The Effects of the Chilean Divorce Law on Women's First Birth Decisions

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Abstract

The economics literature on divorce law focuses on the introduction of no-fault divorce laws in the U.S.A. and no consensus has been reached regarding its effects on divorce rates, labor force participation and fertility decisions. In 2004 Chile allowed divorce for the first time. The new divorce law established compensation in case of divorce for the spouse who gives up personal development for the good of the household. Using birth histories constructed from the Social Protection Survey (*Encuesta de Prevision Social* – EPS) panel 2002-2009, I investigate the effect of the divorce law on women's age at first birth. I find that the divorce law increases the hazard of having the first child by 62 percent for highly educated women at all ages after controlling for socioeconomic characteristics, marital duration and the negative trend in fertility rates observed in Chile since the mid-1960s. The estimates also show that the response of the hazard to a one percent increase in the woman's potential income after the DL was passed is larger than the response of the hazard before the new law was implemented.

JEL Code: J12, J13
Keywords: Divorce Law, Time to First Birth, Chile

1. Introduction

In this investigation I evaluate the impact of the introduction of divorce in Chile in 2004 on women's decision about when to have a first child. The evolution of Chilean society, as well as the historical trends of the regulation of marriages in Chile, provides a rich context to study a topic on which the economic literature has found no consensus so far.

In 1884 the regulation and registration of marriages passed from the Catholic Church to the State. However, the influence of the Church was not eliminated, in particular regarding the termination of the marital union. Indeed, couples were not allowed to divorce until 2004. In that year, new legislation introduced the concept of "*divorce a vincula matrimonii*" or total divorce, under which a member of a married couple was able to claim the termination of the marital union without any restriction[1]. The new legislation also introduced a monetary compensation regime for the spouse who gives up his/her personal and professional development for the good of the household.

Most of the economics literature focuses on the introduction of no-fault divorce in the United States in the decade starting in 1970. This new legislation allows a spouse to request the dissolution of the marital union to a court without having to prove a "fault" committed by the partner. Taking advantage of the variation in the implementation of this legal procedure across the different federal states, the economics literature has not reached a consensus regarding the effects of divorce on fertility decisions[2]. In the case of Chile, the change in the legislation goes

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[1] Although Chilean society has been traditionally very conservative, more secular trends have become apparent in the last few decades. Recent surveys show that Chileans have become more open to homosexuality, divorce, euthanasia, prostitution and abortion (MORI, Press release - World Values Survey - Chile, 2006) . Moreover, women have been delaying their first marriage, as well as the conception of their first child in favor of more human capital accumulation: According to the National Institute of Statistics (*Instituto Nacional de Estadísticas* – INE) of Chile the average age at which women have their first child increased from 22.73 to 23.14 between 1997 and 2007, while the average age at which women get married for the first time increased by almost 4 years (24.86 to 27.74) in the same time period.

[2] For instance, Becker (1971) concludes that the introduction of divorce decreases marital fertility, as the value of marriage diminishes and fewer couples get married. However, Alesina and Giuliano (2007) argue that the introduction of

from the impossibility of terminating the marriage to the most flexible option: terminating the marital union on the grounds of irreconcilable differences. In this context, the radical change of the marital law in Chile provides a new opportunity to study the effects of the divorce-law change.

In this context, it is possible that the introduction of divorce affected the woman's decision of when to have the first child[3]. On the one hand, women may wait to see if a relationship succeeds before having a first child. If the marriage should fail, the presence of a child would increase the costs of divorce due to custody and child support issues. On the other hand, the monetary compensation regime introduced by the new legislation may create incentives for younger women to advance the conception of their first child, provided that the amount offsets the opportunity costs of becoming a mother. In other words, a woman becoming a mother at a young age could be entitled to a larger compensation in case of a future divorce[4]. The goal of this investigation is to contribute to the economic literature on divorce laws and to clarify the relation between divorce legislation and fertility decisions.

Initial results based on the Social Protection Survey (*Encuesta de Previsión Social –* EPS) panel 2002-2009 suggest that the divorce law has a positive effect on the hazard of having a first child for highly educated women after controlling for the woman's age, the negative trend observed on fertility rates in Chile since the mid-1960s, marital duration and other socioeconomic characteristics. The estimation also suggests that a high potential income level is associated with an increase in the hazard of first birth. In other words, divorcing women who are able to bear the costs of children will have their first child earlier.

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divorce may eliminate the deterrence of being locked into an unviable marriage. This may create incentives for marriage and child birth.

[3] Other effects could be observed through marital decisions, educational attainment, labor force participation, professional training, and any other individual's decisions that may be influenced by a future compensation in case of divorce.

[4] The amount of this compensation is determined by the court, which takes into account the beneficiary's age, education level, time of marriage, the existence of children and other socio-demographic characteristics.

This paper is structured as follows. Section 2 presents the context in which the Chilean divorce law (DL) was introduced, and the motivation to focus on first child births. The third section consists of a review of the literature focused on divorce laws and fertility decisions. In the fourth section I present the data, describe the empirical strategy and discuss the results of the estimations. Finally, in the fifth section I present my conclusions and propose further research.

2. Context and Motivation.

Historically, religion played an important role on marital decisions and marriage legislation. This is the case in Latin America, where most countries did not allow divorce as a legal procedure to terminate the marital union throughout the 20th century[5].

Peru introduced divorce in 1936, and modified it in 2008 allowing couples seeking to terminate the marriage quickly to do so over the Internet[6]. Colombia did the same in 1976[7], and in 2005 implanted a new process to facilitate the divorce process. Argentina introduced new divorce legislation in 1987[8]. The previous legislation only regulated the separation of the couple's assets and the custody of children, but did not break the marital union. In all these countries the changes in the legislation occurred after long periods of political debate. As expected, the Catholic Church lobbied in favor of constraining marital dissolution, while other social organizations argued in favor of couple's free will to terminate or preserve the marital union. As of the beginning of this century, the Philippines, Chile, Malta[9] and the Vatican were the only countries that still banned divorce.

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[5] Rossetti, Josefina (1993), "Hacia un perfil de la familia actual en Latinoamérica y el Caribe", Cambios en el perfil de las familias: la experiencia regional, Libros de la CEPAL, Nº 36 (LC/G.1761-P), Santiago de Chile, Comisión Económica para América Latina y el Caribe (CEPAL).
[6] See Law 2029227, 2008.
[7] See Law 1, 1976 (www.elabedul.net/Documentos/Leyes/1976/Ley_1_de_1976.pdf).
[8] See Law 23.515, Ley de Divorcio Vincular (http://www.bcn.cl/carpeta_temas/temas_portada.2005-10-27.7388460505/pdf/92.pdf).
[9] In Malta, the population pronounced in favor of divorce through a referendum in May 2011, which led the Congress of the island to start working on a divorce law. To dissolve a marriage, Maltese citizens had to seek the annulment through the Catholic Church. This process could take up to 9 years. Another option was to get divorced abroad, and then validate

The attempts to implement divorce in Chile can be traced back more than a century[10]. The first attempt to change the divorce law in Chile after 1884 was presented to Congress in 1910. In the following decades similar attempts failed after lobby pressure from the Catholic Church. According to the Church allowing couples to terminate their marriage would diminish the value of the family, which was regarded as the most important social institution. The pressure of the Catholic Church was made evident through several official statements and documents against divorce issued by the Episcopal Conference of Chile[11].

