health shock, so the total spending on a public good like housing shouldn't systematically change.

## Likelihood an Unhealthy Individual was Hospitalized in the Last Year<sup>16</sup>

	Adults		Men		Women		Adults		Men		Women		Adults		Men			
Years of Education	0.021	***	0.016	***	0.025	***	0.022	***	0.016	***	0.027	***	0.028	***	0.022	***	0.030	***
	0.003		0.005		0.005		0.003		0.005		0.005		0.004		0.005		0.005	
State allows Unilateral Divorce	-0.175	**	-0.174		-0.184	*	-0.173	**	-0.170		-0.182	*	-0.182	**	-0.139		-0.215	**
	0.073		0.112		0.095		0.073		0.112		0.095		0.076		0.118		0.098	
No-Fault Property Settlement	-0.083		-0.127		-0.052		-0.084		-0.128		-0.054		-0.083		-0.112		-0.063	
	0.074		0.115		0.095		0.074		0.115		0.095		0.076		0.119		0.099	
Separation Required before Divorce	0.130		0.028		0.205	*	0.125		0.021		0.200	*	0.128		-0.011		0.227	*
	0.092		0.141		0.120		0.092		0.141		0.120		0.096		0.149		0.124	
Marital Property System	0.077		0.046		0.098		0.081	*	0.044		0.105	*	0.067		0.035		0.093	
	0.049		0.074		0.063		0.049		0.074		0.063		0.050		0.077		0.065	
All Property System	-0.004		-0.129		0.087		-0.003		-0.133		0.088		-0.022		-0.173		0.092	
	0.084		0.128		0.113		0.084		0.128		0.113		0.088		0.135		0.116	
Ease of Divorce Index	-0.099	***	-0.085	*	-0.110	***	-0.100	***	-0.083	*	-0.113	***	-0.095	***	-0.065		-0.119	***
	0.032		0.050		0.042		0.032		0.050		0.042		0.034		0.052		0.044	
Controls for marital status	No		No		No		Yes		Yes		Yes		Yes		Yes		Yes	
Controls for Health	No		No		No		No		No		No		Yes		Yes		Yes	

\*p<.1, \*\*p<.05, \*\*\* p<.01

Once again the patterns here are consistent with divorce as gender neutral insurance and not a transfer from men to women. The effect on women is larger, possibly suggesting that women are more affected by divorce law, but women are also more responsive to education so that may simply indicate women's healthcare is in general more elastic. This is also not consistent with easy divorce improving health through reducing stress, results are identical when health is controlled for.

<sup>16</sup> Table is from a binary logistic regression of the likelihood an individual in fair or poor health was hospitalized in the last year. Controls are included for year and city of residence, so all results are difference in differences estimates generated by law changes across states. Standard errors are corrected for clustering by household and city. Ease of divorce index was created by adding 1 for allowing unilateral divorce, .5 for no fault settlement and subtracting .5 for separation required, marital property and all property. Years of education is included to give an idea of the magnitude of the effects.

If the regression from the National Health Interview Survey accurately reflect changes in health and hospitalization adult hospitalization rates should fall sharply with easy divorce, sick people die faster and while alive they are less likely to be hospitalized. This can be corroborated from an independent data source, which finds effects of the same sign and roughly the expected magnitude on hospital usage.

### Linear Regression of Hospital Usage<sup>17</sup>

State allows Unilateral Divorce	-0.048		-0.038	
	0.037		0.039	
No-Fault Property Settlement	-0.062	*	-0.051	
	0.033		0.033	
Separation Required before Divorce	0.078		0.086	
	0.055		0.056	
Marital Property System	0.049		0.045	
	0.036		0.037	
All Property System	0.024		0.03	
	0.049		0.049	
Ease of Divorce Index	-.055	**	-0.049	*
	0.019		0.020	
Controls for Demographics	No		Yes	

