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The Effect of Divorce Laws on Divorce Rates in Europe

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ABSTRACT

The Effect of Divorce Laws on Divorce Rates in Europe*

This paper analyzes a panel of 18 European countries spanning from 1950 to 2003 to examine the extent to which the legal reforms leading to "easier divorce" that took place during the second half of the 20th century have contributed to the increase in divorce rates across Europe. We use a quasi-experimental set-up and exploit the different timing of the reforms in divorce laws across countries. We account for unobserved country-specific factors by introducing country fixed effects, and we include country-specific trends to control for time-varying factors at the country level that may be correlated with divorce rates and divorce laws, such as changing social norms or slow moving demographic trends. We find that the different reforms that "made divorce easier" were followed by significant increases in divorce rates. The effect of no-fault legislation was strong and permanent, while unilateral reforms only had a temporary effect on divorce rates. Overall, we estimate that the legal reforms account for about 20 percent of the increase in divorce rates in Europe between 1960 and 2002.

JEL Classification: J12, J18, K3

Keywords: divorce rates, legislation

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1. Introduction

The recent rise in divorce rates in industrialized countries has generated a great deal of attention from researchers and policy makers. Many worry about the negative economic consequences of divorce for women and children, and there is some evidence that more liberal divorce laws have negative effects on long-term outcomes for children (Gruber, 2004). On the other hand, recent research suggests that divorce increases physical and psychological well-being for both partners (Gardner and Oswald, 2005; Stevenson and Wolfers, 2006). Thus it seems clear that divorce legislation has potential effects on large segments of the population and on several important dimensions related to both economic and psychological well-being.

The rise in divorce rates has been very pronounced in Europe since the 1960's. Virtually all European countries experienced less than 2.5 divorces per 1,000 married people in 1960, and many had divorce rates below 1 (see Figure 1). By 2002, most European countries had divorce rates around 5 per 1000 married people or higher.

[FIGURE 1 ABOUT HERE]

During the last four decades of the 20th century, many legal reforms took place in Europe at the national level that allowed divorce under mutual consent and "no-fault" grounds or even unilaterally. This raises the question of whether these reforms that tended to "make divorce easier" were at least partially responsible for the widespread increase in divorce rates.

This question has relevant policy implications, since several countries have recently been considering additional reforms in their divorce laws.[1] They are also pertinent given current initiatives studying the possible harmonization of family law within the European Union (Boele-Woelki, 2005; European Commission, 2005).

We use panel data on 18 European countries from 1950 to 2003 to analyze the effect of changes in divorce laws on the divorce rate. We identify this causal relationship by exploiting the variation across countries in the timing and nature of the reforms, while controlling for fixed and trending unobserved factors at the country level that may be related to both divorce laws and divorce rates. We also analyze the extent to which the effects of the reforms are transitory or permanent.

Our analysis builds on a previous body of literature, both theoretical and empirical, that analyzed the effect of unilateral divorce on divorce rates in the United States. Theoretically, an application of the Coase theorem to marital bargaining suggests that the allocation of resources should be unaffected by the distribution of property rights and hence the law would have no effect on the incidence of divorce (Becker et al., 1977; Becker, 1981). . Under mutual consent, for a divorce to take place the spouse who wishes to leave would have to compensate the one who wants to stay married. Under unilateral divorce, the break-up will take place unless the spouse who wishes to stay compensates the one who wishes to leave.

[1] Reforms liberalizing divorce took place in France in 2005 and in Spain in 2005, while there are current initiatives in the US in favour of making divorce easier in some states (such as New York) and more restrictive on others (such as Ohio).

Other theoretical papers have questioned the applicability of the Coase theorem in the marital bargaining setup (Clark, 1999; Fella et al., 2004) and conclude that under a bargaining framework divorce law may affect the probability of divorce. Specifically, Fella et al. (2004) note that the "changes in social norms rather than in legislation may be responsible for increasing divorce rates". (p.607)

Empirical estimates of the effect of divorce law on divorce rates have produced mixed results. Peters (1986, 1992) found that the unilateral reforms in the US had no effect on the divorce rate; however, these results were criticized by Allen (1992). Friedberg (1998) found that unilateral divorce laws were responsible for about 17 percent of the increase in divorce rates in the US during the 1970's and 1980's. Her results were widely accepted until Wolfers (2006), using a slightly modified specification, found that the effect of unilateral divorce is small and short-lived. No consensus has been reached on the subject to date.

We contribute to the debate by examining the impact of different divorce law reforms on the divorce rate using a long panel of European data. We find that the reforms that "made divorce easier" were followed by significant increases in divorce rates. Moreover, the effect of the move towards "no-fault" divorce laws seemed permanent (allowing for the time scale of the panel) with strong, significant long-term effects. However, the introduction of unilateral divorce increased divorce rates only in the short term, with the number of divorces going back to its previous level after a few years. According to our most conservative estimates, the combined effect of all the legal reforms that took place in Europe between 1960 and 2002 amounts to about 20% of the increase in divorce rates

in Europe during that period. The remaining unexplained increase in divorce rates may be due to, for example, changes in social norms across Europe.

The remainder of the paper is organized as follows. Section 2 summarizes the previous literature on the effect of divorce laws on divorce rates. The subsequent section describes divorce laws in Europe and the main reforms that took place since 1950. Section 4 discusses the data and the econometric specification, while section 5 presents the main results and some additional regressions and robustness checks. The final section summarizes the results and concludes.