The most recent attempt to change the divorce law was presented to the Congress in November of 1995. However, it was not taken up in the Chamber of Deputies until January 15, 1997. After nine months of debate on the law change, the measure was finally approved and sent to the Senate. In the meantime, the Episcopal Conference of Chile issued a new statement against the legislation[12]. As expected, the Church's point of view became part of the debate as many deputies and senate members agreed with the Church's position[13]. For instance, some of the arguments against the DL were (1) the potentially large increase in the number of marriages terminated, (2) the impoverishment of the most vulnerable spouse, (3) the negative effects on children of divorced couples, and (4) the weakening of the family, the most important institution of society[14].

The Senate postponed the debate of the legislation until March of 2002. During 2003, the Senate spent eighteen sessions debating the new law. The modifications suggested during

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the procedure in Malta (http://www.bbc.co.uk/news/world-europe-13588834). Indeed, the common denominator in the cases of Chile and Malta is the strong influence of the Catholic Church on the design of family-related legislation.

[10] Library of the Congress of Chile (http://www.bcn.cl/carpeta_temas/temas_portada.2005-10-27.7388460505).

[11] Before 1995, the Episcopal Conference of Chile issued statements regarding the implementation of divorce in Chile in 1964, 1971, 1982, 1990 and 1994 (http://www.iglesia.cl/iglesiachile/especiales/matrimonio/index.html).

[12] Episcopal Conference of Chile (1998). "The Catholic Church and the Project of Civil Marriage" (http://www.iglesia.cl/iglesiachile/especiales/matrimonio/cp_1998.html).

[13] Peña, Ana Verónica (2004), "Senado le dio el sí a la Iglesia"; La Nación, p. 6.

[14] Chambers of Deputies, Records of the Session 24 (01/23/1997); Senate of Chile, Records of Session 12 (07/15/2003).

these sessions were finally approved by the Chamber of Deputies in March of 2004, and Law No. 19.947 was passed in May of 2004 and implemented on November 12th of the same year. On the following day, 52 demands for divorce were presented; after one week, the number of demands increased to 133[15].

Before 2004 the Chilean marriage law was based on the 1884 civil code, which stated that the only way of dissolving a marriage was through its annulment, an unpractical and restrictive process. The annulment of the marital union did not consider any type of economic compensation for either spouse. In practical terms, to get the annulment, both parties had to negotiate and come to an agreement to provide a credible argument to the judge: for instance, that one of the witnesses was not older than 18 years of age, or that the name of the spouse was misspelled in the marriage certificate. In addition to annulment, the 1884 marital law included the separation of the couple. However, the separation did not dissolve the marriage and it did not terminate marital obligations. The separation allowed women to demand a food pension; however pensions are not always paid, as administrative data has shown that 80 percent of the demands presented to courts specialized in children's issues are related to food pensions due to lack of payment or similar problems[16]. In this context, the approval and implementation of the new DL in Chile implied significant changes in the way couples terminated a marital relationship.

Succession rights, which determine the inheritance of patrimony between spouses and their children, are another important change introduced by the new DL. Before 2004 these rights were not broken by the separation or the annulment. Therefore, in case of death of one of the spouses, the former wife was entitled to a share of her former husband's wealth, even after they

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[15] Letelier, Lorena et al. (2004) "133 causas de divorcio se tramitaron en una semana", La Tercera, p. 14.
[16] Senate of Chile, Records of Session 12 (07/15/2003).

got the separation or annulment of their marriage. After November 2004 the new DL suspended these succession rights. With this law a divorced woman was no longer able to claim food pension or succession rights from her former husband unless the couple had children. Perhaps the most important feature of the new DL is the monetary compensation assigned to the spouse who sacrificed his/her personal development for the good of the household. For instance, under the new law the spouse who decided to give up his/her job or professional career in order to take care of the children and assume a homemaker role (most frequently women), is entitled to receive monetary compensation. The court that manages the divorce process would decide the amount of the compensation based on the spouse's years of age, educational attainment, and other circumstances surrounding the couple's marriage.

The significance of the new Chilean DL has to be understood in the context of the observed trends on number of first births and first marriages in Chile in the last decade. As shown in Figure 1.1, there is a constant decrease in the number of marriages and births according to National Institute of Statistics of Chile (INE)[17]. However, after 2004, when the DL was passed, there is an apparent recovery in the number of marriages and births[18,19]. These trends may seem surprising considering that Chile has a very traditional society[20] (the Chilean Marital Law of 1884 aimed to protect this tradition). When considering that Chile has reached

[17] The National Institute of Statistics of Chile annually produces the Vital Statistics (*Estadísticas Vitales*) report based on administrative information about births, marriages and other variables directly collected from birth registry offices. In Figure 1.1 the number of marriages for the years 2001, 2002 and 2004 has been estimated based on the annualized growth rate of first marriages for the period 2000-2003 and 2003-2005, respectively. The number of first births for the years 2001 and 2002 was also estimated based on annualized growth rate of the number of first births for the period 2000-2003.

[18] Between 1997 and 2005 marriage records show that the number of single women who got married decreased from 74,901 to 51,784 (see Figure 1.1). After 2005 this figure stabilized around 53 thousand marriages. Evidence from the Socioeconomic Characteristics Survey (*Encuesta de Caracterización Socioeconómica Nacional* – CASEN) show that in the period 1990-2009 the number of women in a cohabiting relationship increased from 460,574 to 1,704,303 and the number of married women increased from 4.8 to 5.1 million, which suggest an increasing preference towards cohabitation with respect to marriage. Given that marriage records do not distinguish between women who are in a cohabiting relationship from partnerless women, it is not possible to observe the contribution of cohabiting women to the number of first marriages. In this context, it is possible that divorce may have created incentives for cohabiting couples to get married, which could explain in part the relative stability in the number of first marriages shown after 2005.

[19] A similar trend in first births is observed when 19 year-old women or younger are excluded.

[20] Seventy two percent of Chileans are Catholics. See Lehmann (2001).

significant levels of development and economic growth in the last 20 years, the negative trends

shown below are less surprising. In fact, a similar phenomenon is observed among most

European countries[21].

Figure 1.1: Women's First Marriages and First Births in Chile 1997-2008

First Marriages   First Births
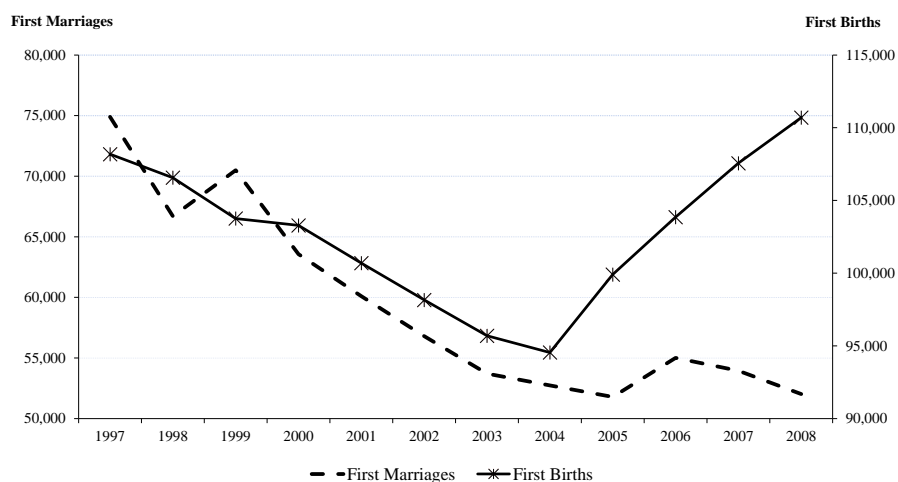
Another important factor to consider is the trend of the women's average age at first

marriage and the average age at which they have their first child. The trends observed in the last

decade show that Chilean women were delaying the occurrence of both events, which may

suggest that they were less willing to sacrifice certain personal decisions (for instance,

enrollment in training programs, participation in the labor market) in favor of starting a marital

relationship and/or becoming a parent (see Figure 1.2 below). This trend is not surprising given

the sustained economic development of Chile, accompanied by an increased participation of

women in the labor market and significant increases in female educational attainment[22].