\*p<.1, \*\*p<.05, \*\*\* p<.01

According to the model presented in easy unilateral divorce affects health by affecting bargaining within a marriage. In this model there is no avenue for general social norms to affect health. So a test of this model is to regress health and medical care usage on laws were encourage less traditional behavior, but had no direct impact on the individuals studied. One candidate is laws allowing teenagers to obtain contraceptives without parental consent or knowledge. Before the 1970's most states had the age of majority set at 21 and no provisions for minors to get medical care without a parent's permission. During the 1970's almost all states lowered the age of legal majority to 18, and many states passed laws allowing younger teens to obtain contraceptives without parental permission.<sup>18</sup>

Reassuringly there was no statistically significant effect of birth control law on health

<sup>17</sup> Regression is of  $\ln(\text{occupancy rate} * \text{hospital beds per capita})$  for the years 70, 80 and 90 weighted by state population. Results were almost identical if unweighted. Data taken from Table 110 and 111 of the U.S. Health 2001 Report issued by the National Center for Health Statistics. The significance of divorce law becomes less if very specific measures of education are included, but the signs remain constant.

<sup>18</sup> In *The Power of the Pill: Oral Contraceptives and Women's Career and Marriage Decisions* the authors argue these laws had real effects on behavior among young women, so did not merely reflect social attitudes

of adults and when the laws were included in a regression of the effect of divorce law there was no significant change in the estimated impact of divorce law on health<sup>19</sup>.

## Discussion

If the results presented in the paper are accurate is the effect on the utility of spouses large? This is difficult to answer without a model with a specific utility function and a measure of risk aversion. Kotlikoff and Spivak created a model of individuals whose risk is uncertain lifespan with fixed assets. They find that for reasonable risk aversion parameters the benefits of allowing access to a fair annuity market is very large, depending on the age it is equivalent to increasing wealthy by 25%-100%. Even if fair annuities are not available a couple is able to get approximately 50% of the value simply by sharing risk among the two of them<sup>20</sup>. The losses from a couple being unable to share risk are potentially large.

Another measure of the importance of the results is to measure how much money and how many lives are being affected. In 2002 healthcare spending was \$1.6 trillion<sup>21</sup>, approximately 15% of GDP. If the 5% reduction in hospitalization corresponds to similar reductions in other medical care one point easier unilateral divorce saved approximately \$80 billion. At the same time approximately 14% of the population is in poor health. The simple version of the model used in this paper attributes all of the lower likelihood an individual is in poor health to lower survival rates among the sick<sup>22</sup>. If the value of a year of life is set at \$150,000<sup>23</sup> the total loss of life in 2002 from one point easier unilateral

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<sup>19</sup> It should be noted that the estimated size of the effects was similar in magnitude to the effect of divorce law, so more detailed data could find a relationship. When hospital usage was regressed on birth control laws results were barely statistically significant, but birth control and abortion laws have direct effects on total hospital usage through changes in fertility, so this is not surprising.

<sup>20</sup> The Family as an Incomplete Annuities Market

<sup>21</sup> Press release for Center for Medicare and Medicaid Services

<sup>22</sup> This is extremely unlikely to be accurate. A more complicated model allows individuals to protect themselves against poor health by taking precautions. In that model individuals take more care to avoid becoming disabled and disability rates potentially fall by much more than the death rates of the disabled rise. In fact the net impact on death rates is ambiguous.

<sup>23</sup> The Value of Health 1970-1990 uses \$100,000 without being clear which year the dollars refer to, adjusting for inflation \$150,000 seems appropriate for 2002.

divorce was approximately  $300 \text{ million} * 1\% * \$150,000 = 450 \text{ billion}$ .<sup>24</sup>