2. Related Literature

Conventional wisdom suggests that making divorce easier should lead to higher divorce rates. This is in fact the argument used in recent years by certain groups in the US claiming that no-fault and unilateral divorce laws are contributing to the destruction of the traditional family and should therefore be reversed.[2]

Economic theory in the form of bargaining models supports this conventional wisdom and predicts that divorce laws may have an effect on the incidence of divorce (Clark, 1999; Fella et al., 2004) even in the absence of transaction costs and informational

[2] For instance, Americans for Divorce Reform (www.divorcereform.org) claim that '"No fault" doubled an already high divorce rate shortly after it was introduced. (…) The radical swing from 100% fault-based divorce to 100% unilateral non-binding marriage is a failed experiment. It pushed us into a whole new form of family life that is not sustainable'.

asymmetries. Clark (1999) and Fella et al. (2004) focus on how assets are allocated within a marriage and the different bargaining outcomes for the asset allocation on divorcing. Hence both the asset allocation and the right to dissolve a marriage (e.g. no fault versus unilateral) determine the gains and losses, and the incidence of divorce.

However, another branch of theoretical literature contradicts this prediction (Becker et al., 1977; Becker, 1981; Peters, 1986). According to their model, allowing unilateral divorce (from a previous requirement of mutual consent) should not make divorce more likely, since the reform would only reassign existing property rights between spouses (assuming perfect information and no transaction costs).

This is in fact a direct application of the Coase theorem, and the prediction is that a law change from mutual to unilateral divorce would alter the property rights and resulting compensation scheme between the spouses, but it would not make them more likely to divorce. Specifically, the rights would be redistributed from the spouse who does not want to divorce to the one who wishes to leave. However, some have pointed that the assumptions behind the Coase theorem may fail to hold in the context of marital bargaining (Parkman 1992; Stevenson and Wolfers 2006).

There have been several attempts to test the theoretical predictions with US data. Peters (1986, 1992) and Allen (1992) used cross-sectional data to test whether people living in states with unilateral divorce were more likely to divorce than others. They used different sets of controls and arrived at different conclusions. Peters estimated an effect of unilateral laws close to zero, while Allen found that unilateral divorce increased the probability of divorce by 1.4 percent. Later work has improved the identification strategy

by using panel data, which allows for the inclusion of state fixed effects and state-specific trends. Using a panel from 1968 to 1988, Friedberg (1998) found that unilateral divorce reforms had significant and permanent effects on divorce rates, accounting for about one sixth of the increase in divorce rates during the period. In a recent paper, Wolfers (2006) revised Friedberg's results with a longer panel and a slightly modified methodology, and found that unilateral divorce does not have permanent effects on the divorce rate.

This paper contributes to this literature by estimating the extent to which the divorce law reforms in Europe have contributed to the increase in divorce rates using a panel of 18 European countries from 1950 to 2003. This paper extends on the previous analyses by offering insights on the impact of several different types of reforms (rather than just the move to a unilateral divorce as examined in the previous literature). The long panel and the different timing and nature of the reforms that took place during the period across European countries offer an appealing identification strategy for the estimation of the effect of divorce laws on divorce rates.

3. Divorce Laws in Europe, 1950-2003

Most European countries had laws regulating divorce dating from the first half of the 20th century or earlier. The exceptions were Italy, Spain and Ireland, where divorce was banned until 1970, 1981, and 1996, respectively.[3] During the 1950's and 1960's, many countries allowed divorce only on the basis of "fault", the fault grounds typically

[3] Divorce was also banned for Catholics in Portugal until 1975.

including adultery and physical violence.[4] Some countries (mostly in Scandinavia) also allowed divorce after a certain separation period.

The so-called "no-fault revolution" started in the 1970's, when many countries introduced grounds for divorce in addition to (or in replacement of) fault, typically the "irretrievable breakdown" of the marriage, of which mutual consent was usually considered proof. Many countries went further and at some point introduced "unilateral divorce", which allowed divorce on request by only one of the spouses, thus dropping the pre-requisite of mutual agreement.

The characterization of the different reforms (over 20 of them between 1970 and 2000) is complicated by the large variation regarding specific details such as the breadth of no-fault grounds or differing separation requirements. Friedberg (1998) notes the difficulty in categorizing situations where separation during a certain period of time is the only grounds for unilateral divorce. Thus we will explore the sensitivity of the results to different definitions of unilateral divorce.

Table 1 summarizes the main changes in divorce laws that took place in 18 European countries between 1950 and 2003.[5] Ten countries had already adopted no-fault divorce

[4] Under a "fault" regime, the right to file for divorce is available unilaterally to an innocent party if his/her spouse is guilty of a serious matrimonial offense, such as adultery. It is necessary to present proof of fault in court before a judge.

[5] The dates correspond to the year when a certain reform was implemented, which is often the year after the legislation was passed.

before 1950, while the remaining eight moved to no-fault between 1971 and 1997.[6] Five countries had explicitly incorporated unilateral divorce by 2003, and another 12 countries implicitly allowed for a spouse to divorce unilaterally after a required separation period, which was considered proof of the irretrievable breakdown of the marriage. The different countries also vary in terms of the separation period required in the case of unilateral demand, with only Finland and Sweden allowing for unilateral divorce without any separation requirement.[7] This large variation in the timing of the reforms will be exploited in the econometric analysis in order to identify the effect of the law changes on divorce rates.

