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## Unravelling secularization: an international study

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## Unravelling Secularization: An International Study

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# Unravelling Secularization: An International Study

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## **ABSTRACT**

### **Unravelling Secularization: An International Study<sup>\*</sup>**

The current study examines individuals who were raised in a certain religion and at some stage of their life left it. Currently, they define their religious affiliation as 'no religion'. A battery of explanatory variables (country-specific ones, personal attributes and marriage variables) was employed to test for the determinants of this decision. It was found that the tendency of individuals to leave their religion is strongly correlated with the degree of strictness of their country and with their spouse's religious characteristics. Moreover, personal socio-demographic features seem to be less relevant.

JEL Classification: Z12, J12, J13, D13

Keywords: religion, convert-out, church attendance, prayer, parental religiosity, Europe

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## 1 Introduction

The paper examines individuals who were raised in a religion and at some stage in life left their religion and currently define their religious affiliation as 'no religion'.

In order to identify the individuals who stepped out of any religious affiliation and to find out what are the factors that significantly affected this drastic move, a battery of diverse explanatory variables was employed and Hypotheses regarding the effects of these variables, based on sociological and economic theories, were formulated. The variables include: (i) country specific variables: pluralism index; existence of state-religion and state-regulation of religion; national average level of mass attendance and of prayer; (ii) personal attributes that include: childhood and parental religious background; socio-economic and demographic personal determinants; and beliefs; and (iii) marriage effects: marital status and spouse's religion (for married individuals).

The data used for the empirical analysis were drawn from the module on National Identity of the 1998 International Social Survey Program (ISSP): Religion II. The ISSP is an ongoing effort devoted to cross-country research on national attitudes. It includes questions on attitudes, beliefs and opinions on various issues, as well as numerous questions regarding the individual's socio-economic background, together with information on parents and spouses. Individuals were sampled within the following countries: Australia, Germany, Great Britain, Northern Ireland, The United States, Austria, Hungary, Italy, Ireland, The Netherlands, Norway, Sweden, The Czech Republic, Slovenia, Poland, Bulgaria, Russia, New Zealand, Canada, The Philippines, Israel, Japan, Spain, Latvia, The Slovak Republic, France, Cyprus, Portugal, Chile, Denmark and Switzerland. Most of these countries are predominantly Christian (Catholic, Protestant, Orthodox, and other Christian faith); a small share of respondents grew up as Jews or as Moslems; and about 1.3% were raised in other religions (see Table 1 for details). The data covers the European and Australian continents and North America<sup>2</sup>. The African continent is excluded and South America and Asia are represented by a small number of countries (Chile, Japan, Israel and the Philipines). The research is therefore pertaining to Europe, North-America and Australlia, and a few other

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<sup>2</sup> An interesting point relating to this is that historically, secularization finds its roots in the enlightenment movement of the 17<sup>th</sup> and 18<sup>th</sup> century in Europe and America, that were predominantly Christian.

countries. The more homogenous European sample is also analysed separately and results of the larger sample are compared with the results for the European sample.

The paper joins the growing body of literature on the phenomenon of secularization. There is a consensus that secularization, mainly in Europe and other Western countries, is well advanced (e.g. Te Grotenhuis and Scheepers, 2001; Bruce, 1992; Branas-Garza, 2004; Branas-Garza and Neuman, 2004)<sup>3</sup>. However, there is less agreement on what are the best indicators of secularization, or on the indicators of its counterpart, that is, religious adherence.

The term secularization has been referred to and defined in various ways. Often, the term 'secularization' has been used to indicate a decrease in religious adherence and practice. Religious adherence is difficult to measure. Church<sup>4</sup> statistics and national surveys provide data on active participation, especially attendance at religious services. Surveys also reveal the proportion of the population which believe in various statements of faith and creed. Branas-Garza and Neuman (2004, 2007) used both participation in church services and the private/intimate activity of prayer as indicators of religious adherence. Williams and Lawler (2001) developed the Religious Behaviours Scale. It was constructed based on ten items related to religious commitment and was then decomposed into two sub-scales: The Church Involvement Subscale and the Personal Faith Subscale. Voas (2003) used baptism of one's child as an indicator of affiliation. A limitation of this last indicator is that, obviously, it can only be used to study secularization within Christian denominations.

The above measures relate to aspects of active participation, official membership or agreement with basic religious doctrines. In contrast, in this study we treat religion and religiosity as an element of the individual's self-description of his personal religious identity. This is in tie with Barrett et al. (2001) who suggest the following definitions: (i) *nonreligious*: persons professing no religion, no interest in religion; secularists; materialists; agnostics – but not militantly anti-religious or atheists; (ii) *atheists*: militantly anti-religious or anti-Christian agnostics, secularists or Marxists; and (iii) *nonreligionists*: a term encompassing the two varieties of unbelievers, (i) and (ii).

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<sup>3</sup> On the other hand, there is also a religious backlash movement on secular society. In three major religions (Christian, Moslem and Jewish) there are leaders and groups who are trying to reclaim the faith and bring back religious values and norms. Unfortunately, some of these groups are fundamentalist ones and also bring a message of intolerance and hate (Christiane Amanpour, in her Project on God's Warriors, aired on CNN, August 22-24, 2007).

<sup>4</sup> The term 'church' is used as a generic term that refers to the relevant religious place of worship, that is a synagogue in the Jewish religion, a mosque in the Moslem religion etc.

Our definition of 'seculars' is close to the definition of 'nonreligionists' in Barret et al. (2001). However, we refer to a *sub-group of nonreligionists*, by adding an additional condition of being raised in a religion. Respondents were categorized based on their responses to the following questions: “*In which religion have you been raised?*” and “*What is your current religion?*”. The two categories contrasted in this study are: individuals who were raised in a religion and now have ‘no religion’, versus individuals who were raised in a religion and also belong to a religion at the time of the survey<sup>5</sup>. *Secularization* is therefore defined in this study as *moving away from religion*. We used the terms: ‘secularization’, ‘converting out’ and ‘disaffiliation’ for the move from religion to ‘no religion’, and the terms 'nonbelievers' or 'nonreligious' for the subjects who undertook this move. We use these terms inter-changeably throughout the paper.