Moreover, the overall fertility rate shows a negative fall since the mid-1960s[23]. However, after

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[21] According to Eurostat (http://ec.europa.eu/eurostat), between 1998 and 2008, the crude birth rate in the 15 countries of the Euro zone decreased 0.8%. The most drastic declines in the birth rate are observed in Portugal (19.7%), Malta (18.4%), Germany (16%), Luxemburg (13.5%), and the Netherlands (11%).
[22] Between 1980 and the early 2000s, women's participation in the labor market increased 15 percent. See Larrañaga (2004).
[23] See CELADE, INE.2002. Chile: Proyección y Estimaciones de Poblacion. Total País. 1950-2050.

the DL was approved, administrative data provided by the INE suggests a decrease in the average age at which women give birth to their first child: in the period 1997-2005 this average increased from 22.73 to 23.39, falling to 23.03 in 2006 and 23.14 in 2007. Although it is still too early to say whether there is a change in the trend, it appears that the average age at first pregnancy has declined after the DL. In terms of women's average age at first marriage, the administrative data available does not suggest a significant change after 2004, which may suggest that Chilean women continue delaying their first marriage.

Figure 1.2: Women's Average Age at First Birth and First Marriage
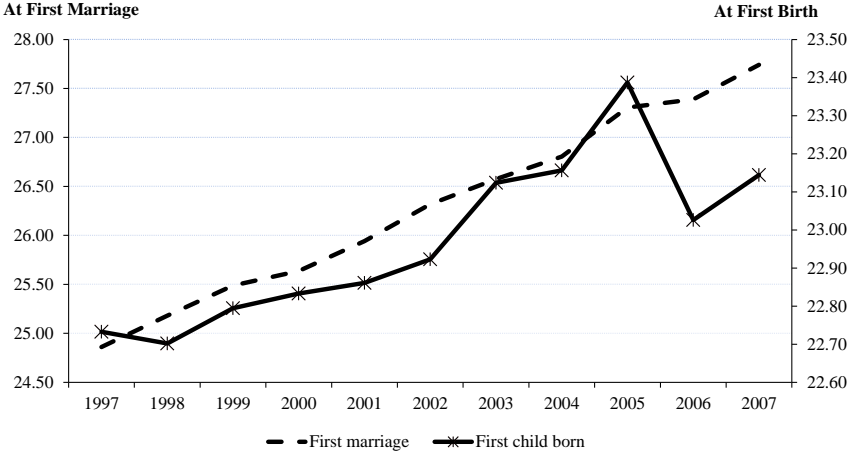
It is expected that the DL may affect a couple's willingness to get married, although it is hard to predict the direction of the effect. On the one hand, couples may get married, since it is now possible to terminate the marital union. In the case of couples who separate, each of the spouses may remarry under the new legislation. Therefore, the new law may have had a positive effect on marriage rates. On the other hand, the opposite effect is also possible. Indeed, although divorce may have become less expensive for the typical wife, it has become more expensive for the typical husband because of the introduction of the compensation scheme. Thus, it is hard to predict a response of marriage rates to the introduction of DL.

It must be noticed that the contribution of married couples to first births has significantly decreased between 1999 and 2006 (from 36.5 to about 22 percent), which is a consequence of the decrease in the number of first marriages[24]. However, a significant share of the increasing number out-of-wedlock births is explained by women who are in a cohabitating relationship. Palma (2006) suggests that 50 percent of the total out-of-wedlock births were explained by women in a cohabitating relationship; separated women and partnerless women contributed 10 and 40 percent, respectively. It is reasonable to assume that most births from partnerless women are unplanned given that (1) women younger than 19 years of age contribute about 40 percent to first births from single mothers, and (2) 97 percent of first births from mothers who did not attain any post-secondary education were from women under 19 years of age[25].

These figures suggest that the DL had an effect on the first birth decision for married women and for cohabitating women[26]. Married women may delay the first birth to see if the relationship succeeds if they are not able to bear the additional costs brought by a child in case of a future divorce. In the case of cohabitating women, the effect of the DL on first birth may be related to the effect on the marriage decision. In fact, the 2008 Bicentenial Survey (*Encuesta Bicentenario*) suggests that 62.47 percent of Chileans do not disagree (44.67 percent agree and 17.80 are indifferent) with the idea that cohabitating couples should get married once they have a first child[27].

In this context, the goal of this investigation is to study the effect of the DL on childbearing decisions of adult women (18 years or older). In particular, I will focus on the age at which women decide to conceive their first child. As I have mentioned, the DL may cause

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[24] Larrañaga (2006) points out that the decrease in the number of births from married couples is a consequence of the decrease in the number of married couples.

[25] Molina et.al (2004) suggests that most under-age pregnancies are related to school dropouts

[26] The effect on unmarried couples is labelled as "commitment" effect by Alessina and Giuliano (2007).

[27] Salinas, V. 2008. "Matrimonio y Convivencia a la Luz de la Encuesta Bicentenario". Instituto de Sociología, Seminario Encuesta Bicentenario 2008.

women to delay the first birth[28]. At the same time, the monetary compensation may generate incentives for women to have the first child at an early age.

3. Literature Review

Most of the literature focused on analyzing divorce laws relies on the introduction of no-fault and unilateral divorce during the 1970s in the United States. It should be noticed that before this introduction, divorce existed as a legal form of terminating a marriage; however, it required a "fault" by one of the spouses (for instance, adultery, physical or mental abuse, abandonment) for the affected spouse to be allowed to demand divorce. While the no-fault regulation eliminated the "fault" requirement, unilateral divorce no longer required the consent of both spouses and either of them feeling the urge to end the marriage could do so and was free to leave. These laws were not implemented at the same time across all the states, and most of the literature has taken advantage of this variation to identify the effects of these laws[29].

The literature on divorce laws and fertility decisions is scarce[30]. Becker (1981) and Becker, et al. (1977) can be considered the seminal works on the relationship between divorce laws and childbearing decisions. In both studies the authors argue that a more flexible regulation for the dissolution of marriage lead to a reduction of the value of marriage. As a

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[28] The use of contraceptive methods in Chile has increased significantly in the last decade. According to UNDP (http://www.pnud.cl/odm/primer-informe/odm-estadisticas/odm6.asp) the share of individuals between 15 and 24 who used a condom in their first intercourse increased from 18 to 46.1 percent between 2000 and 2005. In a similar way, the availability of condoms for the population between 15 and 49 years of age increased from 1.7 to 2.6 condoms per capita between 2000 and 2005. Moreover, the number of women who use the public health system to receive contraceptives increased from 600,374 to 1,141,798 between 1990 and 2005. Despite these efforts, adolescent pregnancies (17 or younger) are still a public health concern, as most teenage pregnancies end up in abortions (Diaz, S. "Información Sobre la Situación de la Planificación Familiar en Chile". Instituto Chileno de Salud Reproductiva). Note that in 1930 the therapeutic abortion was introduced in Chile. However, in 1989 the military government declared abortion illegal and since then it is considered as a murder, without exceptions (Penal Code, articles 342-345).

[29] Gruber (2004) does a summary of the timing in which these laws were implemented in each State.