In the model used in this paper unilateral divorce unambiguously lowers expected welfare for both spouses. Why then would states pass laws making unilateral divorce easier? One major explanation is that the model oversimplifies by assuming that no individual actually pays the deadweight cost of unilateral divorce, instead they pay that amount to their spouse as a bribe for a mutual divorce. In reality divorcing couples don't always negotiate costlessly. The costs of individuals who decide to get a unilateral divorce are highly visible and clearly wasted and require the government to spend money on court costs<sup>25</sup>, the loss of insurance within a household is difficult to observe or value. A well-meaning but ignorant legislature is likely to view easier unilateral divorce as an overall social benefit. Another possible explanation is that early research focused on how easy unilateral divorce harmed homemaker wives. Feminist groups had mixed ideologies on this, on one hand they were in favor of transfers to women, on the other hand they preferred that women work in the marketplace even if the women themselves preferred to stay home. So there was no automatic backlash against easy unilateral divorce even when the costs were recognized. A final explanation is to recognize that the legal changes in the 70's didn't make unilateral divorce that much easier. If only the laws used in this paper are examined property law changes canceled out much of the effect of easier legal divorce. And there were many other law changes in child custody and child support enforcement that probably also made unilateral divorce more difficult.

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<sup>24</sup> The huge loss in life accompanied by a small reduction of health care spending may seem to conflict with other studies such as the RAND experiment which found cost sharing produced large decreases in health care spending with minimal or zero effects on health. The estimates should not be compared for 2 reasons: 1)The RAND experiment, as well as almost all health insurance plans had a relatively small maximum out of pocket expenses, so the unhealthy paid zero marginal cost under any plan, in contrast divorce laws primarily affect the resources available to the unhealthy; 2)The Rand experiment only affected the price of care purchased in the market, the price of time and energy within a household is unchanged, in contrast divorce laws affect the total resources available to the sick, which should be expected to have a much bigger effect.

<sup>25</sup> See the Silent Revolution. On page 91-2 it discusses how legislatures were happy to pass no-fault divorce as long as no additional funding on courts or family services was required.

## Appendix 1

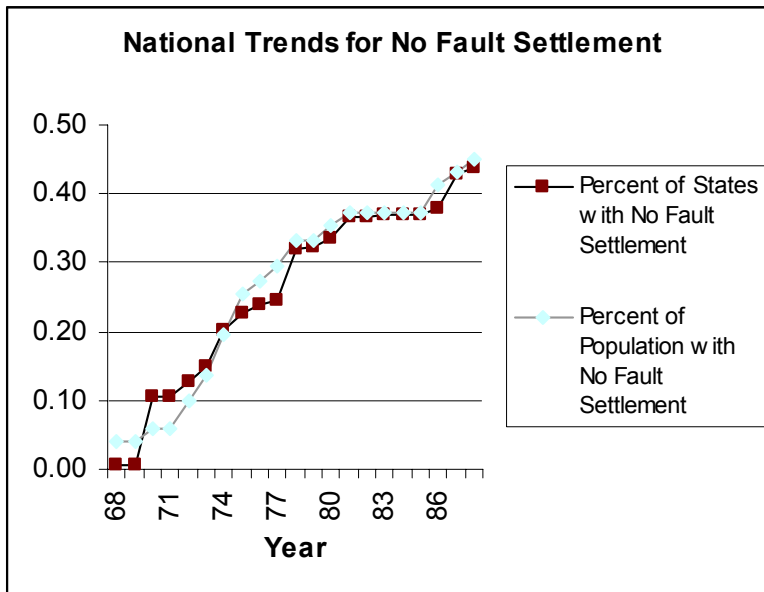
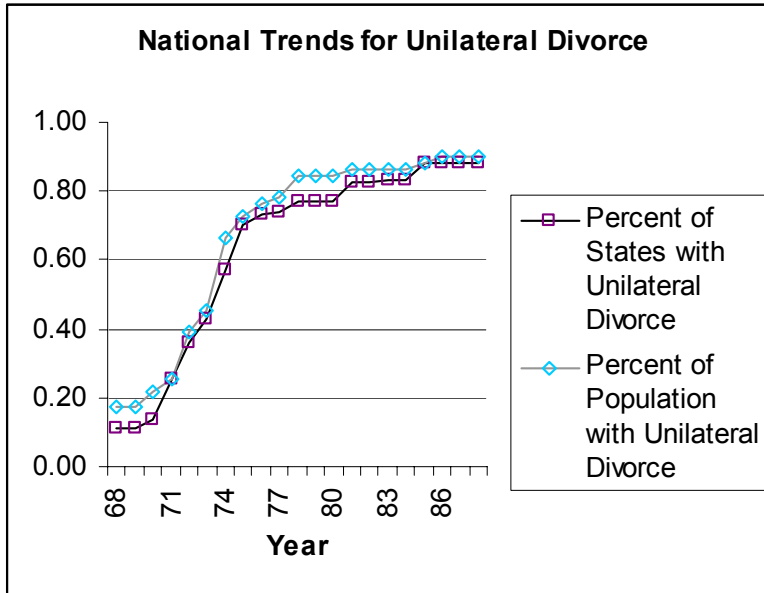
### Divorce Laws by State<sup>26</sup>

