

# Legalisation of abortion without restriction as to reason

An event history analysis of the OECD countries 1965-2005

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# Abstract

This thesis quantitatively investigates under what circumstances countries legalise abortion without restriction as to reason. The interest in this study emerges from a thorough conviction in the right to decide over one's own and from a wish to understand why some countries reformed their abortion laws several decades ago, whereas others did so more recently. Previous research on the liberalisation of abortion laws has used a less strict definition of legal abortion, but this study focuses on choice. Event history analysis is used to study the OECD countries between 1965 and 2005. Based on previous research, it is hypothesised that an increase in female labour force participation, an increased presence of women in parliament and an increase in individual-level secularisation will increase the probability of a country legalising abortion without restriction as to reason. Surprisingly, using the stricter definition of legal abortion, it is concluded that gendered variables have a marginal (female labour force) or non-existent effect (women in parliament), whereas broader cultural developments such as change in average years of schooling and the level of secularisation are the important factors in understanding the legalisation. A brief empirical look at the cases of Chile and Uruguay clarify the findings.

*Key words:* legal abortion, choice, event history analysis, OECD, reproductive rights, SRHR, women's rights

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# 1. Introduction

The right to choose to terminate a pregnancy is an issue that still provokes and divides people as well as nations. Currently the topic seems more alive than ever as legislative bills to restrict access to abortion causes debates in countries all over the world. The term “war on women” is frequently heard in the political debate in the US (See for example Goldberg 2012) and in November 2012 an Indian woman died in Ireland due to medical complications from a dead foetus, that due to Ireland's ban on abortion could not be removed (McDermott, 2012). Nonetheless, the Alan Guttmacher Institute has shown through global estimations that the incidence of abortion is lowest in parts of the world where abortion is broadly legal, such as Western Europe, and highest in regions with highly restrictive laws, such as Latin America (Guttmacher Institute, 2012:b). So how can we understand that not all countries have fully legalised abortion? With this quantitative study, I aim to explain some of the characteristics of countries that decide to legalise abortion *without restriction as to reason*.

Understanding the development of the laws surrounding abortion is crucial. Reproductive rights are civil rights, as justified by arguments that defend one’s right to privacy (Ramirez & McEneaney, 1997, p. 7). What distinguishes abortion from other types of civil rights is that it is a right that is exclusive to women. Whereas most civil rights have first been granted to men and later to women, this is not a right that follows as subsequent to a civil right that pertains initially to men (Asal et al., 2008, p. 267). This ought to affect both the means available to fight for the right but also under what circumstances it comes into existence. Of the world’s countries, about 30 per cent have legalised abortion without restriction as to reason. A trend of legalisation started during the 1950s with the communist countries, and in the 1960s and 1970s many industrialised countries followed in their path (Finer & Fine, 2013). Today, the great majority of the world’s countries do allow abortion when a continued pregnancy constitutes a threat to the life of the woman. Uruguay made front-page news in 2012 when abortion was legalised in a region of the world with the most restrictive abortion laws. Countries such as El Salvador, Chile and Nicaragua have banned abortions under all circumstances and women can be (and are) imprisoned for up to 30 years for having one (reproductiverights.org).

The Millennium Development Goals state improved maternal health, decreased child mortality and empowerment of women as some of the most important means for improving the lives of poor people and eradicating poverty (un.org). It is estimated that 800 women die every day because they are pregnant. According to the World Health Organisation, about 13 per cent of them, or 132 women per day, die due to complications related to unsafe abortions (who.int). The majority of the women dying from unsafe abortions live in developing countries, as 56 per cent of

all abortions performed in developing countries are estimated to be unsafe. After South Africa liberalised its abortion law in 1996, abortion-related maternal mortality decreased by approximately 91 per cent (gutmacher.org).

How can we understand that a country such as Sweden legalised abortion in 1974 whereas Uruguay did so as recently as 2012? Why is it that 97 percent (see Table 1) of all countries see the need to legalise abortion when a woman's life is in danger? How come almost half of the world's countries have legalised abortion in case of rape or foetal impairment? Wherefore do half of the countries in the world allow greater authority to decision makers regarding women's bodies, rather than the woman herself? This thesis investigates the right to choose to terminate a pregnancy without restriction as to reason. The right to decide over one's own body is crucial when it comes to equality between men and women and a necessity in a society that seeks to grant all citizens equal rights, opportunities and integrity. Assuring that family planning is available for all people is also an important tool in ensuring that all children are born wanted.

## 1.1 Abortion Legislation – a global overview

The United Nations lists seven categories of exceptions (restricted by time limits) to the criminalisation of abortion that are found worldwide (World Population Policy, 2013). The seven exceptions are:

- To save a woman's life,
- To preserve a woman's physical health,
- To preserve a woman's mental health,
- In the case of rape or incest,
- Because of foetal impairment,
- For economic or social reasons,
- Upon request.

Apart from countries that invoke one or more of these reasons, there are a few countries in the world that do not allow abortions under any circumstances. It is also important to stress that there are other laws that may affect whether a woman can legally access an abortion or not, such as requiring spousal consent, that parents need to be informed in the case of an underage person and whether it is covered by public funding to ensure universal access. Table 1 shows the percentage of countries in the world and the percentage of the world population living in countries that allow abortion under the various circumstances.

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**Table 1: Legal grounds on which abortion is permitted  
in the world**

Year: 2011 (Number in parenthesis from 1996)

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<b>Type of law</b>	<b>Percentage, Countries</b>	<b>Percentage, World Population</b>
To save a woman's life	97 (97)	99 (100)
To preserve physical health	68 (63)	79 (76)
To preserve mental health	65 (52)	76 (70)
Rape or incest	51 (43)	74 (72)
Foetal impairment	50 (41)	67 (65)
Economic and social reasons	35 (31)	63 (62)
On request	30 (24)	42 (40)

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Source: UN DESA [World Population Policy, 2013](#)

## 1.2 Purpose and research question

The focus of this study is on the aspect of *choice* within the legalisation, i.e. when the sole actor that gets to choose whether or not to continue a pregnancy<sup>1</sup> is the woman affected. I argue that all exceptions to this level of legality empower other people or authorities rather than the pregnant woman. When a woman seeks an abortion after being the victim of rape/incest, a court will decide whether the crime has actually taken place. When a woman wants an abortion because the pregnancy is affecting her health, medical doctors are the ones deciding whether or not an abortion may be had. And when a woman wants an abortion for economic and/or social reasons, she has to justify her decision before the authorities, which can then decide whether the reason is valid or not. In that sense, legalising abortion without restriction as to reason is an empowerment issue to a greater extent than other types of abortion laws, thus making this an important topic of study. The research question is:

*Under what circumstances do countries legalise abortion without restriction as to reason?*

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<sup>1</sup> Within time limits.

Previous studies of abortion laws have concluded that empowerment factors (e.g. female labour force participation and women in parliament), as well as Catholicism as an impeding force, best explain abortion laws (Asal et al., 2008; Ramirez & McEneaney, 1997). I will therefore construct my hypotheses around empowerment factors as well as secularisation. Through a quantitative study, I will analyse possible explanations as to why countries legalise abortion on broad grounds. After performing the statistical analysis, I will give a brief look into the situations of Chile and Uruguay to see whether the results seem to be true for the two countries. Latin America is the region with the world's most restrictive abortion legislation, making it interesting to have a look at two countries that represents the extremes: Chile does not allow abortion under any circumstances whereas Uruguay, since 2012, allows abortion without restriction as to reason. Apart from that, the countries have some historical similarities and also today share some characteristics, making them interesting to compare.

Studies have been conducted on the general liberalisation of abortion laws, but to my knowledge there is no study that has previously quantitatively investigated the liberalisation of abortion with legal abortion being defined as not restricted with regard to reason. As mentioned in the introduction, the majority of the countries that have passed liberalised abortion laws on broad grounds did so several decades ago. This indicates that there is a need to study time series, not just the current situation. For example, in the article by Asal et al. (2008), the period studied is between the years 1990 and 2000, which seems inappropriate if one wants to study liberalisation on broad grounds. I will therefore use panel data for the period 1965 to 2005. Due to lack of data, earlier time periods, and thereby communist countries, had to be excluded. By only studying one type of abortion law (without restriction as to reason), I can do an event history analysis and thereby compare over space as well as over time (i.e. compare countries at the time that the reform takes place). Hence, my contributions are derived from the method used, but above all from the definition of legalisation of abortion. In continuation, when the terms "liberal abortion law", "legal on broad grounds" and "legalize abortion" are used, I refer to legal abortion without restriction as to reason.

### 1.3 Reflexivity

This entire study focuses on women's right to choose, making my stand in the abortion debate obvious to the reader. I write this section not only to make my position clear, but also to stress that I do not see the need to delve further into the abortion debate. The pro-choice and the pro-life movements differ so fundamentally in their worldviews that bringing the differing aspects into the

thesis would be enough for an entire study (see Luker, 1984 for further elaboration). The statistical analysis will not be affected by my standpoint, but it would be impossible for me to remain unbiased while introducing the topic.

Several studies have shown that economic reasons are dominant in explaining why women choose to have abortions (see chapter 4 by Guillaume & Lerner; Kero et al. 2001). A study carried out in Colombia shows that 35,2 per cent of women that had an abortion in 1990-1991 stated that their motive was insufficient funds, while 15,3 per cent said that having a child would force them to quit their education or employment (Bankole et. al, 1998, Table 2). In a study conducted in Sweden, the majority of the women considered keeping a baby as an irresponsible choice because of their current situation, in which they might not be able to take care of a child properly and/or because it requires sacrifices to their future (Kero et al., 2001, p. 1488). The most common reason for choosing to terminate the pregnancy was that the women wanted to give priority to already existing children, work or studies (Kero et al., 2001, p.1486).

