The Risk of Divorce and Household Saving Behavior*

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September 2010

Abstract: We analyze the causal impact of an increase in the risk of marital dissolution on the saving behavior of married couples. We use the legalization of divorce in Ireland in 1996 as an exogenous shock to the risk of divorce. 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 a significant increase in the propensity to save by married individuals, which is consistent with individuals saving more as a response to the increase in the probability of marital breakup.

JEL Codes: J12, D10, K36, E21, D91.

Keywords: Divorce, saving, marriage, divorce law.

1. Introduction

This paper aims to test empirically the causal effect of an increase in 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. We propose several comparison groups (unaffected by the law change) that allow us to follow a difference-in-differences approach. Our findings suggest that the legalization of divorce led to a sizeable increase in the propensity to save by married individuals.

Marital instability has been high for several decades in most OECD countries, although with large variation in the risk of divorce across geographical regions and demographic characteristics. For example, the divorce rate in the US has been traditionally high by international standards, reaching more than 5 divorces per 1,000 people around 1980, and declining ever since to current rates below 4 (see figure 1). In stark contrast, there was only about 1 divorce per 1,000 people in the EU-15 in 1980, up to almost 2 in 2005.

Economists and demographers have long been interested in understanding how the risk of marital breakdown affects individual behavior and well-being. The most common outcome of interest has probably been labor supply, especially of the female spouse (Johnson and Skinner 1986, Parkman 1992, Papps 2006, Stevenson 2008). Other outcomes that have received some attention 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 to date 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. The saving behavior of households, although a relevant outcome

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that can potentially be affected by the risk of divorce, has not been investigated empirically to our knowledge.

A popular empirical strategy in the most recent studies is to exploit the variation across US states in the introduction of unilateral divorce legislation.[1] However, recent research suggests 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 and Viitanen 2009). We thus exploit the recent legalization of divorce in Ireland in the view that it provides a stronger shock to the risk of divorce than the legal reforms previously exploited in the literature.

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.[2] 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 for income and consumption.[3] This is regrettable given the high levels of marital instability reached in many OECD countries, which may well have had a significant impact on saving rates.

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[1] "Unilateral divorce" legislation allows people to get a divorce without the consent of their spouse.

[2] An example is the lack of consensus in the literature regarding the source of the drastic fall in saving rates in the US since the 1980's (Browning & Lusardi, 1996).

[3] There are some exceptions, such as Browning (2002), who models the saving behavior of married couples, and Browning et al. (2009), who address the impact of marriage on consumption and saving.

Some recent theoretical work has made an attempt to introduce marriage and divorce explicitly in a model of savings,[4] stressing different channels through which marital transitions can affect consumption and savings. They do not, however, provide 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 are lost upon marital dissolution. Therefore, a rise in the perceived risk of divorce would be viewed by the married individual as an increase in the probability of experiencing a negative shock. This is in turn expected to lead to higher precautionary savings, similar to the effect of an increase in labor income risk (Cubbedu & Ríos-Rull 1997).

However, a divorce also implies that the common assets of the couple must be split between the partners. Thus, an increase in the likelihood of divorce would make saving while married more risky, creating incentives to increase current consumption (Mazzocco et al. 2007).

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 married couples. In order to do

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[4] Cubbedu and Ríos-Rull (1997), Lupton and Smith (2003), Guner and Knowles (2004), Aura (2007), Mazzocco et al. (2007).

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.

Using individual-level, longitudinal data, we find that married couples in Ireland saved more after 1996, both in absolute terms and relative to single individuals and to married couples in other European countries. Moreover, the increase was particularly pronounced for non-religious marriages, relative to religious ones.

Our main result, that married couples affected by the legalization of divorce increased their savings after the reform, is consistent when using three different control groups and across three independent data sets and eight different measures of saving behavior, and does not seem to be driven by the overall improvement in economic conditions. We interpret the evidence as consistent with an increase in saving by married individuals in response to an increase in the risk of divorce.

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 risk of marital dissolution. We then propose several alternative control groups (religious Irish couples, Irish singles, married couples in other European countries) and provide support for the claim that, while they were subject to similar economic conditions, they did not experience an increase in the 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 alternative control groups, and section 4 concludes.

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2. Data and Methodology

2.1. The Irish Divorce Law

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.[5] After frequent debates over the issue, a referendum was called in November 1995, and the ban on divorce was lifted after the "Yes" prevailed by a very narrow margin (50.28% of the vote). We take this minimal margin (that even required a recount) as an indication that there were no clear expectations that the referendum would lead to a removal of the ban. Moreover, a similar referendum in 1986 failed to gain enough support for the "Yes" (the "Yes" vote was only 36.5%). In that sense, the legalization of divorce was not anticipated.[6] 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.[7]

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[5] Judicial separation was possible since 1989.

[6] It is perhaps reasonable to assume that people may have expected the ban on divorce to be lifted at some point in the future, but the exact timing was most likely not anticipated.

[7] 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).

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 2 displays the number of divorces granted between 1996 and 2007. 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% (a 49 percent increase). The increase was from 3.45 to 4.33% for the ever-married adult population, a 25.5 percent increase (also statistically significant).[8]

We provide a more formal test for the increase in separation rates after 1996 in the following section. The next section also provides evidence that certain subgroups of the population experienced substantial increases in the probability of separation or divorce following the 1996 law.

2.2. Finding a control group

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[8] We have also calculated separation plus divorce rates before and after divorce legalization using Census data and Household Budget Survey (HBS) data. In the 1996 Census, 6.5% of the ever-married population was separated, up to 9.8% in the 2002 Census (a significant 51 percent increase). Pooling the 1987 and 1994 HBS, 6.8% of the ever-married population was separated before divorce legalization, compared with 9.6% in the pooled 1999 and 2004 surveys, a (significant) 41 percent increase.

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 (married) population that we can plausibly expect would be less affected by the legalization of divorce: very religious individuals. 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.

In order to test for the plausibility of this argument, we estimate a regression for the determinants of separation rates before the legalization of divorce, where we include religiosity as one among many potential factors affecting marital breakup. Formally, the specification is as follows:

$$D_{ij} = \alpha + \beta R_j + X_{ij}^{'} \gamma + \varepsilon_{ij}$$

(1)

Where *D* indicates marital dissolution, *R* is a religiosity indicator and *X* includes other factors that may be associated with different likelihoods of marital separation, such as age, education level and indicators for residing in a rural area or Dublin. We estimate this specification using Living in Ireland Survey data for the sample of all ever-married adults. An individual is classified as religious if s/he reports attending church at least once a week.[9] The coefficient β measures the separation propensity of religious individuals relative to non-religious ones, controlling for other confounding factors.

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[9] 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, but 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).

We then extend this specification by adding the post-reform years, plus an indicator for after 1996 and an interaction between religiosity and the post-96 dummy. The coefficient on this interaction term then captures whether marital dissolution rates increased after 1996 differentially for religious versus non-religious individuals.[10] The results are presented in section 3.1.

The additional identifying assumption required for religious marriages to be a valid control group 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. Figure 3 provides some support for this assumption by showing that the trends in several indicators of saving behavior were similar for both groups in the years preceding the legalization of divorce.[11] In section 3.2 we also study whether the two groups differ in a number of characteristics and discuss how we account for those differences in the regression analysis.

One could also think that single individuals would be less affected by the increase in divorce rates relative to married ones. Thus, we also use singles as an alternative comparison group, expecting their saving behavior to be less influenced by the increase in marital instability.

It is of course hard to claim that either religious families or singles in Ireland were completely unaffected by the legalization of divorce.[12] Thus, as a robustness check, we propose an additional control group, composed of individuals 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

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[10] The marital dissolution indicator takes value 1 if an individual is either separated or divorced.

[11] See section 2.4 for the definition of the different saving indicators.

[12] In that sense, our estimates when using religious families or singles as a control group can be seen as lower bounds on the effect of interest.

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. In all three countries, GDP growth slowed down in 1990 and 1991, and then surged up, 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 attained similar levels in the three countries in the early 1990's (about 18% in 1992), reaching a peak in 1994-95 and then declining slowly.

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. For robustness, we also perform the analysis including additional European countries as controls.

The international comparison of saving behavior over time is carried out both using aggregate, macro data on saving rates as a percentage of GDP, and using individual-level, micro data for the different countries, which allows us to focus on the behavior of the married population as well as to include individual-level controls.

2.3. Econometric specification and data sets

We estimate different versions of the following standard difference-in-differences specification:

$$S_{ijt} = \alpha + \beta_1 T_j + \beta_2 Post_t + \beta_3 T_j Post_t + X'_{ijt}\gamma + \varepsilon_{ijt} \tag{2}$$

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. *T* is an indicator for individuals belonging in the treatment group (for instance, non-religious Irish couples versus religious ones), 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, educational attainment and family size.[13]

The coefficient β_1 measures the average difference in saving behavior between the treated and the control group, while β_2 captures the overall change in saving behavior after the reform. The key parameter is β_3, which indicates the change in the saving behavior of treated individuals after the reform, relative to the control group.

