

# The Risk of Divorce and Household Saving Behavior

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**Abstract:** We address the impact of an increase in the risk of divorce on the saving behaviour of married couples. From a theoretical perspective, the expected sign of the effect is ambiguous. We take advantage of the legalization of divorce in Ireland in 1996 as an exogenous increase in the likelihood of marital dissolution. We analyze the saving behaviour over time of couples who were married before the law was passed. We propose a difference-in-differences approach where we use as comparison groups either married couples in other European countries (not affected by the law change), or Irish families who did not experience a significant increase in the expected risk of divorce (such as very religious families). Our results suggest that the increase in the risk of divorce brought about by the law was followed by an increase in the propensity to save of married couples, consistent with a rise in precautionary savings interpretation. An increase in the risk of marital dissolution of about 40 percent led to a 10 to 15 percent rise in the proportion of households reporting positive savings.

# 1. Introduction

This paper aims to test empirically the effect of an increase in the risk of marital instability on the saving behavior of married individuals. Previous theoretical studies have not been able to unambiguously sign this effect, due to conflicting channels at work. We use the legalization of divorce in Ireland in 1996 as an exogenous shock to the risk of divorce perceived by individuals. We propose several comparison groups (unaffected by the law change) that allow us to use a difference-in-differences approach. Our findings suggest that the legalization of divorce led to an increase in the propensity to save by married individuals (especially females), which is consistent with individuals rising their precautionary savings as a response to the increase in the probability of a negative income shock.

Previous studies have looked into changes in the economic behavior of households as a response to a higher risk of divorce. The most common outcome of interest has been the labor supply behavior of the households, especially the female spouse (Johnson and Skinner 1986, Parkman 1992, Papps 2006, Stevenson 2008). Other outcomes that have received some attention in the literature are the degree of specialization within the marriage (Lundberg and Rose 1999), the division of labor between the spouses (Lommerund 1989), and the investment in marriage-specific capital (Stevenson 2007). The findings suggest that an increase in the risk of divorce may lead to increases in labor supply (especially among women) and a decline in marriage-specific investments.

A popular empirical strategy in the most recent studies is to exploit the variation across US states in the introduction of unilateral divorce legislation. However, recent

studies suggest that the effect of unilateral legislation on divorce rates may have been limited in the long term (Wolfers 2006), which raises the question of how much unilateral divorce effectively affected the perceived risk of marital separation. At the same time, European countries have in recent decades undergone much broader reforms in their divorce legislation, and some countries have even legalized divorce fairly recently, such as Spain in 1981 or Ireland in 1996, resulting in significant increases in divorce rates (González & Viitanen 2006). We thus exploit the recent legalization of divorce in Ireland in the view that it provides a stronger shock to the risk of divorce.

The determinants of the saving behavior of individuals and households has long been the subject of study by economists, but we are still far from reaching full understanding of the factors that drive consumption and saving decisions.<sup>1</sup> The standard stylized models of saving do not account explicitly for life-changing events such as marriage and divorce, which have potentially relevant and long-lasting implications on income and consumption. This is regrettable given that one of the most striking demographic changes in Western countries over the past few decades has been the steady increase in marital instability, which may well have had a significant impact on saving rates.

Some recent theoretical work has made an attempt to introduce marriage and divorce explicitly in a model of savings,<sup>2</sup> stressing different channels through which marital transitions can affect consumption and savings. None of them, however, provide

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<sup>1</sup> An example is the lack of consensus in the literature regarding the source of the drastic fall in saving rates in the US in the 1980's (Browning & Lusardi, 1996).

<sup>2</sup> Cubbedu & Ríos-Rull (1997), Lupton and Smith (2003), Browning, Chiappori & Weiss (2004), Guner & Knowles (2004), Aura (2007).

an unambiguous prediction regarding the effect of increasing marital instability on the saving behaviour of married couples.

Divorce is generally viewed as a costly event (lawyer fees, etc). Moreover, the economies of scale associated with marriage would be lost upon marital dissolution. Therefore, an increase in the perceived risk of divorce would be viewed by the married individual as an increase in the probability of experiencing a negative shock, which is expected to lead to an increase in precautionary savings, similar to the effect of an increase in labor income risk (Cubbedu & Ríos-Rull, 1997).

However, a divorce implies that the common assets of the couple must be split between the partners. Uncertainty regarding the sharing rule (i.e. how much of the couple's joint savings each partner will get to keep) implies that an increase in the risk of divorce makes saving while married more risky, thus creating incentives to increase current consumption.<sup>3</sup>

There are additional channels that can also lead to a negative relationship between the risk of marital instability and savings, for instance if divorce involves fees that reduce the net worth and thus the return to saving of the couple, or if divorce is potentially followed by remarriage, which implies that individual assets will have to be shared with the new partner (Cubbedu & Ríos-Rull, 1997).

Overall, the expected effect of an increase in the risk of divorce on the saving behaviour of the spouses is ambiguous, thus the need for empirical work to test which of the channels dominates in practice. To our knowledge, we provide the first empirical test for the effect of the increase in the risk of marital instability on the saving behavior of

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<sup>3</sup> Aura's model (Aura, 2007) focuses on the effects of different aspects of the divorce legislation on the spouses' incentives to save.

married couples. In order to do so, we take advantage of an exogenous increase in the risk of marital dissolution generated by the recent legalization of divorce in Ireland, and follow a difference-in-differences approach to identify its effect on households' propensity to save.