[TABLE 1 ABOUT HERE]

4. Data and Methodology

The longitudinal data on divorce rates cover 18 European countries from 1950 to 2003 inclusive. The data for the annual number of divorces, population and married population

[6] Germany, Austria and Switzerland had what has been called a "weak fault" regime already before 1950 (Smith, 2002). We include "weak-fault" as "no-fault" since these regimes specified "*a rather open-ended, non-specific fault ground that can flexibly accommodate a wide range of provable matrimonial offenses, possibly even of a relatively minor character*" (Smith, 2002, p. 215). These regimes also allowed divorce on the basis of a three-year separation.

[7] The information on divorce legislation across countries was gathered from Boele-Woelki et al. (2003, 2004), Dutoit (2000), and Smith (2002).

figures are publicly available from Eurostat for the following countries: Austria, Belgium, Denmark, Federal Republic of Germany excluding ex-GDR, Finland, France, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.[8]

The main dependent variable in the analysis is the divorce rate, defined as annual divorces per thousand married people. The analysis is also performed using divorces per thousand people, in order to facilitate the comparison with previous studies (results are available upon request).[9]

We favor the use of annual divorces per married people because marriage rates changed significantly during the second half of the 20th century, and they did so at different rates across countries, thus affecting the population "at risk" of divorce. We may also worry that the divorce law changes may impact the quality and quantity of the marriage market matches. As Wolfers (2006) argues, on one hand, the divorce rate may increase due to "reduced exit costs" that may lead to lower quality matches. On the other

[8] Data from the United Nations and/or national statistical offices were used for data points not available from Eurostat. The detailed sources are available upon request. In particular, there were many gaps in the series for married population. Thus we impute married population by country using the available data points, plus a linear and a quadratic trend. Specifications with only linear trends and with linear, quadratic and cubic trends were also estimated and did not affect the results.

[9] Both Friedberg (1998) and Wolfers (2003) used divorces per thousand population as the main dependent variable in their analyses.

hand, easier divorce may reduce the benefits of marriage and hence decrease the proportion of the ever-married population. However, even large effects on the number of new marriages would affect the stock of marriages very slowly.

The aggregate number of divorces per thousand married people in the 18 countries in the sample was 1.2 in 1960, while it had risen to 3.6 by 2002 (see Figure 2). The divorce rate (per thousand married people) by country from 1950 until 2003, aggregated by decade, is shown in Table 2. Note that divorce rates rose in all countries during the period.

[FIGURE 2 ABOUT HERE]

[TABLE 2 ABOUT HERE]

The analysis relies on a number of quasi-experiments to assess the impact of different divorce law reforms on divorce rates. First of all, four countries that used to ban divorce introduced no-fault divorce legislation between 1971 and 1997 (Ireland, Italy, Portugal and Spain). Another four countries that allowed divorce only on the basis of fault adopted *no fault* legislation during the 1970's (see Table 1). All countries but Ireland and Italy had introduced some form of *unilateral* divorce by 2003, most of them with separation requirements. Thirteen countries underwent reforms that introduced some form of unilateral divorce between 1960 and 2003, while Finland, Norway and Sweden had already introduced (implicitly) unilateral divorce before 1950. Typically, countries with "implicitly" unilateral legislation considered a certain separation period to be proof of the "irretrievable breakdown" of the marriage, which was in turn a ground for divorce.

Finally, five countries adopted *explicitly unilateral* divorce legislation between 1974 and 1993 (two of them, Finland and Sweden, with no separation requirement).

Examining the impact of the *no-fault* and *unilateral* reforms on the divorce rates is clearly quasi-experimental, relying on identification by the variation in the timing of the reforms across reform countries. However, a direct comparison of reform and control countries would imply assuming that the variation in the legislative reforms across countries is exogenous. This seems a questionable assumption since countries that had higher divorce rates in 1950 were also more likely to introduce reforms that liberalized divorce in subsequent years (see Table 2). It is likely that countries differ in unobservable dimensions, such as social norms, that are related to both divorce rates and legislative activity.

We account for pre-existing differences across countries through the inclusion of country fixed-effects in the regressions. Moreover, it is still conceivable that such unobservable factors as social norms or demographic trends are evolving over time at different paces in different countries. For instance, countries where the stigma associated with divorce was diminishing faster would experience higher increases in divorce rates and could also be more likely to pass laws making divorce easier. We account for this possibility by including country-specific linear, quadratic and cubic trends in our different regression specifications. Hence we are quite confident that we are removing both fixed and time-varying unobserved factors at the country level that could otherwise bias our results. If anything, we may worry that part of the effect of the reforms might be captured by the country-specific trends. This issue will be discussed in more detail in section 5.