We estimate three sets of specifications, one for each control group. Our main data sets are the Living in Ireland Survey, the Irish Household Budget Survey, and the European Community Household Panel.

In the first set of specifications, we use micro-level data for Ireland from the Living in Ireland Survey (LIS), a longitudinal household survey that covers the period 1994-2001. The treated group in these specifications is composed of non-religious marriages, and the comparison group includes religious marriages. A couple is defined as "religious" if both partners report going to church at least once a week in their first interview, typically in 1994.[14] Thus the religiosity indicator is time-invariant for a given couple.

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[13] Some specifications use more than one control group, in which cases the necessary additional dummy variables and interaction terms are included.

[14] We explore different variations in the definition of "religious marriages" in the robustness checks section (3.4).

The main sample in these specifications 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 also exclude all individuals that are observed getting separated or divorced at any point during the survey. Thus our married 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. Our pre-reform years are 1994 to 1996, while the post-reform period spans 1997-2001. The sample size is about 2,800 married couples.

A second set of specifications uses single individuals as an alternative control group. When using the Living in Ireland Survey, we define "singles" as individuals aged 18 to 65 who were never married in all the survey interviews.

We can also estimate specifications using singles as a control group with Household Budget Survey (HBS) data, which are not longitudinal but contain much more detailed information on savings (see next subsection).[15] Our pre-reform period includes the HBS of 1987 and 1994, while the 1999 and 2004 surveys are included in the post-reform period. When using the HBS, the sample includes all households with a head under the age of 64, and marital status is defined as the current status of the household head.

Finally, a third set of specifications is estimated using married couples in Ireland as the treated group and married couples in the UK and Spain as the control group. We first approach the multi-country analysis by using aggregate data on saving rates as percent of GDP by country. The "treated group" in these regressions is Ireland, while the other countries serve as control

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[15] Unfortunately, the HBS does not contain information on religiosity or church attendance.

group. The data on national saving rates are obtained from OECD and Eurostat publicly available figures.

Then, we construct an individual-level data set composed of married couples in Ireland, Spain and the UK. This multi-country, individual-level data set merges the Living in Ireland sample with the Spain and UK samples from the European Community Household Panel (ECHP). The ECHP is a longitudinal survey spanning 1994 through 2001 and covering all EU-15 countries.[16] In this final set of regressions, the treatment group is defined as married Irish individuals, the controls being married individuals in Spain and the UK. Additional specifications use non-religious married Irish couples as the treated group (thus religious married couples in Ireland serve as an extra comparison group). We also run specifications where we include singles in all three countries as an additional control group. The married and single samples, as well as religiosity, are defined as in the LIS analysis, described above.

2.4. Saving Variables

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 main data source, the Living in Ireland Survey, lacks good measures of either consumption or wealth. It does, 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 capture the propensity to save of households and individuals, but we cannot attempt to construct continuous measures of saving rates from this data source.

Fortunately, the Irish Household Budget survey does include reasonable measures of both current income and consumption at the household level, which allows us to construct a

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[16] Unfortunately, the ECHP does not include information on religiosity or church attendance.

continuous saving variable as well as to verify the quality of the information contained in the more qualitative LIS variables.

The LIS saving variables include two alternative measures of whether a household saves a positive fraction of their income. One is derived from the answer 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 household-level saving indicator measures negative savings by indicating households that are currently repaying debt other than mortgage payments or credit card debt ("Debt"). An additional debt-related variable ("Debt2") measures whether a household had to go into debt during the previous year to meet ordinary living expenses.

Descriptive statistics for the household-level measures of savings are shown in table 1 (panel a). The two binary indicators of positive household savings show significant differences in levels. For instance, in the pre-reform period, 50% of non-religious households report being "able to save", but only 32% report that there is usually money left at the end of the month that household members can save. This difference likely reflects the fact that some households that are "able to save" in fact do not, although it is also possible that the phrasing of the question may have an effect on reporting.

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 saving and is phrased more precisely. We also construct a binary indicator of savings decrease. Summary statistics for these variables can be found in table 1 (panel b). Before the reform, about

21% of all individuals in the sample reported an increase in their savings over the previous year, while 16% reported a decrease.

When using the HBS, our main dependent variable is a continuous measure of savings which is calculated as the difference between household income and household expenditure.[17] Descriptive statistics for this variable are presented in table 2, separately for married and single heads of household. Average savings were negative for both groups in the pre-reform period, at -70 euros a week for married households versus -20 for single ones. Savings increased after 1996, reaching 14 euros a week on average for the married sample, compared with -9 for the single group.

We also construct two additional saving variables with HBS data. The first divides savings by total income, so that it can be interpreted as the fraction of income that a household saves. On average, households in the sample save -22% of income, with a median of -4%. Second, we construct an indicator for positive household savings. Before the reform, 36% of married households had positive savings, up to 43% in the post-reform period.

We can use this binary HBS variable to cross-check the binary saving indicators constructed from the LIS. In the 1994 HBS, 35.3% of married households had positive savings, quite close to the 32.3% in the 1994-95 LIS (according to variable "Save2"). In the 1999 HBS, the proportion is up to 43%, compared with 45.7% in the LIS variable. It thus appears that the LIS variable is reasonably accurate in measuring the proportion of households with positive savings.

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[17] Both (weekly) income and consumption are reported in discrete brackets. We assign each household the middle point of the reported bracket. The income variable includes all sources of household income, and the consumption variable includes total household expenditure. Both variables are derived from adding up the different categories of income/expenditure reported by each household. Expenditures are recorded through very detailed two-week expenditure diaries.

As an additional check for the validity of the binary LIS variables, we calculate the correlation between each pair. The two indicators of positive household savings, "Save" and "Save2", and the indicator for an increase in savings during the previous year, "Savings increase", are positively, strongly and significantly correlated.[18] The three indicators also have a significant, negative correlation with the variables measuring negative savings ("Debt" and "Debt2") and the indicator of a decrease in savings ("Savings decrease"), which are in turn positively correlated with each other.[19] We conclude that, although crude, the discrete measures of savings provided in the LIS do encode some information on households' saving behavior.

The ECHP saving variables are essentially a subset of those in the LIS ("Save" and "Debt"). Finally, the aggregate cross-country specifications use national saving rates as a percentage of GDP as the dependent variable. There are three measures of national savings available: gross national saving, private sector saving, and household saving. Unfortunately, household saving rates are not available for Ireland before 1996. Thus, we perform our macro-level analysis with both national saving and private sector saving rates. Figure 4 displays private sector saving rates for Ireland, Spain and the UK between 1991 and 2001.

3. Results

3.1 The Irish divorce law and marital separation

We start by providing additional evidence that legalizing divorce increased marital separation rates in Ireland, and that the law affected non-religious couples differentially. We estimate equation 1 on the sample of ever-married adults aged 18 to 65 using LIS data. Descriptive

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[18] For example, the correlation between "save" and "save2" is 0.54.

[19] For example, the correlation between "save" and "debt2" is -0.29, and between "debt2" and "debt", 0.20.

statistics are shown in appendix table A1, and the results are presented in table 3. The average marital separation rate (including divorces) during the 1994-2001 period was 3.8 percent, and 69% of the sample reported attending church at least once a week.

The first column of table 3 reports the results of estimating equation 1 using only the pre-reform years (1994-96), when the average separation rate was 3.1 percent. Religiosity is the most important predictor of separation. Religious individuals are almost 5 percentage points less likely to be separated than non-religious ones. Living in a rural area or in Dublin is also associated with lower separation rates. Separation probabilities increase with age at a decreasing rate. Finally, marital dissolution is less common among the highly educated. All these factors are significant, but religiosity has the highest t-value at (-)13.8 (followed by rural at (-)7.9).

The second column adds the post-reform years and includes a post-reform indicator. First, note that the post-reform coefficient is positive and significant, indicating that separation rates increased significantly in Ireland after 1996. Second, note also that religiosity remains strongly significant. Column 3 then adds an interaction between the post-96 indicator and a dummy for non-religious individuals. Although the post-reform coefficient remains positive and significant, the interaction with non-religious is also positive and its magnitude is larger. The separation rate increased for non-religious individuals after 1996, both in absolute terms and relative to religious individuals.

In order to make sure that we are not just capturing a long-term trend in separation rates, column 4 adds a linear trend, which is positive and marginally significant. Doing so renders the post-96 coefficient insignificant, but the interaction with non-religious remains unchanged in magnitude and significance. After 1996, separation rates increased by 1.3 percentage points for non-religious individuals, relative to religious ones.

Finally, in column 5 we include some extra interactions between the post-reform indicator and other factors that appear significantly related to higher separation rates, such as urban residence and low educational attainment. Neither of these interaction terms attains statistical significance. Moreover, their inclusion barely affects the magnitude or significance of the religiosity interaction.