The paper is structured as follows: In the following section, hypotheses (propositions) are formulated based on the relevant literature. The next section describes the samples and presents the regression results of 'converting-out' equations used to test the hypotheses and analyse the determinants of secularization. The last section offers concluding remarks and a discussion.

## 2 Literature Overview and Propositions

Several sets of variables have been introduced in order to identify and explore the determinants of secularization. The choice of variables was driven by the relevant literature (both the theoretical and empirical), by common sense speculation, and by constraints of data availability.

### (a) Country-specific variables:

(a1) The country's religious strictness

The first set of hypotheses relates to the interrelationship between secularization and the country's religious strictness. Three measures have been employed to represent religious strictness (or diversity) of the country.

- The *P index that represents religious pluralism (diversity)* and is defined as  $P=1-HHI$ ,

where HHI is the Herfindahl-Hirschman index of concentration, defined as  $HHI = \sum_{i=1}^n s_i^2$ ,

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<sup>5</sup> The current religion could be a different religion from the one raised in. Respondents who were raised with ‘no religion’ were excluded from the analysis.

the sum of squares of the shares of the country's religious denominations<sup>6</sup>. It follows that  $P$  ranges between 0 (if everyone belongs to the same religion) and (almost) 1 (if there are a large number of religions, each of which covers a negligible fraction of the population). The larger  $P$  is, the more religiously diverse the country is said to be (see also Liberson, 1969 and Voas et al., 2002 who refer to the same diversity/pluralism index).

Two other measures of religious strictness are:

- The existence of a *state-religion*
- The existence of *state-regulation* of religion<sup>7</sup>

The latter two measures are associated with lack of religious freedom and demonstrate the state's religious monopolistic power<sup>8</sup>.

What is the relationship between religious pluralism (large value of  $P$  and non-existence of a state-religion and state-regulation) and secularization? The literature does not provide a clear-cut response to this question. Two competing theories will be presented: The 'supply-side' or 'market' theory that predicts *less* secularization (*more* religious adherence) in countries more religiously-diverse, i.e., a negative relationship between  $P$  and secularization and a positive effect of the existence of a state-religion and state-regulation on secularization; and at the other end, the 'demand-side' theory or the 'secularization hypothesis' that expects *more* secularization in more religiously pluralistic states, i.e., a positive relationship between  $P$  and secularization versus negative effects of state-religions and state-regulations<sup>9</sup>.

The supply-side approach focuses on the competition among religion providers, the claim is that religious markets function like other markets: A greater diversity of

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<sup>6</sup> The HHI is borrowed from the analysis of industries, where  $s_i$  is the market share of firm  $i$ , in a given industry. HHI serves as a measure of the competitiveness of an industry. In an industry with a single monopolistic producer, HHI will equal 1. If the industry is composed of  $n$  firms of equal size, then  $HHI = 1/n$ , and as the number of firms is increasing HHI, is approaching 0.

<sup>7</sup> In contrast to a state-religion which either a country has or not, state-regulation is a measure which can differ extensively from one country to another and would be more accurate to measure using a scale. However, it is common to use a dummy variable of yes/no to represent it and we also follow this characterization. Barrett et al. (2001) list the countries who have state-regulation of religion and we used their characterization.

<sup>8</sup> Barro and McCleary (2005) provide a comprehensive country-by-country study on the adoption and abandonment of state-religions over time.

<sup>9</sup> Earlier and much stronger interpretations of the secularization paradigm predicted that religions may cease to appeal to the masses with the advances of technologies, communication and democratization (see Wilson, 1966 and Martin, 1978, among others). We limit the interpretation of this paradigm to the relationship between religious pluralism and secularization.



religions available in a country is said to promote greater competition, and hence, a higher quality religion product. Religiously pluralistic markets would stimulate churches to produce religious services well adapted to the needs of religious consumers, thereby increasing 'consumption' (e.g. church attendance) (examples of such studies include Iannaccone, 1991, 1992, 1995; Fink and Stark 1988, 1992; Fink and Iannaccone, 1993; and Stark and Iannaccone, 1994)<sup>10</sup>. An often cited example for the positive relationship between pluralism and religiosity is the United States, which among the industrialized nations, has both the highest levels of religious pluralism and one of the highest rates of church attendance (e.g. Warner, 1993). Thus, more religious diversity stimulates greater religious participation (less secularization).

The efficiency of religion providers is furthermore decreased if there is a state-religion and greater state-regulation of religion – measured, for instance, by whether the government appoints or approves church leaders (Chaves and Cann, 1992). Whereas in the United States having a state-religion is unconstitutional, Europe has a number of democratic countries which declare and maintain a monopoly state-religion (e.g., Lutheran in Denmark and Norway; Anglican in England). The supply-side theory would expect more secularization in countries with state-religion and state-regulation of religion. An often cited example in this context is Sweden that had a state-religion (until the year 2000) and also exhibited high rates of secularization, mainly among young people who were born to religious parents, and switched to 'no religion' (Shy, 2007, page 1133).

However, a state-religion and state-regulation of religion also typically involve subsidies, such as: payments to church employees, favourable tax schemes for the religion sector, building churches and religious institutions, subsidies to religious schools and curricula, and collection of taxes dedicated to church uses. Economic speculation suggests that these subsidies would encourage religious activity (more personnel and improved facilities attract more churchgoers) and create a positive effect on religious participation. The overall effect of state-religion and state-regulation on religious participation is therefore ambiguous. Barro and McCleary (2003), who used

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<sup>10</sup> This literature got some of its inspiration from Adam Smith (1791, Book V, Article III). State-religion plays a central role in Adam Smith's vision of the religion market. According to Smith, the key aspect of state-religion is its promotion of the monopoly position of the favoured religion. Smith's analysis focused on the adverse consequences from the monopoly positions of the Anglican Church in England and the Catholic Church in other countries, arguing that monopolistic providers of religious services tend - as monopolies generally do - to become non-innovative and indolent. Consequently, service quality and religious participation declined.

country averages of survey data from the 1980s and the 1990s, found that the presence of a state-religion *raised* religious participation. Their interpretation was that the subsidy element in state-religions dominated over the monopoly element leading to a combined effect of less secularization.