Although I assume, in line with the above mentioned studies, that women can make responsible choices for themselves, I want to stress that stating economic or social reasons for wanting to terminate a pregnancy is not what convinces me that the decision should lie in the hands of the woman. Economic and social reasons may strengthen the arguments, but my conviction when it comes to the right to choose, and my interest in this study, originates from a thorough belief in every human being's right to make choices regarding their body and bodily integrity. I believe that wanting a child, or wanting to discontinue with an unwanted pregnancy, should always be a private decision, if that is what the person involved wants. Furthermore, I believe that no one should ever be disempowered to the level where another person, government or authority demands to know the reasons for making that choice. Every woman should have the right to choose whether she wants to be a parent or not, and every child should have the right to be born wanted. Every woman who carries a pregnancy to term and gives birth to a child is exposing herself to physical risks, which makes it even more important that no state or government should ever have the power to force a woman to take those risks.

## 2 Theoretical framework

The next three sections will deal with theories that might explain what factors influence countries' abortion laws. In line with conclusions drawn from previous studies, two different indicators of empowerment - women's presence in parliament and women's presence on the labour market - will first be examined. Finally, the secularisation of society, which can be considered a cultural perspective, will be studied.

### 2.1 Women's parliamentary presence and abortion

In Anne Phillips' *The Politics of Presence* (1998), four arguments on gender quotas and the presence of women in politics are presented: women can serve as role models for others; equal representation of both sexes is simply a principle of justice; women have particular interests that they will raise when representing in decision-making capacities; and finally, the quality of politics is enhanced by women's dissimilar approach to politics in comparison to that of men (Phillips, 1998, p. 62-63). The third argument, and possibly the fourth, is most relevant to this study. We expect women to have different experiences than men when it comes to areas such as unpaid household work, harassment, child bearing and low-paid jobs. Thus, their perspective is needed in politics. Abortion is an issue where women and men's levels of interest probably differ as only women are directly and physically affected by unwanted pregnancies. The last argument is more problematic. As Phillips herself states, this argument forces women into acting in certain ways and places expectations on women's behaviour based solely on their status as women<sup>2</sup>.

Two studies from African countries have shown that an increase in the presence of women in parliament affects policy output and agenda setting (Bauer & Wilson, 2008; Devlin & Elgie, 2008). Bauer and Wilson showed how governance was more efficient when the number of women in parliament increased and also that more priority was given to discussing policies such as domestic violence and inheritance (2008, p. 17). In the Rwandan parliament,

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<sup>2</sup> For further elaboration, please read Phillips' *The Politics of Presence*, 1998.

issues normally considered to be *women's issues* had now become mainstreamed, and more men found them worthy of being placed on the agenda (Devlin & Elgie, 2008, p. 248). In Sweden, Wängnerud has shown that, regardless of party affiliation, differences between the sexes are present, among voters as well as politicians (2009, p. 74). Women take a greater interest in social policy and women parliamentarians hold closer contact with women's organisations and find gender issues more important than men (Ibid, p. 76).

However, a study from the US shows that when it comes to attitudes towards legal abortion in the US, women are actually no more pro-choice than men (Granberg & Granberg, 1980, p. 254). If this were true, particularly on a global scale), why would more women in parliament have a positive impact on a country's abortion law? Several studies have analysed the matter of legal abortion in the US context (Berkman, 1993; Abramovitz, 1995; Swers, 1998). A study by Swers investigates the US congressional representatives that took mandate after the 1992 election and the picture confirms that women were more inclined to fight for women's issues (Swers, 1998, p. 440). Although gender was secondary to ideology, women tended to vote more in favour of women's issues. This finding was greater among Republicans, as men Democrats tend to vote to a greater extent in favour of women's issues and reproductive rights than Republican men when compared to Republican women. This also indicates that there is also a political ideological split, as the more right-wing party (GOP) is less pro-choice and the centre party (Democrat) is more pro-choice.

The previously mentioned studies by Asal et al. (2008) and Ramirez and McEneaney (1997) have found statistical support for women's political presence and abortion legislation. Asal et al. even draw the conclusion that "Thus, the most important factors that explain the liberalization of abortion policies are not found in the larger cultural frame but, rather, in the economic and political frames that change how and where women work and hold positions of power." (Asal et al, 2008, p. 280)

In this study I hypothesize that countries with a higher share of women in their parliament have a higher probability of legalising abortion without restriction as to reason. Although I am aware of the fact that not all countries' abortion reform came from a parliamentary decision, but is rather based on Supreme Court decisions, I will still regard women's parliamentary presence as a question of empowerment. Even if it is not the actual women in parliament (as studied here) that directly make the decision, their presence may bear influence in other ways (e.g. culturally). Ideally we would control for women representing certain ideologies to see whether it is women per se, or women of a certain ideology, that contribute to the change of law. Due to lack of data this will not be possible, but ideological presence in general will be controlled for.

## 2.2 Female labour force participation

In Kristin Luker's book *Abortion & the Politics of Motherhood* it is stated that the issue of abortion is a debate on what type of role women should have in society (1984, p. 7-8). Women who do not have the resources to provide themselves with an education that could lead to a professional career want motherhood to be the most important role for women – that is, their reason for being (Berkman, 1993, p. 107). Pro-choice women, on the other hand, normally have an education and a career ahead of them. If, and when, they will become mothers is regarded as a choice. When women participate in the labour force, they become less dependent on men (Asal et al., 2008, p. 270). This, in turn, creates positive attitudes concerning equality among both men and women (Ibid, p. 271). Another study from 1988 in the US shows a correlation between being pro-choice and a positive attitude towards women working<sup>3</sup> (Fried, 1988, p. 149-150). If this is true, should it not be assumed that as more women enter the labour force, more people become pro-choice and thereby a greater support for a liberal law has been generated?

Luker describes the history of the pro-choice and pro-life movements and depicts how the pro-choice movement in the United States started talking about a woman's right to an abortion in the 1960's (1984, p. 115ff). Until then, the birth of the first child meant that women exited the labour force. However, now an increasing number of women have started to combine motherhood and careers. During the same time period, marriage rates decreased and divorce rates increased. This also meant that more women were forced to enter or stay in the labour force to support family and children. Another change that started to occur around the same time was that US Americans tended to have smaller families, with a mean of two children. This meant that women were becoming less occupied with their former full-time occupation of raising children and taking care of household work. With all these things happening at the same time, it was only a matter of time before women started to question their assigned role as primarily being mothers and child bearers. Women reacted to the fact that their work outside of the household, if they had any, was regarded as a complement to the male's work and that they were paid less. It became important to combat the notion that women's careers should always be subordinated to a possible pregnancy (Luker, 1984, p. 118). The fight for the right to terminate an unintended pregnancy became central as an unwanted pregnancy could severely affect women's possibilities in a labour market that already discriminated against them. Luker stresses that "In a society that had recently experienced a nationwide upheaval over civil rights, such discrimination would be difficult to justify." (1984, p. 121) As long as women and society accepted that women's primary role was that of motherhood, the possibility to control when motherhood would occur was not viewed as

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<sup>3</sup> The same study also shows that the group mentioned is not just positive towards women working but also same-sex marriage and extramarital sex.

important (Luker, 1984, p. 118). The conclusion that the possibility of having an abortion is a symbol for what kind of life women should be able to live is also confirmed by an historical article looking into the portrayal of the justice system and media regarding abortion in the 19<sup>th</sup> and early 20<sup>th</sup> century in Canada (McLaren, 1993). McLaren states "...it has to be kept in mind that the courts often consciously played up the dangers of abortion with the obvious intention of policing female sexuality." (1993, p. 798).

Asal et al (2008) and Ramirez and McEneaney (1997) find statistical support for the hypothesis that an increase in female labour force participation leads to liberalised abortion laws. They draw the conclusion that economic empowerment of women is important for abortion to be legalised. At the same time, several studies have assumed the causality to be the reversed - that a liberal abortion law leads to greater female labour force participation (Kalist, 2004; Bloom et al, 2009). The logic behind this is not very surprising. Abortion enhances the possibilities of planning when and how to have a family, and when abortion is legal, women can choose not to carry an unintended pregnancy to term. Nevertheless, while legal abortion may not be the reason why women have more or less children, liberal abortion laws may correlate with other societal changes. In Sweden, when abortion was liberalised in 1974, family planning and sexual and reproductive health in general were given priority: "In order to ensure abortion was seen as a last resort, the government saw it as an obligation to make contraceptives equally accessible. Family planning services, provided by trained midwives, were soon created at health centres all over the country." (Sundström, 2001, p. 35). If this can be expected to be true for other countries as well, it might be assumed that it is family planning in general, as opposed to abortion in particular, that facilitates women's entrance in the labour market.

Based on previous studies, I will hypothesize that when more women participate in the labour force, the probability of a country legalising abortion without restriction as to reason increases. As several communist countries have or have had liberal laws regarding abortion, it is also worth stressing that this study will not contain any communist countries (Asal et al, 2008, p. 271). Their incorporation might alter the results, as communist societies stress wage labour as the most important task for its citizens.

## 2.3 Secularisation

Secularisation can denote the separation of church and state, but it has also come to signify a transformation at the individual level where people become less tied to religious values and institutions (Minkenberg, 2002, p. 226). In this study, I will focus on the individual level as it has proven to have more relevance than institutional secularisation when it comes to correlation with a liberal abortion

laws (Ibid). Religions are not static and unified phenomena, especially since they are interpreted by millions of people differently every day, making the measurement of secularisation and possibility of drawing conclusions on a general level very hard. As will be presented later, I will use the percentage of a population that adheres to a religion as a measure of secularisation. I am aware of the simplicity in this measurement, but I determined that it was the best possible choice, considering that I wanted to study a societal change and not just whether the country is secular, or has a state church or any other simpler measurement. In this section, I discuss studies that relate to the various ways that religion may affect a country's abortion law. Focus is mainly on the Catholic Church as more research has been carried out on its relationship with abortion.

Previous studies of the liberalisation of abortion laws have concluded that Catholicism correlates with restrictive abortion laws (Asal et al, 2008; Pillai & Wang, 1999). But how is religion assumed to affect a county's abortion law considering that most countries today are secular? Minkenberg states that in countries where people are more religious, the church gains more legitimacy as a political actor (2002, p. 237) and stresses that religious values are highly path dependent when it comes to abortion, "The politics of abortion reflects an institutionalization of religious values that has survived secularization." (2002, p. 244). An example from Brazil, where Catholicism is predominant and the Protestant Pentecostal movement is growing, shows that religious actors influence politicians and politics on the topic of abortion (Ogland & Verina, 2011). In the presidential campaign of 2010, it was estimated that Dilma Rouseff lost support after proclaiming that abortion ought to be legalised. Later, Rouseff was pressured by the Catholic Church and evangelical groups to state in writing that she would not change the law if she were elected. The study also showed that people who are more religious tend to be more opposed to abortion being legal.