Our initial estimation strategy replicates Friedberg's methodology (Friedberg, 1998). Friedberg estimates the following equation:

$$divorce\,rate_{i,t} = blaw_{i,t} + \sum_i country\ fixed\ effects_i + \sum_t time\ fixed\ effects_t + \sum_i country_i * time_t + e_{i,t} \quad (1)$$

The variable *law* is a dichotomous variable set to equal one when a reform is effective in country *i* and time period *t*. Hence, the coefficient β is interpreted as the average rise in the divorce rate due to the legal change. In our setup, we introduce four separate dummies for each of the four legislative changes (*legal*, *no fault*, *unilateral*, *explicitly unilateral*) and interpret each of the coefficients equivalently. Country and year fixed effects in Equation (1) control for pre-existing differences in country-specific divorce probabilities, as well as for evolving unobserved factors that affect divorce in all countries in the sample. A less restrictive specification allows for country specific time trends, which control for, for example, social and demographic trends within a country. We also estimate specifications that add quadratic and cubic trends for each country. Equation (1) is estimated by population-weighted least squares on an unbalanced panel. The number of observations is 916.[10]

A potential problem with this methodology is that it might confound pre-existing trends in divorce rates with the dynamic response of a policy shock, as suggested by Wolfers (2006). In other words, β in equation (1) only captures a discrete series break.

[10] The data on the annual number of divorces is missing for the fifties and/or 2003 for some countries.

Wolfers (2006) adopted an alternative approach that traced out the full adjustment path, and his results indicated that Friedberg's approach leads to misleading conclusions on the impact of divorce legislation on the divorce rate. Hence to account for the dynamic response to the legislative change we estimate the following equation:

$$divorcerate_{i,t} = \sum_{k\geq 1} b_k \, law\,in\,effect\,for\,k\ periods_{i,t} + \sum_i country\,fixed\,effects_i + \sum_t time\,fixed\,effects_t + \sum_i country_i * time_t + e_{i,t} \quad (2)$$

Whereas in Equation (1) the *law* dummy captures the full adjustment process, equation (2) traces out the adjustment path with the inclusion of dummies for the law having been effective for 1-2 years, 3-4 years and so on. These variables capture the dynamic response of divorce while the country-specific time trends identify pre-existing trends. It is of considerable interest to examine the full adjustment process as there is often "a temporary boost to divorce rates as a backlog of long dead marriages are given an opportunity for legal burial under new legislation" (Smith, 2002, p. 220). Thus these additional specifications allow us to detect to what extent the effects of the reforms are temporary or permanent.

5. Results

5.1 Discrete jump approach

Table 3 reports the estimates for Equation (1), the dependent variable being the annual number of divorces per thousand married people. The specification shown in column 1 includes only the four reform dummies, while column 2 adds year effects. All four types

of reforms show positive and significant coefficients in the initial specifications. Adding country effects (column 3) reduces the size of the coefficients for *unilateral* and *no-fault* considerably, and the *legal* coefficient turns negative. The three remaining columns add linear, quadratic and cubic trends, thus accounting for time-varying country-specific factors that may be related to both divorce rates and divorce law reforms.

The coefficient on *legal* becomes positive and significant again when we include cubic trends (and remains so in specifications including quartic trends).[11] The intuition for the negative sign in previous specifications is that fitting a linear trend to divorce rates in countries where divorce was illegal at the beginning of the period will result in divorce rates that are below the trend in the years immediately following the reform. The final specification suggests that legalizing divorce increases divorce rates from zero to about 0.23 divorces per 1,000 married people.

The coefficients on *no-fault*, *unilateral* and *strictly unilateral* reforms are practically always positive and strongly significant, indicating that countries that introduced those reforms experienced significant subsequent increases in divorce rates, relative to the control countries. The size of the *no-fault* coefficient remains essentially unchanged once we introduce the country fixed effects. The final specification indicates that no-fault legislation increases divorce rates by about 0.41 divorces per 1,000 married people. The effect of introducing (implicitly) *unilateral* divorce is estimated at 0.35 to 0.48 in specifications 4 and 5, but the size of the coefficient drops significantly and becomes insignificant in the last specification. Finally, introducing *strictly unilateral* divorce is

[11] The results with quartic trends are available upon request.

estimated to raise divorce rates by 0.71 divorces per 1,000 married people, and the effect does not vary much across specifications.[12]

The magnitudes of the estimated effects are sizeable compared with the average divorce rate of 2.64. The estimates suggest that divorce rates would have been 13% lower in 2002 if none of the 1960-2002 reforms towards no-fault or unilateral divorce had taken place.[13] Thus, these results suggest that the move towards no-fault, unilateral divorce accounted for about 20% of the increase in divorce rates in Europe between 1960 and 2002.[14]

[TABLE 3 ABOUT HERE]

5.2 Dynamic approach

The results in section 5.1 show a worrying sensitivity to the inclusion of the country trends. One reason might be the presence of omitted variable bias, which would be

[12] The results are very similar when using divorces per thousand people as the dependent variable. In particular, the signs and significance levels of the coefficients remain unchanged, as well as their relative size.

[13] The model predicts an aggregate divorce rate for 2002 of 3.16 in the absence of the reforms, compared with the actual divorce rate of 3.64.

[14] The actual increase in divorce rates from 1960 to 2002 was from 1.26 to 3.64, i.e., a 2.38 points increase. Our counterfactual increase (from 1.26 to 3.16) amounts to 1.9 points, which represents about 80% of the actual one. Thus the remaining 20% is attributable to the reforms.

accounted for with the introduction of the trends, as suggested by Friedberg (1998). However, another possibility is that the trends are confounding pre-existing trends with the response of the divorce rate to the policy shocks, as pointed out by Wolfers (2006). We address this concern in part by using a long panel that includes a large number of observations prior to any of the reforms. This section estimates additional specifications that relax the discrete-jump assumption and allow us to distinguish short-term from permanent effects of the reforms. They also act as robustness checks for the results in the previous models.