[30] The literature on the effect of divorce on other topics is relatively rich. For instance, Peters (1986, 1992), Allen (1992), Zelder (1993), Weiss and Willis (1995), Friedberg (1998) and Wolfers (2006) analyse the effects of divorce laws in the United States on divorce rates. Regarding the relationship between divorce laws and women's labor supply, the literature is focused on the response of women's labor supply after divorce: Johnson and Skinner (1986), Gray (1998), Stevenson (2007). Regarding human capital accumulation, King (1982) and Stevenson (2007) analyse the effect of divorce laws on couples' investments in the education of spouses and children, as well as household specialization.

consequence, people marry less and marital fertility decreases. Moreover, people may also choose to have children out of wedlock.

Alesina and Giuliano (2007) rely on the introduction of unilateral divorce in the U.S.A. to analyze the relationship between fertility decisions and divorce laws. They point out that a more flexible divorce regulation has two possible effects on marriage and fertility. On the one hand, given the decrease in the value of marriage, fewer couples get married and, consequently, the number of children born from married couples decreases[31]. They also argue that given that marriages are less frequent, people may prefer to have children out of wedlock. The authors call this effect the "dilution" effect. On the other hand, they argue that in a more flexible divorce regulation "the cost in terms of commitment of entering the 'wrong' marriage is lower", as it is easier to dissolve the relationship. The authors label this the "commitment" effect. The authors argue that the literature on divorce regulations has been focused on the "dilution effect" but has not given much attention to the "commitment" effect.

To analyze both effects, Alesina and Giuliano (2007) use birth certificates from the National Vital Statistics of the U.S. to calculate different measures of fertility at state level. Based on a panel of states for the period 1968-1999, they recover the impact of the introduction of unilateral divorce on state fertility rates. Their results show that the introduction of no-fault divorce is associated with a decrease of about 3 percent in the fertility rates among those states that introduced it.

When they extend their analysis from the beginning of the decade starting in 1960, Alesina and Giuliano (2007) construct a panel of state-age records based on four decades of Census data – from 1960 to 1990. In this specification, they use as the dependent variable the "number of children ever born to women age 15-44 residents in those states that adopted

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[31] According to the authors, this effect goes in line with the work developed by Becker (1981) and Becker, et al. (1977).

unilateral divorce." Their results corroborate the negative effect of no-fault divorce on fertility rates. They conclude that "as divorce becomes easier, people feel less locked in when they marry. So when women consider having children (or are already pregnant) they are more willing to 'try' marriage. Therefore out of wedlock fertility declines and marriage rates go up."

Another relevant work is developed by Drewianka (2008), who investigates the effects of divorce law on marriage, fertility and legitimacy. The author states that while most of the literature has focused on the effect of divorce laws on the divorce rate, "very little empirical work has investigated the relationship between divorce law and these family formation behaviours." Based on states' administrative data from 1950 to 2002 on marriage, divorce, births and legitimacy rates, a state level panel is constructed, including also several state-level control variables, such as "real per capita personal income in each year and a series of demographic indicators that are linearly interpolated from the 1950-2000 census microdata."

Drewianka's (2008) results are based on four fertility variables: (1) the crude birth rate (births/1000 people), (2) the share of out-of-wedlock births with respect to total births, or illegitimacy ratio, (3) the marital birth rate (marital births/1000 people), and (4) the nonmarital birth rate (nonmarital births/1000 people). Based on several specifications, the author finds that no-fault reforms decreased total birth rates by about 2 to 4 percent.

An additional contribution of this investigation is the dynamics behind the effect of the unilateral divorce regulations on fertility rates. The author argues that "the effects of unilateral divorce seem to grow with the duration of the law, especially in the case of nonmarital births." In the case of no-fault regulations, the author adds that the trend is also increasing over time, although it is not as dramatic as in the case of the effect of unilateral divorce.

In summary, the literature focused on the effects of divorce laws on fertility decisions is scarce. Moreover, the literature on divorce laws and fertility decisions is focused on the response of fertility rates. Indeed, fertility rates are important at an aggregate level; however, these measures do not allow a full exploitation of the individual's characteristics that determine child-bearing decisions. The overall fertility rate in Chile has decreased from 2.09 to 1.9 births per women between 2003 and 2010[32], and it is possible that the introduction of the DL in 2004 may partially explain this trend. However, the nature of the newly introduced DL and the monetary compensation regime provides a useful framework to analyze the timing of first births based on individuals' characteristics, which, to my knowledge, has not been studied[33]. In the next section I present the data and the empirical strategy, and I discuss my results.

4. Time to First Birth: Hazard Analysis

Administrative data on first births suggests that women have continued to delay the birth of their first child in the last decade and that fertility rates have significantly declined[34]. At the same time, administrative data suggests that the DL affected women's decision of when to have a first child. In the period 2005-2008 the DL had a positive effect on first birth decisions of women who attained 13 years of education or more[35]. To further understand if the DL has contributed to these trends, I estimate a hazard model of first births.

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[32] CIA World Factbook (https://www.cia.gov/library/publications/the-world-factbook/geos/ci.html).

[33] Moreover, the economics literature on the particular case of the Chilean DL is almost non-existent. To my knowledge, the only study analyzing the Chilean DL was developed by Heggeness (2009). The author analyses the effect of this law on children's education enrollment using a difference-in-difference approach, in which children from couples that were married before and after 2004 are the treatment group, and children from couples who were living together before and after 2004 were the control group. The evidence provided by this investigation suggests that the DL increased school enrollment among children from married couples.

[34] See the Vital Statistics Report (*Reporte de Estadísticas Vitales*) 2001-2008 provided by the National Institute of Statistics (INE).

[35] Using first birth records provided by the INE, for each year after the DL was approved (2004) I take the difference between the contribution to first births of highly educated women (13 years of education or more) and the contribution of women who attained between 10 and 12 years of education. (who contribute about 50 percent of first births), and compare it with the difference in the contribution of the same education groups in the year 2003, which is one year before the DL was approved. In other words, I apply the following formula: $DD_{13}^{y} = \left(f_{13}^{y} - f_{10\,to\,12}^{y}\right) - \left(f_{13}^{03} - f_{10\,to\,12}^{03}\right)$, where y

The estimation of the hazard of first births raises several empirical issues that must be considered. In duration data it is not always possible to observe the occurrence of the event of interest. In the particular case of first births, some women have a first child during the period they are observed, but others do not. It would be inaccurate to discard the childless women from the analysis given that they can contribute useful information. At the same time, these women cannot be treated as women who give birth to a child. Relevant work on this topic applying hazard analysis has been developed by Newman and McCulloh (1984). The authors argue in favor of hazard analysis in the study of the timing of births. They point out that hazard analysis "uses all available information and corrects for censoring bias without generating selectivity bias". Kravdal (2001) studies the duration of second and third birth intervals in Norway. Li and Choe (2001) study second birth intervals in China, where the "one-child" policy creates disincentives for couples to have a second child. In this context, I include the DL in the hazard model to find if this policy had an effect on women's hazard of having a first child.

4.1 Data: The Social Security Survey (EPS)

I use the Social Security Survey (*Encuesta de Previsión Social* - EPS) panel 2002-2009[36]. This data provides 8,126 birth histories as of the date of the interview for each woman in the sample. I start each woman's birth history at the age of 18 and focus on women who turned 18 in 1980

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is 2005, 2006, 2007 and 2008. The positive effect increases from 0.77 percent in 2005 to 3.06 percent in 2008, which is in line with the delay in first birth shown in Figure 1.2 and suggests that the DL has a positive effect on first births for highly educated women. The effect is similar if women who are 19 or younger are excluded from the analysis. It should be noted that there is no distinction between married and single women. Indeed, it is possible that part of the positive effect for highly educated women could be attributed to cohabiting women as they contribute about 50 percent of the births for single women.