Jelen et al. (1993) showed in a study of Catholicism and abortion attitudes in Europe that, apart from direct links with politics, the Catholic Church could have an influence as a socialising force on a population. But as always, there are two sides of the coin: a large Catholic population may be correlated with negative attitudes towards legal abortion; at the same time, large non-Catholic populations can initiate a mobilisation against the influence of the Catholic Church. In fact, in Europe, non-Catholics living in countries where Catholicism is dominant were the most likely of all to be supportive of abortion being broadly legal.

It is worth placing consideration to whether the Catholic Church is the sole religion opposing legal abortion. Stephens et al. (2010) performed a qualitative analysis of various major religions<sup>4</sup> and their attitudes towards abortion through in-depth interviews with religious representatives on several hypothetical abortion issues. This study should, of course, not necessarily be considered representative of the religions in general. The representative of the Catholic Church equates the rights and the moral status of the foetus to the pregnant woman, whereas other religions hold a more relative view, such as Islam where the foetus changes status

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<sup>4</sup> Catholicism, Lutheranism, Islam, Judaism, Confucianism, Hinduism and Buddhism.

during a pregnancy and Hinduism where the woman is valued higher than the foetus. But what can also be seen is that all religious representatives find abortion to be something morally wrong that should not be encouraged. Among the representatives, some differences can be observed, with some being more open to broader exceptions while others give very few exceptions as valid reasons for an abortion. Considering that what is studied in this thesis is abortion *without restriction* as to reason, there is reason to believe that other faith communities too, and not just the Catholic Church, are critical. Stephens concludes regarding all religious representatives of the qualitative study that: “What is common to all of the commentaries, however, is evidence of the historical tendency to diminish and degrade a pregnant woman’s concept of self as secondary to her relationship to the fetus (which is taken as equivalent to her potential, imagined, future child).” (Stephens, 2010, p. 531).

I hypothesize that as the share of a country’s population that adheres to a religion decreases, the probability of a country legalising abortion without restriction as to reason increases. By studying religious adherence, I acquire a (simplified) measure of a society’s level of secularisation.

### 3 Method

This study is delimited to the time period of 1965-2005 and will include the countries that today constitute the Organisation for Economic Co-operation and Development (OECD). The reason for this is first and foremost that there is more data available for these countries. Moreover, a great number of the countries that have legalised abortion are included in the OECD countries. About 30 per cent of the world's countries have legalised without restriction as to reason, and for the OECD countries the number is almost double (World Population Policy, 2013)<sup>5</sup>. The inclusion of more countries that have legalised abortion has the potential to make the analysis more interesting, but I also need to have more caution when generalising the results, as the OECD countries may differ from other countries in several aspects. Nevertheless, it is worth stressing that not all countries that today constitute the OECD were part of the organisation at the time this study began. To exemplify, Chile and Israel became members in 2010 and Hungary was still not a member by the time it exited the study.

Event history analysis will be used to study the relationship between abortion laws and other variables. Logistic regression is suitable when the dependent variable is binary (Hosmer & Lemeshow, 2000), and we can control for time by constructing cubic splines (Beck et al 1998). The dependent variable (liberal abortion law) is qualitative but is transformed into a numerical value by letting the number "1" represent that a reform is taking place and "0" that a reform is not taking place. After a country has reformed its abortion law, the country is no longer part of the study (given that it has not already reversed its abortion law). The reason for this is to not let a country with a stable liberal abortion law give too much weight to the study. Countries that legalised abortion before 1965<sup>6</sup> are *left censored*, meaning that they do not form part of this study, as they would have left the study before the period of study began. A country that reverses its abortion law can also enter or re-enter the study, as was the case for Hungary in 1973 and Poland in 1990. Those countries that have zeros during the entire time period are *right censored*<sup>7</sup>. Given the years being studied, we do not know if these countries legalised abortion or not. Since the study period ends in 2005, we actually do know that most of them still haven't legalised abortion, but also that Portugal and Spain did legalise in 2007 and 2010 respectively.

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<sup>5</sup> For a list of the years when the OECD countries legalised abortion without restriction as to reason, see Appendix 1

<sup>6</sup> Estonia, Poland, Hungary and, East Germany

<sup>7</sup> Chile, Israel, Ireland, New Zealand, South Korea, Japan, Iceland, Finland, Spain, Portugal and Mexico

In logistic regression, some of the assumptions from linear ordinary least square regression are relaxed. Instead of assuming normal distribution for the error term, we will assume binomial distribution where the mean is zero and the variance is dependent on the mean (Hosmer & Lemeshow, 2000, p. 7). The maximum likelihood function is used to estimate the probability of an event occurring,  $P(Y=1)$ . The value of the independent variables can take on any value, negative or however large, whereas the dependent variable can only be 0 or 1 (Allison, 1984, p. 17). Therefore, the odds ratio of the function is calculated (Hosmer & Lemeshow, 2000, p. 50). Odds are the probability of something happening divided by the probability of the same thing not happening. The odds ratio tells us how much more or less likely it is for one group to experience an event than another group, where the groups are separated by an x-variable. If the odds ratio is higher than 1, then the odds are higher for the group of study than for the other group, but if it is less than 1, it is less likely for the group compared to the other to experience the event.

### 3.1 “Taking time seriously”<sup>8</sup>

Panel data in the form of a binary time series cross section is used to study the OECD countries both over time and space. The data is grouped, meaning that reform years and not precise dates that the reform was decided on are studied. The logit analysis assumes temporal independence, but it seems reasonable to believe that the variables might be temporally dependent. If serial correlation is present but ignored, standard errors might underestimate variability with as much as 50 per cent and variables may be regarded as less interesting or more interesting than they actually are, if the significance tests are affected (Beck et al 1998, p. 1263).

In accordance with Beck et al (1998), I consider the data to be grouped duration data, which also makes it possible to add some further methodology to control for time dependence among the variables. With the recognition of the data as grouped duration data, I can build further on concepts used in event history studies based on methods developed for time dependent data (Beck et al 1998). Beck, Katz and Tucker recommend various ways of controlling for time, and in this study I use cubic splines as well as the duration variable raised to the power of two and three. To create the variables needed to do this, a variable that counts the duration of the objects of study is needed. In this case, that means the number of years each country participates in the study, with the first year being zero. Some countries have a short duration and others long depending on how many years pass from 1965 until their event year. Countries that did not yet exist in 1965, such as Germany, and countries that had a liberal abortion law in 1965,

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<sup>8</sup> The title of this section is borrowed from the article by Beck, Katz and Tucker that is frequently cited in the section.

such as Poland and Hungary, will start with a zero in the year that they start to exist or the year they reversed their abortion law. The most frequently recommended time dependency control is the use of cubic splines (Beck et al 1998). The cubic splines are estimated using the duration variable and reflect the baseline hazard with respect to time. Beck et als. BTSCS ado file was used to conduct these tests.

## 3.2 Countries and event years

In most cases, the UN DESA Country Profiles on the world's countries' abortion policies and the UN World Abortion Policy Wall chart (2013) were used to categorise the countries as having, or not having, the reform. As previously mentioned, the countries that today constitute the OECD countries<sup>9</sup> are studied. Estonia is left censored in this study as abortion was legalised in 1955 when Estonia was part of the USSR. Slovenia is left out, as abortion was legalised in Yugoslavia in 1978. As both Czech Republic and Slovakia are today members of the OECD and abortion was liberalised in Czechoslovakia in 1988, the idea was to include Czechoslovakia in the study. However, the lack of data forced it to be excluded from the study. Before 1990, Germany is represented by West Germany, as East Germany had a liberal abortion law (and is therefore left censored). Germany, Poland and Hungary all enter the study after the period of study has started, Germany after unification and Poland and Hungary when their abortion laws are reversed.

The year the reform is decided on is considered the event year. In Appendix 1 the full list of countries and what years are considered as their "event year" can be found. I will however make a few additional comments in this section, as some countries were hard to categorise. With regards to the UK, the abortion law does not include Northern Ireland where abortion is not legal without restriction as to reason; I will still regard the UK as having legalised abortion. In Australia and Mexico, federal law makes it possible for different states to have different laws. Australia can be considered to have had the reform in 1998, as within that year three states implemented a liberal abortion law, entailing that a majority of Australian women have lived under a liberal law since. In Mexico, however, the reform cannot be considered to have taken place, as it is only Mexico City that has implemented the law, meaning that a great majority of Mexican women still live under very restrictive laws.<sup>10</sup> It is interesting that Iceland, Finland and

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<sup>9</sup> Australia, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, South Korea, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom and United States (oecd.org, 2013-06-17)

<sup>10</sup> Because of the uncertainty regarding Australia, Mexico and United Kingdom, I also ran the regressions excluding these countries too and the results remained the same.

Luxembourg are all right censored in this study, as they all have legalised abortion for all reasons except upon request (i.e. up to socioeconomic reasons).

### 3.3 Variables and data

Data was originally collected for the period of 1960 through 2010, but after studying the dataset I concluded that it was better to leave out the five first and five last years so as to avoid dealing with missing data.

The data on female labour force participation was taken from the Quality of Governments (QoG) Social Policy Data (Samanni et al., 2012). Data was taken from the ILO database for countries that were missing.<sup>11</sup> Where years were missing, linear within country interpolation was used to estimate the missing years' values.<sup>12</sup> The data shows the percentage of women between the age of 15 and 64 that are either employed or actively seeking employment.

Women in parliament are measured as percentage women in national parliaments. Where the parliament is bicameral, the percentage women in the lower house were used. Most numbers come from the Armingeon et als. Comparative Political Data (2012) but also from the Inter-Parliamentary Union's election archives. In countries where military juntas ruled for some years, e.g. Portugal, Greece and Spain, I assigned a zero for those years.