Table 4 reports the dynamic effect of divorce law changes for *no-fault, unilateral* and *explicitly unilateral* reforms (see Equation 2). For instance, column 1 shows the results from estimating a regression where the effect of *no-fault* reforms is allowed to vary over time, while the rest of the reforms are still accounted for with single dummies.[15] The specifications shown in Table 4 all include year and country dummies, plus country-specific linear, quadratic and cubic trends. The effect of legalizing divorce is estimated at 0.23 to 0.44 divorces per 1,000 married people, similar to the results in the discrete jump specifications (Table 3). However, no-fault reforms are estimated to have a much stronger effect in the dynamic specification (column 1). The discrete jump regressions showed an effect of 0.41 to 0.47 divorces per 1,000 married people, and this magnitude is similar to the estimated effect during the first two years following the reform in Table 4.

[15] We also run specifications where all four types of reforms are allowed to have time-varying effects, and the results are very similar to those reported in Table 4.

The effect remains significant over time and its magnitude is in fact increasing, so that in the long term, the divorce rate would increase by as much as 2 divorces per 1,000 married people (the coefficient for 15 years and more) as a result of no-fault legislation.

On the other hand, the dynamic specifications suggest that reforms allowing unilateral divorce do not have a permanent effect on divorce rates. Reforms that allow for unilateral divorce only implicitly and after a certain separation period increase the divorce rate by about 0.04 in the first four years (column 2), and the effect reaches 0.18 eight years after the reform.[16] However, this positive effect is not significant, and after the initial ten-year period, it becomes negative (although mostly still not significant). As for the estimated effect of explicitly unilateral reforms (column 3), it is significant but short-lived: a 0.87 increase in the divorce rate during the two years following the reform turns insignificant in the third and fourth post-reform years, and the sign is actually reversed (although not significantly) starting year seven.[17]

The magnitude of the effects is only slightly altered when we include the dynamic effects for all three types of reforms at once, as well as when we include dynamics for *legal*. We also check the sensitivity of these results to the exclusion of the cubic,

[16] The negative sign on the first two years after the reform is caused by Germany, where divorce rates dropped significantly the year after unilateral divorce was introduced, possibly due to the introduction of a separation requirement.

[17] Again, the results are very similar when using divorces per thousand people as the dependent variable. The main difference is that in the specification with dynamic effects for unilateral, the coefficients are significantly positive for years 3 to 12 after the reform.

quadratic and linear trends. The results always show a strong, long-term effect of *no-fault* reforms, and a significant but short-lived effect of *unilateral* reforms.[18]

[TABLE 4 ABOUT HERE]

5.3 Additional specifications and robustness checks

The results seem robust to a number of alternative specifications. We explore different degrees of *unilateral* divorce legislation, in an attempt to understand whether the type of unilateral divorce matters. These results are reported in Table 5. The first column shows the results of using (implicit) unilateral as the only measure of unilateral divorce, while columns 2 and 3 use progressively stricter definitions (explicitly unilateral and explicitly unilateral with no separation period). The last column shows the results of including both (implicit) unilateral and unilateral with no separation period.

Legal and *no-fault* are significantly positive in all four specifications. The coefficient on *unilateral* is always positive but insignificant, and no clear effect is discernible in the dynamic specifications (not shown). Note, however, that both *explicit unilateral* and *unilateral with no separation period* are always significantly positive. The positive effect of *explicit unilateral* appears to last only for the first two years after the law is implemented, while the introduction of *unilateral divorce with no separation period* appears to significantly increase the number of divorces for up to 6 years after

[18] Note that the effect of implicit unilateral is significantly positive in the specifications without the country-specific cubic trends.

implementation.[19] Thus we conclude that although the type of unilateral legislation matters, the effect of any kind of unilateral divorce legislation on divorce rates appears to be transitory.

[TABLE 5 ABOUT HERE]

Regressions were also estimated with additional minor *changes in the definition of unilateral* and explicitly unilateral for those countries where there was any doubt about the timing or the nature of the reforms.[20] The only relevant change is that explicitly unilateral reforms become less significant when we include Switzerland in the reform countries.[21]

The use of a 54-year-long panel may raise doubts about the validity of the time trends, especially when including quadratic and cubic trends. Thus we also estimated regressions with a *shorter version of the panel* (1960 to 2002), with similar results.[22] The only relevant change is that the dynamic effect of unilateral is now significantly positive for a few more years following the reform.

We may also worry that only a few countries may be driving most of the results, so we estimated the regressions for 17 countries, dropping one individual country at a time. The results did not seem overly sensitive to the exclusion of any specific country.

[19] The results from the dynamic specifications are available upon request.

[20] Essentially Belgium, Greece and Switzerland.

[21] Switzerland adopted unilateral divorce in 2000.

[22] Regressions were estimated with a balanced panel spanning from 1960 to 2002.

However, and as expected, the significance of reforms legalizing divorce relied on including Italy and Spain, and the significance of *no-fault* dropped with the exclusion of Germany. Also, the *explicitly unilateral* coefficients dropped in size and significance when excluding Sweden from the sample.

Finally, we estimated Tobit models to account for the fact that the divorce rate was zero for a number of years in those countries that legalized divorce during the 1950-2003 period, with similar results for all the law indicators.