The remainder of the paper is organized as follows. Section 2 introduces the data and the methodology. First we provide support for our identifying assumption that the Irish divorce law of 1996 led to an increase in the perceived risk of marital dissolution. We then propose two alternative control groups and provide some support for the claim that, while they were subject to similar economic conditions, they did not experience an increase in the perceived risk of divorce as a result of the law change. Next we introduce the econometric specification and we discuss the measures of saving behaviour available in the data. Section 3 discusses the results when using the two alternative control groups, and section 4 concludes.

## **2. Data and Methodology**

### **2.1 The Irish divorce law and the risk of marital dissolution**

We propose to identify the effect of an increase in the risk of marital dissolution by taking advantage of the legalization of divorce in Ireland in 1996, which was followed by a rapid increase in divorce rates.

The Irish Constitution of 1937 banned the dissolution of marriage.<sup>4</sup> After frequent debates over the issue, a referendum was called in November 1995, and the ban on

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<sup>4</sup> Judicial separation was possible since 1989.

divorce was removed after its opponents defeated its supporters by a very slim margin.<sup>5</sup> The removal of the ban was subsequently incorporated in the Constitution in June 1996, and the new divorce law became effective in February 1997.

The new law dictated that a divorce could be granted only after the partners had been separated during four out of the previous five years. The Irish courts were granted a great deal of discretion regarding the economic consequences of divorce for the spouses. The law states the factors to be taken into consideration, including the contributions made by the two spouses (both pecuniary and non-pecuniary), but there is no explicit policy of equal division of assets.<sup>6</sup>

The legalization of divorce was followed by a rapid increase in the number of divorce applications filed as well as the number of divorces granted over the following years. Figure 1 displays the number of divorces granted between 1996 and 2004. In 1998, the second year after the law came into effect, about 1,500 divorces were granted. By 2004, more than 3,000 new divorces were granted annually.

Of course, it is possible that the new divorce law was merely allowing previously separated couples to provide legal burial to their already broken marriage. Our claim, however, is that the legalization of divorce in fact increased marital dissolution rates. In 1994-1995, only 1.78% of Irish adults aged 18 to 65 reported being separated or divorced (Living in Ireland Survey). In 1997-2001, this figure had jumped to a (significantly higher) 2.66%.<sup>7</sup> The next subsection provides additional evidence that certain subgroups

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<sup>5</sup> We take this as an indication that there were no clear expectations about the outcome of the referendum. In that sense, the legalization of divorce was not anticipated.

<sup>6</sup> The law does mention the responsibility of both (ex-) spouses to maintain one another, even after the divorce. The calculation of actual maintenance payments is up for the courts to decide, and it should be based on the financial resources and needs of the spouses (Boele-Woelki, 2003).

<sup>7</sup> The increase was from 3.45 to 4.33% for the ever-married adult population (also statistically significant).

of the population experienced substantial increases in the probability of separation or divorce following the 1996 law.

## **2.2 Finding a control group**

In order to identify the effect of the increase in the risk of marital dissolution generated by the legalization of divorce, we would like to find a source of variation in that increase in risk across the population.

Our first approach is to identify a subgroup of the Irish population that we can plausibly expect would be less affected by the legalization of divorce. One possibility is to use religiosity as a source of variation. It may be plausible to think that very Catholic families would be “less affected” by the legalization of divorce, given that the Catholic church bans marital dissolution.

Table 1 shows the percentages of the adult population that reported being separated or divorced by religiosity, both pre (1994-95) and post (1997-2001) the legalization of divorce. Individuals are classified as religious if they report attending religious services at least once a week.<sup>8</sup> Before 1996, non-religious individuals were significantly more likely to be separated than religious ones (3.1% versus 1.2%). This difference remains after 1996 (4.3 versus 1.6%).

Moreover, religious individuals did not experience a significant change in their separation and divorce rate after 1996. However, the separation and divorce rate among

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<sup>8</sup> Studies in the Economics of Religion typically use as measures of religiosity at the individual level either church attendance or self-reported religiosity (answers to the question “How religious are you?”), see Iannaccone’s 1998 survey. Our main dataset does not ask about religiosity directly. However, the 2002 EES survey for Ireland asks about both church attendance and self-reported religiosity (on a scale from 0 to 10). Among those who report not being religious (values 0, 1 or 2), only 3.4% report attending church at least once a week, while the percentage is 82.1% among those who report being very religious (8, 9 or 10).

non-religious adults increased significantly, from 3.06% before 1996 to 4.28% after (a 40 percent increase).<sup>9</sup> We conclude that it is plausible to claim that legalizing divorce affected non-religious families differentially, increasing their risk of marital breakup, relative to religious ones.

The additional identifying assumption required is that the saving behavior of religious and non-religious families would have followed similar trends over time, in the absence of the law change. In section 3.1 we provide some support for this assumption by showing that the trends were similar for both groups in the years preceding the legalization of divorce.

It is of course hard to claim that religious families in Ireland were completely unaffected by the legalization of divorce.<sup>10</sup> Thus we propose an alternative control group, composed of married couples in other European countries where divorce was already legal and no changes in the regulation of divorce took place during the 1990's. Although families in other European countries were certainly not affected by the Irish divorce law, we need to find countries that were plausibly under similar economic conditions during the relevant period. This is not easy given that Ireland experienced an unprecedented period of economic growth during the 1990's.