Maoz and Henderson recently published the World Religion Data (2013) in the Correlates of War database where time series of percentage of population that adheres to a religion has been calculated. The data is available in five-year intervals, starting in 1945. Years between were interpolated linearly and within countries.

Several control variables were used. Two dummies were created and added to the dataset. The first one is a "neighbour dummy" with the purpose of capturing that countries might influence each other; if one country liberalises its abortion law, neighbouring countries might be more prone to do the same. Ramirez and McEneaney showed in a study that countries were more likely to allow female suffrage if a neighbouring country had done so five years earlier (1997, p. 16), it may not seem too odd to assume that something similar might be true when it comes to abortion laws. Each country was therefore assigned a 0 if or when no neighbouring country had liberalised abortion and a 1 as soon as another country bordering the country liberalised its abortion law. The definition of neighbouring country was expanded from just including land borders to sea borders so that, for example, France and Britain are considered neighbours. The UN DESA Abortion

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<sup>11</sup> Data on Iceland was not available in either of the databases and was found in a report presented by the Centre for Gender Equality Iceland.

<sup>12</sup> For a few countries I had to combine datasets. Luckily there were overlapping years so that I could first verify that the different sources had similar numbers.

Country profiles were once again used to determine which countries had legalised and which countries had not. It might be argued that not all countries are influenced by their neighbours but rather by other countries with which they have other types of ties. For example, South Korea has a dummy indicating that a neighbouring country has legalised abortion, but does it really seem correct to assume that North Korea could have an effect on South Korean law? A discussion could be held as to whether Mexico should be considered as having stronger bonds to North America or Latin America (the US border gives Mexico a “1” in 1973 whereas Latin America has the world’s most restrictive laws in general).

Another dummy was created that takes into account whether a country that has not yet experienced an event has a very restrictive or less restrictive abortion law. Very restrictive is coded 0 and means that there is a total prohibition or an exception to save a woman’s life. The 1 then means that there are more liberal exceptions, i.e. other health reasons, mental health, in case of rape/incest and/or socio-economic reasons. If abortion legislation can be ranked on a scale where the steps are going from not liberal to liberal, it might be probable that a country legalises stepwise in some way. It might seem more likely, for example, that Finland will liberalise its abortion law earlier than Chile.

Studies indicate that left wing and/or liberal governments favour a more liberal abortion law (Field 1979; Abramovitz 1995). I decided to control for left wing and liberal parties’ share of parliamentary seats instead of whether the government is left wing or liberal. Data on left wing and liberal parties’ share of legislative seats was found in Armingeon et al. data set (2012) for the majority of the countries and the rest was found in the IPU’s election archives. The Armingeon data was transformed so that all parties coded as socialist, communist, social democrats and all liberal parties were grouped together. The parties found in the IPU archive were coded based on the IPU’s description but also with some help from Coppedge’s coding of political parties in Latin America (1997). Interesting, to add here is that women tend to be more leftist (Wängnerud, 2009, p. 62).

Other control variables are the level of institutionalised democracy (from 0 to 10)<sup>13</sup>, GDP per capita growth (%), ratio of girls’ to boys’ average number of school years (at the age of 25), total average number of school years (also at the age of 25) and how many (or if) armed conflicts the country is participating in.<sup>14</sup> The data on average school years was transformed into yearly change instead of actual number of years. Whereas countries such as Australia averaged over nine years in 1960, Turkey averaged 1.5 years the same year. The idea behind the transformation of the variable is that it might be the change rather than the actual level that have an effect. All variables except for average school years were found

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<sup>13</sup> Values for Chile, Iceland and Luxembourg are missing.

<sup>14</sup> Initially I also included if there is an armed conflict on the country’s territory but it is not presented here. The reason for that is that it predicts failure (i.e. event occurring) perfectly, and was therefore excluded from the study. A variable that perfectly predicts failure gives us some information in the sense that we know that no OECD country that has had a conflict in its own territory has ever legalised abortion while the conflict has been occurring.

in the QoG database (Samanni et al. 2012; Teorell et al. 2012). The school data was found in the Barro & Lee dataset (2013). The data presents average school years for women and average school years for the whole population that is over 25 years old. From that I could also count the change in the overall schooling years. The dataset also contains information regarding total population and total female population. From this, I was able to count the ratio of women's/men's years of school and then interpolate the years missing linearly and within countries.

## 4 Results

There are 32 countries in this study, and the period of study runs from 1965 to 2005. The number of observations is 818, which is the total number of years studied. Whenever a country legalises abortion, it exits the study, meaning that whereas several countries, i.e. Chile, South Korea and Ireland, are studied for 41 years, others are only studied for a decade or less<sup>15</sup>. The reason why there are not 818 observations of all variables is that some years for some countries were missing, normally early years.

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**Table 2: Summary statistics**  
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<b>Variable</b>	<b>Obs</b>	<b>Mean</b>	<b>Std.Dev.</b>	<b>Min</b>	<b>Max</b>
Event	818	.0220	.14679	0	1
Female Labour Force (%)	795	49.411	13.414	21.6	89.2
Women in Parliament (%)	791	9.5287	8.4632	0	39
Religious Adherence (%)	818	93.7835	5.2387	70.2	99.89
GDP, growth (%)	789	2.91936	3.4087	-12.72	23.203
School years, Ratio f/m	817	.88155	.11058	.3979	1.09
Average Schooling, Change (%)	814	1.4359	1.1739	-2.4739	7.6308
Institutionalised Democracy	687	8.333	3.2809	0	10
Left-Liberal Party Legislative Seats (%)	801	45.097	23.118	0	100
Neighbouring Country Legalised	818	.4279	.4951	0	1
Previous Legislation	818	.53056	.49937	0	1
Conflict	805	.2298	.62143	0	4

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<sup>15</sup> For example, the United Kingdom legalised abortion in 1967 and is therefore only part of the study for three years.

The dummy variables' mean reflects the percentage of years that had a "1". For example, an event occurred in 2.2 per cent of all the years of study (not to confuse with 2.2 per cent of the countries). From this, one might be able to guess that the probability of an event occurring is low.

Table 3 shows how the variables correlate. Female labour force participation and women in parliament correlate positively at a level of 0.5592, which is quite high. I will therefore run them stepwise to be able to study their separate effects. The two variables (as well as the dependent variable) might be suspected of reflecting gender equality in general, meaning that there is a risk that they actually measure the same thing. The democracy variable is quite highly correlated with several variables: school years ratio (0.5292), left liberal party legislative share (0.6127), change in average schooling years (0.4939) and female labour force participation (0.4241). I will keep this in mind while running the statistical analysis. Average school years and school ratio also have a high correlation (-0.5458), so we will start this analysis by only including the ratio (based on previous research arguing that gendered factors are dominating in explaining abortion legislation).

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**Table 3: Correlation**  
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Event	Event 1	FLFP	WomPar	Relig.	GDP	Ratio	School	Democ.	Lef-Lib	Neighb.	Pre.Leg.
<b>Female Labour Force (%)</b>	0.0756	1									
<b>Women in Parliament (%)</b>	0.0757	<b>0.5592</b>	1								
<b>Religious Adherence (%)</b>	-0.0901	-0.3492	-0.3312	1							
<b>GDP, growth (%)</b>	-0.0229	-0.0954	-0.1205	0.0930	1						
<b>School years, Ratio f/m</b>	-0.0172	0.2310	0.3461	-0.3598	-0.0947	1					
<b>Average Schooling, change (%)</b>	0.0376	-0.3876	-0.1823	0.3057	0.0583	<b>-0.5458</b>	1				
<b>Institutionalised Democracy</b>	0.0523	0.4241	0.2109	-0.3290	-0.1668	<b>0.5292</b>	<b>-0.4939</b>	1			
<b>Left-Liberal Party Legislative Seats (%)</b>	0,0450	0.1736	0.1309	-0.0856	-0.0984	0.3025	-0.3051	<b>0.6127</b>	1		
<b>Neighbour Country Legalised</b>	0.0374	0.1468	0.3164	0.2288	-0.0510	-0.2348	0.1987	-0.2412	-0.2294	1	
<b>Previous Legislation</b>	0.0084	<b>0.4506</b>	0.2992	-0.1287	0.0581	0.2072	-0.1879	0.1634	0.0497	0.1252	1
<b>Conflict</b>	-0.0080	-0.1821	-0.1075	0.1260	0.0357	-0.0184	0.0626	-0.1567	-0.1878	-0.2033	0.0854

-----

First I investigate bivariate relationships by running logistic regressions between each independent variable and the event variable. All variables are run with the same number of observations that are used in the multivariate analysis. The logit regression is run with robust cluster standard errors. By using the robust option, the problem of standard errors being skewed due to, for example, serial correlation may be avoided. Later on we will also proceed to control for time dependency by using cubic splines and the duration variable raised to the power of two and three.

As expected, female labour force participation and religious adherence are significant when it comes to understanding abortion legislation. Female labour force has an odds ratio close to 1, meaning that the effect is nonetheless almost inexistent. The same goes for women in parliament; even if they were significant, the effect would be marginal. The total share of population that adheres to a religion is significant with a low odds ratio (<1), meaning that as the number of

people who are religious decreases, the odds of a country legalising abortion on broad grounds increase. Regarding the control variables, the majority do not show any significance in bivariate logistic regression. GDP growth is significant with an odds ratio less than 1. Institutionalised democracy is significant and with quite a high odds ratio (1.289), indicating that the more institutionalised the level of democracy in a country, the more likely it is that a country will have legalised abortion.