We thus conclude that, first, it does seem that the Irish legalization of divorce led to higher marital separation rates, and second, this increase was driven by non-religious individuals, so that we can treat religious couples as a plausible control group, "unaffected" by the increase in marital dissolution rates.

3.2 Religious families as a control group

Descriptives and validity of the control group

Back in table 1 we showed some descriptive statistics for the Irish married sample, separately for religious and non-religious households, and for the pre and post-reform years.[20] Non-religious families are slightly less likely to save and more likely to be in debt than religious ones (panel a). Before the reform, 55% of religious families reported positive savings, compared with 50% of non-religious ones. After 1996, the proportion of households that reported positive savings increased for both treatment and control groups, but more for non-religious couples.

Panel b shows that the proportion of individuals reporting an increase in savings over the previous year was between 21 and 22 percent before the reform in both groups, while the proportions with a savings decrease were 16 and 18 percent, respectively. After 1996, the proportion reporting that their savings were increasing rose for both groups.

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[20] Religious households are defined as those where both partners report going to church at least once a week in the first interview.

Figures 3.a and 3.b show the year-by-year evolution of two of the main individual-level measures of saving behavior for religious and non-religious marriages (and singles). The indicator of positive household savings ("Save2") was slightly higher for religious families before 1996, and it displays a positive trend for both groups over the whole period. However, after 1996 it appears that the increase is steeper among non-religious marriages. The proportion of individuals reporting increases in their savings evolves very similarly for all groups until 1997, but from then on non-religious married individuals are more likely to increase their savings than religious marriages and singles. The next section reports the results of a more formal regression analysis.

It is important to note that religious and non-religious households differ in a number of dimensions. Non-religious households are younger than religious ones (by about 5 years on average) and more educated. They are also more likely to have small children and live in Dublin, and less likely to reside in a rural area. Non-religious families also have slightly lower income, and slightly smaller household size. Age at marriage (not reported) is very similar for the two groups (26-27). Thus it will be important to control for these factors, since they may affect saving rates over time differentially for the two groups.

We control for age very flexibly with a third-order polynomial. We also control for (log) household size, although the difference between the groups is small (in the pre-period the median is 4, the 25th percentile is 3 and the 75th percentile is 5 for both groups). We also include a dummy for children under 12, although the difference is mostly due to the age gap between the two groups of couples. We control for education level flexibly with four dummies, and also include dummies for Dublin and rural residence. Although the income difference is small, we control for (log) household income.

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We may worry that religious households may not only save slightly more than non-religious ones, but their saving profile by age may differ, thus confounding our estimates. Figure A1 shows the proportion of households with positive savings (in 1994-96) by age, separately for control and treatment groups. The pattern is very similar, with increasing propensity to save in the late 20's, a decline in the early 30's (fertility age), a second peak around the mid-50's and a decline from then on. In any case, we also estimate specifications that include interactions between the age polynomial (as well as the rest of the controls) and religiosity. We believe this allows us to correct for the potential effect of differences in the stage in the life cycle between the two groups.

Regression Results

The main regression results for the individual and household sample are reported in tables 4 and 5. Table 4 focuses on the binary dependent variable "Save". Results are reported for several different specifications. Columns 1 through 4 include only the married sample. The first specification is linear and includes no control variables, thus the results can be interpreted as pure differences in means. Married households were significantly more likely to save after 1996, while religious families saved more than non-religious ones. After 1996, non-religious families increased their propensity to save by almost 3 percentage points, relative to religious ones.

Column 2 adds a full set of control variables, including age, age squared, age cubed, educational attainment dummies, log household size, log income, a dummy for children under 12, and rural and Dublin indicators (coefficients not reported).[21] We also include year dummies,

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[21] Some of the control variables could be determined endogenously, which calls for some caution when interpreting these results.

in order to control for the effect of overall economic conditions.[22] The coefficient of interest remains significant and increases in size. More educated and higher-income households are significantly more likely to save, while larger families are less likely to. Dublin residents save more, as do families with young children. The year dummies are not significant, and neither is age once all the other controls are included. The effect of interest is now estimated at almost 4 percentage points.

Column 3 reports the results from a specification that interacts the year dummies with a religiosity indicator. This turns the coefficient of interest even larger, at almost 7 points. Finally, column 4 includes all the controls as well as household fixed-effects, our preferred specification. Even in this saturated specification, the estimated effect is a significant 4 percentage points.

Table 5 reports the coefficients on the interaction term between "Post" and "Non-religious" for four additional dependent variables and several different specifications. Each row now reports the results for a different outcome variable. Columns 1 and 2 show the results when using religious couples as the control group (without and with household fixed effects, respectively). The results go in the same direction as those in table 4. The second indicator of a household's propensity to save ("Save2") increased by 4 to 6 percentage points more for treated relative to control families after divorce was legalized. We also find that non-religious families were significantly less likely to be in debt after the reform, relative to religious ones, by 6 to 7 percentage points when we use the indicator for repaying debt and by about 3 when we look at whether the household had to incur in debt to pay for its usual expenses. Finally, we estimate that

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[22] In additional specifications, we alternatively include the unemployment rate (and its interaction with religiosity) as a control, since unemployment rates plunged between 1993 and 2001 (see section 3.5).

non-religious families were about 3 percentage points more likely to report a savings increase during the previous year after 1996, relative to religious marriages.

One may also be interested in the timing of the estimated effects. We run additional specifications where we interact non-religious marriages with each single year after 1996, instead of with a single post-reform indicator. The results for the three main measures of saving behavior are reported in table A3, for the fixed-effects specification. The coefficient estimates suggest that the effects increase over time for the three outcomes. In 1997, the effects are small and insignificant. The estimated effects become significant in 1998-1999, and their magnitude peaks in 2000-2001. Note that this pattern follows closely the timing of increase in the divorce rate (see figure 2).

In sum, we find that married individuals in Ireland were more likely to save after 1996, and this increase was significantly higher among non-religious couples. Non-religious households were also less likely to incur debt relative to religious married households. The results suggest that non-religious married people in Ireland increased their savings (relative to more religious people) after 1996, the time when divorce was legalized.

Next, we turn to singles as an alternative control group. The advantage of this second comparison group is that we can exploit Household Budget Survey data, which allows us to construct a continuous measure of savings from income and expenditure information.

3.3 Singles as a control group

We now turn to specifications where we use singles as an alternative control group (and all married couples as the treated group). We first report specifications using LIS data for the same set of dependent variables used in the previous section. Descriptive statistics for the singles sample are shown in appendix table A2. Singles are significantly younger than the married

sample, with average age of 27 compared with 47 for married individuals. Singles are also much more likely to hold a high school degree, live in smaller households, are less likely to have small children and have higher income. The proportion living in rural areas and Dublin is similar for married and singles.

The regression results are reported in the last two columns of tables 4 and 5. Table 4 (column 6) shows that married couples increased their propensity to save by about 3 percentage points after 1996, relative to singles, and this difference is significant. Table 5 (columns 3 and 4) suggests that these effects are also present in the remaining dependent variables. Married couples are significantly less likely to incur in debt after 1996 relative to singles, and they are significantly more likely to increase their savings.

Although the Irish Household Budget Survey has no information on religiosity, it does contain information on marital status. Thus, we can estimate our specification using singles as the control group for the continuous variables of savings constructed from HBS data. The descriptive statistics for the HBS sample were reported in table 2. As noted earlier, average savings are negative for both samples before 1996, and they increase over time. Note that the pre-reform period now includes data from 1987 and 1994, while the post-1996 data come from the 1999 and 2004 surveys. All specifications include year dummies.

The main regression results are presented in table 6, using the saving rate (savings divided by income) as the dependent variable. Results for the additional dependent variables are shown in appendix table A4. The coefficient of interest is, as before, the interaction between the married indicator and the post-1996 dummy. Column 1 in table 6 shows the results when including the full set of controls, except household income. We find that married households increased their

savings by 16% after 1996, relative to single households. When we control for log income (in column 2), the estimated effect falls to a still significant 8.5%.

We run additional specifications where we interact the married indicator with the year dummies (in columns 3 and 4), with similar results. In column 5, we also interact all the controls with the married indicator, to allow for different coefficients on age, education, etc, for the married and single sample. The coefficient of interest remains large and significant.

Finally, one may worry that outliers could be driving the results, since the distribution of saving rates is severely skewed to the left. Thus, we estimate median regressions, shown in columns 6 and 7, which should minimize the impact of outliers. These specifications suggest that the saving rate of married couples increased significantly after 1996, by 5 to 7% (dependent on whether or not we control for income).

Appendix table A5 reports the results when using raw savings as the dependent variable (without dividing by income) or when using the binary indicator of positive savings (for comparability with the LIS results). We find that married couples increased their savings by 50 to 70 euros a week after 1996 (significantly), relative to single households. The fraction of married households with positive savings increased (significantly) by 7 to 9 percentage points, relative to singles.