[36] The original sample was collected in 2002. The wave of 2004 added around 3,000 new individuals in the sample, while the waves in 2006 and 2009 updated the individual's information.

or later (3,866 women)[37]. At this age, the individuals become legally adults, they are supposed to have completed primary and secondary education[38], and they are allowed to fully enter the labor force[39]. If a woman conceived a child before that age, she is excluded from the sample, as most likely the pregnancy was unplanned[40]. Each birth history is terminated when the woman conceives her first child (2,820 women), or when she is no longer observed in the data (right censored observations) (1,046 women).

Each observation in the sample is a woman's birth history; for each observation or duration, individuals' characteristics remain constant during the woman's birth history. Given that birth histories start when the woman turns 18, the covariates are intended to recover individual characteristics that may influence the 18-year-old woman's decision of when to conceive her first child. The DL, however, is included as a time-varying covariate. If the woman conceived her first child before November 2004 (when the DL was approved), her birth history is not affected by the DL. But if the woman conceives her first child after the DL was approved, the DL affects the spell. Therefore, the DL divides the duration of the spell into two intervals. The duration of these intervals depends on when the spell starts and ends with respect to the DL.

4.2 The DL and Women's Expected Level of Education

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[37] I limit the sample to women who were 18 in 1980 or later for two reasons. First, the political changes in Chile during the decade of 1970 have left deep marks in society. The people who were born before the coup d'état of 1973 grew up under significantly different circumstances from the people who were born in the late 1970s or after. Therefore, the decision of having a first child may be affected by characteristics that are not possible to recover. Second, women who were 18 years old before 1980 turned at least 42 years old when the DL was passed (2004), which implies that these women are at the end of their fertility period. Administrative data shows that these women contributed less than 1 percent to first births in 2004 and that most pregnancies of women who are 19 years old or younger are most likely unplanned [See the *Vital Statistics Report* (INE) and Section 2].

[38] In 2003 the Government modified the Constitution so that the State would extend the guarantee of free access to secondary education (in addition to primary) to people up to 21 years old (the previous limit was 18).

[39] According to the Ministry of Labor and Social Protection, in urban areas, 5 percent of children between 5 and 17 years of age were working by 2002. This figure increases to 8.3 in rural areas. In fact, the Chilean legislation considers that a child can enter the labor force at age 15 under special conditions (the Law No. 19.684 of the Labor Code).

[40] As mentioned in Section 2, despite the improvements in access to contraceptive methods between 1990 and 2005, the number of adolescent pregnancies has increased significantly and they have become a matter of public health concern as most of these end up in backstreet abortions (See Diaz, S. "Información Sobre la Situación de la Planificación Familiar en Chile". Instituto Chileno de Salud Reproductiva).

As mentioned before, the DL may have one of two possible effects. The first effect is the delay of the first birth. Women who would not be able to bear the additional costs attributed to child support and custody in case of a divorce may wait and see if the relationship succeeds. Therefore, less educated women will have fewer incentives to have the first birth relative to more educated women. The second possible effect is due to the monetary compensation. The DL may create incentives for women with lower levels of education to have the first child at an early age, as they would be entitled to more compensation in case of a future divorce.

To recover the effect of the DL, based on the woman's expected education I estimate the following equation:

$$\ln h(t) = \gamma_0 T(t) + \gamma_1 T80(t) + \gamma_2 M(t) + \beta_w W + \beta_E E + \delta DL(t) + \varphi E \cdot DL(t) \qquad \textbf{(1)}$$

where $\ln h(t)$ is the log-hazard of first birth at time t. The term $T(t)$ represents the baseline hazard duration dependence, which is a piecewise-linear spline. $M(t)$ is a piecewise-linear spline representing the number of years since the woman first married or started cohabitating (t_m)[41,42]. Notice that the point of origin of this duration, t_m, provides information on the delay in first marriages observed in the administrative data (See Figure 1.2). $T80(t)$ is a piecewise-linear spline that provides a time trend with 1980 as the origin[43]. This spline captures the effect of the decrease in fertility rates observed in the administrative data.

The variable W represents the woman's socioeconomic characteristics. These variables are time-invariant. I include a set of dummy variables indicating the attained education level of

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[41] The point of origin t_m is calculated as 18 - age at first marriage/cohabitation. Therefore t_m takes a negative value if the marriage/cohabitation starts after the woman was 18. This indicates that the first relationship starts in $|t_m|$ periods from 18. Notice that less than three percent of married/cohabitating women (53) in the sample started the relationship before reaching 18 years of age. For these cases, I assume that they got married at age 18.

[42] It is not possible to identify the exact duration of marriages or cohabitating relationships in the data as the survey does not collect this information until 2009. However, it should be taken into account that less than 18 percent of the women in the sample report having terminated a first marriage (through separation or annulment) or cohabitating relationship. Moreover, only 11.5% of the women who were not single had more than one marital or cohabitating relationship.

[43] As the sample includes only women who were 18 in 1980 or later, the duration has 1980 as point of origin.

the woman's father and mother. I also include a dummy variable indicating if the woman has always lived in the same household where she was born.

The variable E represents the woman's potential education. The EPS provides the highest educational level attained by the woman. Therefore, it is not possible to know exactly which level she was enrolled in when she was 18 years old unless she is interviewed at that age[44]. However, for the purposes of the woman's birth decisions at 18 years old it is not necessarily important to know the exact education level she was enrolled in when she was that age, but her educational attainment[45]. Around 92 percent of the women included in the sample are no longer attending an education institution by the time they were first interviewed (89.6 were no longer attending and 2.4 percent stopped attending during the period 2002-2009). For women in this group I consider the highest education level they report as the education level they completed before turning 18 or as their potential education level at 18 if they furthered their studies to technical, professional or university degree.

However, 7.9 percent of the women in the sample report attending an education institution in at least one of the EPS interviews (1.3 percent attended continuously while 6.6 percent attended with interruptions). For women in this group the potential level of education attained will differ from the actual level reported in the survey as it is possible that the woman will continue studying[46]. Therefore, to construct the expected education level for women who are still attending an education institution I assume the following: (i) women who are 18 years

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[44] Only 0.23 percent of the female sample in the EPS 2004 is 18 years old.

[45] The education system in Chile allows the student to choose a professional track or an academic track once they have completed the primary level (8 years) and enter secondary school (4 years). The individual who chooses the professional track may opt for furthering his/her studies in a professional institute, while the individual who chooses the academic track, may opt to obtain a university degree. It is expected that by 18 years old, an individual has already completed the primary and secondary education levels (basic education) and already started post-secondary education (in a professional institution or university).

[46] It should be taken into account that the regular education system guarantees free access to primary and secondary levels to students up to 18 years old. Older students may opt to complete the basic education levels through special programs implemented by the Government.

old or younger and who are attending a basic education institution will complete basic education; (ii) women who are 18 years old or younger and who are enrolled in the last year of basic education and who report attending an education institution on every wave of the EPS will complete the corresponding track of post-secondary studies; and (iii) women who are older than 18 and who report attending a post-secondary education will complete the track they are enrolled in.

The variable of interest is the DL. It is included as a time-varying covariate, $DL(t)$. When the DL indicator becomes "active" it will produce a parallel shift in the hazard. The hazard attributed to the DL will remain constant during the duration of the interval[47]. Notice that the length of these intervals is not the same for all women in the sample. As I mentioned before, the DL divides each spell into two intervals. The coefficient of the interaction of $DL(t)$ with the education variables E provides the effect of the DL on the hazard of first births for highly educated women.