All of the robustness checks supported the main conclusions: that the reforms that liberalized divorce in Europe tended to increase divorce rates significantly, and the effects were permanent for no-fault reforms but only temporary for unilateral reforms.[23]

6. Conclusions

This paper analyzes a panel of 18 European countries spanning from 1950 to 2003 to examine the extent to which the legal reforms leading to "easier divorce" that took place during the second half of the 20th century have contributed to the increase in divorce rates across Europe.

According to the Coase theorem, unilateral divorce should not affect divorce rates since it simply reassigns existing property rights between spouses. However, some previous studies for the US found significant increases in divorce rates following reforms that introduced unilateral divorce. We find that countries allowing unilateral divorce experienced significant increases in divorce rates in the years following the reform.

[23] The full regression results mentioned in this section are available upon request.

However, the effect of the reforms seemed to have taken place during the first few years following the legal change, fading over time so that divorce rates were back to their previous levels a few years after the reforms were implemented. On the other hand, the effects of introducing no-fault divorce legislation (unilateral or not) seemed stronger and more permanent.

The combined effect of all the legal reforms that took place in Europe between 1960 and 2002, including the reforms that moved from fault to no-fault or that introduced (implicitly or explicitly) unilateral divorce, amounts to about 20% of the increase in divorce rates in Europe during that period, according to our most conservative estimates.

These results support and extend the findings of previous studies that used US data to address the effect of divorce legislation on divorce rates, such as Friedberg (1998) and Wolfers (2006). Like Wolfers (2006), we find that unilateral reforms appear to increase divorce rates only temporarily. But we also show that what really seemed to have a permanent effect on divorce rates was the generalization of no-fault grounds for divorce. Hence, while it seems clear that family law has a potential effect on marriage dissolution, unilateral divorce cannot be blamed for the generalized increase in divorce rates across countries during the second half of the 20th century.

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Figure 1. Divorce Rates in Five European Countries, 1960-2003