Thus, we conclude that married couples in Ireland increased their propensity to save significantly after 1996, relative to single individuals. We now turn to our third approach, where we use married couples in other countries as additional control groups.

3.4 Other countries as control groups

Aggregate data analysis

The evolution of the private saving rate as a percentage of GDP in Ireland, Spain and the UK between 1991 and 2001 can be found in Figure 4. This period covers 5 years before and 5 years after the legalization of divorce in Ireland. In the mid-1990's, all three countries had private saving rates around 20% of GDP.

We estimate simple difference-in-difference specifications following equation (2), where the dependent variable is the log of the private saving rate, and report the results in table 7 (columns 1 to 3). The first column includes only the UK as a control country, while the second adds Spain and the third also includes France and Germany.

On average, private savings declined after 1996 for the three sets of countries. However, relative to the control countries, private savings increased significantly in Ireland after 1996. The size of this (relative) increase was about 14% relative to the UK, down to 10% when including Spain as an additional control, and 8% when adding Germany and France.[23]

The results of specifications that use the log of the aggregate national saving rate as a dependent variable are reported in columns 4 through 7. The results show that the Irish saving rate increased after 1996 by 24% relative to the UK (col. 4). The size of the estimated effect remains almost unchanged when we include additional control countries: Spain (col. 5), France and Germany (col. 6), and finally also Italy and Portugal (col. 7). The estimated effects are strongly significant.[24]

Thus, we find that the saving rate in Ireland increased significantly after 1996, and this increase was significantly higher than that in other European countries (where in fact saving rates

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[23] We also run specifications that include a linear time trend, but the trend is never significant at the 10% level and its inclusion barely changes the magnitude of the estimated effects.

[24] Including linear trends in all specifications does not significantly alter the results, and the trend is typically not significant.

were stable or declining). The next subsection provides some evidence that this relative increase in saving rates may have been related to the 1996 legalization of divorce.

Individual-level, multi-country analysis

Table 8 shows some summary statistics for the three-country sample (using LIS data for Ireland and ECHP for Spain and the UK), separately for Ireland, Spain and the UK and for the pre and post-reform periods. Before the reform, saving rates were much higher in the UK than in Ireland or Spain (68% compared with 33-35%). Before 1997, 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 lowest in Spain.

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 1996, the propensity to save increased in all three countries, while the proportion of households in debt remained essentially flat.

The regression results for the three-country sample are reported in tables 9 and A5. The control variables show similar patterns as in the Irish sample. Higher education is associated with a higher propensity to save and a lower likelihood of being in debt, while the age profile has low significance levels.

After 1996, the propensity to save of married couples increased in Ireland by about 4 percentage points, relative to the UK and Spain, and this effect was significant (table 8, cols. 1 and 2). In fact, this effect is mostly driven by the comparison to the UK. When including only the UK as a control country, the estimated effect is a significant 9 percentage points, while it is only a less significant 2 points relative to Spain (not shown).

Columns 3 and 4 show the results when using non-religious Irish couples as the treated group. Since the ECHP does not include the church attendance variable, we cannot separate couples by religiosity in the UK and Spain. These specifications also include an indicator for Ireland interacted with non-religious (not reported). The results show that married couples were more likely to save in Ireland after 1996 relative to the other countries, but this increase was more pronounced among non-religious households. The estimated effect is between 4 and 5 percentage points.

Finally, the last two columns show the results when including singles as an additional control group.[25] These regressions now include a dummy for married interacted with each country, plus an indicator for married interacted with post-1996 (common for all countries), the interaction between Ireland and non-religious marriages, and the quadruple interaction of Ireland, married, non-religious and post. The results show that married individuals save more than singles in all three countries (not reported), while savings increased overall after 1996, and significantly more for married individuals relative to singles (not reported). We also find that the increase in the propensity to save was significantly more pronounced in Ireland (by 7 percentage points). Moreover, non-religious married individuals in Ireland increased their propensity to save more than religious couples and singles in Ireland, relative to the other countries, by about 4 percentage points.

Table A5 shows the results for the second dependent variable (a binary indicator for debt). The first two columns include only married couples and do not separate by religiosity, while columns 3 and 4 include singles and also break down Irish married couples by religiosity. Focusing on the most complete specification in column 4, we find that non-religious marriages in

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[25] Note that singles are not broken down by religiosity.

Ireland were less likely to be in debt after 1996, relative to the control group of singles and religious couples in Ireland as well as married and single households in the UK and Spain.

3.5. Additional specifications and robustness checks

We have estimated a number of alternative specifications as robustness checks. All individual-level regressions with binary dependent variables 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 (except when using HBS data, which are not longitudinal). The inclusion of the individual fixed effects affects the coefficients of interest surprisingly little, and typically does not alter the significance level.

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.

We also tried including additional control variables, including measures of aggregate economic conditions, which is important given the economic boom experienced by Ireland during the 1990's. In particular, we included the aggregate unemployment rate as a control, as well as its interaction with the treatment group dummy. This barely affected the coefficient of interest, suggesting that differences in timing allow us to separate the effect of the divorce law from that of the contemporaneous economic boom.

Also relevant are the specifications for the LIS sample that used alternative definitions of religiosity. Our main definition of "untreated" household includes couples where both husband and wife report going to church *at least* once a week in the first interview (66% of the married sample). A more strict definition would include couples where both report going to church *more*

than once a week, but that would account for only about 5% of the sample. A less strict definition would include couples where at least one of them goes to church once a week, but this would include almost 99% of married households. Finally, we could classify as religious couples those where both report going to church at least once a month (76% of the sample). Using this less strict definition barely alters the magnitude of the estimated effects, which become slightly stronger for some of the dependent variables, as would be expected.[26]

We also experimented with different clustering strategies in the individual-level LIS specifications, to account for the fact that we have multiple observations by household or individual. Clustering the standard errors at the household level barely alters significance levels.[27]

The main specification using the LIS sample 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. However, we observe few separations in the data, which may explain why the size of the coefficient only changes slightly.

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[26] Other definitions that we have tried use multiple interviews for each household (as in "both spouses go to church at least once a week in all interviews"), or use different thresholds for each spouse (as in "the husband goes to church at least once a week and the wife goes more than once a week"). These resulted in small changes in the "treated" sample but did not affect the results substantially.

[27] We are aware that the relevant variation is only over time and by group (treated versus control), and that we may expect the errors to be autocorrelated over time within group. However, we do not have enough clusters to attempt clustering strategies at the group level (Bertrand et al. 2004).

The baseline LIS results include all years between 1994 and 2001, but we also try dropping years 1996 and 1997, the "reform years". This weakens the estimated effects slightly, but they remain mostly significant.

Finally, when using families in other countries as comparison groups, we explored using only Spain and only the UK as control countries.[28] The estimated effect was smaller and less significant when using only Spain as a control country.[29]

4. Conclusions

We have shown that the propensity to save of married couples increased significantly in Ireland after 1996, relative to singles (and to married couples in other European countries). This increase was significantly higher among non-religious married couples, compared with religious ones. 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 of marital breakup, especially for non-religious families. These results are consistent with married individuals increasing their savings in anticipation of a potential divorce.

We estimate that an increase in the risk of marital separation of about 40% (among non-religious marriages) led to a significant rise in the proportion of married households reporting positive savings (of 7-8% or 10-13%, depending on the saving indicator used). Non-religious married couples also were about 11% more likely to report that their overall savings had increased over the previous year. Relative to singles, the proportion of married couples reporting positive savings increased by 4 to 5%, and their savings as a proportion of income increased by 5 to 8%.

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[28] We also explored using all other EU15 countries as controls.

[29] Regression results for all the specifications in this section are available upon request.

Some caveats of our analysis are worth mentioning. First, in an important part of our individual-level analysis we are only able to use binary indicators of saving activity, which makes it hard to draw quantitative conclusions about changes in the individual saving rate. Second, we lack a true control group within Ireland, 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 few pre-reform years, and are thus unable to control for long-term pre-reform trends, which would strengthen our identification strategy.

Nevertheless, our results that married couples affected by the legalization of divorce increased their savings after the reform are consistent when using three different control groups (religious couples, singles and married couples in other countries) and across three independent data sets (LIS, HBS and ECHP) and eight different measures of saving behavior. The main results are also robust to a number of specification checks, and do not seem to be driven by the overall improvement in economic conditions in Ireland.

The findings suggest 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,[30] and we provide evidence that saving behavior may also adjust significantly. The increase in savings can of course take place both directly through changes in consumption, or indirectly through increases in labor supply that in turn increase household income.

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[30] Bargain et al. (2010) find that married women increased their labor supply as a result of the Irish legalization of divorce.