**Table 4: Bivariate logit analysis**

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**Legalisation of abortion without restriction as to reason**  
**Event (1)**

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<b>Variable</b>	<b>Robust Odds Ratio</b>	<b>Std. Err.</b>	<b>Z</b>	<b>P</b>
Female Labour Force (%)	1.03140	.0162	1.96	<b>0.050**</b>
Women in Parliament (%)	1.04232	.0287	1.50	0.133
Religious Adherence (%)	.90601	.0307	-2.91	<b>0.004***</b>
GDP, growth (%)	.93687	.0358	-1.71	<b>0.088*</b>
School years, Ratio f/m	.41972	.6532	-0.56	0.577
Average Schooling, change (%)	1.27544	.1946	1.59	0.111
Institutionalised Democracy	1.28878	.1487	2.20	<b>0.028**</b>
Left-Liberal Party Legislative Seats (%)	1.01126	0092	1.23	0.217
Neighbouring Country Legalised	1.69118	.8353	1.06	0.287
Previous Legislation	1.10849	.4856	0.24	0.814

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\*p<0.1, \*\* p<0.05, \*\*\* p<0.01

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## 4.1 Multivariate analysis

Several different compositions were tried and variables had to be left out due to co-linearity. As was seen earlier, women in parliament and female labour force participation are highly correlated. All different compositions were tried with either variable and also with both to see if there was any notable difference.

The overall model is significant (0.0057). Religious adherence and the school ratio are significant, and both have an odds ratio of less than 1. As was expected, as the population adhering to a religion decreases, the probability of a country liberalising its abortion reform increases. What seems more odd is that the odds ratio of the ratio of women's/men's average years of schooling is also very low (0.00774), which would indicate that when women are less educated in relation to men, the probability of a country liberalising abortion goes up. It is hard to believe that increased education for girls in relation to boys would be a factor that makes liberalisation of abortion laws less likely. Education is usually referred to as one

of the most important empowerment tools for gender equality (see for example unfpa.org).

There are some possible explanations as to why this result has occurred. First, in this study we are dealing with some of the world's richest countries, meaning that they may differ from other countries. It is also possible that the ratio of women's/men's number of years in school is declining in growth, meaning that there might be rapid increases during early periods (as more girls and women start studying) and slower as the ratio approaches equality. For example, Portugal went from around 0.64 to 0.91 in the period of study and South Korea from 0.45 to 0.86 (neither of them have legalised abortion during the time period studied). Some countries that experience the event in the period of study, start with a high ratio in 1965 and stay more or less the same during the period of study (actually a small decrease before the reforms take place in the cases of e.g. Sweden Switzerland and USA). Last, it is possible that an equality effect such as that of education takes time, so that if there is an effect on abortion legislation coming from women getting more educated in relation to men, it might not be visible here.<sup>16</sup> This should however not be a problem considering the long time series studied.

**Table 5: Multivariate logit analysis**

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**Legalisation of abortion without restriction as to reason**  
**Event (1)**  
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<b>Variable</b>	<b>Odds Ratio</b>	<b>Robust Std. Err.</b>	<b>Z</b>	<b>P</b>
Female Labour Force (%)	1.01222	.0143	0.86	0.388
Women in Parliament (%)	1.01048	.0407	0.26	0.796
Religious Adherence (%)	.89278	.0535	-1.89	<b>0.059*</b>
GDP, growth (%)	1.0049	.0687	0.07	0.942
School years, Ratio f/m	.00774	.0135	-2.79	<b>0.005***</b>
Institutionalised Democracy	1.19678	.1539	1.40	0.163
Left-Liberal Party Legislative Seats (%)	1.01654	.0165	1.01	0.313
Neighbouring Country Legalised	2.32161	1.598	1.22	0.221
Previous Legislation	.77267	.3549	-0.56	0.575
Conflict	1.4989	.5964	1.02	0.309
Cons.	1975.701	12166.45	1.23	0.218

-----  
 Number of Obs: 591  
 Wald Chi2: 24.35  
 Prob > Chi2: 0.0067  
 Pseudo R2: 0.0813  
 \*p<0.1, \*\* p<0.05, \*\*\* p<0.01  
 -----

<sup>16</sup> I reran the regression, leaving out suspected outliers such as Portugal, South Korea and Austria (which also experienced quite an extreme increase), but the results remain robust.

After discussing possible explanations, I will however move on and ask if it might be possible that we have a problem with confounding variables. What if it is not about the education gender ratio but about education in general? The regression has been run again with the percentage change in average number of school years (total, i.e. for men and women) included and now the gender ratio variable is no longer significant. Instead, the change in average years of schooling show significance and with an odds ratio of 1.737, indicating a positive relationship. In Table 6 the ratio has been excluded from the analysis as it correlates highly with change in average years of schooling. Total religious adherence and average years of schooling remain significant and the odds ratios remain more or less the same. Notably, female labour force participation is significant (0.014), but the effect is still almost non-existent with an odds ratio of 1.04138.

**Table 6: Multivariate logit analysis**

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**Legalisation of abortion without restriction as to reason**  
**Event (1)**  
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<b>Variable</b>	<b>Odds Ratio</b>	<b>Robust Std. Err.</b>	<b>Z</b>	<b>P</b>
Female Labour Force (%)	1.04138	.0171	2.47	<b>0.014**</b>
Women in Parliament (%)	.98424	.0375	-0.42	0.676
Religious Adherence (%)	.88752	.0513	-2.06	<b>0.039**</b>
GDP, growth (%)	1.0051	.0649	0.08	0.938
Average Schooling, change (%)	1.73723	.3164	3.03	<b>0.002***</b>
Institutionalised Democracy	1.15418	.1411	1.17	0.241
Left-Liberal Party Legislative Seats (%)	1.02058	.0168	1.24	0.216
Neighbouring Country				
Legalised	2.25465	1.3398	1.37	0.171
Previous Legislation	.58350	.2903	-1.08	0.279

-----  
 Number of Obs: 599  
 Wald Chi2: 20.51  
 Prob > Chi2: 0.0150  
 Pseudo R2: 0.0939  
 \*p<0.1, \*\* p<0.05, \*\*\* p<0.01  
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The neighbour dummy is not significant. This might be for the reasons argued in the previous section that other countries external to their neighbour countries might bear influence. With another more advanced definition of which countries influence other countries, this might have proven more interesting.

In Table 6 the number of observations is 599. This is low considering that that the total number of observations is 818. This problem arises because of the democracy variable where information regarding Chile, Iceland and Luxembourg is missing. When the democracy variable is no longer included in the analysis (see

Appendix 2), the number of observations is 713. The results remain almost the same, with the only change being that left and liberal parties' share of legislative seats is significant. The odds ratio is, however, close to 1, meaning that the effect is very marginal. Remembering that institutionalised democracy correlates highly with left and liberal parties' share of legislative seats (0.6127), I assume that the variable showing significance can be ignored, considering that it is no longer significant when institutionalised democracy is included.

When education increases in a country, the probability of a liberal abortion reform occurring goes up. Notably, it is not the level of education in itself but the increase, indicating that abortion laws may be something that occurs when a society goes through a major cultural change. Returning to the fact that the school ratio and change in average years in school correlate highly and negatively, it seems that an increase in education benefits men more than women. Nevertheless, as this gap expands due to an increase in education and not due to an absolute decrease in women's education (I assume), society as a whole still benefits in the form of total education.

It is interesting to see that neither of the two "gendered" variables (female labour force participation and women in parliament) that were hypothesised to increase the probability of a reform show any interesting results (even if female labour force is significant, the effect is almost not existent). The results of these logit regressions suggest that abortion, which is a gendered right exclusive for women, does not actually occur when other gendered factors, such as more women working or more women in politics, change. This study has shown instead that the legalisation of abortion without restriction as to reason differs from other types of abortion laws (as compared to what has been concluded by previous studies) in that overall cultural changes, such as less religious populations and increasingly educated populations, are what increase the probability of the abortion law being adopted. Regarding the school variables, it also seems that, as there is an increase in average years of schooling, the ratio of years of schooling for women/men goes down, indicating that education is especially increasing among men. Is it possible that this indicates that it is a gendered variable, only not in the way expected? When men's education increases in relation to women's education, the probability of a country legalising abortion increases but not because the gap increases but rather because men's education increases. This might make sense considering that as men dominate decision-making politics all over the world (79.1 per cent of parliament seats worldwide as of July 2013 according to the IPU), there is a need for men to understand the need for a liberal abortion law.

On the other hand, it might be possible to argue that religion is a relevant variable when it comes to gendered rights in general. In the theory section, it was argued that religion can be a conservative force when it comes to a certain type of women's rights. Just as abortion is an example of a women's rights issue, it can be argued that both female labour force and women in parliament are reflections of women's rights and liberties in a country. Perhaps women in parliament and female labour force participation, like legalisation of abortion, also are affected by the level of secularisation in the country. I leave this for future research.

## 4.2 Time dependency

The logit model assumes the probability of an event to be constant for all time periods, i.e. duration independence. Nevertheless, it seems quite reasonable to suspect that variables are serially correlated.<sup>17</sup> I therefore continue creating the cubic splines using the BTSCS ado file (Beck et al., 1998). To construct the cubic splines, the duration variable is used as a base for selecting knots. After selecting three knots for the splines, the function is estimated by interpolation. I tried two different variations of placing the knots, one default chosen by Stata and the other set at the 10<sup>th</sup>, 50<sup>th</sup> and 90<sup>th</sup> percentile of the duration variable. In this case, that means at year two, 14 and 34. Once the splines are ready, a new logit regression is run with all the variables and the spline variables. The results from the two versions are the same. See Table 7 for splines with knots at the 10<sup>th</sup>, 50<sup>th</sup> and 90<sup>th</sup> percentiles.

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<sup>17</sup> I also created temporal dummies from the duration variable and rerun the model with the dummies. When dummies are included, the model is still significant and so are religion, female labour force participation and the increase in average years of schooling variable. The time dummies, however, create a problem in that they perfectly predict each year that one country experiences the reform. This problem arises because I chose to have the countries leave the study after they experienced the reform.