The two EU-15 countries with more similar economic conditions to Ireland during the period appear to be the UK and Spain. Figures 2 and 3 display unemployment rates and real GDP per capita growth rates between 1990 and 2001 in the three countries. In all countries, GDP growth slowed down in 1990 and 1991, and then surged up,

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<sup>9</sup> This is even stronger if we look at separation and divorce rates among ever-married adults. While this rate remained stable at 2.3% among religious individuals, it increased significantly from 5.7 to 7.9% for non-religious ones.

<sup>10</sup> In that sense, our estimates when using religious families as a control group can be seen as lower bounds on the effect of interest.

remaining at a higher level until 2000. That level, however, was about 8% for Ireland, compared with 4% for Spain and the UK. As for unemployment rates, they increased in the three countries until 1993-94, falling steadily since then, with the levels much higher in Spain than in Ireland or the UK.

Figure 4 also shows that private sector savings as a percentage of GDP reached similar levels in the three countries in the mid-1990's (17-20% in 1994), falling slowly between 1995 and 1999.

Although there are some differences in macroeconomic performance across the three countries, we feel the trends are similar enough to allow for the use of Spain and the UK as alternative control groups. Again, in section 3.2 we provide additional evidence that the saving behavior of married individuals displayed similar trends in the three countries in the years before the Irish reform.

### **2.3 Econometric specification, data and sample**

We estimate different versions of the following baseline specification:

$$S_{ijt} = F(\alpha + \beta_1 T_j + \beta_2 Post_t + \beta_3 T_j Post_t + X'_{ijt} \gamma + \varepsilon_{ijt})$$

Where  $S$  is a measure of the saving behavior (see next subsection for the specific variables used) of an individual (or household)  $i$  in group  $j$  (treated or control) and year  $t$ . The function  $F$  will depend on the specification (linear, probit and logit models are estimated).  $T$  is an indicator for individuals belonging in the treatment group (either non-religious Irish couples or all Irish couples, depending on which control group we use), while  $Post$  takes value 1 for all years after divorce was legalized in Ireland. An

interaction between T and Post is also included, and X stands for a set of control variables that are thought to affect savings, such as age, income and household size.<sup>11</sup>

The coefficient  $\beta_1$  measures the average difference in saving behavior between the treated and the control group, while  $\beta_2$  captures the overall change in saving behavior after the reform. The key parameter is  $\beta_3$ , which indicates the change in the saving behavior of treated individuals after the reform, relative to the control group.

The data sets used in the analysis are the Living in Ireland Survey for the Irish sample and the European Commission Household Panel survey for the three-country sample. Both data sets are longitudinal household surveys that cover the period 1994-2001.

The sample is composed of married individuals. In order to avoid potential selection into marriage effects (since the legalization of divorce may well affect the incentives to marry), we exclude couples whose marriages took place in 1996 or later. In order to avoid selection due to separation or divorce, we exclude all individuals that are observed getting separated or divorced at any point during the survey. Thus our sample is in practice composed only of “stable marriages that started before 1996”. We include individuals of all ages up to 65, in order to exclude retired individuals, whose saving behavior is expected to be different. We also drop years 1996 and 1997 from the sample, since this was the period during which the reforms in the divorce legislation were being implemented, thus we consider them as transition or adjustment years that are not included as either pre or post-reform in the analysis. As a result, our pre-reform years are

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<sup>11</sup> We allow for clustering of the standard errors at the level of “post” and treatment group in order to account for possible correlation in the residuals, following Bertrand et al. (2004). However, this is questionable given the small number of groups. In section 3.3 we report the results from alternative clustering strategies, such as clustering by household or by year.

1994 and 1995, while the post-reform period spans 1998-2001. The sample size is about 2,800 married couples in the Irish sample.

## **2.4 Saving measures**

The literature has typically measured savings either as current income minus consumption, or as changes in wealth holdings over time. Both measures are deemed to be very noisy as well as subject to substantial measurement error. Our data sources, however, lack good measures of either consumption or wealth. They do, however, include a range of indicators of saving behavior, both at the household and the individual level. We thus use a set of binary variables that we think capture the propensity to save of households and individuals, but we cannot attempt to construct continuous measures of saving rates.

Appendix 1 reports the exact definition of all the variables used to construct our saving indicators. The household-level variables include two alternative measures of whether a household saves a positive fraction of their income. One is derived from the answers to whether the household is “able to save” (“Save”), while the other is derived from a more detailed question that asks whether, considering the household’s income and expenses, at the end of the month there is money left that the household members can save (“Save2”).

A third binary indicator takes value 1 if the household reports significant savings (more than 1,000 pounds a year) derived from do-it-yourself repairs or other home production activities (“DIY savings”). Finally, a fourth household-level saving indicator measures negative savings by indicating households that are currently repaying debt

(other than mortgage payments or credit card debt) (“Debt”). These two additional indicators thus provide more detailed information on the saving behavior of the household, which may save by reducing the consumption of goods or services in the market (by producing them at home), or dis-save by incurring in debt.

Descriptive statistics for the household-level measures of savings are shown in table 2. The two binary indicators of positive household savings show significant differences in levels, suggesting the phrasing of the question may have an effect on reporting. For instance, in 1995, 51% of non-religious households report being “able to save”, but only 33% report that there is usually money left at the end of the month that household members can save.