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Figure 1. Divorce rates in the US, UK, Ireland and EU-15, 1978-2008
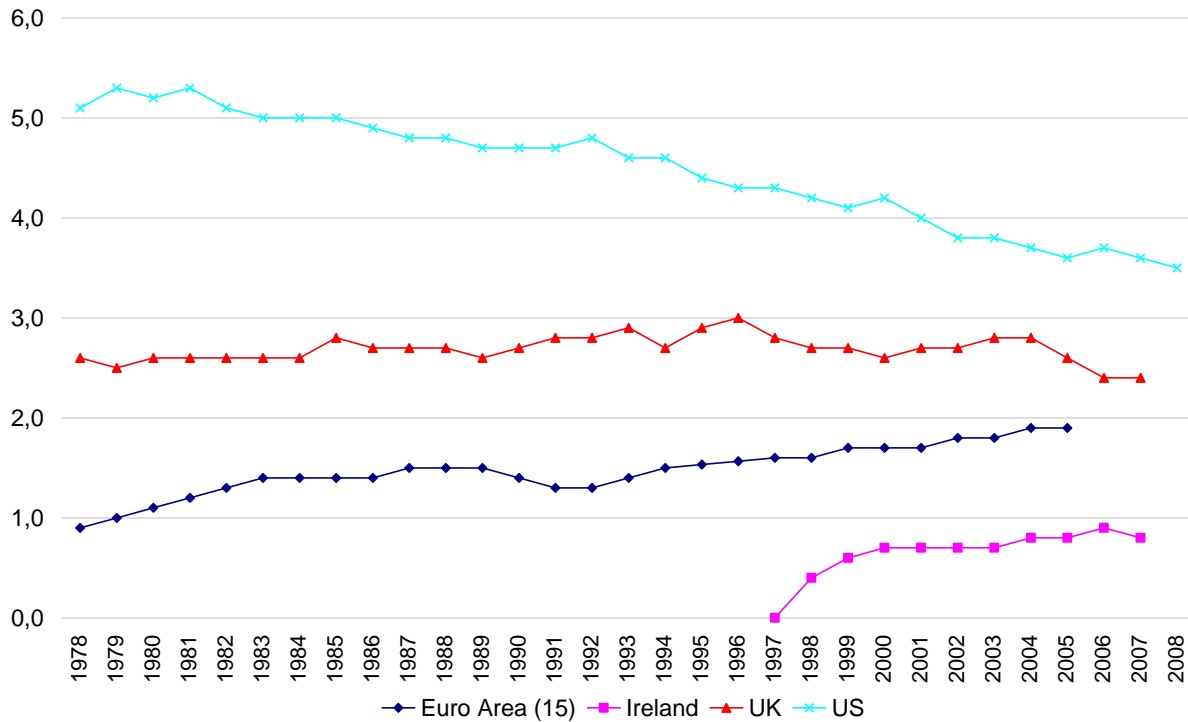
Note: The divorce rate is the annual number of divorces per 1,000 people. The European data come from Eurostat, the US data is from the NCHS.

Figure 2. Annual number of divorces granted, Ireland 1996-2007
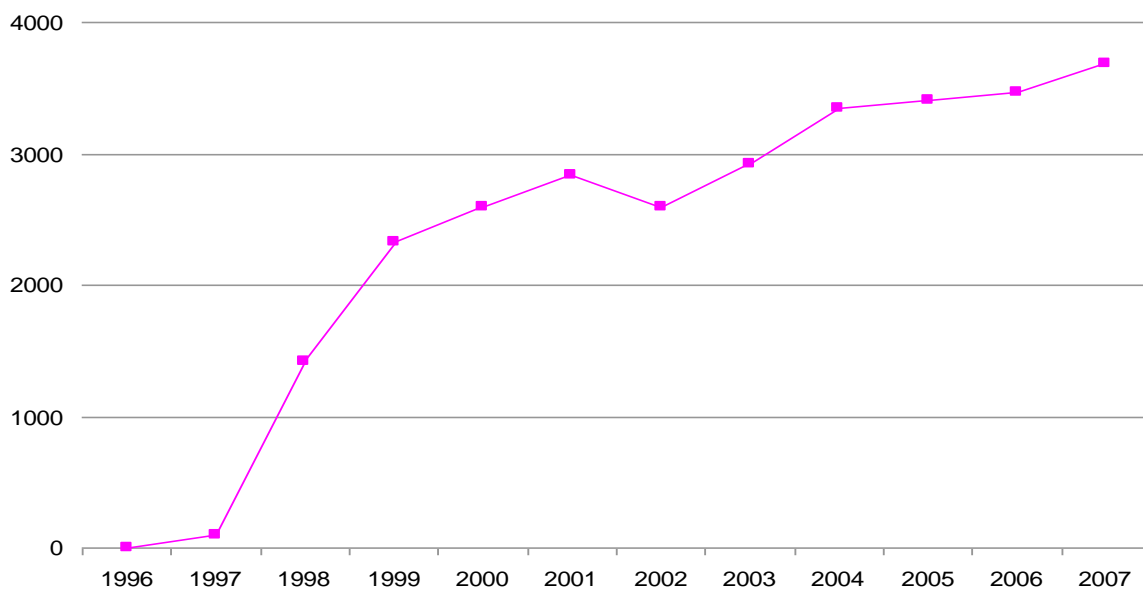
Figure 3. Individual-level Saving Measures, Ireland 1994-2001

a) Proportion of households reporting positive savings ("Save2")

Married, religious — Married, non-religious — Single
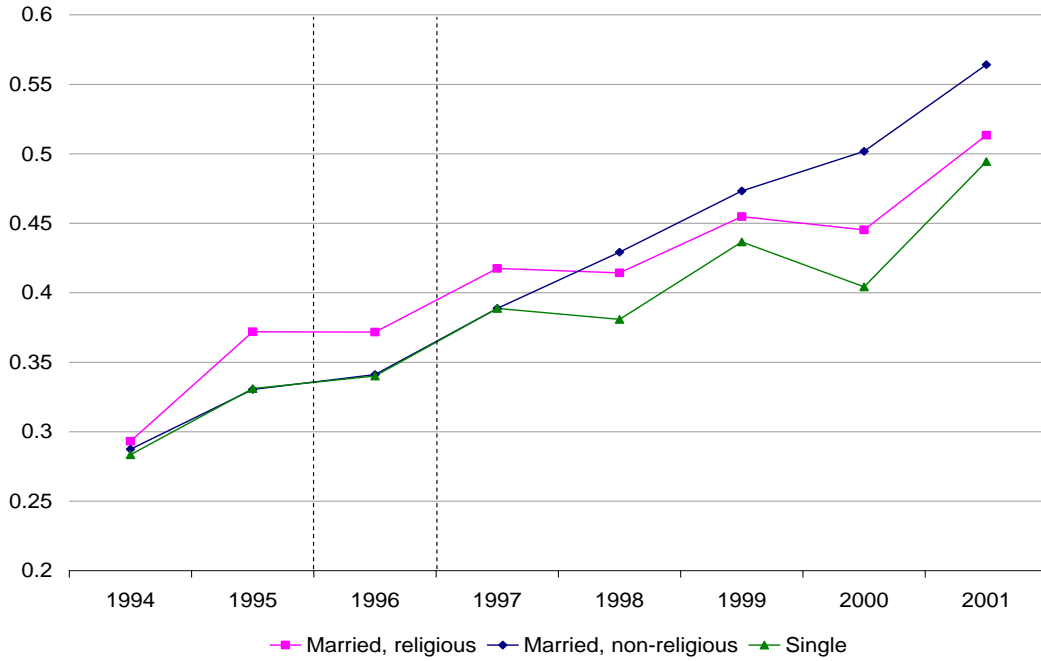
b) Proportion of individuals reporting a savings increase ("Savings increase")

Married, rel — Married, nonrel — Single
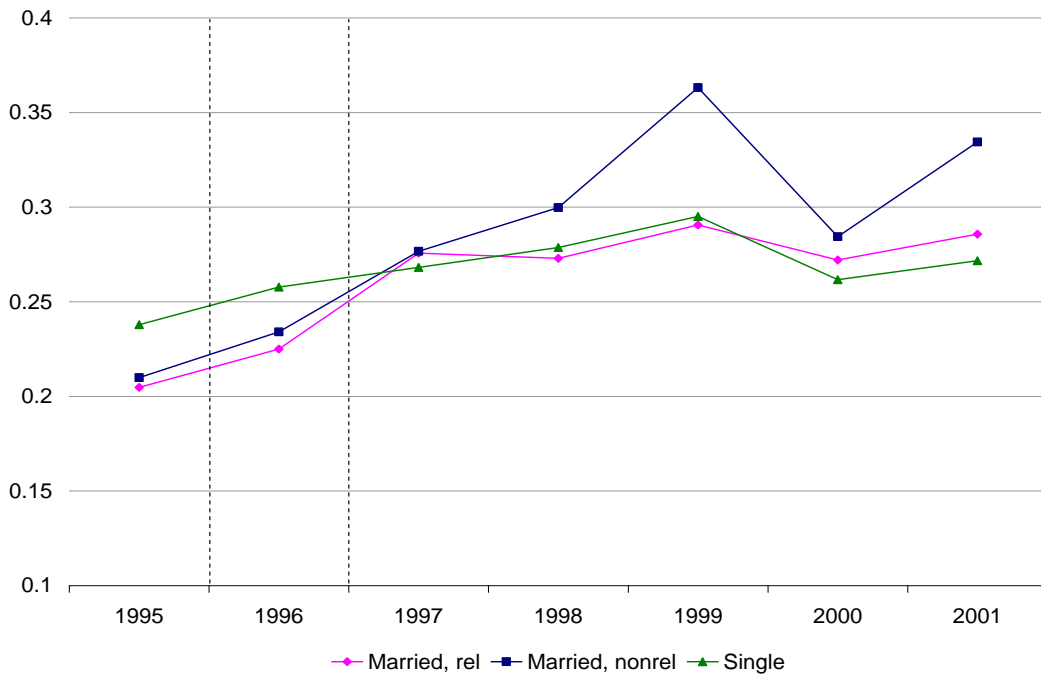
Source: Living in Ireland Survey.