Equation (1) follows the specification in Lillard, et.al (1996). The estimates are obtained using *aML* software[48]. Table 4.1a presents the coefficients and marginal effects for the estimation of equation (1). In panel A the education indicator E is a dummy variable for all women with some university or any higher level of education (base category: women who attained post-secondary technical/professional education or any basic education level). In panel B the education indicator E is for women with university degree or any higher level of education (base category: women with some university, professional/technical career, or any lower level of education).

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[47] It is possible to include the DL as a duration spline with a point of origin in November 2004. This allows the hazard explained by the DL to vary along time. This would also allow to analyze the duration of the effect of the DL. Gray (1998) analyzes the duration of the effect of unilateral divorce laws in the US, focusing on labor force participation.
[48] Lillard, L., Panis, C. 2003. aML Multilevel Multiprocess Statistical Software, Version 2.0. EconWare, Los Angeles, California.

The first spline in the model is for the woman's age[49]. The estimates suggest an inverted u-shape in the hazard between the woman's 18th and 24th birthday, although the estimates are not significant. After the 24th birthday, the hazard decreases about 4.67 percent every year until the 35th birthday. After this age, the estimates suggest a larger decrease: the new hazard is about 0.81 times the baseline hazard. The estimates are similar in both specifications.

The decrease in overall fertility rates observed in Chile is recovered by the time trend. The estimates suggest a clear negative slope after 1990 in both specifications. The estimates in panel A suggest that between 1990 and 2000 the hazard decreases by 1.7 every year (2 percent in panel B). After 2000 the hazard decreases at a much higher rate.

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[49] Figure B.1 in Appendix B shows the baseline duration for the specification in panel A. Figure B.2 shows the baseline duration for the specification in panel B.

Table 4.1a Hazard of First Births – Women's Attained Education

		(A) Incomplete University or more		(B) Complete University or more	
		Coefficient	exp(Coef.)	Coefficient	exp(Coef.)
Splines					
Woman's age	18-19	0.2095	1.2331	0.2068	1.2297
		(0.1414)		(0.1414)	
	20-24	-0.0159	0.9842	-0.0137	0.9864
		(0.0149)		(0.0149)	
	24-35	-0.0467 ***	0.9544	-0.0445 ***	0.9565
		(0.0106)		(0.0106)	
	35 or more	-0.2057 ***	0.8141	-0.2045 ***	0.8151
		(0.0657)		(0.0657)	
Time Trend	1980 - 1990	0.0134	1.0135	0.0131	1.0132
		(0.0121)		(0.0121)	
	1990 - 2000	-0.0168 **	0.9833	-0.0203 ***	0.9799
		(0.007)		(0.007)	
	2000 or After	-0.1654 ***	0.8476	-0.1701 ***	0.8436
		(0.0244)		(0.0244)	
Years since first marriage or cohabitating relationship	1 or less	0.2305 ***	1.2592	0.2302 ***	1.2589
		(0.0081)		(0.0081)	
	1 to 5	0.1246 ***	1.1327	0.1231 ***	1.1310
		(0.0211)		(0.0211)	
	5 to 10	-0.1871 ***	0.8294	-0.1857 ***	0.8305
		(0.0463)		(0.0466)	
	10 or more	0.0055	1.0055	0.0096	1.0096
		(0.0854)		(0.0854)	
Covariates					
Constant		-1.7416 ***	0.1752	-1.8091 ***	0.1638
		(0.1529)		(0.1525)	
DL		-0.0111	0.9890	0.021	1.0212
		(0.1818)		(0.1744)	
Education Level Attained[1]		-0.6112 ***	0.5427	-0.6650 ***	0.5143
		(0.0584)		(0.0756)	
DL * Education Level Attained		0.4924 ***	1.6362	0.7090 ***	2.0320
		(0.1879)		(0.223)	
Lives in Same Household Where Born		-0.7302 ***	0.4818	-0.7470 ***	0.4738
		(0.043)		(0.043)	
Missing - Lives in Same HH where Born		-0.1764 ***	0.8383	-0.1623 ***	0.8502
		(0.0483)		(0.0483)	
Mother's Education Complete Primary or Less		0.1132 **	1.1199	0.1360 ***	1.1457
		(0.0466)		(0.0464)	
Mother's Education Unknown		-0.0644	0.9376	-0.0458	0.9552
		(0.0905)		(0.0901)	
Mother's Education Missing		0.2079 **	1.2311	0.2270 ***	1.2548
		(0.0868)		(0.0877)	
Father's Education - Incomplete Secondary or less		0.0312	1.0317	0.0685	1.0709
		(0.055)		(0.0541)	
Father's Education Unknown		0.1114	1.1178	0.0935	1.0980
		(0.0795)		(0.0788)	
Father's Education Missing		-0.0999	0.9049	-0.1258	0.8818
		(0.0813)		(0.0821)	
Ln-L		**-15677.87**		**-15692.41**	

NOTE: Asymptotic standard errors in parentheses; Significance: '*'=10%; '**'=5%; '***'=1%.

[1] Base Category:　　　　　　　　　　Post-Secondary Technical/Professional or Basic Education Levels　　　　　Incomplete University, Technical/Professional Education, or Basic Education

The spline capturing the effect of the number of years since the start of the first marriage or cohabiting relationship suggests that the hazard of having a first child increases during the first year of the relationship and then decreases as the couple waits[50]. Similar results are observed in both specifications. During the first year of the relationship the hazard is 1.26 times the hazard at the beginning of the relationship[51], slowing down between the 1st and the 5th year of the relationship. The hazard starts decreasing after the 5th year, with no significant change after the 10th year.

The next variables are the DL indicator, a dummy for highly educated women, and their interaction. From equation (1), The effect of the DL on highly educated women is obtained by adding the DL coefficient δ to the coefficient of the interaction of DL and the education indicator, φ.

Table 4.1b: Effect of DL on Highly Educated Women

Effect of DL on Women with :	Some University or Higher Level		University Degree or Higher Level	
	Est.	Exp(Est.)	Est.	Exp(Est.)
$\delta+\phi$	0.4813	1.6182	0.7300	2.0751
Std. Error	(0.2041)		(0.2413)	

Table 4.1b shows the effect of the DL on highly educated women calculated using the estimates in Table 4.1a. After the DL passes, the hazard of first birth for women with some university increases by 62 percent. Using the alternative measure for high education, the hazard for women who completed university increases by 108 percent. These results suggest that

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[50] This spline only enters the equation when the woman started a marital or cohabiting relationship. See Lillard, L. and Panis, C. (2003), Section 13.9

[51] Although it is difficult to predict an effect on marriage decisions, the evidence suggests that the age at first birth is related to the age at which the woman got married for the first time or started cohabiting. In 2003 the number of births from cohabiting couples represented almost 50 percent of the total number of out-of-wedlock births [See Larrañaga (2006)]. Assuming that the DL generated incentives for cohabiting couples to get married, it is possible that the effect could also be observed in these couple's decision of when to have the first child.

highly educated women are more likely to have a first child after the DL. Indeed, highly educated women will be better able to bear the costs of a child in case of divorce.

Regarding the other characteristics of women, the hazard of having a first child decreases for women who have always lived in the same household where they were born. The estimates in Table 4.1a suggest that the education level attained by the woman's father do not affect the hazard. However, the hazard of first birth increases for women whose mother attained primary education or any lower level. In general, I would expect that the woman's attained level of education also recovers the effect of the parent's education, assuming that low (high) educated parents tend to have low (high) educated children[52].