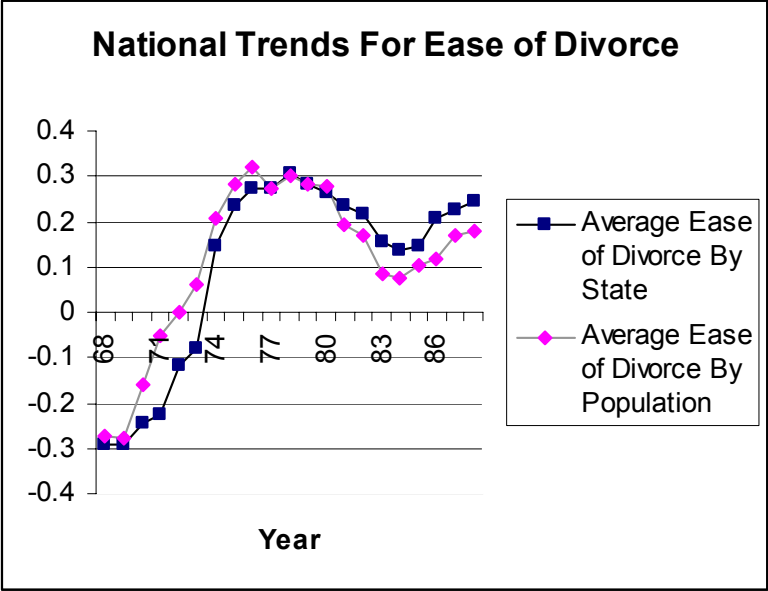
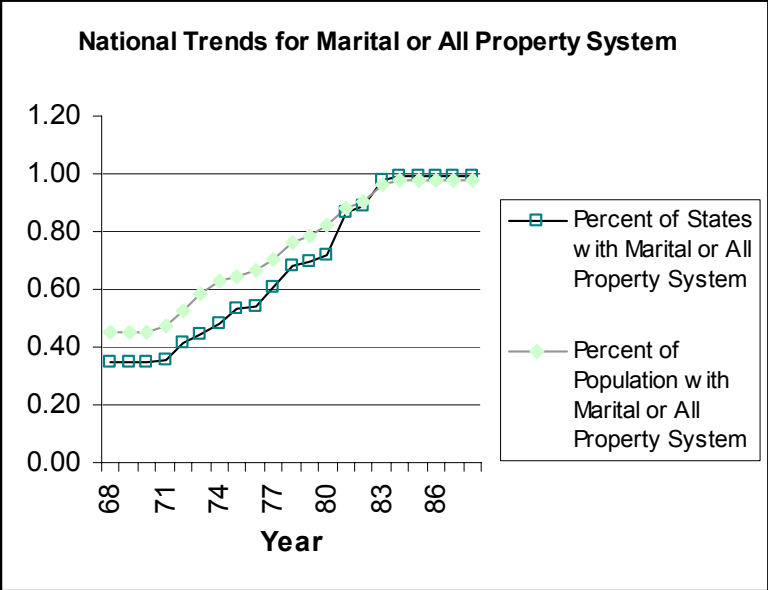
State	Year Unilateral Divorce Passed	Year No Fault Settlement Passed	Separation Required	Year Property System Changed	Final Property System
Alabama	1971	-	-	1979	All
Alaska	Pre-1968	1974	-	1962	All
Arizona	1973	1973	-	Pre-1900	Marital
Arkansas	-	1973	-	Pre-1900	All
California	1970	1969	-	Pre-1900	Marital
Colorado	1971	1971	-	1963	Marital
Connecticut	1973	-	-	1973	All
Delaware	-	1974	-	1915	Marital
Washington DC	1977	-	1 year	1963	Marital
Florida	1971	1986	-	1980	Marital
Georgia	1973	-	-	1980	Marital
Hawaii	1973	1960	-	Pre-1900	All
Idaho	1971	1990	-	Pre-1900	Marital
Illinois	1984	1977	2 years	1974	Marital
Indiana	1973	1973	-	1977	All
Iowa	1970	1972	-	1971	All
Kansas	1969	1990	-	1963	Marital
Kentucky	1972	-	-	1972	Marital
Louisiana	Pre-1968	-	1 year	Pre-1900	Marital
Maine	1973	1985	-	1972	Marital
Maryland	Pre-1968	-	5 years	1978	Marital
Massachusetts	1975	-	-	1977	All
Michigan	1972	-	-	1949	All
Minnesota	1974	1974	-	1951	Marital
Mississippi	-	-	-	-	-
Missouri	1973	-	2 years	1973	Marital
Montana	1975	1985	-	1975	All
Nebraska	1972	1972	-	1972	Marital
Nevada	1973	Pre-1968	-	Pre-1900	Marital
New Hampshire	1971	-	-	1970	All