At the individual level, we use a binary indicator constructed from a question that asks whether an individual’s savings, in the bank or other financial institutions, have increased over the previous 12 months (“Savings increase”). This variable is closer to the standard definition of savings and is phrased more precisely. Summary statistics for this variable can be found in table 3. Before 1996, about 21% of all individuals in the sample reported an increase in their savings over the previous year.

## **3. Results**

### **3.1 Religious families as control group**

#### ***3.1.1 Descriptives***

Table 2 shows some descriptive statistics for the Irish household sample, separately for religious and non-religious households, and for the pre and post-reform years. Religious

households are defined as those where both partners report going to church at least once a week in all interviews, thus the religiosity indicator is time-invariant for a given family.

Note that non-religious families are less likely to save and more likely to be in debt than religious ones. In 1995, 59% of religious families reported positive savings, compared with 51% of non-religious ones. Pre-reform, the proportion of households that reported being able to save was increasing for both the control and treatment group, while the proportion in debt was falling.

Note also that non-religious households are younger than religious ones (by about 5 years on average), have slightly lower income, and slightly smaller household size (due to slightly smaller number of children). Thus it will be important to control for these factors. After 1996, the proportion of households that reported positive savings increased for both treatment and control groups, while DIY savings fell, and the proportion in debt surged back up.

The descriptives for the individual sample are reported in table 3. The proportion of all individuals that reported an increase in their savings over the previous year was between 20 and 21 percent before the reform in both groups. Again, treated individuals are younger, have lower income and smaller household sizes than the control group. After 1996, the proportion reporting that their savings were increasing rose for both groups.

### ***3.1.2 Results***

The regression results for the household sample are reported in tables 4 and 5, while table 6 shows the results for the individual sample. Table 4 focuses on the binary dependent

variable “Save”. Results are reported for a Probit specification as well as for a linear probability model that includes household fixed effects.

Higher household income is associated with a higher propensity to save, while larger households are less likely to save. Age shows a positive association with saving activity, although significance levels are low. Notice that the treated group (non-religious households) is significantly less likely to save than the control group. After 1996, all households increased their propensity to save. However, non-religious families increased their propensity to save significantly more than religious ones, by about 4 to 6 percentage points.

Table 5 reports the coefficients on the interaction term between “Post” and “Treated” for the other three household-level dependent variables. The results go in the same direction as those in table 4. The second indicator of a household’s propensity to save increased by 5 to 7 percentage points more for treated relative to control families after divorce was legalized, and the estimated effect is strongly significant in both specifications. The size of the effect is similar for the indicator of “do-it-yourself” related savings. Finally, we also find that non-religious families were significantly less likely to be in debt after the reform, relative to religious ones, by 5 to 10 percentage points.

Table 6 reports the results for the individual measure of saving behavior. We report the results for a specification that includes both men and women, as well as separate specifications for husbands versus wives. The control variables show the same patterns as in the household-level specifications. Note that age is significant only in the specification for males. Females are significantly less likely to report increases in their savings than men. Individuals in non-religious households are less likely to report

increases in their savings, especially men. The overall propensity to save increased significantly after 1997.

Non-religious individuals were significantly more likely to report increases in their savings after 1997, relative to religious ones, by about 1.6 percentage points. This effect was particularly pronounced among women (2.1 versus 0.9 for men).

In sum, we find that married households in Ireland were more likely to save a positive fraction of their income after 1997, and this increase was significantly higher among non-religious families. Non-religious households were more likely to increase their consumption of household-produced goods and services after 1997, and they were less likely to incur in debt, relative to religious households. Also, individuals were significantly more likely to report that their savings had increased over the previous year after 1997, and this increase was higher for non-religious individuals, especially women. The results suggest that non-religious married households in Ireland became more likely to save relative to religious ones after 1996-97, the time when divorce was legalized.

## **3.2 Spain and the UK as control groups**

### ***3.2.1 Descriptives***

Table 7 shows some summary statistics for the three-country sample, separately for Ireland, Spain and the UK and for the pre and post-reform periods. Pre-1996, saving rates were much higher in the UK than in Ireland or Spain (68% compared with 36-39% in 1995). Before the reform, saving rates were increasing both in Ireland and in Spain, although the increase was steeper in Spain. The proportion of households in debt before

the reform was highest in Ireland, followed by Spain and the UK. This proportion was falling in all three countries.<sup>12</sup>

The age profile is similar in the three countries, while income levels (expressed in euros) were similar in the UK and Ireland but significantly lower in Spain. Household size was highest in Ireland. After 1997, the propensity to save increased in all three countries, while there was a rebound in debt in both Ireland and Spain, but not in the UK.

### ***3.2.2 Results***

The regression results for the three-country sample are reported in table 8.<sup>13</sup> The control variables show similar patterns as in the Irish sample. Higher income is associated with a higher propensity to save, larger households are more likely to be in debt, and debt falls with age.

After 1997, the propensity to save increased in Ireland by about 3 percentage points, relative to the UK and Spain, and this effect was significant. The likelihood of being in debt fell by 1 percentage point in Ireland relative to the other two countries, but this effect was not statistically different from zero. Thus, the propensity to save by married couples increased significantly in Ireland after 1996-97, relative to the control countries.<sup>14</sup>

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<sup>12</sup> Now “debt” is an indicator for individuals reporting that repaying debt is a burden on the household (see Appendix).

<sup>13</sup> All specifications include country fixed effects.