At the other end, the literature presents demand-side theories<sup>11</sup> that claim the very opposite: more diversity leads to less participation (higher secularization). In countries with a diversity of religious denominations, individuals are exposed to a variety of religion products and this might weaken their ties with the religion they were raised in (e.g. Kelley, 1977; Sherkat, 1991). The process of disaffiliation is magnified by intermarriage. If there is a dominant denomination, a high proportion of marital unions will bring together two people with the same religious affiliation. On the other hand, in a multi religion country there are higher prospects of intermarriage. Intermarriage reduces the probability of religious affiliation for the offspring and increases the likelihood of disaffiliation for the spouses (Voas, 2003).

The conflicting effects that religious diversity has on religious affiliation, leaves therefore, the question of the *observed* relationship between P and secularization unanswered. Most probably, both supply and demand forces exist in society and both shape the relationship between P and secularization. The direction of relationship is determined by the more dominant force. A considerable amount of empirical work has explored this issue. Some of the empirical studies seem to support one side and some the other (see Chaves and Gorski, 2001, who presented a major review of 193 tests in 26 published articles)<sup>12</sup>. We will contribute to this empirical literature a careful statistical analysis that will unravel whether (in the examined countries) more diversity leads to an increase or a decrease in the tendency to leave religion, and whether disaffiliation is less or more common in countries that have state-religion and state-regulation.

The following propositions follow:

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<sup>11</sup> Demand – side theories are more popular in the sociological literature and are in line with the ‘secularization hypothesis’. It first appeared in Weber (1930) who credited the idea to Wesley’s writings in the late 1700s. More recent discussions can be found in: Iannaccone (1991), Fink and Stark (1992) and Fink and Iannaccone (1993).

<sup>12</sup> Voas et al. (2002) claim that most of these studies suffer from various methodological and statistical problems and have to be reevaluated.

**Proposition 1: The relationship between the *P* Pluralism Index and secularization is ambiguous.** It is negative if supply-side forces are dominant and positive if demand-side effects dominate.

**Proposition 2: The effect that a monopoly state-religion has on secularization is ambiguous.** However, as a state religion is associated with less diversity, the effects of religious pluralism and of a state-religion should have reverse signs.

**Proposition 3: The effect that state-regulation has on secularization is ambiguous.** However, as state-regulation is associated with more strictness, the effects of religious pluralism and of state-regulation should have reverse signs.

(a2) Country religious adherence

The second set of hypotheses relates to the religious adherence of the population in the country. Two variables were used to measure religious adherence:

- The country *average level of church (religious services) attendance* (on a scale of 1-to-6, ranging from not attending at all to attending at least once a week). The term 'church' is used as a generic term that relates to the relevant religious place of worship (e.g., also synagogue for Jews, mosque for Moslems etc.). The religious rules of congregation vary between religions (e.g., many orthodox Jews congregate once or even twice a day, while Christians congregate once a week). However, the six categories of the question related to church attendance have levels that minimize this problem. For instance, the upper category is '*at least once a week*', and it covers the most observant respondents from all religions.

- The country *average level of private prayer* (on a scale of 1-to-11, ranging from never to several times a day). Here too, prayer obligations vary between religions (e.g., Jews need to pray 3 times a day; Moslems 5 times a day), but the upper category of 'several times a day' encompasses the most observant respondents.

Church attendance is a public activity, whereas prayer is a private/intimate religious activity that has pure religious motives.

Country average church/mass attendance captures the 'religious endowment' of the country that might affect religious affiliation by increasing the benefits and reducing the cost. Benefits are increased via consumption and investment effects: churches serve as social networks where people can socialize (a consumption motive) and also build and boost professional and business ties and links (an investment motive). Churches that

enjoy more frequent participation therefore serve as more efficient and productive networks that could also yield higher rates of return on the investment element. Higher levels of church attendance create a social and economic incentive for affiliation with a church, thereby reducing the probability of secularization. Costs of participation are lower in countries with higher levels of participation that also have more churches and a larger religion-market. As a result, commuting costs are reduced, increasing the net benefits<sup>13</sup>. Moreover, in a more religious country there are costs associated with being non-religious. Being different could affect social integration, labour force participation and more.

**Proposition 4** is therefore: **A negative relationship between the country-level church attendance and secularization.**

Private prayer has no social or networking benefits, and therefore, can be employed to gauge the extent of one's relation to God and religion. In countries where prayer is more common, the individuals could be less prone to convert-out due to social influence and conformity (e.g., Torgler, 2006).

**Proposition 5** is therefore: **A negative relationship between the country-level prayer and secularization.**

In sum, we conjecture that the national religious environment should affect individual decisions on religion choice<sup>14</sup>.

## **(b) Personal attributes:**

### **(b1) Exposure to religiosity during childhood**

It is now well established that an individual's norms, tastes and beliefs are, to a large extent, determined during the formative young years. The experiences and impressions

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<sup>13</sup> Imagine, for instance, the case of Estonia (the most secular country within Europe) with only around 25% of their habitants affiliated with any religion. In Estonia there are reduced benefits of social networking through the local church and because there are very few churches commuting costs are high.

<sup>14</sup> Another country-specific factor regards the effect of having a religion different from the one prevalent in country of residence. This point could definitely relate to factors such as social and network effects. One could compare secularization percentages of Jews in Israel and Jews outside of Israel; and of Christians in predominantly Christian countries compared to Christians in countries which are not (Japan and Israel). This, however, cannot be done in the Moslem case, as predominantly Moslem countries are not included in the sample. Unfortunately our sample includes a very small number of Jewish respondents who live outside Israel and of Christian respondents who live in Israel. Sample size limitations therefore prevent the testing of the relationship between secularization and this country-specific element.

during childhood and adolescence have a lasting effect on behaviour, via two parallel processes: intergenerational transmission from parents to their offspring and also peer effects within the community the child grew up in (e.g., Cavalli-Sforza and Feldman, 1981; Bisin and Verdier, 2000, 2001; Bisin et al, 2004). Sherkat and Wilson (1995) used the concept 'adaptive preferences' and claimed that socialization through childhood religious practice will create preferences upon which later religious choices will be made. It follows that more exposure to childhood religious socialization will decrease the likelihood of secularization later on in life. Two variables were used in our study in order to represent childhood religious socialization: 'Both parents with the same religious denomination' and 'the respondent attended church services intensively when he was 12 years old'.