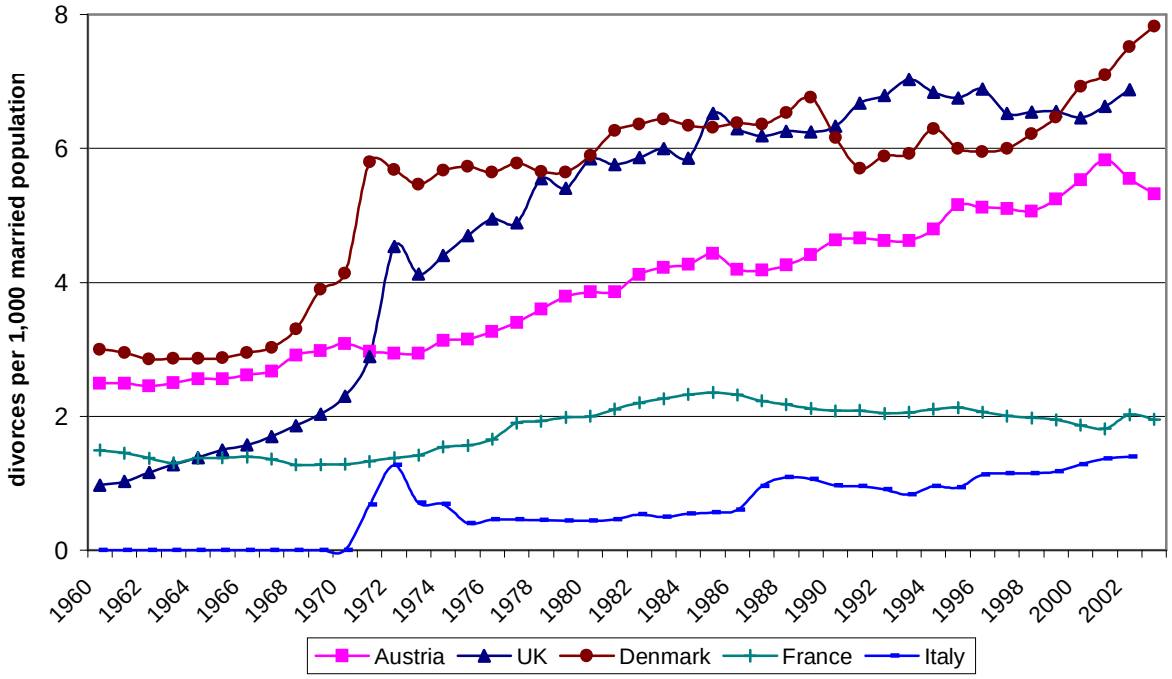

Figure 2. Aggregate Divorce Rate in 18 European Countries, 1960-2002

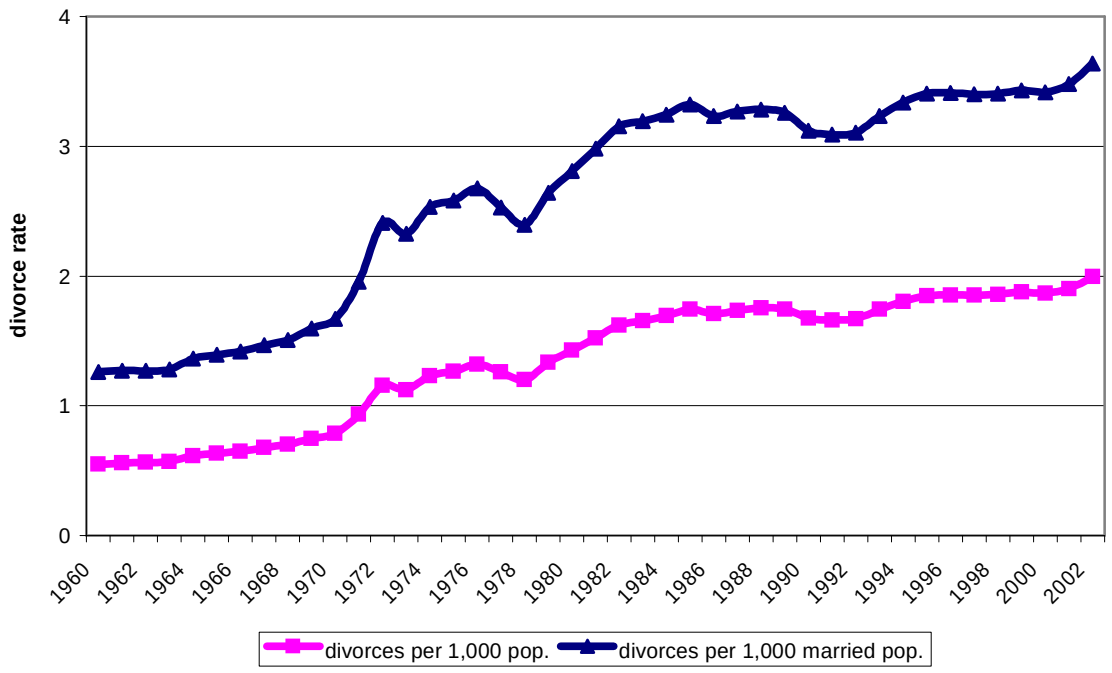

Table 1. Divorce Laws by Country, 1950-2003.

Country	(1) Year when divorce allowed	(2) No-fault	(3) Unilateral, no-fault
Austria	pre-1950	pre-1950	(1978)
Belgium	pre-1950	pre-1950	1975
Denmark	pre-1950	pre-1950	(1970), 1989
Finland	pre-1950	pre-1950	(pre-1950), 1988
France	pre-1950	1976	(1976)
Germany inc. GDR after 1991	pre-1950	pre-1950	(1977)
Greece	pre-1950	1979	(1983)
Iceland	pre-1950	pre-1950	(1993)
Ireland	1997	1997	no
Italy	1971	1975	no
Luxembourg	pre-1950	pre-1950	(1979)
Netherlands	pre-1950	1971	(1971)
Norway	pre-1950	pre-1950	(pre-1950), 1993
Portugal	1977	1977	(1977)
Spain	1981	1981	(1981)
Sweden	pre-1950	pre-1950	(pre-1950), 1974
Switzerland	pre-1950	pre-1950	(2000)
UK*	pre-1950	1971	(1971)

Sources: Boele-Woelki et al. (2003, 2004), Dutoit (2000), and Smith (2002).
Notes: Column 1 shows the year when divorce was first allowed. Column 2 shows the year when no-fault grounds for divorce were first introduced. No-fault grounds for a divorce include irretrievable breakdown, irreconcilable differences and/or incompatibility. Column 3 shows the year when unilateral, no-fault divorce was first allowed. Unilateral divorce does not require mutual consent and can be granted at the request of either spouse. A year in parenthesis means that unilateral divorce was not introduced explicitly, but was in fact possible after a certain separation period, which served as proof of irretrievable breakdown of the marriage.* The divorce law for Scotland post-dates that of England and Wales by five years. The current analysis does not take this into account.

Table 2. Divorce rates, by country

	Annual divorces per thousand married people				
	1950-59	**1960-69**	**1970-79**	**1980-89**	**1990-2003**
Austria	2.95	2.62	3.23	4.18	5.07
Belgium	0.97	1.13	2.04	3.52	5.29
Denmark	2.99	3.05	5.52	6.36	6.32
Germany	3.91	3.03	3.82	4.81	4.57
Finland	2.06	2.40	4.39	4.93	6.62
France		1.37	1.60	2.21	2.01
Greece		0.80	0.86	1.44	1.63
Iceland	2.10	2.47	4.21	5.13	5.30
Ireland	0	0	0	0	0.63
Italy	0	0	0.55	0.67	1.09
Luxembourg	0.73	0.98	1.93	3.76	4.63
Netherlands	1.28	1.20	2.87	4.39	4.66
Norway	1.36	1.49	2.70	4.15	5.67
Portugal	0.21	1.80	0.68	1.68	2.92
Spain	0	0	0	0.97	1.76
Sweden	2.41	2.68	5.26	5.52	6.53
Switzerland	1.97	1.94	2.99	3.71	4.70
United Kingdom		1.47	4.37	6.08	6.68

Sources: Eurostat and national statistical offices.