4.3 The DL and Women's Potential Income

In this section I assume that an 18-year old woman is able to foresee her potential income given her expected education level and her future labor experience. To estimate the woman's potential income level I rely on the Heckman two-step procedure[53]. In the wage equation I regress the natural logarithm of hourly income on the woman's expected education and labor experience at age 25, and the square of this measure[54]. In the selection equation I additionally include the attained education of the woman's mother[55].

I now estimate a hazard model which includes the interaction of the DL indicator and the woman's potential income:

$$\ln h(t) = \gamma_0 T(t) + \gamma_1 T80(t) + \gamma_2 M(t) + \beta_w W + \beta_I I + \delta DL(t) + \theta I \cdot DL(t) \qquad \textbf{(2)}$$

where I is the woman's potential income at age 25. Column (2) in Table 4.2 shows the estimated hazard elasticity of the woman's potential income before (β_I) and after ($\beta_I + \theta$) the

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[52] Ermisch, and Pronzatto, (2010) show that an additional year of parent's education increases their children's education in at least one tenth of a year.
[53] See Heckman (1979).
[54] I calculate the individual's labor experience as 23 – Years of Education – 6.
[55] Given that the goal is to predict an expected measure of the woman's income, which does not take into account whether the woman chooses to work or not, I do not including the estimate for the inverse of the mill's ratio in the prediction.

DL[56]. The estimates suggest that before the DL passed a one percent increase of the woman's potential income is associated to reduction of 0.78 percent in the hazard of first birth[57]. However, after the DL passed, the hazard elasticity is not significantly different from zero. Therefore, the hazard of having a first child increases for richer women after the DL was passed. This result is consistent with the positive effect of the DL on the hazard for highly educated women from equation (1).

To further investigate these results, I estimate equation (2) adding the woman's expected education (E):

$$\ln h(t) = \gamma_0 T(t) + \gamma_1 T80(t) + \gamma_2 M(t) + \beta_w W + \beta_E E + \beta_I I + \delta DL(t) + \theta I \cdot DL(t) \quad \textbf{(3)}$$

Column (3) of Table 4.2 shows the hazard elasticity before and after the DL for equation (3) when the education variable is for women with some university or any higher level of education[58]. Notice that the new hazard elasticity before and after the DL do not differ significantly from the results obtained from equation (2). However, the estimate of β_E is not statistically significant, which suggests that the woman's income variable is recovering the effect of the woman's education. As expected, highly educated women have potentially higher income levels[59].

4.4 The DL and the Partner's Expected Income

The results described in the previous sections are based on women's characteristics at the age of 18, and do not take into consideration the information of a potential partner. In this section, I

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[56] See Appendix B, Table B.1, column (2), for a full set of results.
[57] The results do not change significantly when the woman's potential income is predicted based on a Heckman 2-step procedure that includes In the selection equation the father's educational attainment or both father's and mother's educational attainment.
[58] Similar results are observed when the education dummy is for women who completed a university degree or any higher level of education. Column (3) of Table B.1, in Appendix B shows a full set of results for equation (3).
[59] As an alternative specification, I include in equation (3) the interaction of DL with the woman's expected education ($E \cdot DL(t)$). The estimates from this specification corroborate the negative effect of the woman's potential income on the hazard of having a first child. However, the estimated coefficients corresponding to the interactions terms $I \cdot DL(t)$ and $E \cdot DL(t)$ were no significant, although their sign corroborated the results presented so far.

explore the possibility that an individual is able to foresee the characteristics of a future spouse or cohabitating partner. In this scenario, 18-year-old women would be able to consider the partner's income in the decision process of when to have a first child. To estimate the partner's expected income I use a Mincerian equation[60].

The partner's expected income affects the woman's labor participation decision. Therefore, I predict a new measure of the woman's potential income at age 25 by including in the selection equation of the Heckman two-step procedure the partner's expected income and estimate equations (2) and (3) replacing I with the new woman's income measure[61]. Columns (2a) and (3a) in Table 4.2 show the hazard elasticity before and after the DL was passed. The results corroborate the conclusions obtained in the previous subsection: during the period before the DL the hazard elasticity is negative, while after the DL was passed the hazard elasticity is no significantly different from zero.

It should be noticed that the magnitude of the hazard elasticity differs significantly in columns (2a) and (3a) with respect to columns (2) and (3), respectively. In other words, although the results lead to similar conclusions, the degree of responsiveness of the hazard depends on the assumptions behind the prediction of the woman's potential income.

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[60] Using the EPS 2004 male sample, I regress the natural logarithm of the hourly income on education dummy variables, labor experience at 25 and the square of the labor experience measure. I use these estimates to predict the natural logarithm of the partner's hourly income at 25 years of age based on his education level and labor experience at 25. Notice that the EPS provides information about the partner's education level only in the marriage histories updated after the EPS 2006 (in the previous waves this information was not collected). However, for those marriages or cohabiting relationships that started before January 2004 (which are registered in the EPS 2002), if the woman reports having been married only once and to be still living with the spouse (58 percent of the woman included in the sample), it is still possible to recover the partner's educational attainment from the household members' demographic characteristics. It should be noticed that when the woman's marriage was terminated or when the woman is always single, there is no information on the husband's educational attainment and, therefore, it is not possible to obtain an estimate of the natural logarithm of the husband's income. In these cases, I assign the mean of this variable according to the woman's educational attainment.

[61] See Columns (2a) and (3a) of Table B.1 in Appendix B for a full set of results.

Table 4.2: Hazard Elasticity of First Birth with Respect to Woman's Income at Age 25

	(2)	(3)	(2a)	(3a)
Before DL (β_I)	-0.7831	-0.7409	-0.5334	-0.4456
Std. Error	(0.0541)	(0.0754)	(0.0373)	(0.046)
After DL ($\beta_I + \theta$)	-0.1763	-0.1805	-0.1259	-0.0013
Std. Error	(0.1945)	(0.3505)	(0.155)	(0.1611)

Measure included in the Heckman two-step to predict the woman's income measure:
Columns (2) and (3): Educational Attainment of the Woman's Mother.
Columns (2a) and (3a): Income at Age 25 of the Woman's Partner.

5. Conclusions

This investigation analyzes the effect of the new divorce law (DL) implemented in Chile in November 2004 on women's decision of when to have the first child. The new DL introduced divorce in Chile for the first time and implemented a monetary compensation regime, which benefited the spouse who decided to give up his/her personal and professional development for the good of the household. Two effects are possible. On the one hand, the presence of children increases the cost of divorce due to custody and other child support issues. Therefore, women may take into account these additional costs when deciding about having a first child and may wait to see if the relationship will succeed, which is translated in a delay in the arrival of first births. On the other hand, it is possible that the monetary compensation regime offsets the opportunity costs of having a child and may create incentives for women to advance the first birth.

Using the Social Protection Survey (*Encuesta de Previsión Social* – EPS) panel 2002-2009, I construct birth histories for women who turned 18 in 1980 or later (3,688 women). The estimates obtained from a hazard model show that the DL increased the hazard of first births for women with some university or any higher level of education by 62 percent (108 percent for women with university degree or any higher level), after controlling for age, marital duration,

decreasing fertility rates observed in Chile since the mid-1960s, and women's education and other socio-demographic characteristics. Moreover, the estimates show that before the DL the hazard elasticity with respect to a one percent increase on the woman's income at age 25 was negative. However, after the DL, the hazard elasticity is no significantly different from zero.