Figure 4. Gross Private Sector Saving as % of GDP, Ireland, Spain and UK, 1991-2001
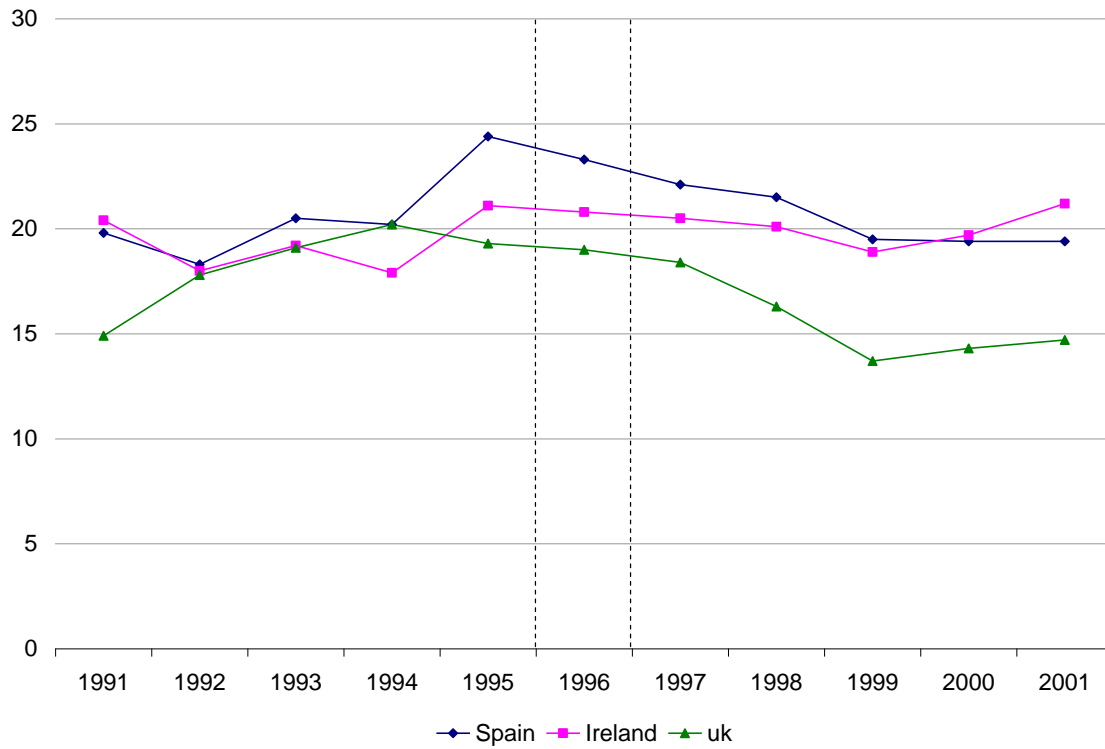
Source: European Commission Report (2000) "European Economy: Broad Economic Policy Guidelines-Convergence Report for Single Currency" Statistical Anex, Table 48.

Table 1. Summary statistics, Irish married sample (Living in Ireland Survey).

1.a) Household-level variables

	Religious		Nonreligious	
	Pre (1994-1996)	Post (1997-2001)	Pre (1994-1996)	Post (1997-2001)
Save	0.5526	0.7182	0.4975	0.6919
Save2	0.3406	0.4477	0.3169	0.4708
Debt	0.3575	0.3880	0.4433	0.4208
Debt2	0.0805	0.0491	0.1602	0.1081
Age of husband	47.90	49.91	42.07	44.97
Univ. Degree	0.133	0.144	0.200	0.201
Child(ren) under 12	0.440	0.401	0.571	0.581
Rural	0.480	0.512	0.237	0.256
Dublin	0.167	0.148	0.368	0.353
Hh income (pounds per	418.55	576.42	399.24	565.54
Hh size	4.55	4.38	4.30	4.37
N	3952	4376	2010	2630

1.b) Individual-level variables

	Religious		Nonreligious	
	Pre (1995-1996)	Post (1997-2001)	Pre (1995-1996)	Post (1997-2001)
Savings increase	0.2140	0.2786	0.2208	0.3077
Savings decrease	0.1565	0.1278	0.1818	0.1232
Age	47.35	49.33	41.44	44.32
Univ. Degree	0.122	0.128	0.178	0.188
Child(ren) under 12	0.454	0.385	0.607	0.570
Rural	0.490	0.515	0.243	0.256
Dublin	0.163	0.148	0.362	0.358
Hh income (pounds per	431.96	570.04	411.17	568.32
Hh size	4.48	4.31	4.30	4.35
N	4985	9274	2486	4771

Note: The sample includes all couples married before 1996 and never separated or divorced where the husband is 65 or under.

Table 2. Summary statistics, Irish sample (Husehold Budget Survey)

	Married		Single	
	Pre-1996	Post-1996	Pre-1996	Post-1996
Savings	-69.69	14.06	-20.1	-9.41
Savings/Income	-0.3043	-0.136	-0.2143	-0.1979
Positive savings	0.3572	0.4802	0.4265	0.4547
Age 25-34	0.2376	0.1637	0.1918	0.1899
Age 35-44	0.3565	0.332	0.1952	0.2387
Age 45-54	0.2346	0.2906	0.2091	0.2428
Age 55-64	0.1542	0.1996	0.2771	0.2368
Dublin	0.2647	0.1979	0.3443	0.322
Rural	0.3655	0.4501	0.2734	0.2435
Farm	0.1274	0.1018	0.1135	0.0568
Household size	4.27	3.84	2.08	2.1
N. children	1.97	1.55	0.65	0.68
Income	557	972	340	574
Log income	6.17	6.72	5.57	6.1
N	8643	8120	3223	3134

Note: The sample is composed of all household heads aged 15 to 64. The pre-1996 period includes the 1987 and 1994 surveys, where post-96 includes the 1999 and 2004 surveys.

Table 3. Separation and divorce regressions, Ireland 1994-2001

	1994-1996			All years					
	1		2		3		4		5	
Post-1996			0.0094	***	0.0056	**	-0.0006		-0.0040	
			(0.0022)		(0.0026)		(0.0045)		(0.0057)	
Post96*Non-					0.0128	***	0.0128	***	0.0123	**
					(0.0047)		(0.0047)		(0.0048)	
Post96*Urban									0.0026	
									(0.0045)	
Post96*NoHS									0.0034	
									(0.0044)	
Religious	-0.0484	***	-0.0578	***	-0.0503	***	-0.0501	***	-0.0503	***
	(0.0035)		(0.0025)		(0.0037)		(0.0037)		(0.0038)	
Rural	-0.0266	***	-0.0283	***	-0.0282	***	-0.0282	***	-0.0268	***
	(0.0034)		(0.0025)		(0.0025)		(0.0025)		(0.0035)	
Dublin	-0.0103	***	-0.0111	***	-0.0110	***	-0.0109	***	-0.0109	***
	(0.0039)		(0.0029)		(0.0029)		(0.0029)		(0.0029)	
Age	0.0222	***	0.0133	***	0.0131	**	0.0130	**	0.0129	**
	(0.0068)		(0.0051)		(0.0051)		(0.0051)		(0.0051)	
Age2	-0.0004	***	-0.0002		-0.0002		-0.0002		-0.0002	
	(0.0002)		(0.0001)		(0.0001)		(0.0001)		(0.0001)	
Some HS	-0.0043		-0.0030		-0.0030		-0.0032		-0.0032	
	(0.0039)		(0.0029)		(0.0029)		(0.0029)		(0.0029)	
HS degree	-0.0223	***	-0.0225	***	-0.0225	***	-0.0227	***	-0.0208	***
	(0.0040)		(0.0029)		(0.0029)		(0.0029)		(0.0038)	
College degree	-0.0188	***	-0.0186	***	-0.0185	***	-0.0187	***	-0.0168	***
	(0.0048)		(0.0035)		(0.0035)		(0.0035)		(0.0042)	
Female	0.0321	***	0.0359	***	0.0358	***	0.0358	***	0.0358	***
	(0.0030)		(0.0022)		(0.0022)		(0.0022)		(0.0022)	
Trend							0.0015	*	0.0015	*
							(0.0009)		(0.0009)	
Constant	-0.3012	***	-0.1906	**	-0.1918	***	-0.1930	***	-0.1935	***
	(0.0955)		(0.0730)		(0.0730)		(0.0730)		(0.0730)	

Note: Living in Ireland Survey data. The dependent variable is an indicator for whether an individual is separated or divorced at the time of the interview. "Religious" is defined as "attends church at least once a week". Age cubed is also included as a control in all specifications although not reported. Standard errors are shown in parentheses. One asterisk indicates 90% significance, two indicate 95% and three, 99%.