- *Both parents had the same religious affiliation*: If the founding couple do not share the same religion, they are less likely to pass on a religious legacy, due to disagreement about religious rules. Inter-marriage by itself, signals that religion has lost its value and importance. The result could then be that the children will abandon the religions of the two parents and identify their religious affiliation as 'no religion'. Additionally, if the mother and father had different religious denominations, affiliation with the religion of one of the parents could lead to conflict with the other one. Choosing the 'no religious' option is symmetrical with the two parents and might avoid conflict. It therefore follows that,

**Proposition 6: The probability of secularization is lower if both parents had the same religious affiliation.**

- *Exposure to church (religious) services during childhood*: Church attendance during childhood is an indicator of religious upbringing and refers to the child's integration in a religious community. Shy (2007) who presented a dynamic theoretical model of religious conformity and conversion, claimed that religious education by parents and by the church enhanced religious conformity.

The ISSP includes a question on participation in religious services at the age of 12 that includes 9 alternative levels<sup>15</sup>. This question was used to define the following dummy variable: *intensive practice* = 1, for original values of: 7 (attended almost every week), 8 (every week), and 9 (several times a week). The next hypothesis follows:

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<sup>15</sup> The ISSP question is: "When you were 12 years old, how often did you attend religious services?" The options are: Never (1); once a year (2); one or two times a year (3); a few times a year (4); once a month (5); two or three times a month (6), almost every week (7); every week (8); several times a week (9).

**Proposition 7:** There is a negative relationship between the intensity of church attendance during childhood and secularization later on in life; **individuals who attended religious services intensively have a lower tendency to be in the ‘no religion’ category when they grow up.**

(b2) Socio-demographic characteristics

- *Present age:* Obviously, the more relevant variable is *age of disaffiliation* and not current age. Unfortunately, respondents were not asked when they converted out. Nevertheless, current age embodies cohort effects: Secularization was not common decades ago and advanced during recent years. Assuming that most individuals converted out at their 20s or 30s, because young people are more revolutionary, it follows that older people (e.g. above the age of 60) belong to a cohort when secularization was less common and therefore have a lower tendency to disaffiliate. Thereby leading to:

**Proposition 8: Secularization is less pronounced among older respondents.**

- *Education:* There is ambiguity regarding the effect of education on church attendance. There are two opposing channels that relate education with churchgoing: (i) the first points to a negative relation. It considers the observation that more educated people tend to be more rational. Effectiveness and efficiency, without much consideration for traditional and religious values, are emphasized (Berger, 1967). Moreover, education decreases belief in the returns of religious activity, thereby reducing the incentives to participate in these activities; (ii) an opposing channel leads to a positive relationship between education and church attendance via a social networking effect: religious activity is a major form of social interaction (Durkheim,1995). Social group membership almost universally rises with education<sup>16</sup> and the church is simply another form of a social group. The benefits stem from networking effects that could even lead to improvements in the worshiper’s financial and professional prospects. The two conflicting effects could lead to a (combined) positive or negative correlation between education and churchgoing, or to an insignificant correlation.

In view of the above analysis, how is education expected to affect the movement to the ‘no religion’ group? Individuals who choose to disaffiliate with their religion are most probably individualists who do not appreciate social/religious interactions. As the social

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<sup>16</sup> Sacerdote and Glaeser (2001) report a positive connection between schooling and social group membership in almost all 69 countries that they examined.

benefits from affiliation are irrelevant for them it is expected that their tendency to leave religion will grow with education<sup>17</sup>. Thus,

**Proposition 9: Secularization is positively affected by education.**

- *Household income*: Members of the lower economic strata (who are restricted from worldly opportunities) value the compensatory religious goods much more than members of the upper strata (Sherkat and Wilson, 1995). Montgomery (1996) constructed a dynamic model where non-conformity is generated by a mismatch between an individual's income and the level of strictness of his religious denomination. In his model, high-income individuals may leave their parents' denomination if it is too strict. This leads to

**Proposition 10: Respondents who enjoy high incomes (above the 75th percentile) have a higher tendency to disaffiliate.**

- *Place of residence*: People will take a more liberal point of view on religion the more contact they have with the modern rationalized world. Accordingly, people who live in rural areas are more traditional and less prone to 'converting out' of religion, compared to those who live in urban areas. People in urban areas have also more alternatives for using their time and more consumption and leisure options. In addition, in rural areas people live in communities, and as they are usually religiously oriented, converting-out might also alienate one from his community.

**Proposition 11: Living in rural areas decreases the probability of disaffiliation.**

(b3) Attitudes and beliefs

The ISSP provides information on several aspects of attitudes, norms and beliefs.

- *Party affiliation* that is associated with political attitudes, i.e., affiliation with parties that represent either the left-, center-, or right- wing of the political spectrum. The left-wing parties are usually the most liberal while the right-wing parties are usually the least liberal. Therefore

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<sup>17</sup> Sherkat (1991) offered two additional hypotheses that relate to education: i) educational mobility – individuals who have experienced intergenerational educational mobility will switch religious preferences at a higher rate; and ii) peer educational differences – individuals who differ substantially in educational attainment from their peers in their denomination of origin will have higher rates of religious switching. Our data base does not have the information needed to test these two hypotheses.

**Proposition 12: Party affiliation affects the tendency to convert-out, ranging from highest for individuals who are affiliated with left-wing parties, to lowest for those sympathizing with right-wing parties.**

- *Norms of behaviour*: Individuals with more liberal views are more prone to ‘convert-out’ and leave the religion they were raised in. Two questions in the ISSP relate to views about norms of behaviour: One is related to extra-marital sex relations [the question in the questionnaire was: *For a married person to have sexual relations with someone other than her/his husband or wife is*: (1) always wrong ; (2) almost always wrong; (3) wrong only sometimes; or (4) not wrong at all]. The other question refers to homosexual relations [*Sexual relations between two adults of the same sex is*: same four options as above]. Those who chose the third or fourth option were defined as having a liberal view on that issue. The basic idea is that more liberal individuals are more prone to convert-out and become nonreligious. Additionally, churches condemn extra-marital and homosexual relations and therefore individuals who hold liberal views on these ‘unmoral’ issues felt ‘rejected’ by the church and had a higher tendency to disaffiliate. This gives ground to