<sup>14</sup> Note that the Irish sample includes both religious and non-religious households. Thus, if religious families are less affected by the divorce law, the estimated coefficient would be underestimating the true effect on the treated group (non-religious households). Unfortunately, the ECHP does not include any religiosity variables, so we cannot separate religious from non-religious families in Spain and the UK.

### **3.3 Robustness checks**

We have estimated a number of alternative specifications as robustness checks. Table 9 shows the coefficients on the main variables of interest for some of the variations listed below, on top of the two baseline specifications reported in table 4, for the dependent variable “Save” and the Irish sample.

All regressions have been estimated using a probit, a logit and a linear probability model, with no significant differences. Moreover, we estimate specifications with and without individual fixed effects. The inclusion of the individual fixed effects affects the coefficients of interest surprisingly little, and typically does not alter the significance level. For instance, the LPM without fixed effects coefficient in the first column of table 9 estimates a significant effect of 4.2 points, compared with 6 in the fixed effects specification (shown in table 4).

We have also explored some variations in the sample selection and the control variables included. For instance, we have selected the sample based on the age of the husband or on the age of the wife, and have included as a control the age of the husband, the age of the wife or both at once. These variations made little difference in the results. For instance, the second column in table 9 shows the results when using the age of the wife both to select the sample and as a control, instead of the husband’s. We also tried including additional control variables such as education level of husband or wife, and used linear and quadratic time trends instead of controlling for the aggregate unemployment rate, which barely affected the main coefficients. Column 3 shows the specification without the unemployment rate but with both a linear and a quadratic time trend.

Perhaps more relevant were the specifications that used alternative definitions of religiosity. Our main definition of “untreated” household included couples where both husband and wife report going to church at least once a week in all interviews (50% of the sample). A more strict definition would include couples where both report going to church more than once a week, but that would account for less than 1% of the sample. A less strict definition would include couples where both report going to church at least once a month (62% of the sample). Using this less strict definition barely alters the magnitude of the estimated effect (see column 4). Alternatively, we could relax the requirement that both partners report going to church once a week in every single interview. We tried several variations and the results changed very little and went in the expected direction.

We also experimented with different clustering strategies, allowing the residuals to be correlated for each individual household over time, or for all households in a given year, as well as not allowing for clustering. The coefficients of interest remained significant (see columns 5, 6 and 7).

The main specification excludes couples who end up divorcing or separating by 2001. When we estimate specifications that include the separating couples, the effect typically gets stronger; indicating that those households adjust their saving behavior (while still married) more than the couples who do not break up, as would be expected (see column 8). However, we observe few separations in the data, which may explain why the size of the coefficient only changes slightly.

The baseline results drop years 1996 and 1997 from the sample, but we also try including them (1996 as pre and 1997 as post, since no divorces took place before 1997).

This weakens the estimated effects somewhat, but they remain mostly significant (see column 9).

Finally, when using families in other countries as comparison groups, we explored using only Spain and only the UK as control countries.<sup>15</sup> The estimated effect was smaller and less significant when using only the UK as a control country.

*We are currently working on some additional specifications:*

- *Adding interactions of post with other x's, such as education and region, to see if religiosity "wins the race".*
- *Specifications using owning a second house as a dependent variable, since it was a period of rising house prices and it became popular to put one's savings on a house.*
- *Control for and/or interact the main effect with marital duration.*
- *Use singles as an additional control group.*
- *Check the increase in divorce+separation rates in Spain and the UK pre-post.*

## **4. Conclusions**

We have shown that, between 1994-95 and 1998-2001, the propensity to save increased significantly among married couples in Ireland. This increase was significantly higher among non-religious households, compared with religious ones. It was also more pronounced among women than men. The increase in saving rates in Ireland was significantly higher than in other European countries over the same period.

One possible reason for this increase in the propensity to save of Irish married individuals is the legalization of divorce that took place in 1996, which increased the risk

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<sup>15</sup> We also explored using all other EU15 countries as controls.

of marital breakup, especially for non-religious families. These results are consistent with married individuals increasing their precautionary savings in anticipation of a potential divorce.

We estimate that an increase in the risk of marital separation of about 40% led to a significant rise in the proportion of married households reporting positive savings (of 7-10% or 14-18%, depending on the saving indicator used). Married couples were 11 to 16% more likely to save by consuming household-produced goods or services, were 14 to 25% less likely to be in debt, and were about 9% more likely to report that their overall savings had increased over the previous year.

This suggests that divorce legislation may affect not only marital breakup rates and the income of individuals directly affected by a divorce, but also the economic behavior of individuals who stay married, who may adjust to the change in the risk of future marital separation. Previous studies have suggested that one channel of adjustment is likely to be labor supply, and we provide evidence that saving behavior may also adjust significantly.

Some caveats of our analysis are worth mentioning. First, we are only able to use binary indicators of saving activity, thus cannot draw conclusions about changes in the saving rate as a proportion of household income. Second, we lack a true control group, thus our analysis uses alternative “comparison groups”, but the results may understate the true effect if the comparison group is also partially affected by the legal change. And third, we only have access to two pre-reform years, and are thus unable to control for long-term pre-reform trends, which would strengthen our identification strategy. Although we have performed a number of robustness checks, these caveats suggest that

the results should be interpreted with caution, and further studies are required to confirm their robustness.