<sup>26</sup> Unilateral divorce law and separation requirement taken from Friedberg's paper, table 6. No fault settlement taken from Dissolving the Relationship between Divorce Laws and Divorce Rates. I created the property rights table by reading state laws downloaded from Lexis Nexis with help from Equitable Distribution of Property. The dates are a subject of some dispute, different ones are provided by Jonathan Gruber in NBER working paper 7968, but he provides no sources, so I ignore him.

State	Year Unilateral Divorce Passed	Year No Fault Settlement Passed	Separation Required	Year Property System Changed	Final Property System
New Jersey	1971	1980	18 months	1971	Marital
New Mexico	1973	1976	-	Pre-1900	Marital
New York	-	-	-	1980	Marital
North Carolina	Pre-1968	-	1 year	1981	Marital
North Dakota	1971	-	-	Pre-1900	All
Ohio	1974	-	1 year	1976	All
Oklahoma	Pre-1968	1975	-	1976	All
Oregon	1973	1971	-	1971	All
Pennsylvania	1980	-	3 years	1982	Marital
Rhode Island	1976	-	-	1979	Marital
South Carolina	1969	-	3 years	1982	Marital
South Dakota	1985	-	-	1939	All
Tennessee	-	-	-	1953	Marital
Texas	1974	-	-	Pre-1900	Marital
Utah	Pre-1968	1987	3 years	Pre-1900	All
Vermont	Pre-1968	-	6 months	1947	All
Virginia	Pre-1968	-	2 years	1982	Marital
Washington DC	1973	1973	-	Pre-1900	All
West Virginia	Pre-1968	-	2 years	1983	Marital
Wisconsin	1977	1977	-	1977	Marital
Wyoming	1977	-	-	Pre-1900	All