**Proposition 13: Respondents with liberal views over extra-marital sex relations and homosexual relations are more prone to convert-out.**

- *Beliefs in the basic religious doctrines*: Four questions refer to beliefs in: life after death; heaven; hell; and miracles. The questions: “Do you believe in. after-life/heaven/hell/miracles had four alternative answers: (1) yes, definitely; (2) yes, probably; (3) no, probably not; and (4) no, definitely not. Those who chose either option three or option four were defined as non-believers. Non-believers have a higher tendency to become secular. From an ‘economic’ perspective, non-believers do not expect any ‘benefits’ in the after-life, they do not foresee any returns to the ‘investment’ in church attendance and in other religious activities. As a result they do not intend to ‘invest’ in religious activities and they become secular. This leads to

**Proposition 14: Non-believers in after-life, heaven, hell and miracles have a higher tendency to disaffiliate<sup>18</sup>.**

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<sup>18</sup> The testing of this proposition, by the inclusion of dummy variables for non-belief in each of the four doctrines could result in a simultaneity problem – it is not clear what is the direction of causation: Did the respondent leave religion as a result of non-believing or he first converted out and as a result he lost his beliefs. Could also be that the two processes happened simultaneously. To avoid simultaneity biases we also used a version that excluded these four belief variables.



### **(c) Marriage effects:**

#### (c1) Marital status

It is not clear what is the interrelationship between marital status and secularization?. One can speculate that married individuals have a lower tendency to convert-out because a spouse is also involved in the process, thereby increasing the cost of the change by leading to quarrels and even divorce. It could also be that causation is running in the opposite direction: individuals who become secular have more difficulties in finding a partner, because the great majority does have a religion<sup>19</sup>. Therefore, individuals who want a married life will also be less likely to convert-out. We can therefore speculate that

**Proposition 15: Married individuals have a lower tendency to convert-out** compared to single, divorced or widowed individuals.

#### (c2) The spouse's religious affiliation (for married respondents)

- *Spouse has the same denomination as the respondent was raised in.* As people grow older, partners may become more important than parents or peer groups. Many people like to discuss religious matters and share their thoughts and ideas with their partners. A person will be more integrated in a religious community if his partner shares his religion. The parties at heterogamous unions are therefore at a high-risk of disaffiliation. People who intermarry are most probably less religious to begin with, and an inter-faith marriage can be a further factor in pushing people over the line into the 'no religion' category.

Empirical studies support the relationship between inter-faith marriage and secularization. For example, Voas (2003) claims that identifying mixed marriages as the primary impetus of disaffiliation helps explain the "Swedish paradox": high rates of church membership coexisting with very low attendance rates: Because the Church of Sweden is very dominant, nearly all marriages are religiously homogamous. As a result, identification with the church and willingness to remain affiliated persist even in a highly secular culture. Voas (2003) concludes: "In the modern European family, religion needs a monopoly to survive" (page 97). The emphasis is on the European family because in the USA, heterogamous marriage does not seem to result in the loss of religious affiliation: Lehrer (1998) claimed that along with the increase in inter-faith

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<sup>19</sup> We don't know when the conversion-out took place – was it before getting married or after.

marriages, over the course of the 20<sup>th</sup> century, it has also become more acceptable for spouses to maintain different affiliations even after marriage; thus, intermarriage did not erode religious affiliations. Voas (2003) suggested that the different patterns in the US and Europe stem from different cultural responses to religious differentiation –diversity of faith and religious practice are core elements of the American ideology. The above arguments lead to the following

**Proposition 16: Respondents who are married to a spouse from a different denomination are at a higher risk of secularization** (mainly in Europe).

- *Spouse has 'no religion'*: Being married to a spouse that is not affiliated with any religion, further increases the risk of secularization. Thus it is proposed that

**Proposition 17: The risk of secularization is further increased if the spouse has 'no religion'.**

### **3 Findings**

#### *3.1 Descriptive statistics: Sample characteristics*

Before proceeding to report the results of the hypotheses testing, the characteristics of the samples used for the regression analysis are described. Table 1 presents means of the variables used for the econometric analysis. They are presented for the female and male samples and a distinction is also made between the larger sample and the sub-sample, which includes only respondents from the more homogenous European countries.

The means are similar for the general sample and the European sub-sample. Gender differences are also small. Approximately 12% of the women and 16% of the men converted-out: they were raised within a religion and currently claim to have 'no religion'. The figures are very similar also within the European countries. The somewhat lower percentage of women who converted-out is in line with theories and findings of other studies showing that women are generally more religious (Roof, 1989; Sandomirsky and Wilson, 1990; Sherkat, 1991; Loveland, 2003; Branäs-Garza and Neuman, 2004).