**Table 7: Multivariate logit analysis****Legalisation of abortion without restriction as to reason  
Event (1)**

<b>Variable</b>	<b>Odds Ratio</b>	<b>Robust Std. Err.</b>	<b>Z</b>	<b>P</b>
Female Labour Force (%)	1.05751	.0310	1.91	<b>0.056*</b>
Women in Parliament (%)	1.01079	.0437	0.25	0.804
Religious Adherence (%)	.88711	.0575	-1.85	<b>0.065*</b>
GDP, growth (%)	1.02347	.0841	0.28	0.778
Average Schooling, change (%)	1.75637	.2872	3.44	<b>0.001***</b>
Institutionalised Democracy	1.13416	.1454	0.98	0.326
Left-Liberal Party Legislative Seats (%)	1.02108	.0189	1.12	0.262
Neighbouring Country Legalised	1.74375	1.155	0.84	0.401
Previous Legislation	.48131	.2936	-1.20	0.231
Conflict	1.38572	.5025	0.90	0.368
Duration	.92831	.3063	-0.23	0.822
Spline_1	.99549	.0067	-0.68	0.499
Spline_2	1.00165	.0014	1.16	0.248
Spline_3	.99832	.0012	-1.37	0.171
Cons.	3.68767	23.12	0.21	0.835

Number of Obs: 590  
Wald Chi2: 28.75  
Prob > Chi2: 0.0113  
Pseudo R2: 0.1184  
\*p<0.1, \*\* p<0.05, \*\*\* p<0.01

The result is similar to the model without the splines with the three variables female labour force, religion and average school showing significance and the odds ratios remaining more or less the same. The regression was also run with the duration variable raised to the power of two and three and the results remained the same.

### 4.3 An empirical approach to the results

Both Chile and Uruguay are located in Latin America where abortion laws in general are restrictive. In Chile, abortion was legal to save a woman's life until 1989 when it was made illegal under all circumstances (UN abortion policy). Uruguay, on the other hand, legalised abortion upon request in 2012. Before the 2012 law, abortion was legal to save a woman's life, for severe health issues, when the pregnancy was the result of a rape and under some circumstances for socio-economic reasons (UN, abortion policy). As can be seen, Chile represents an extreme with regard to abortion legislation, whereas Uruguay can be considered progressive on a continent where most countries have several restrictions to legal abortion.

In spite of this, the two countries share several similarities. Both suffered military coups in 1973 and were thereafter run by juntas for several years, but are today stable political arenas. Foreign investments are high and populism has not been allowed to take place, as in many other Latin American countries (see Tartakoff, 2012 and Pribble 2006 for further elaboration). Can the results of this study help us understand the reasons as to why the two countries have such different approaches to the legality of abortion? From the statistical analysis, it was concluded that women in parliament did not have an effect, whereas female labour force participation had a marginal effect. The percentage of the population with a religious affiliation had a greater and negative effect and the change in average years of schooling had a positive effect. Neither of the countries have a neighbouring country that has legalised abortion on broad grounds so Uruguay cannot have been influenced by a neighbour country, which is also in line with the results of this study, as the neighbour dummy was not significant.

Both countries have experienced an increase in women's labour force participation during the second half of the 20<sup>th</sup> century, but Uruguay more so than Chile, due to the greater urbanisation, which created a rapid demand for labour (Pribble, 2006, p. 95). The rate of female labour force participation in Chile is not only low compared to Uruguay but to all Latin American countries, the OECD countries and Asia, whereas Uruguay has a high level compared to other Latin American countries (Contreras et al., 2005). This, in spite of Chilean women being quite highly educated. Table 8 displays the numbers.

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**Table 8: Female Labour Force Participation Rate**  
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<b>Year</b>	<b>Chile Level</b>	<b>Change</b>	<b>Uruguay Level</b>	<b>Change</b>
1960	19.7		24.2	
1970	18.1	-1.6	26.2	2
1980	20.4	2.3	32.4	6.2
1990	25.4	5	40	7.6
2000	31.4	6	44.1	4.1

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Table copied from Pribble, 2006, p. 95.

Source: ECLAC Statistical Yearbook

Pribble argues that the increase in Uruguay also led to a facilitated entry into the political arena for women, as participation in the labour force also meant mobilisation through unions. “Different levels of female labor market participation in Chile and Uruguay, in turn, shaped the gendered distribution of power in each country.” (Pribble, 2006, p. 96). Women started to organise politically in Uruguay in the beginning of the 20<sup>th</sup> century, especially through left wing and communist parties that wanted to diminish influence by the dominant parties and therefore encouraged support from new groups, e.g. women. See Table 9 for the share of legislative seats occupied by women.

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**Table 9: Women in parliament (%)**  
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<b>Year</b>	<b>Chile</b>	<b>Uruguay</b>
1965	8	4.0
1969	6.7	3.0*
1973	8.7	2.0**
1974	-	-
1984	-	4.0
1990	5.8	8.1***
1994	7.5	9.2
1998	10.8	7.1
2002	12.5	12.1
2006	15.0	11.1
2010	14.2	15.2
(2013	14.2	12.1)

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Source: IPU Election Archives

Comment: Both countries' parliaments were dissolved in 1973

\*Numbers from the 1966 elections

\*\* Numbers from the 1971 elections

\*\*\* Numbers from the 1989 elections

Pribble (2006) further concludes that the early emergence of an influential Christian Democratic Party in 1930s' Chile, put constraints on gendered rights and forced women to remain in more traditional gender roles. Uruguay was decades ahead of Chile in enacting maternity leave laws, so that women were not forced to exit the labour market once they had children (Ibid, 2006, p. 97). In the 1930s in Chile there were even laws enacted with the purpose of hindering women from participating in the labour force, e.g. were minimum wages only granted to men and women's employment in government offices were restricted. Also today, Uruguay has broader social policies, which help women's participation in the labour force, and political parties keep encouraging the inclusion of women (2006, p. 100).

In the Uruguayan congress, women have created a coalition with the purpose of promoting women's rights and have worked towards gender quotas and abortion rights (Pribble, 2006). No similar coalition exists in Chile (in 2006). Further, in the Chilean political arena, Church actors have gained influence thanks to historical coalitions between them and anti-Pinochet groups (Pribble, 2006, 102) giving the Catholic Church direct influence in politics. The governing *Frente Amplio* in Uruguay has on the other hand worked actively to help women enter the workforce and have enacted legislation with the purpose of combating traditional gender roles etc.

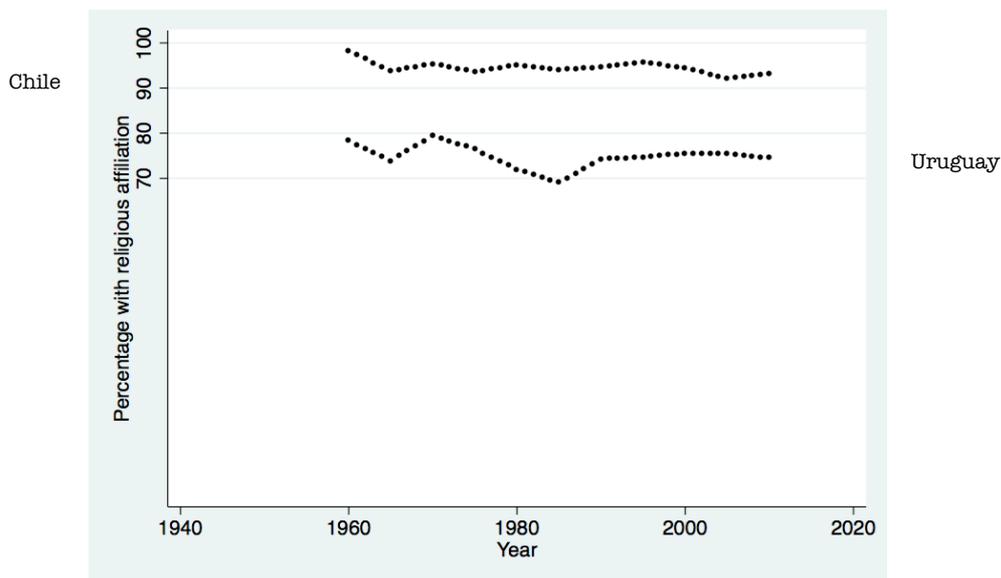
Blofield too, stresses that the political right has had marginal influence in Uruguayan politics and that the Catholic Church is in general weaker in Uruguay than in other Latin American countries (2008, p. 413). To the contrary, in Chile, the Catholic Church enjoys great influence in politics and whereas the political left and centre are weak, the conservatives have had great influence in politics (Ibid, p. 414). Another interesting aspect brought up by Blofield, which has not been investigated in this study, is that of economic inequality<sup>18</sup>. Where economic inequality is high and abortion is illegal, it is likely that upper-class women have access to illegal but safe abortion. This makes a solidarity movement between women of different classes necessary for pressure to be made to legalise abortion. This has not been the case in Chile, which is an unequal society with little solidarity movements (Ibid, p. 412). In Uruguay, on the other hand, economic inequality is not as big and therefore the majority of women have suffered the same difficulties when it comes to restrictive abortion laws (Ibid, p. 413).

In Chile, a high percentage of the population is still adhering to a religion (Maoz & Henderson, 2013). According to Jenkins (2013), Uruguay is the most secular country in Latin America and as much as 40 per cent of Uruguayans have no religious affiliation. The number calculated by Maoz and Henderson (as displayed in Graph 1) differs from this but nevertheless shows a lower percentage in Uruguay than in Chile.

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<sup>18</sup> My intention initially was to include the Gini coefficient but data was insufficient.

**Graph 1: Percentage population with a religious affiliation, 1960-2010**



Source: Maoz & Henderson, 2013. Graph created by author.

With regard to average years of schooling, Chile and Uruguay dissimilar and have both experienced a large increase since 1960 (Barro & Lee dataset, 2013). See Table 10.

**Table 10: Average years of schooling, total population at the age of 25.**

Year	Chile		Uruguay	
	Years	Change (%)	Years	Change (%)
1960	5	-	4.54	-
1965	5.3	6	4.72	4
1970	5.8	15	5.24	11
1975	6	3.5	5.61	7.1
1980	6.42	7	6.26	11.6
1985	7.27	13.2	6.88	9.9
1990	8.06	10.9	7.16	4.1
1995	8.42	4.5	7.36	2.8
2000	8.75	3.9	7.98	8.4
2005	9.26	5.8	7.92	-0.75
2010	9.74	5.2	8.41	6.2

It can be concluded that Uruguay has had a faster increase and a higher percentage of women working than Chile. It can further be concluded that the percentage of the population that adheres to a religion is higher in Chile than in Uruguay and women's presence in parliament has progressed more or less at the same rate. Finally, the average years of schooling is harder to determine, but a couple of years before experiencing the reform, Uruguay had a higher increase rate than Chile. Just looking at these two countries, the results seem quite visible. This is interesting also considering that Uruguay is not an OECD country and thereby the results remain interesting when applied on a non-member as well.