These results go in line with the trends observed in the administrative data. Birth records provided by the National Institute of Statistics show that between 2000 and 2003 the contribution to first births of women who completed 13 years of education or more (women who attained at least some level of post-secondary education) remained relatively stable, while between 2004 and 2008 increased from 26 to 30 percent. The trend is the same when births from women who are 19 years old or younger are excluded from the analysis given that these pregnancies most likely are unplanned.

Although the economic literature has paid attention to divorce regulations based on the introduction of no-fault divorce in the United States in the decade of 1970, researchers have not reached a consensus regarding the effects of the introduction of more flexible laws regulating marriage on several individuals' decisions. In this context, this investigation contributes to this part of the literature. However, the results I show propose additional questions to be answered: what is the effect of the DL on women's marriage decisions? If there is such an effect, has it affected the timing at which women decide to start a marriage or a cohabiting relationship? The estimates I obtain suggest that the DL affected the hazard of having a first child for married and cohabitating couples, which leads to focus on the analysis on the effect of the DL on marriage decisions. The estimates also suggest that the longer a couple waits after getting married or starting cohabitation the chances of having a child decrease steadily until the 10th year of the relationship. Moreover, administrative data shows that the age at which women get married for

the first time is still increasing after the implementation of the new civil marriage regulations. This evidence provides grounds to further the analysis of marriage histories.

Another interesting topic to explore is the anticipation effect of the new divorce regulation. Indeed, it is possible that couples may anticipate the effect of the DL given the political circumstances under it was approved. Although it was not the first attempt to pass a new legislation on divorce and marital issues, the fact that the President was a woman for the first time and that she was supporting the reforms may have created high expectations on the public. Therefore, more research on the timing of the effect of the new law is also needed.

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Appendix

A. Sample Basic Characteristics

Table A.1 - Time - Invariant Covariates

Time - Invariant Covariate			Mean	Std. Dev.	Min.	Max.
Woman's Expected Education						
Basic Education		Incomplete	0.36	0.479	0	1
		Complete	0.22	0.416	0	1
Post Secondary	Technical/ Professional	Incomplete	0.11	0.314	0	1
Education		Complete	0.10	0.296	0	1
	University	Incomplete	0.09	0.288	0	1
		Complete	0.10	0.301	0	1
Graduate education			0.02	0.141	0	1
Woman's Place of Residence						
Woman lives in same household where born			0.41	0.455	0	1
Missing - Woman lives in same household where born			0.17	0.377	0	1
Education of the Woman's Parents						
Mother's	None		0.05	0.217	0	1
education	Primary	Incomplete	0.58	0.494	0	1
		Complete	0.06	0.246	0	1
	Secondary	Incomplete	0.14	0.347	0	1
		Complete	0.13	0.337	0	1
	Post - Secondary		0.04	0.186	0	1
	Doesn't know		0.04	0.200	0	1
	Missing		0.24	0.425	0	1
Father's	None		0.04	0.206	0	1
education	Primary	Incomplete	0.58	0.493	0	1
		Complete	0.04	0.199	0	1
	Secondary	Incomplete	0.14	0.343	0	1
		Complete	0.13	0.341	0	1
	Post - Secondary		0.06	0.237	0	1
	Doesn't know		0.06	0.240	0	1
	Missing		0.27	0.444	0	1
Woman's Potential Income at Age 23*						
Women's potential income at age 25 (mother's education)			8.69	0.42	8.13	9.88
Women's potential income at age 25 (Partner's estimated income)			8.22	0.56	6.99	9.67

* Variable Included in the Selection Equation of the Heckman 2-step Procedure

B. Full sets of Results

Table B.1 Hazard of First Birth – Introducing the Woman's Potential Income at Age 25

		(2)	(3)	(2a)	(3a)
Splines					
Woman's age	18-19	0.2242	0.2238	0.2272	0.2257
		(0.1416)	(0.1416)	(0.1417)	(0.1417)
	20-24	-0.0097	-0.0099	-0.0109	-0.0112
		(0.0149)	(0.0149)	(0.0148)	(0.0149)
	24-35	-0.0467 ***	-0.0469 ***	-0.0468 ***	-0.0471 ***
		(0.0105)	(0.0105)	(0.0106)	(0.0106)
	35 or more	-0.2073 ***	-0.2075 ***	-0.2064 ***	-0.2075 ***
		(0.0656)	(0.0656)	(0.0658)	(0.0657)
Time Trend	1980 - 1990	0.0146	0.0145	0.0165	0.0162
		(0.0121)	(0.0121)	(0.0121)	(0.0121)
	1990 - 2000	-0.0128 *	-0.0128 *	-0.0124 *	-0.0122 *
		(0.0071)	(0.0071)	(0.0071)	(0.0071)
	2000 or After	-0.1625 ***	-0.1621 ***	-0.1645 ***	-0.1632 ***
		(0.0243)	(0.0243)	(0.0244)	(0.0244)
Years since first marriage or cohabitating relationship	1 or less	0.2261 ***	0.2262 ***	0.2255 ***	0.2261 ***
		(0.0081)	(0.0081)	(0.0081)	(0.0081)
	1 to 5	0.1132 ***	0.1134 ***	0.1126 ***	0.1133 ***
		(0.0208)	(0.0208)	(0.0207)	(0.0208)
	5 to 10	-0.1892 ***	-0.1893 ***	-0.1885 ***	-0.1888 ***
		(0.046)	(0.046)	(0.0461)	(0.0461)
	10 or more	0.0056	0.0054	0.0069	0.0066
		(0.0833)	(0.0835)	(0.0843)	(0.0845)
Covariates					
Constant		4.9495 ***	4.6260 ***	2.4926 ***	1.8208 ***
		(0.4862)	(0.6367)	(0.3384)	(0.3936)
DL		-5.1700 ***	-5.2623 ***	-3.2438 **	-3.5492 ***
		(1.7875)	(1.7933)	(1.3511)	(1.3601)
Potential Log-Hourly Income at Age 25		-0.7831 ***	-0.7443 ***	-0.5334 ***	-0.4456 ***
		(0.0541)	(0.0736)	(0.0373)	(0.046)
University Degree or Higher Educational Level			-0.0556		-0.1955 ***
			(0.0765)		(0.0691)
DL * Potential Log-Hourly Income at Age 25		0.6068 ***	0.6174 ***	0.4075 **	0.4443 ***
		(0.2024)	(0.2032)	(0.1604)	(0.1616)
Lives in Same Household Where Born		-0.7348 ***	-0.7341 ***	-0.7373 ***	-0.7345 ***
		(0.0424)	(0.0424)	(0.0423)	(0.0424)
Missing - Lives in Same HH where Born		-0.1661 ***	-0.1675 ***	-0.1573 ***	-0.1611 ***
		(0.0471)	(0.0471)	(0.0474)	(0.0476)
Mother's Education Complete Primary or Less				0.0537	0.0557
				(0.0469)	(0.047)
Mother's Education Unknown				-0.063	-0.0659
				(0.0891)	(0.0897)
Mother's Education Missing				0.1785 **	0.1842 **
				(0.0874)	(0.0873)
Father's Education - Incomplete Secondary or less		0.0062	0.0046	-0.0016	-0.0133
		(0.0499)	(0.05)	(0.0545)	(0.0547)
Father's Education Unknown		0.0736	0.0747	0.0899	0.0954
		(0.0684)	(0.0686)	(0.0792)	(0.0796)
Father's Education Missing		0.0552	0.0583	-0.1235	-0.113
		(0.0441)	(0.0442)	(0.082)	(0.0818)
Ln-L		**-15640.28**	**-15640.03**	**-15646.2**	**-15642.48**

NOTE: Asymptotic standard errors in parentheses; Significance: '*'=10%; '**'=5%; '***'=1%.