**Table 1: Sample Characteristics, 1998**

	All countries		Europe	
	Female	Male	Female	Male
<b>DEPENDENT VARIABLE</b>				
Convert-out (%)	11.17	15.75	11.60	16.71
<b>INDEPENDENT VARIABLES</b>				
<i>COUNTRY VARIABLES</i>				
Pluralism index (range of 0-1)	0.21 (0.22)	0.22 (0.23)	0.17 (0.19)	0.17 (0.19)
State-religion (%)	33.94	32.15	37.57	36.05
State-regulation of religion (%)	25.84	28.10	28.61	31.51
Country church attendance (levels 1-6)	3.79 (0.91)	3.88 (0.86)	3.82 (0.94)	3.91 (0.90)
Country prayer (levels 1-11)	5.74 (1.49)	5.63 (1.48)	5.57 (1.43)	5.47 (1.43)
<i>PERSONAL ATTRIBUTES</i>				
<i>Religious denomination (raised in)</i>				
Catholic (%)	58.74	57.03	60.28	57.80
Jewish (%)	0.04	0.32	0.00	0.09
Muslim (%)	0.26	0.44	0.14	0.31
Protestant (%)	31.00	31.36	28.89	29.99
Orthodox (%)	8.18	9.02	9.01	10.07
Other Christian (%)	0.43	0.87	0.43	0.89
Other religions (%)	1.34	0.95	1.25	0.85
<i>Religiously homogamous household (%)</i>				
Religiously homogamous household (%)	93.94	94.32	94.87	94.88
<i>Intensive church attendance at 12 (%)</i>				
Intensive church attendance at 12 (%)	59.00	52.11	56.83	50.04
<i>Older than 60 years (%)</i>				
Older than 60 years (%)	22.68	28.10	23.53	28.92
<i>Academic education (full or partial) (%)</i>				
Academic education (full or partial) (%)	23.33	24.80	21.32	22.64
<i>Residence in rural areas (%)</i>				
Residence in rural areas (%)	34.76	32.15	35.36	33.56
<i>Party affiliation</i>				
Left (%)	39.91	35.97	40.78	37.92
Center (%)	34.42	32.63	34.16	30.70
Right (%)	25.67	31.40	25.06	31.37
<i>“Extramarital sex relations” - liberal view (%)</i>				
“Extramarital sex relations” - liberal view (%)	13.42	18.56	14.37	19.92
<i>“Homosexual relations” - liberal view (%)</i>				
“Homosexual relations” - liberal view (%)	45.50	37.32	46.48	37.97
<i>“Does not believe in”</i>				
Life after death (%)	31.39	46.90	33.06	49.51
Heaven (%)	37.19	49.32	39.77	52.72
Hell (%)	54.16	60.77	56.92	63.77
Miracles (%)	39.00	49.44	40.92	51.78
<i>MARRIAGE ATTRIBUTES</i>				
<i>Marital status</i>				
Single (%)	6.71	6.76	7.28	7.49
Married (%)	85.06	89.11	83.71	88.24
Separated/Divorced (%)	2.99	2.27	3.31	2.27
Widowed (%)	5.24	1.87	5.70	2.01
<i>Spouse has same religion (%)</i>				
Spouse has same religion (%)	83.42	85.69	84.67	86.23
<i>Spouse has 'no religion' (%)</i>				
Spouse has 'no religion' (%)	10.26	8.90	10.21	9.18
<i>Sample Size</i>				
Sample Size	2516	2310	2087	2244

Standard deviations in parentheses

Interestingly, Shy (2007) who processed data from the World Christian Encyclopedia (Barrett et al., 2001) and calculated the percentage of secular people (nonreligious and

atheists combined) in Europe, in the year 2000 arrived at a similar percentage of 17.8 (Table 1, page 1130).

The countries are not very diverse in terms of existing religions: A pluralism index of 0.21 (0.17 in Europe) indicates limited diversity. About 98% of respondents were raised in Christian denominations: About 58% of respondents were raised as Catholics, around 30% grew up as Protestants, and 9% Orthodox. About 0.35% were Moslems (0.23% in European countries) and a mere 0.17% were Jewish (0.05% in Europe). Around one third of the countries have a state-religion and around 28% have state-regulation.

An examination of the average levels of religious practice shows that despite rapid secularization the populations are still adhering to both mass services and prayer habits. The mass attendance average is above 3.5, on a scale of 1-to-6. The average prayer level is above 5.5, on a scale of 1-to-11. Interestingly, while women have a higher measure of the private/intimate activity of prayer, they exhibit a lower average of mass attendance, probably because the latter has networking motives that are more prevalent among men and also because in many places women are supposed to stay home and take care of the young children. Women seem to be more religious also in terms of belief in the religious doctrines of life after death, heaven, hell and miracles. However, a considerable percentage of the two genders do not believe in these doctrines: about 60% (56% of women and 62% of men) do not believe in hell. Close to 40% of women and over 50% of men do not believe in each of the three other doctrines. One can observe a kind of wishful believing: The percentage of non-believers in hell (stick) is much larger compared to non-believers in the three 'positive' (carrot) doctrines.

An examination of childhood religious background shows that close to 95% of the participants grew up in households where the two parents belonged to the same denomination. Over 50% of respondents were exposed to intensive religious practice when they were aged 12 and attended church services on a regular basis (at least once a week).

Focusing on the individuals currently married we observe that over 80% have a spouse with the same religious denomination the respondent was raised in, and around 10% have a spouse that declares having 'no religion'.

The socio-demographic characteristics of our sample are as follows: About a quarter of the sample is above the age of 60. Close to 25% have an academic education (at least partial) and about a third reside in rural areas.

Married is still the most common marital status: About 85% of respondents are married, 7% are single and the rest are widowed, divorced or separated.

Regarding political affiliation, the largest group of respondents are affiliated with left-wing parties (around 40%), over 30% belong to the political center, and about 25% are at the right-wing of the political spectrum. Over 40% have liberal views regarding homosexual relations, but only about 15% think that extramarital sex relations are acceptable. Interestingly, women are more liberal when it comes to homosexual relations and have a less liberal attitude towards extramarital sex relations.

### *3.2 Regression results: Propositions testing*

Table 2 below presents Logit 'Converting-Out' regressions for women and men. Separate regressions were also run for the European countries sub-sample. The dependent variable was a dichotomous variable that equals one if the respondent was raised in a religion and currently has 'no religion' and 0 otherwise. The independent variables were those variables described in the previous section.

The religious denomination the respondent was raised in was also included as a control variable: Individuals raised in the Orthodox denomination have the lowest tendency to convert-out (odds ratio of 0.10 compared to Catholics, the reference group). Subjects raised as Protestants also have lower prospects of secularization, while all other religious denominations are not significantly different from Catholics.

Exhibit 1 summarizes (in page 20) the relevant regression results and the conclusions of the propositions outlined above.