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## Appendix. Variable Definition

### A. Living in Ireland Survey

#### 1) ZH29 Debt (Household File)

Do you or anyone in your household *currently* have to repay debts from hire purchases or any other loans, apart from any mortgage or loan connected with the house and apart from outstanding credit card debts?

Yes ..... 1  
No ..... 2  
Missing.....9

#### 2) ZH28\_37 Save (Household File)

Here is a list of things which a person might have or be able to do. [Int. Show Card HB]  
Could you tell me which of the things listed you have or can avail of?

- Able to save?

Yes..... 1  
No..... 2

#### 3) ZH37 Save2 (Household File)

When you consider your household's usual income on the one hand and its expenses on the other would you say that there is usually some money left which household members can save?

Yes ..... 1  
No (or very little).....2

#### 4) Z2J64 Savings increase (Individual File)

I would like you to consider, in general, all the savings you have (both in your own name and jointly with other household members) in the Bank, Building Society, Post Office, Credit Union, Savings Bank or in Savings Certificates, Savings Bonds or Prize Bonds. How does your TOTAL balance in all these savings today compare with what it was 12 months ago? Would you say, in general, that it ... [Waves 2-8 only]

Increased a Lot .....1  
Increased a Little.....2  
Remained the Same.....3  
Fell a Little.....4  
Fell a Lot .....5  
Missing .....9

#### 5) (ZH46\_1+ ZH46\_2+ ZH46\_3) DIY savings (Household File)

Would you say that any of the following results in a *significant* saving (of say IR£1,000 or more each year) in your household's expenditure ...

ZH46\_1 ... Consuming food you produce on your own farm or garden Yes/ No

ZH46\_2 ... Consuming goods from your business (other than farming) Yes/ No  
ZH46\_3 ... Saving money by carrying out any form of home production, repairs, maintenance, all forms of DIY etc. Yes/No

## **B. European Community Household Panel**

### **1) HF001 Debt (Household file)**

(Repay Debts Other than Mortgage)

Does anybody in the household presently have to repay debts from hire purchase or loans, etc., not connected with the house? To what extent is this a burden on the household?

- Yes, repayment a heavy burden.....1
- Yes, repayment somewhat a burden.....2
- Yes, repayment not a problem.....3
- Yes, repayment, but whether a burden or not is unknown.....4
- No, does not have to repay.....5

### **2) HF013 Save (Household file)**

Is there normally some money left to save (considering household's income and expenses)

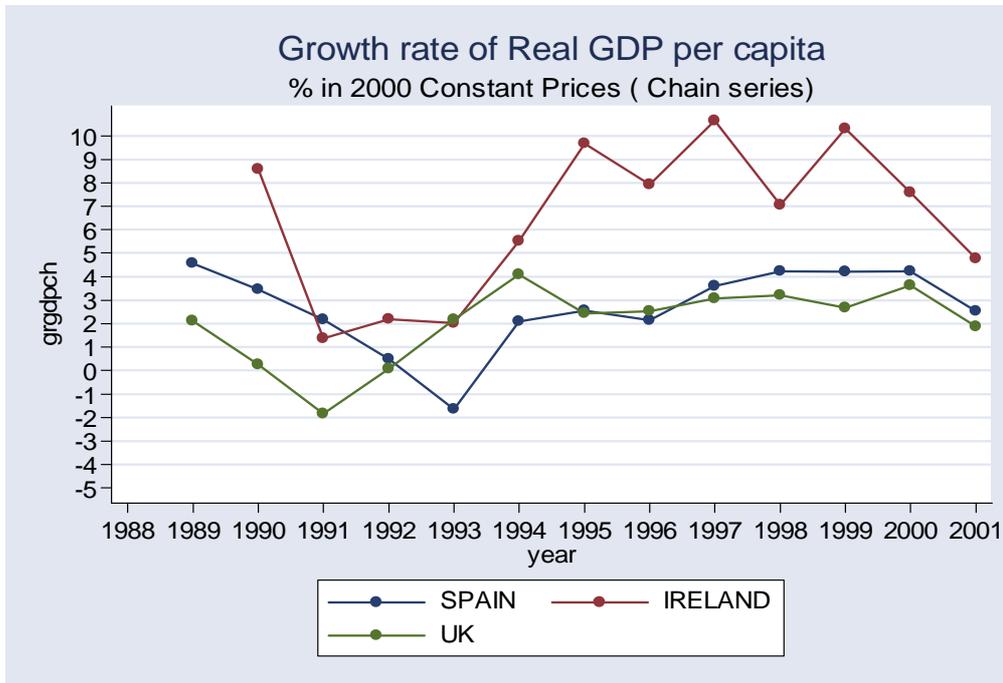
- Yes.....1
- No or very little.....2

Figure 1. Annual number of divorces, Ireland 1996-2004



Note: The number of divorces was zero before 1997.