## 5 Conclusions

In the beginning of this study I posed a question similar to what other studies have already investigated: under what circumstances do countries legalise abortion without restriction as to reason? I built my argumentation based on the conclusions of existing studies and hypothesized that other gendered rights, such as women's presence in parliament and in the labour market, as well as secularisation would have an effect on the probability of a country legalising abortion without restriction as to reason. I expected the results to confirm this. Although I argued initially that legal abortion without restriction as to reason differs from other types of laws, it seemed reasonable to assume that the forces that provoke a change are the same. But this study has shown that women's empowerment, even if it may be part of the dependent variable, cannot explain a total liberation of abortion.

Factors that correlate with legal abortion are not gendered but reflect a general cultural change on a societal level. It seems reasonable given what we know about how to decrease maternal mortality and in what regions abortion rates are higher than others. Decreases in people belonging to a religion, and an increase in the number of years of schooling are both variables that can be considered to reflect a broader cultural societal change. Nevertheless, gendered variables are not without importance as female labour force participation also is significant, although at a marginal level.

The final part of the study was a brief empirical look into two countries, of which one is part of the OECD and the other is not. Whereas years of schooling did not necessarily show a clear picture, the three variables that were originally thought to have an effect were in accordance with the results of the statistical study, i.e. Uruguay has a higher level of female labour force participation, a lower level of people adhering to a religion and similar numbers to Chile with regards to women in parliament.

Initially I also clarified my stance on the abortion issue and to see that a reform that I am already convinced is important has an actual explanation with respect to the increase in education is very welcome. I think most people agree that education can help enlighten individuals and that enlightened people make wise decisions.

There is a considerable amount that remains to be investigated. To start with, there is a need delve further into both secularisation and the increase in education to fully understand the connection. Also, considering that previous studies have not included education among their variables, it would be interesting to re-execute their studies including education variables. To expand the study to other regions (such as Latin America or globally) or carrying out a comparative analysis between states in the USA, Mexico and Australia would be of great interest

considering that the OECD may differ from other countries. In this study I have not included any investigation into the role of women's/family-planning movements and organisations, simply because of a lack of measurement. I nevertheless believe in the importance of strong such movements and would therefore also like to see a study of this.

# 6 References

- Abramowitz AI. It's Abortion, Stupid: Policy Voting in the 1992 Presidential Election. *The Journal of Politics*. 1995;57(01):176–86.
- Ahn H, Seol H-J, Lim J-E, Hong S, Lee S, Park M-I, et al. Estimates of induced abortion in South Korea: Health facilities survey. *Journal of Obstetrics & Gynaecology Research*. 2012;38(1):324–8.
- Allison PD. *Event History Analysis: Regression for Longitudinal Event Data*. SAGE; 1984.
- Armingeon, Klaus & David Weisstanner, Sarah Engler, Panajotis Potolidis, Marlène Gerber. 2012. *Comparative Political Data Set I 1960-2010*. Bern: Institute of Political Science, University of Bern.
- Asal V, Brown M, Figueroa RG. Structure, Empowerment and the Liberalization of Cross-National Abortion Rights. *Politics & Gender*. 2008;4(02):265–84.
- Bankole, Akinrinola; Singh, Susheela & Haas, Taylor, 1998, Why Women Have Induced Abortions: Evidence from 27 Countries, *International Family Planning Perspectives*, vol 24, no. 3, Sep., 1998, pp. 117-127, Guttmacher Institute
- Barro, Robert and Jong-Wha Lee, v. 1.3 04/2013, "A New Data Set of Educational Attainment in the World, 1950-2010." forthcoming, *Journal of Development Economics*
- Bauer G, Wilson D. Beyond Substantive Representation? The Impact of Women MPs on Governance in Sub-Saharan Africa. *Conference Papers -- American Political Science Association*. 2008;1.
- Beck N( 1 ), Katz J n. ( 2 ), Tucker R( 2 ). Taking time seriously: Time-series-cross-section analysis with a binary dependent variable. *American Journal of Political Science*. 1998;42(4):1260–88.
- Berkman MB, O'Connor RE. Do Women Legislators Matter? *American Politics Research*. 1993 Jan;21(1):102.
- Blofield M. Women's Choices in Comparative Perspective: Abortion Policies in Late-Developing Catholic Countries. *Comparative Politics*. 2008;(4):399.

- Bloom DE, Canning D, Fink G, Finlay JE. Fertility, female labor force participation, and the demographic dividend. *Journal of Economic Growth*. 2009 Jun;14(2):79–101.
- Cohen, Susan A., Facts and Consequences: Legality, Incidence and Safety of Abortion Worldwide, Alan Guttmacher Institute, Guttmacher Policy Review, Fall 2009, Volume 12, Number 4, <http://www.guttmacher.org/pubs/gpr/12/4/gpr120402.html>
- Contreras D, Puentes E, Bravo D. Female Labour Force Participation in Greater Santiago, Chile: 1957-1997: A Synthetic Cohort Analysis. *Journal of International Development*. 2005 Mar;17(2):169–86.
- Coppedge, Michael, A Classification of Latin American political parties, Helen Kellogg Institute for International Studies, 1997/11, Issue 244
- Devlin C, Elgie R. The Effect of Increased Women’s Representation in Parliament: The Case of Rwanda. *Parliamentary Affairs*. 2008 Apr;61(2):237–54.
- Field MJ. Determinants of Abortion Policy in the Developed Nations. *Policy Studies Journal*. 1979;7(4):771–81.
- Finer L, Fine J. Abortion Law Around the World: Progress and Pushback. *American Journal of Public Health*. 2013 Apr;103(4):1197–e5.
- Fried A. Abortion Politics as Symbolic Politics: An Investigation into Belief Systems. *Social Science Quarterly* (University of Texas Press). 1988 Mar;69(1):137–54.
- Gender Equality in Iceland, Jafnréttistofa, Information on Gender Equality Issues in Iceland, Centre for Gender Equality Iceland, January 2012, [http://eng.fjarmalaraduneyti.is/media/Gender\\_Equality\\_in\\_Iceland\\_012012.pdf](http://eng.fjarmalaraduneyti.is/media/Gender_Equality_in_Iceland_012012.pdf)
- Goldberg M. The War on Women Backfires. *Newsweek*. 2012 Nov 19;160(21):56–9.
- Granberg D, Granberg BW. Abortion Attitudes, 1965-1980: Trends and Determinants. *Family Planning Perspectives*. 1980 Sep 1;12(5):250–61.
- Guillaume Agnés & Lerner, Susana, 2006, El aborto en América Latina y El Caribe, CEPED, [http://www.ceped.org/cdrom/avortement\\_ameriquelatine\\_2006/sp/chapitre4.html](http://www.ceped.org/cdrom/avortement_ameriquelatine_2006/sp/chapitre4.html)
- Guttmacher Institute:a, Making Abortion Services Accessible in the Wake of Legal Reforms: A Framework and Six Case Studies, New York: Guttmacher Institute, 2012, <[www.guttmacher.org/pubs/abortion-services-laws.pdf](http://www.guttmacher.org/pubs/abortion-services-laws.pdf)>.
- Guttmacher Institute:b, In Brief: Fact Sheet Facts on Induced Abortion Worldwide, New York: Guttmacher Institute, January 2012, [http://www.guttmacher.org/pubs/fb\\_IAW.html](http://www.guttmacher.org/pubs/fb_IAW.html)

- Hosmer, Jr DWH, Lemeshow S. Applied Logistic Regression. John Wiley & Sons; 2004.
- ILO, Laborsta, Employment, Main Statistics, Annual, <http://laborsta.ilo.org/STP/guest>, data downloaded on 2013-05-15
- IPU, Women in national parliaments, situation as of 1<sup>st</sup> May 2013, <http://www.ipu.org/wmn-e/classif.htm>
- IPU, WOMEN IN PARLIAMENTS 1945 – 1995, WORLDWIDE STATISTICAL SURVEY, Inter-Parliamentary Union 1995, Published by INTER-PARLIAMENTARY UNION B.P. 438 1211 Geneva 19 Switzerland, [http://www.ipu.org/PDF/publications/women45-95\\_en.pdf](http://www.ipu.org/PDF/publications/women45-95_en.pdf)
- IPU, Election Archives, Chile, Poland, Israel, Portugal, Mexico, South Korea, [http://www.ipu.org/parline/reports/2255\\_arc.htm](http://www.ipu.org/parline/reports/2255_arc.htm), 2013-05-30
- Jelen TG, O'Donnell J, Wilcox C. A Contextual Analysis of Catholicism and Abortion Attitudes in Western Europe. *Sociology of Religion*. 1993;(4):375.
- Jenkins P. A secular Latin America? *Christian Century*. 2013 Mar 20;130(6):45–45.
- Kalist DE. Abortion and Female Labor Force Participation: Evidence Prior to Roe v. Wade. *Journal of Labor Research*. 2004;25(3):503–14.
- Kero, Anneli; Ångberg; U Hå, Jacobsson, L; Lalos, A, 2001, *Social Science & Medicine* 53 1481–1490, Department of Clinical Sciences, Obstetrics and Gynaecology, Umeå University, University Hospital, SE-901 85Umeå, Sweden, Department of Clinical Sciences, Psychiatri, Umeå University, SE-901 85Umeå, Sweden
- Luker K. Abortion and the politics of motherhood. Berkeley: University of California Press; 1984.
- Maoz, Zeev & Errol A. Henderson. “The World Religion Dataset, 1945-2010: Logic, Estimates, and trends.” *International Interactions*, 39(3). Version 1
- McDermott, Kerry, 2012-11-14, Miscarrying mother dies after Irish doctors refuse abortion, saying: 'This is a Catholic country', *The Daily Mail*, <http://www.dailymail.co.uk/news/article-2232676/Savita-Halappanavar-dies-Irish-doctors-refuse-abortion-saying-This-Catholic-country.html>
- Read more: <http://www.dailymail.co.uk/news/article-2232676/Savita-Halappanavar-dies-Irish-doctors-refuse-abortion-saying-This-Catholic-country.html#ixzz2bkOyhvIL>
- McLaren A. Illegal operations: women, doctors, and abortion, 1886-1939. *Journal of Social History*. 1993;26(4):797–816.