**Table 2: Logit Regressions of Secularization, 1998**

		ALL COUNTRIES		EUROPE	
		Female	Male	Female	Male
<b>COUNTRY SPECIFIC VARIABLES</b>					
<b>a) Religious strictness</b>					
	Pluralism index	<b>5.73</b> (0.002)	1.15 (0.752)	<b>13.68</b> (0.000)	<b>4.74</b> (0.003)
	State-religion	<b>0.29</b> (0.000)	<b>0.32</b> (0.000)	<b>0.34</b> (0.001)	<b>0.42</b> (0.001)
	State-regulation	1.04 (0.881)	<b>0.67</b> (0.042)	0.95 (0.820)	<b>0.66</b> (0.038)
<b>b) Religious adherence</b>					
	Country aver. mass	1.01 (0.958)	1.23 (0.073)	0.97 (0.864)	1.07 (0.584)
	Country aver. pray	<b>0.74</b> (0.000)	<b>0.85</b> (0.003)	<b>0.81</b> (0.006)	<b>0.85</b> (0.009)
<b>PERSONAL ATTRIBUTES</b>					
<b>a) Religious</b>					
	<i>Denomination</i>				
	Catholic	Ref.	Ref.	Ref.	Ref.
	Muslim	5.93 (0.069)	0.34 (0.384)	2.47 (0.512)	0.50 (0.599)
	Protestant	<b>0.60</b> (0.040)	<b>0.33</b> (0.000)	0.62 (0.088)	<b>0.30</b> (0.000)
	Orthodox	<b>0.12</b> (0.047)	<b>0.09</b> (0.000)	<b>0.11</b> (0.038)	<b>0.10</b> (0.000)
	Other Christian	0.62 (0.741)	1.25 (0.730)	0.71 (0.812)	0.90 (0.883)
	Other Religions	1.57 (0.447)	0.78 (0.712)	0.99 (0.994)	0.36 (0.190)
	Religiously homogamous household	<b>0.42</b> (0.001)	0.65 (0.095)	<b>0.37</b> (0.001)	<b>0.55</b> (0.032)
	Intensive church attendance at 12	1.02 (0.909)	<b>0.71</b> (0.049)	0.91 (0.680)	<b>0.64</b> (0.019)
<b>b) Socio-demographic attributes</b>					
	Age (>60)	0.72 (0.251)	0.83 (0.325)	0.78 (0.388)	0.76 (0.162)
	Academic education (full or partial)	<b>1.57</b> (0.022)	0.93 (0.687)	<b>1.84</b> (0.004)	1.17 (0.401)
	Household income (4th. quarter)	<b>1.55</b> (0.020)	1.19 (0.269)	1.45 (0.060)	1.13 (0.469)
	Residence in rural areas	0.84 (0.390)	<b>0.59</b> (0.002)	0.86 (0.491)	<b>0.55</b> (0.001)
<b>c) Beliefs</b>					
	<i>Party affiliation</i>				
	Left	Ref.	Ref.	Ref.	Ref.
	Center	<b>0.44</b> (0.000)	<b>0.63</b> (0.010)	<b>0.41</b> (0.000)	0.74 (0.106)
	Right	<b>0.37</b> (0.000)	<b>0.58</b> (0.003)	<b>0.37</b> (0.000)	<b>0.57</b> (0.004)
	Liberal view over extra-marital sex	<b>1.96</b> (0.003)	1.33 (0.094)	<b>1.90</b> (0.006)	1.33 (0.104)
	Liberal view over homosexual relations	<b>1.60</b> (0.029)	1.36 (0.060)	1.50 (0.071)	1.35 (0.083)
	Does not believe in life after death	<b>1.73</b> (0.014)	1.38 (0.112)	<b>2.02</b> (0.004)	1.40 (0.118)
	Does not believe in Heaven	<b>1.83</b> (0.039)	<b>2.51</b> (0.002)	1.60 (0.130)	<b>2.72</b> (0.002)
	Does not believe in Hell	1.11 (0.752)	1.21 (0.551)	0.88 (0.709)	1.32 (0.442)
	Does not believe in Miracles	<b>1.60</b> (0.037)	<b>2.54</b> (0.000)	<b>1.65</b> (0.037)	<b>2.38</b> (0.000)
<b>MARRIAGE EFFECTS</b>					
	<i>Marital Status</i>				
	Single	Ref.	Ref.	Ref.	Ref.
	Married	0.60 (0.080)	<b>0.52</b> (0.012)	0.62 (0.125)	0.62 (0.079)
	Separated/Divorced	0.46 (0.186)	0.42 (0.171)	0.39 (0.108)	0.44 (0.230)
	Widowed	0.51 (0.159)	1.01 (0.981)	0.53 (0.183)	1.49 (0.378)
	Spouse same religion as respondent raised in	<b>0.39</b> (0.001)	<b>0.21</b> (0.000)	<b>0.33</b> (0.000)	<b>0.25</b> (0.000)
	Spouse has no religion	<b>4.68</b> (0.000)	<b>3.11</b> (0.000)	<b>4.08</b> (0.000)	<b>3.31</b> (0.000)
SAMPLE SIZE		2310	2516	2087	2244
R <sup>2</sup> -Nagelkerke		0.839	0.772	0.837	0.768

p-values in parentheses

**Bold** coefficients – significant at less than 5%

**Exhibit 1: Tests of Propositions – Summary of Regression Results**

<b>Proposition: relationship between secularization and...</b>	<b>Regression Results</b>	<b>Conclusions</b>
<b>1</b> Country Pluralism Index (PI): ambiguous	Positive effect: higher for females and higher in Europe. Odds ratios of 13.7 and 5.7 for women in Europe and in 'all countries' (respectively), and respective measures of 4.7 and 1.1 for men (later insignificant)	Demand-side theories dominate
<b>2</b> State-religion: ambiguous; reverse effect of PI	Negative significant effect, similar in all regressions. Odds ratio of about 0.3	Indirect evidence for a 'subsidies effect'
<b>3</b> State-regulation: ambiguous; reverse effect of PI	Negative effect, significant for men only. Odds ratios of 0.7, similar in 'all countries' and in Europe	Evidence for 'subsidies effect' that might be more relevant for men
<b>4</b> Country average level of mass-attendance: negative	Not significant in any regression (at 0.05)	Proposition not accepted
<b>5</b> Country average level of prayer: negative	Negative significant effect: odds ratio around 0.8	Proposition accepted
<b>6</b> Both parents had the same religion: negative	Significant negative effects, more pronounced for women (odds ratios of 0.4 for women and 0.6 for men)	Proposition accepted
<b>7</b> Intensive mass attendance at the age of 12: negative	Negative effects (around 0.7) for men only	Proposition accepted for men only
<b>8</b> Old age (above 60): negative	No significant effect in any of the regressions	Proposition not accepted
<b>9</b> Academic education: positive	Significant positive effects for women only, stronger in Europe: odds ratios of 1.6 and 1.8	Proposition accepted for women only
<b>10</b> High income (4th quarter): positive	Significant positive effects for women only, around 1.5 in both regressions	Proposition accepted for women only
<b>11</b> Residence in rural areas: negative	Significant negative effects for men only, around 0.6 in both regressions	Proposition accepted for men only
<b>12</b> Political affiliation: stronger negative effect for affiliation with more right-wing parties	Lower tendency for secularization as we move to the right; stronger negative effects for women; similar for Europe and 'all countries'	Proposition accepted
<b>13</b> Liberal views over extramarital sex relations and homosexual relations: positive	Higher tendency for secularization among liberal individuals: stronger positive effects for women	Proposition accepted
<b>14</b> Non-believing in afterlife/heaven/hell/miracles: positive	Non-significant effect for non-belief in hell. Basically positive effects for other religious doctrines	Proposition accepted for 3 of the doctrines
<b>15</b> Marital status: married subjects have a lower tendency to convert	Significant negative effect (at 0.05, odds ratio=0.5) only for males in 'all countries'	Proposition partially accepted
<b>16</b> Spouse with same religion as respondent was raised in: negative	Significant (at 0.01) negative effects, stronger for men (odds of about 0.2 and 0.3, for men and women, respectively)	Proposition accepted
<b>17</b> Spouse has 'no religion': positive	Significant (at 0.01) positive effects, stronger for women: odds of about 4 and 3, for women and men, respectively	Proposition accepted