Figure 2. Growth rate of real GDP per capita, Ireland, Spain and UK, 1990-2001

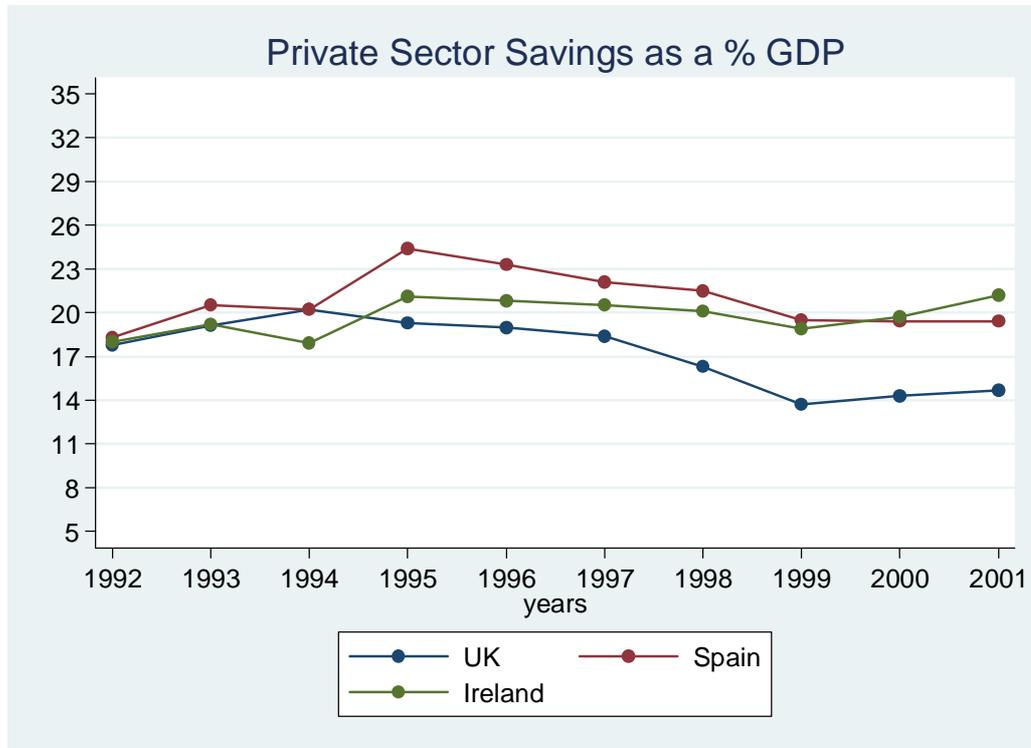


Source: Alan Heston, Robert Summers and Bettina Aten, Penn World Table Version 6.2, Center for International Comparisons of Production, Income and Prices at the University of Pennsylvania, September 2006.

Figure 3. Unemployment rates, Ireland, Spain and UK, 1990-2001



Figure 4. Private Sector Savings, Ireland, Spain and UK, 1992-2001



Source: European Commission Report (2000) "European Economy: Broad Economic Policy Guidelines-Convergence Report for Single Currency" Statistical Anex. p 376.

Table 1. Separation and divorce rates by religiosity, Ireland 1994-2001

	1994-95	1997-2001	Difference
Religious	1,181 (0,108)	1,552 (0,124)	0,371 (0,164)
Nonreligious	3,059 (0,172)	4,278 (0,202)	1,219 ** (0,265)
Difference	1,878 ** (0,203)	2,726 ** (0,237)	0,848 ** (0,312)

Note: The main body of the table show the percentage of the population aged 18 to 65 (by religiosity) who reported being either separated or divorced in each time period. "Religious" is defined as "attends church at least once a week". One asterisk indicates significance at the 95% level, two indicate 99% significance.

Table 2. Summary statistics, Irish sample, household-level variables

	Religious			Nonreligious		
	1994	1995	Post (1998-2001)	1994	1995	Post (1998-2001)
Save	0,5426	0,5908	0,7397	0,4856	0,5079	0,7126
Save2	0,2934	0,3842	0,4554	0,2892	0,3347	0,4870
DIY savings	0,4871	0,4875	0,2560	0,4578	0,4297	0,2671
Debt	0,3553	0,3119	0,3588	0,4847	0,3980	0,4181
Age of husband	48,30	48,58	50,70	42,60	42,57	46,02
Hh income (pounds per week)	399,67	440,29	600,45	377,11	393,11	600,53
Hh size	4,58	4,53	4,29	4,37	4,34	4,38
N	1244	997	2578	1079	1010	2770

Table 3. Summary statistics, Irish sample, individual-level variables

	Religious		Nonreligious	
	Pre	Post	Pre	Post
Savings increase	0,2026	0,2832	0,2114	0,3060
Age	47,87	50,23	41,75	45,35
Hh income (pounds per week)	437,53	594,58	392,49	598,06
Hh size	4,49	4,22	4,33	4,36
N	2073	5466	2039	5683

Table 4. Regression results, Irish household sample, dependent variable “Save”

	Probit			LPM, hh. fixed effects	
Post-1997	0,044	(0,023)	*	0,045	(0,025) *
Treated	-0,087	(0,003)	***		
Treat*Post	0,044	(0,002)	**	0,060	(0,019) ***
L. hh. Income	0,312	(0,014)	***	0,108	(0,014) ***
L. hh. Size	-0,376	(0,018)	***	-0,205	(0,036) ***
U. rate	-0,297	(0,236)		-0,369	(0,439)
Age of husband	0,062	(0,043)		-0,037	(0,047)
Age sq.	-0,001	(0,001)		0,001	(0,001)
Age cubed	0,000	(0,000)		0,000	(0,000)

Note: The number of observations is 9,672. The sample includes all couples married before 1996 and never separated or divorced. Marginal effects reported in the Probit specification. One asterisk indicates a 90% confidence level, two indicate 95%, and three indicate 99%. The standard errors in the Probit specification are adjusted for clustering at the level of “Post-1997” and “Treated”.