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

	1		2		3		4		5		6	
Post-1996	0.1656	***	0.0722	***	0.0622	***			0.0742	***		
	(0.0104)		(0.0169)		(0.0194)				0.0113			
Treated	-0.0551	***	-0.0941	***	-0.0941	***			0.1496	***		
	(0.0130)		(0.0125)		(0.0196)				0.0106			
Treated*Post	0.0288	*	0.0374	**	0.0665	**	0.0399	**	0.0178	*	0.0323	**
	(0.0178)		(0.0164)		(0.0320)		(0.0161)		0.0106		(0.0130)	
Control group	Religious marriages		Religious marriages		Religious marriages		Religious marriages		Singles		Singles	
Control variables	None		All, year dummies		All, year dummies interacted with religiosity		All, year dummies		All, year dummies		All	
Specification	Linear		Linear		Linear		Linear, hh. fixed-effects		Linear		Linear, hh. fixed-effects	
N	12698		12675		12675		12675		29690		29690	

Note: Data from Living in Ireland Survey. The married sample includes all couples married before 1996 and never separated or divorced (age cut 65). The singles sample includes all never married individuals who do not change marital status. Standard errors are shown in parentheses. One asterisk indicates a 90% confidence level, two indicate 95%, and three indicate 99%. "All" controls include age, age squared, age cubed, four educational attainment dummies, log household size, log household income, a dummy for children under 12 and dummies for rural and Dublin.

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

	1		2		3		4	
Save2	0.0563	***	0.0415	**	0.0213	**	0.0143	
	(0.0165)		(0.0165)		(0.0104)		(0.0131)	
Debt	-0.0558	***	-0.0688	***	0.0137		-0.002	
	(0.0179)		(0.0178)		(0.0112)		(0.0139)	
Debt2	-0.0257	**	-0.0312	***	-0.0027		-0.0201	***
	(0.0101)		(0.0099)		(0.0062)		(0.0077)	
Savings increase	0.0254	**	0.0299	**	0.0535	***	0.0267	**
	(0.0129)		(0.0138)		(0.0098)		(0.0132)	
Savings decrease	-0.0279	***	-0.0302	***	-0.0045		-0.0074	
	(0.0105)		(0.0114)		(0.0077)		(0.0105)	
Control group	Religious marriages		Religious marriages		Singles		Singles	
Control variables	All, year dummies		All, year dummies		All, year dummies		All, year dummies	
Specification	Linear		LPM w. f-e		Linear		LPM w. f-e	
N	12698		12698		29759		29759	

Note: Data from Living in Ireland Survey. The coefficients reported correspond to the interaction between "post-1996" and "treated" (nonreligious) in cols. 1 and 2, and "post-1996" and "married" for cols. 3 and 4. The married sample includes all couples married before 1996 and never separated or divorced. The singles sample includes all never married individuals who do not change marital status. Also included in the regressions are the separate dummies for "post-1996" and "treated". Standard errors are shown in parentheses. One asterisk indicates a 90% confidence level, two indicate 95%, and three indicate 99%. "All" controls include age, age squared, age cubed, four educational attainment dummies, log household size, log household income, a dummy for children under 12 and dummies for rural and Dublin.

Table 6. Regression results, HBS Irish sample (saving rate)

	1		2		3		4		5		6		7	
Married*Post96	0.1594	***	0.0847	**	0.2482	***	0.0733		0.2554	***	0.0682	***	0.0534	***
	(0.0422)		(0.0391)		(0.0608)		(0.0564)		(0.0615)		(0.0135)		(0.0122)	
Married	-0.1562	***	-0.3302	***	-0.1992	***	-0.3448	***	-0.1782		-0.0677	***	-0.1244	***
	(0.0364)		(0.0339)		(0.0480)		(0.0445)		(0.2031)		(0.0116)		(0.0106)	
1994	0.0462	*	-0.1415	***	-0.0121		-0.1621	***	0.0021		-0.0128		-0.0697	***
	(0.0262)		(0.0245)		(0.0504)		(0.0467)		(0.0506)		(0.0084)		(0.0077)	
1999	0.0186		-0.4674	***	0.0198		-0.4978	***	0.0223		-0.0060		-0.1566	***
	(0.0410)		(0.0388)		(0.0519)		(0.0489)		(0.0523)		(0.0131)		(0.0121)	
2004	0.0538		-0.6511	***	-0.0107		-0.6439	***	-0.0054		0.0612	***	-0.1544	***
	(0.0410)		(0.0396)		(0.0518)		(0.0491)		(0.0524)		(0.0131)		(0.0124)	
Married*1994					0.0801		0.0281		0.0730					
					(0.0591)		(0.0547)		(0.0592)					
Married*1999					-0.0913		0.0523		-0.0877					
					(0.0598)		(0.0555)		(0.0602)					
Controls	All controls		Adding log income		Adding interactions married*year		Adding log income and married*year		Adding int. of year with all x's		Median regression, all controls		Median reg., adding log income	

Note: The sample is composed of all household heads aged 15 to 64. The pre-1996 period includes the 1987 and 1994 surveys, while post-96 includes the 1999 and 2004 surveys. Standard errors are shown in parentheses. One asterisk indicates a 90% confidence level, two indicate 95%, and three indicate 99%. Control variables include age dummies, household size dummies, number of children dummies, and dummies for rural, farm and Dublin.

Table 7. Aggregate saving sate results

	Log Private Saving Rate			Log Aggregate National Saving Rate			
	1	2	3	4	5	6	7
Post-1996	-0.1586 *	-0.1051 *	-0.0628 ***	-0.0711	-0.0383	-0.0088	-0.0233
	(0.0844)	(0.0616)	(0.0417)	(0.0811)	(0.0581)	(0.0458)	(0.0431)
Ireland*Post-1996	0.1443 *	0.0997 *	0.0833 *	0.2443 ***	0.2322 ***	0.2648 ***	0.2983 ***
	(0.0718)	(0.0583)	(0.0477)	(0.0581)	(0.0457)	(0.0432)	(0.0466)
N	26	39	65	28	42	70	98
Years		1989-2001			1989-2002		
Control countries	UK	UK, Spain	UK, Spain, Germany, France	UK	UK, Spain	UK, Spain, Germany, France	UK, Spain, Germany, France, Italy, Portugal

Note: All regressions include individual country dummies.
Source: Eurostat for private saving rates, OECD for aggregate saving rates.

Table 8. Summary statistics, three-country married sample

	Ireland		Spain		UK	
	Pre	Post	Pre	Post	Pre	Post
Save	0.3326	0.4558	0.3469	0.4621	0.6820	0.7214
Debt	0.3864	0.3995	0.2601	0.2599	0.3999	0.3759
Age	45.94	48.18	46.02	47.55	44.93	47.29
Univ. Degree	0.155	0.164	0.177	0.191	0.388	0.506
Hh income (euros)	25381	33557	16637	20241	25149	38498
Hh size	4.43	4.38	3.93	3.95	3.32	3.38
N	5962	6736	11387	12380	4739	6688

Source: Living in Ireland Survey for Ireland, ECHP for the UK and Spain.
Note: The sample includes all individuals married before 1996, younger than 65 and never separated or divorced. Pre-years are 1994-96 and post-years include 1997-2001.