## Appendix 2





## Bibliography

- Allen, Douglas; Marriage and Divorce: Comment; American Economic Review; vol 82, no 3; pages 679 -685
- Armstrong, Barbara Nachtrieb; From the Second Sex to the Joint Venture: An Overview of Women's Rights and Family Law in the United States During the Twentieth Century; 2000 California Law Review; 88 Calif. L. Rev. 2017
- Becker, Gary; The Economic Way of Looking at Life; Nobel Lecture, December 9, 1992
- Brien, Michael; Seitz, Shannon and Stern Steven; Cohabitation, Marriage, and Divorce in Equilibrium; downloaded from Steven Stern's website
- Center for Medicare and Medicaid Services; Health Care Spending Reaches \$1.6 Trillion in 2002; 1/8/04; <http://www.cms.hhs.gov/media/press/release.asp?Counter=935>
- Chiappori, Pierre-Andre, Fortin, Bernard and Lacroix, Guy; Marriage Market, Divorce Legislation and Household Labor Supply; mimeo downloaded from website <http://www.src.uchicago.edu/~pach>
- Cutler, David and Richardson, Elizabeth; The Value of Life 1970-1990; The American Economic Review; Volume 88 no.2 pages 97-100
- Dixon, Ruth and Weitzman, Lenore; Evaluating the Impact of No-Fault Divorce in California; Family Relations, vol 29 no. 3 July 1980; page 297-307
- Ellman, Ira and Lohr, Sharon; Dissolving the Relationship between Divorce Laws and Divorce Rates; International Review of Law and Economics 18:341-359 1998
- Friedberg, Leora; Did Unilateral Divorce Raise Divorce Rates? Evidence from Panel Data; The American Economic Review; vol 88 no. 3; pages 608-627
- Goldin, Claudia and Katz; Lawrence; The Power of the Pill; Oral Contraceptives and Women's Career and Marriage Decisions; Journal of Political Economy, 2002, vol 110, no. 4 page 730-770
- Gray Jeffrey; Divorce Law Changes, Household Bargaining and Married Women's Labor Supply; American Economic Review; vol 88, No. 3, 2000; page 628-642
- Gruber, Jonathan; Is Making Divorce Easier Bad for Children? The Long Run Implications of Unilateral Divorce; NBER working paper 7968
- Holmstrom, Bengt; Equilibrium Long-Term Labor Contracts; The Quarterly Journal of

Economics, vol 98 supplement 1983 23-54

Jacobs, Herbert; *The Silent Revolution*; University of Chicago Press; 1988

Kotlikoff, Laurence and Spivak, Avia; *The Family as an Incomplete Annuities Market*; *Journal of Political Economy*, 1981, vol 89

Manning, Willard; Newhouse, Joseph; Duan, Naiha; Keeler; Emmet and Leibowitz, Arleen; *Health Insurance and Demand for Medical Care: Evidence from a Randomized Experiment*; *The American Economic Review*; vol 77, no 3, pages 251-277

Peters, Elizabeth, *Marriage and Divorce: Informational Constraints and Private Contracting*; *The American Economic Review*; vol 76. No. 3; pages 437-454

Treas, Judith; *Money in the Bank: Transaction Costs and Economic Organization of Marriage*; *American Sociological Review*; vol 58, no. 5 page 723-734

Turner, Brett; *Equitable Distribution of Property, Second Edition*; Shepard's McGraw-Hill, Inc; 1994

U.S. Dept of Health and Human Services, National Center for Health Statistics. *Health Interview Survey 1970-1984*; Distributed by the Inter-University Consortium for Political and Social Research

U.S. Dept of Health and Human Services, National Center for Health Statistics. *U.S. Health, 2001*

U.S. Department of Health, Education and Welfare. *Family Planning, Contraception, and Voluntary Sterilization: An Analysis of Laws and Policies in the United States, Each State and Jurisdiction (as of October 1976 with 1978 addenda)*. Washington: Government Printing Office., 1978

Weiss, Yoram and Willis, Robert; *Transfers among Divorced Couples: Evidence and Interpretations*; *Journal of Labor Economics*; vol. 11, No. 4 pages 629-679 Wolfers, Justin; *Did Unilateral Divorce Raise Divorce Rates? A Reconciliation and New Results*. NBER working paper 10014

Wolfers, Justin and Stevenson Betty; *Bargaining in the Shadow of the Law: Divorce Laws and Family Distress*; NBER 10175