- Minkenberg M. Religion and Public Policy Institutional, Cultural, and Political Impact on the Shaping of Abortion Policies in Western Democracies. *Comparative Political Studies*. 2002 Mar 1;35(2):221–47.
- OECD.org, Members and partners, <http://www.oecd.org/about/membersandpartners/>, 2013-08-11
- Ogland CP, Verona AP. Religion and attitudes toward abortion and abortion policy in Brazil. *Journal For The Scientific Study Of Religion*. 2011;50(4):812–21.
- Phillips A. *The Politics of Presence*. Oxford University Press; 1995.
- Pillai VK, Wang G-Z. Women’s reproductive rights and social equality in developing countries - A Report on the International Safe Motherhood Conference, Nairobi, Kenya, February 1987. *SOCIAL SCIENCE JOURNAL -COLORADO- WESTERN SOCIAL SCIENCE ASSOCIATION-*. 1999;36(3):459–67.
- Pribble J. Women and Welfare: The Politics of Coping with New Social Risks in Chile and Uruguay. *Latin American Research Review*. 2006;(2):84.
- Ramirez FO, McEneaney EH. From Women’s Suffrage to Reproduction Rights? Cross-national Considerations 1. *International Journal of Comparative Sociology* (Sage Publications, Ltd). 1997 Mar;38(1/2):6–24.
- reproductiverights.org, Center for Reproductive Rights Files Case Revealing the Horrifying Reality of El Salvador's Ban on Abortion  
<http://reproductiverights.org/en/press-room/center-for-reproductive-rights-files-case-revealing-the-horrifying-reality-of-el-salvador>, 2012-03-21
- Samanni, Marcus. Jan Teorell, Staffan Kumlin, Stefan Dahlberg, Bo Rothstein, Sören Holmberg & Richard Svensson. 2012. The QoG Social Policy Dataset, version 4Apr12. University of Gothenburg: The Quality of Government Institute. <http://www.qog.pol.gu.se>
- Female Labour Force Participation, OECD – Population and Labor Force Statistics, OECD 2006d
- Institutionalised democracy, Marshall & Jagers, 2002, Polity IV, <http://www.systemicpeace.org/polity/polity4.htm>
- Growth Rate of Real GDP per Capita (Constant Prices: Chain series), PWT 6.1 Alan Heston, Robert Summers and Bettina Aten, Penn World Table Version 6.1, Center for International Comparisons of Production, Income and Prices at the University of Pennsylvania, October 2002.

- Sawer M. What makes the substantive representation of women possible in a Westminster parliament? The story of RU486 in Australia. *International Political Science Review*. 2012 Jun 1;33(3):320–35.
- Stephens M, Jordens C, Kerridge I, Ankeny R. Religious Perspectives on Abortion and a Secular Response. *Journal of Religion & Health*. 2010 Dec;49(4):513–35.
- Sundström K. Can government influence population growth? [Internet]. Issue 29. *OECD Observer*; 2001. Available from: [http://www.oecdobserver.org/news/archivestory.php/aid/563/Can\\_governments\\_influence\\_population\\_growth.html](http://www.oecdobserver.org/news/archivestory.php/aid/563/Can_governments_influence_population_growth.html)
- Swers ML. Are Women More Likely to Vote for Women’s Issue Bills than Their Male Colleagues? *Legislative Studies Quarterly*. 1998 Aug 1;23(3):435–48.
- Tartakoff LY. Continuity in Change: Leftwing Coalitions in Uruguay and Chile. *Society*. 2013;50(1):65–72.
- Teorell, Jan, Marcus Samanni, Sören Holmberg and Bo Rothstein. 2012. The Quality of Government Basic Dataset made from The QoG Standard Dataset version 6Apr11. University of Gothenburg: The Quality of Government Institute, <http://www.qog.pol.gu.se>.
- UCDP/PRIO Armed Conflict Dataset (version 3-2005), (Gleditsch et al. 2002), Number of Conflicts, Conflict Location
- UN Population Division Department of Economic and Social Affairs, Abortion Policy, Country Profiles, <http://www.un.org/esa/population/publications/abortion/>, 2013-05-30
- United Nations Millennium Development Goals [Internet]. [cited 2013 Jul 30]. Available from: <http://www.un.org/millenniumgoals/bkgd.shtml>
- Unfpa.org, Promoting Gender Equality, Empowering Women through Education, <http://www.unfpa.org/gender/empowerment2.htm>, 2013-08-11
- WHO | Preventing unsafe abortion [Internet]. WHO. [cited 2013 Jul 30]. Available from: [http://www.who.int/reproductivehealth/topics/unsafe\\_abortion/magnitude/en/](http://www.who.int/reproductivehealth/topics/unsafe_abortion/magnitude/en/)
- World Population Policy - United Nations Population Division | Department of Economic and Social Affairs [Internet]. [cited 2013 Jul 12]. Available from: <http://www.un.org/en/development/desa/population/publications/policy/world-abortion-policies-2013.shtml>
- Wängnerud L. Women in Parliaments: Descriptive and Substantive Representation. *Annual Review of Political Science*. 2009;12(1):51–69.

# 7 Appendix

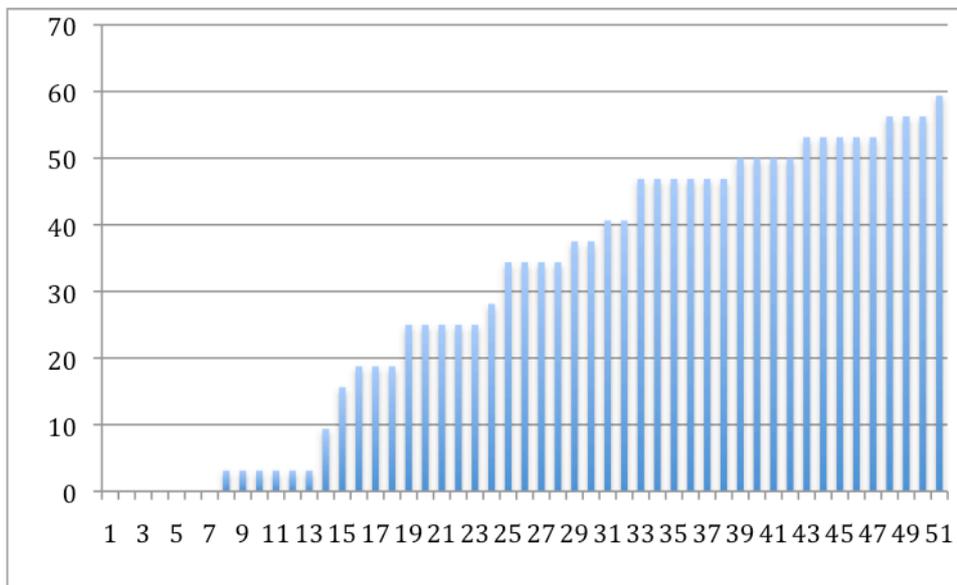
## 7.1 Appendix 1: The OECD countries and abortion law reform

Table 1: OECD countries and legalisation of abortion without restriction as to

Country	Year of reform	Comment
Australia	1998	Australia Capital Territory, Victoria and Western Australia
Austria	1974	
Belgium	1990	
Canada	1988	
Chile	-	Not legal under any circumstances
Czech Republic	1986	Legalised in Czechoslovakia
Denmark	1973	
Estonia	1955	Legalised in USSR
Finland	-	Socio-economic reasons since 1970
France	1975	
Germany	1992	
Germany, East	1955	Legalised in USSR
Germany, West	-	
Greece	1984	
Hungary	1992	Legal 1953-1973
Iceland	-	Socio-economic reasons since 1975
Ireland	-	
Israel	-	Socio-economic reasons since 1977
Italy	1978	
Japan	-	
South Korea	-	
Luxembourg	-	Socio-economic reasons since 1978
Mexico	-	Legal in Mexco City since 2007
Netherlands	1984	
New Zealand	-	
Norway	1978	
Poland	-	
Portugal	2007	
Slovak Republic	1986	Legalised in Czechoslovakia
Slovenia	1977	Legalised in Yugoslavia
Spain	2010	
Sweden	1974	
Switzerland	2002	
Turkey	1983	
United Kingdom	1967	Northern Ireland except
United States	1973	

Source: UN Population Division Department of Economic and Social Affairs, Abortion Policy, Country Profiles, 2013-05-30

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**Graph 1: Cumulative percentage of OECD countries legalising abortion, year 0=1960 year 51=2010**  
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Comment: Left censored countries are not included.

## 7.2 Appendix 2

**Table 9: Multivariate logit analysis**

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**Legalisation of abortion without restriction as to reason**  
**Event (1)**  
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<b>Variable</b>	<b>Robust Odds Ratio</b>	<b>Std. Err.</b>	<b>Z</b>	<b>P</b>
Female Labour Force (%)	1.04735	.0176	2.76	<b>0.006***</b>
Women in Parliament (%)	.98551	.0371	-0.39	0.698
Religious Adherence (%)	.86391	.0507	-2.49	<b>0.013**</b>
GDP, growth (%)	1.0129	.0626	0.21	0.836
Average Schooling, change (%)	1.76420	.2952	3.39	<b>0.001***</b>
Left-Liberal Party Legislative Seats (%)	1.02889	.0123	2.38	<b>0.017**</b>
Neighbouring Country Legalised	2.51113	1.542	1.50	0.134
Previous Legislation	.47367	.2431	-1.46	0.145
Conflict	1.46001	.501	1.10	0.270

-----  
 Number of Obs: 713  
 Wald Chi2: 30.40  
 Prob > Chi2: 0.0004  
 Pseudo R2: 0.1166  
 \*p<0.1, \*\* p<0.05, \*\*\* p<0.01  
 -----

Comment: When the democracy variable is no longer included in the analysis, the results remain very much the same with the only change being that left and liberal parties' share of legislative seats is significant. The odds ratio is however close to 1 indicating that the effect is very marginal.