Table 9. Regression results, three-country sample, dependent variable "Save"

	1		2		3		4		5		6	
Post-1996	0.0814	***	0.0693	***	0.0816	***	0.0693	***	0.0422	***	0.0431	***
	(0.0051)		(0.0045)		(0.0051)		(0.0045)		(0.0048)		(0.0047)	
Ireland*Post	0.0402	***	0.0443	***	0.0232	**	0.0306	***	0.0767	***	0.0717	***
	(0.0098)		(0.0094)		(0.0115)		(0.0111)		(0.0088)		(0.0094)	
Ireland*Post*Nonrel.					0.0505	***	0.0398	**				
					(0.0176)		(0.0172)					
Ireland*Post*Nonrel.*Married									0.048	***	0.0398	**
									(0.0178)		(0.0174)	
Control group	Married couples in UK and Spain				Rel. mar. in Ireland, married in UK and Spain				Rel. mar. in Ireland, married in UK and Spain, singles in Ire., UK and Sp.			
Control variables	Age and education		None		Age and education		None		Age and education		None	
Specification	Linear		Linear, indiv. fixed-effects		Linear		Linear, indiv. fixed-effects		Linear		Linear, indiv. fixed-effects	
N	47892		47892		47892		47892		106636		106636	

Note: The married sample includes all couples married before 1996 and never separated or divorced in Spain, the UK and Ireland. The singles sample includes all never married individuals who do not change marital status in Spain, the UK and Ireland. Standard errors are shown in parentheses. One asterisk indicates a 90% confidence level, two indicate 95%, and three indicate 99%. All specifications include country dummies. Specifications 3 to 6 also include a dummy for Ireland*Nonreligious. Specifications 5 and 6 also include dummies for Married*country, Married*Post, and Ireland*Post*Married.

Appendix

Figure A1. Proportion of married households reporting positive savings by age and religiosity (1994-96)
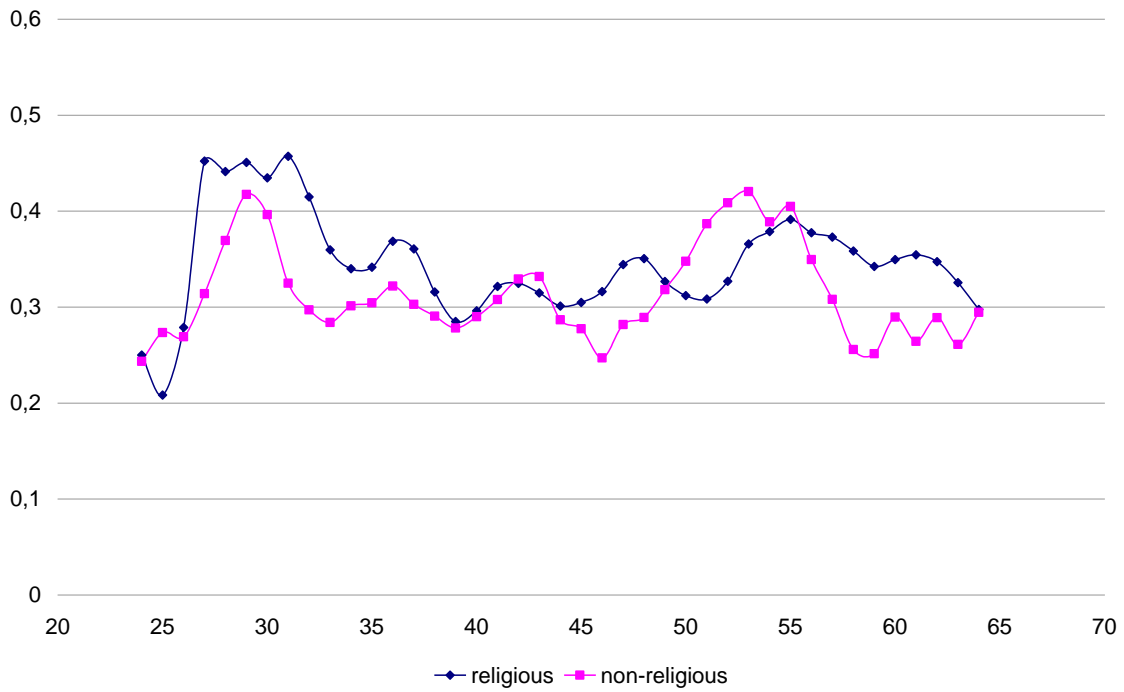
Source: Living in Ireland Survey.

Table A1. Summary statistics separation analysis

Variable	Mean	Std. Dev.	Min	Max
Separated or divorced	0.0380	0.1911	0	1
Post-1996	0.5530	0.4972	0	1
Post96*Non-religious	0.1848	0.3882	0	1
Post96*Urban	0.3231	0.4677	0	1
Post96*NoHS	0.3142	0.4642	0	1
Religious	0.6911	0.4620	0	1
Age	46.1	10.6	19	65
Some HS	0.2576	0.4373	0	1
HS degree	0.2695	0.4437	0	1
College degree	0.1445	0.3516	0	1
Rural	0.4058	0.4910	0	1
Dublin	0.2234	0.4165	0	1
Female	0.5368	0.4987	0	1
Trend	4.1760	2.3693	1	8

Note: Living in Ireland Survey data, 1994-2001. The sample is composed of the ever-married population aged 18 to 65. Sample size is 30,687.

Table A2. Summary statistics singles sample (LIS)

	Pre (1994-1996)	Post (1998-2001)
Save2	0.3154	0.4199
Save	0.4825	0.6395
Sinc	0.2472	0.2736
Debt	0.3360	0.3480
Age	26.69	27.26
Univ. Degree	0.136	0.113
Child(ren) under 12	0.182	0.206
Rural	0.407	0.417
Dublin	0.233	0.244
Hh income (pounds per week)	443	612
Hh size	4.51	4.26
N	7324	9737

Note: Living in Ireland Survey data, 1994-2001. The sample is composed of singles aged 18 to 65 who did not change marital status during the survey period.

Table A3. Regression results over time, Irish married sample, LIS 1994-2001

	Save		Save2		Savings Increase	
Nonrel.*1997	0.0160		0.0006		0.0052	
	(0.0229)		(0.0235)		(0.0184)	
Nonrel.*1998	0.0229		0.0500	**	0.0286	
	(0.0243)		(0.0249)		(0.0195)	
Nonrel.*1999	0.0547	**	0.0309		0.0590	***
	(0.0264)		(0.0271)		(0.0211)	
Nonrel*2000	0.0601	**	0.1000	***	0.0213	
	(0.0274)		(0.0281)		(0.0219)	
Nonrel*2001	0.0944	***	0.0823	***	0.0678	***
	(0.0287)		(0.0294)		(0.0228)	
Control group	Religious marriages		Religious marriages		Religious marriages	
Control variables	All, year dummies		All, year dummies		All, year dummies	
Specification	Linear, indiv. fixed-effects		Linear, indiv. fixed-effects		Linear, indiv. fixed-effects	
N	12675		12675		21469	

Note: The sample includes all individuals married before 1996 and never separated or divorced. Standard errors are shown in parentheses. One asterisk indicates a 90% confidence level, two indicate 95%, and three indicate 99%.

Table A4. Regression results HBS, two dependent variables

	Savings				Positive savings			
	1		2		3		4	
Married*Post96	67.061	***	51.433	***	0.0890	***	0.0703	***
	(9.899)		(9.342)		(0.0144)		(0.0138)	
Married	-45.381	***	-79.485	***	-0.0763	***	-0.1217	***
	(8.540)		(8.083)		(0.0124)		(0.0119)	
1994	-25.821	***	-61.398	***	-0.0010		-0.0496	***
	(6.155)		(5.851)		(0.0089)		(0.0086)	
1999	-30.059	***	-125.902	***	-0.0039		-0.1309	***
	(9.602)		(9.252)		(0.0140)		(0.0137)	
2004	39.012	***	-101.194	***	0.0752	***	-0.1092	***
	(9.599)		(9.459)		(0.0140)		(0.0140)	
Controls	All		Adding log income		All		Adding log income	

Note: The sample is composed of all household heads aged 15 to 64. The pre-1996 period includes the 1987 and 1994 surveys, where post-96 includes the 1999 and 2004 surveys. Standard errors are shown in parentheses. One asterisk indicates a 90% confidence level, two indicate 95%, and three indicate 99%. Control variables include age dummies, household size dummies, number of children dummies, and dummies for rural, farm and Dublin.

Table A5. Regression results, three-country sample, dependent variable "debt"

	1		2		3		4	
Debt	0.0225	**	0.0377	***	-0.0486	***	-0.0594	***
	(0.0096)		(0.0094)		(0.0170)		(0.0169)	
Control group	Married, UK and Spain				Rel. mar. in Ireland, married in UK and Spain, singles in Ire., UK and Sp.			
Control variables	Age and education		None		Age and education		None	
Specification	Linear		LPM w. f-e		Linear		LPM w. f-e	
N	47892		47892		106636		106636	

Note: The coefficients reported correspond to the interaction between "post-1996" and Ireland in cols. 1 and 2, and Ireland, "post-1996", "married" and "nonreligious" for cols. 3 and 4. The married sample includes all couples married before 1996 and never separated or divorced in Spain, the UK and Ireland. The singles sample includes all never married individuals who do not change marital status in Spain, the UK and Ireland. One asterisk indicates a 90% confidence level, two indicate 95%, and three indicate 99%. All specifications include country dummies and a dummy for "post-1996". Specifications 3 and 4 also include dummies for Ireland*Post, Married*country, Married*Post, and Ireland*Post*Married.