Table 3. Static effects of divorce law changes; dependent variable: annual divorces per thousand married people

	1 Basic specification	2 Adding year effects	3 Adding country effects	4 Adding country trends	5 Adding quadratic trends	6 Adding cubic trends
Legal	1,299***	1,245***	-0,575***	-0,353***	-0,132	0,228**
	(0,198)	(0,209)	(0,129)	(0,116)	(0,114)	(0,114)
No fault	0,909***	1,245***	0,469***	0,449***	0,060	0,411***
	(0,174)	(0,194)	(0,114)	(0,103)	(0,095)	(0,101)
Unilateral	1,288***	1,641***	0,232**	0,484***	0,348***	0,027
	(0,123)	(0,142)	(0,103)	(0,092)	(0,082)	(0,093)
Explicitly unilateral	1,832***	1,856***	1,668***	0,138	0,451**	0,711***
	(0,256)	(0,257)	(0,183)	(0,182)	(0,182)	(0,194)
Year effects	No	Yes (F=0.87)	Yes (F=5.68)***	Yes (F=5.72)***	Yes (F=5.95)***	Yes (F=5,77)***
Country effects	No	No	Yes (F=167.24)***	Yes (F=46.05)***	Yes (F=31.93)***	Yes (F=10.68)***
Country trends	No	No	No	Yes (F=84.75)***	Yes (F=33.50)***	Yes (F=12.38)***
Quadratic trends	No	No	No	No	Yes (F=21.77)***	Yes (F=12,68)***
Cubic trends	No	No	No	No	No	Yes (F=12.49)***
Adjusted R2	0,4481	0,444	0,8705	0,9535	0,9668	0,9719

Sample: 1950-2003, n = 916 (unbalanced panel). Estimated using country married population weights.
Standard errors in parentheses. ***, ** and * denote statistical significance at 1%, 5% and 10% level, respectively.

Table 4. Dynamic effects of divorce law changes; dependent variable: annual divorces per thousand married people

	1 No fault		2 Unilateral		3 Exp. unilateral	
Legal	0,4373 (0,1123)	***	0,2692 (0,1081)	**	0,2337 (0,1140)	**
No fault			0,4520 (0,0954)	***	0,4105 (0,1011)	***
Unilateral	0,0559 (0,0898)				0,0133 (0,0932)	
Explicitly unilateral	0,6768 (0,1859)	***	0,6345 (0,1821)	***		
N-f years 1-2	0,4554 (0,1072)	***				
N-f y. 3-4	0,7252 (0,1126)	***				
N-f y. 5-6	0,8368 (0,1308)	***				
N-f y. 7-8	1,1172 (0,1461)	***				
N-f y. 9-10	1,3549 (0,1642)	***				
N-f y. 11-12	1,5517 (0,1838)	***				
N-f y. 13-14	1,7409 (0,1987)	***				
N-f y. 15+	2,1159 (0,2220)	***				
Unilat. years 1-2			-0,2966 (0,0991)	***		
Unilat. years 3-4			0,0439 (0,1098)			
Unilat. years 5-6			0,1325 (0,1203)			
Unilat. years 7-8			0,1770 (0,1382)			
Unilat. years 9-10			0,0979 (0,1549)			
Unilat. years 11-12			-0,0084 (0,1707)			
Unilat. years 13-14			-0,2392 (0,1858)			
Unilat. years 15+			-0,5791 (0,2131)	***		
Exp. unil. years 1-2					0,8665 (0,2526)	***
Exp. unil. y. 3-4					0,4358 (0,2862)	
Exp. unil. y. 5-6					0,2039 (0,3296)	
Exp. unil. y. 7-8					-0,0215 (0,3811)	
Exp. unil. y. 9-10					-0,0375 (0,4395)	
Exp. unil. y. 11-12					-0,1345 (0,5013)	
Exp. unil. y. 13-14					-0,1967 (0,5672)	
Exp. unil. y. 15+					-0,1751 (0,6432)	
Year effects	Yes, F=7.74	***	Yes, F=4.22	***	Yes, F=5.55	***
Country effects	Yes, F=8.45	***	Yes, F=15.04	***	Yes, F=9.00	***
Country trends	Yes, F=15.98	***	Yes, F=12.69	***	Yes, F=12.41	***
Quadratic trends	Yes, F=15.51	***	Yes, F=13.80	***	Yes, F=12.75	***
Cubic trends	Yes, F=14.73	***	Yes, F=14.37	***	Yes, F=12.44	***
Adjusted R^2	0,9742		0,9752		0,972	

Sample: 1950-2003, n= 916 (unbalanced panel) Estimated using country married population weights.Standard errors in parentheses. ***, ** and * denote statistical significance at 1%, 5% and 10% level, respectively.

Table 5. Effect of unilateral divorce; dependent variable: annual divorces per thousand married people

	1 Only unilateral		2 Only explicit unilat.		3 Only no sep. period		4 Unilateral + no sep. period	
Legal	0.2333 (0.115)	**	0.2453 (0.1179)	**	0.2310 (0.1120)	**	0.2278 (0.1121)	**
No fault	0.3664 (0.1013)	***	0.4399 (0.0887)	***	0.4260 (0.0812)	***	0.3784 (0.0988)	***
Unilateral	0.0761(0.093)						0.0768 (0.0906)	
Unilateral, explicit			0.7266 (0.1944)	***				
Unilateral, no sep. period					1.9337 (0.2950)	***	1.934 (0.2951)	***
Adjusted R2	0.9714		0.9715		0.9729		0.9729	

Sample: 1950-2003, n= 916 (unbalanced panel) Estimated using country married population weights.
Standard errors in parentheses. ***, ** and * denote statistical significance at 1%, 5% and 10% level, respectively.
All specifications include country dummies, year dummies, and country-specific linear, quadratic and cubic trends.