Table 5. Regression results, Irish household sample, 3 dependent variables

Dep. Var.	Probit		LPM, hh. fixed effects	
Save2	0,0693	(0,0013) ***	0,0529	(0,0198) ***
DIY savings	0,0468	(0,0034) ***	0,0676	(0,0211) ***
Debt	-0,0545	(0,0009) ***	-0,1000	(0,0212) ***

Note: The coefficients reported correspond to the interaction between “post-1997” and “treated” (nonreligious). The number of observations is 9,672. The sample includes all couples married before 1996 and never separated or divorced. Marginal effects reported in the Probit specification. Controls included are the separate dummies for “post-1997” and “treated”, log household income, log household size, unemployment rate, age of the husband, age squared and age cubed. One asterisk indicates a 90% confidence level, two indicate 95%, and three indicate 99%. The standard errors in the Probit specifications are adjusted for clustering at the level of “Post-1997” and “Treated”.

Table 6. Probit results, Irish individual sample, dependent variable “Savings increase”

	All			Husbands			Wives		
Post-1997	0,094	(0,006)	***	0,099	(0,015)	***	0,091	(0,002)	***
Treated	-0,011	(0,007)		-0,014	(0,007)	**	-0,007	(0,009)	
Treat*Post	0,016	(0,005)	***	0,009	(0,004)	**	0,021	(0,005)	***
L. hh inc.	0,179	(0,009)	***	0,198	(0,021)	***	0,160	(0,005)	***
L. hh size	-0,193	(0,019)	***	-0,190	(0,020)	***	-0,202	(0,022)	***
U. rate	0,982	(0,144)	***	1,274	(0,366)	***	0,721	(0,043)	***
Female	-0,040	(0,010)	***						
Age	0,029	(0,041)		0,079	(0,030)	***	-0,002	(0,048)	
Age2	-0,001	(0,001)		-0,002	(0,001)	**	0,000	(0,001)	
Age3	0,000	(0,000)		0,000	(0,000)	**	0,000	(0,000)	

Note: The number of observations is 15,503. The sample includes all couples married before 1996. Marginal effects reported. One asterisk indicates a 90% confidence level, two indicate 95%, and three indicate 99%. Standard errors have been clustered at the treated and post-1997 level.

Table 7. Summary statistics, three-country sample

	Ireland			Spain			UK		
	1994	1995	Post	1994	1995	Post	1994	1995	Post
Save	0,3219	0,3635	0,4758	0,2496	0,3911	0,4700	0,6805	0,6752	0,7235
Debt	0,3302	0,2621	0,2795	0,2514	0,2357	0,2429		0,1454	0,1216
Age	45,61	45,45	48,19	46,07	45,76	47,86	44,61	44,77	47,60
Hh income (euros)	24290	25438	34914	15996	16381	21018	24562	24846	39998
Hh size	4,50	4,45	4,38	3,96	3,95	3,95	3,32	3,31	3,38
N	2038	1920	3974	4118	3669	9260	1659	1561	5223

Table 8. Regression results, three-country sample

	Save			Debt	
Post-1997	-0,062	(0,010)	***	0,006	(0,010)
Ireland*Post	0,029	(0,011)	***	-0,011	(0,010)
Log hh income	0,056	(0,006)	***	0,010	(0,005) *
Log hh size	-0,018	(0,018)		0,045	(0,017) ***
Unemp. Rate	-1,382	(0,201)	***	-0,329	(0,203)
Age of husband	0,007	(0,021)		-0,038	(0,020) *
Age sq.	0,000	(0,000)		0,001	(0,000) *
Age cubed	0,000	(0,000)	*	0,000	(0,000) **

Note: Reported results are from LPM specifications with household fixed effects. The number of observations is 39,898 and 39,623, respectively. The sample includes all couples married before 1996 and never separated or divorced in Spain, the UK and Ireland. One asterisk indicates a 90% confidence level, two indicate 95%, and three indicate 99%.

Table 9. Robustness checks, dependent variable “Save”, Irish household sample

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	LPM, no fe	Female age	Time trend	Less strict religiosity	Clustering by hh	Clustering by year	No clustering	With separating couples	With 1996 and 1997
Post	0,046 (0,028)	0,038 ** (0,016)	0,029 (0,022)	0,049 * (0,026)	0,044 (0,028)	0,044 *** (0,014)	0,044 (0,033)	0,044 (0,027)	0,070 *** (0,013)
Treated	-0,081 *** (0,014)	-0,086 *** (0,002)	-0,087 *** (0,003)	-0,092 *** (0,014)	-0,087 *** (0,017)	-0,087 *** (0,008)	-0,087 *** (0,015)	-0,091 *** (0,002)	-0,082 *** (0,001)
Treat*Post	0,042 ** (0,018)	0,043 *** (0,002)	0,044 *** (0,002)	0,046 *** (0,013)	0,044 ** (0,021)	0,044 *** (0,011)	0,044 ** (0,020)	0,050 *** (0,002)	0,030 *** (0,008)
N	9672	10338	9672	9672	9672	9672	9672	9794	12830

Note: The sample includes all couples married before 1996 and never separated or divorced (except in column 8). Marginal effects reported in the Probit specifications (all but column 1). One asterisk indicates a 90% confidence level, two indicate 95%, and three indicate 99%. The standard errors in the Probit specifications are adjusted for clustering at the level of “Post-1997” and “Treated” (except in columns 5, 6 and 7).