### 3.3 Discussion

An examination of regression results (Table 2) and the summary of the main findings (Exhibit 1) leads to the following conclusions:

Our data advocates that there is a *clear strong correlation between the religious strictness of a country and the tendency of its population to convert-out and abandon any religious affiliation: More religiously monopolistic countries have much lower rates of secularization*. This is evidenced by the positive effect of religious pluralism and the negative effect of having a state-religion on secularization.

Having state-regulation is also evidenced as having a negative effect on secularization, but much weaker than the effect of a state-religion and only on males<sup>20</sup>. The effect of religious pluralism is much more pronounced in the European countries sub-sample and for women, indicating differences between European countries and non-continental countries, as well as gender differences. We can therefore conclude that our findings do not support supply-side theories. Quite the contrary, we find clear evidence in favour of the demand-side, Sociological approaches: A greater diversity does not stimulate greater religious participation but rather secularization.

However, the stronger effects for Europe and the lack of significance for males in the general sample also indicate that there are differences between European and non-European countries. Thus, demand-side theories could be useful to explore religious trends in Europe but less so for the rest of the world. This is compatible with the mentioned US case, which has both the highest levels of religious pluralism and one of the highest rates of church attendance (e.g. Warner, 1993).

*Exposure to more intensive religious practice, currently, and more importantly, during childhood, leads to a lower tendency to convert-out and move to the 'no religion' sector:* Respondents who grew up with parents who shared the same religious denomination are less prone to convert-out (odds ratios of about 0.4 for women and 0.6 for men); experiencing intensive church attendance at the age of 12 further reduces the probability of men (but not women) to convert-out (odds ratio of about 0.7); and living

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<sup>20</sup> Probably because they are the main beneficiaries of the religious subsidies. It follows that the government affects and manipulates the 'converting-out' process.



in a country with higher national averages of prayer levels also has a negative effect on secularization. The national average of mass attendance does not affect secularization<sup>21</sup>.

The literature reports mixed evidence regarding the effect of exposure to religiosity on secularization. The notion that childhood socialization factors can predict religion switching is still open to debate. Loveland (2003), who used the 1988 General Social Survey (GSS), found that joining a church while growing up acted to stabilize religious preferences, but greater levels of childhood religious socialization (measured by attendance of a religious school; Sunday School attendance; and saying grace before meals) were not significant deterrents of religious switching (page 152). Sherkat (1991) reached similar conclusions regarding the attendance of Sunday Schools and other formal child religious training – they did not reduce the likelihood of religious switching. Bibby (2000) presented data supporting the positive effect of a heterogeneous household on secularization: the Canadian Census data for 1991, showed (for example) that while only six percent of children to parents who were both Christian had no religious affiliation, the share rose to 31% if the children were raised by parents with mixed Catholic-Jewish affiliations.

*Personal socio-economic endowments have a minor effect on secularization.* The insignificance of many of the coefficients could stem from the misspecification of these variables: the more relevant ones are the endowments at the time the individual decided to convert-out and not the current endowments. Current age and income<sup>22</sup> have basically insignificant effects. Education has a positive effect for women only<sup>23</sup> and living in rural areas has a negative effect for men only.

*Liberal ideology and beliefs are significantly correlated with the probability to convert-out:* Liberal beliefs are represented by affiliation with more secular (left-wing) parties; with liberal views over extramarital sex relations and homosexual relations; and with

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<sup>21</sup> These results seem to indicate that consumption motives (churches are places where people can socialize) and professional motives (churches serve as social networks) are not important to individuals who decide to convert-out.

<sup>22</sup> The effect of high income is significant (at 0.05) only for women in the larger sample).

<sup>23</sup> Roof (1989), based on GSS 1988, found that religion switchers tended to be male and well educated. A closely related topic is the relationship between education and religious attendance. It appears that it fluctuates highly among countries: In the United States, church attendance rises with education (Iannaccone, 1998). Sacerdote and Glaeser (2001), who examined 69 countries using the General Social Survey (GSS) 1972-1998, reported that in England and France they found a positive relationship. In most countries there was no significant relationship between education and religious attendance, while in the former socialist countries the connection was generally strongly negative. Te Grotenhuis and Scepers (2001) and Branas-Garza and Neuman (2004) arrived at insignificant coefficients of schooling in mass participation equations for the Netherlands and Spain, respectively.

non-belief in the religious doctrines of afterlife/heaven/hell/miracles. Most of the effects seem to be stronger for women<sup>24</sup>. Results are similar for both genders when only European countries are considered.

There are *marriage effects, related to the spouse's religious affiliation*<sup>25</sup>: Individuals who belong to homogamous unions have much lower odds of conversion-out (odds ratios around 0.2-0.3), while those married to a spouse with 'no religion' have much higher odds of conversion-out (odds ratios for over 4 for women and over 3 for men)<sup>26</sup>. These results are in line with findings reported in studies on similar topics: Te Grotenhuis and Scheepers (2001) who used an event history analysis (based on retrospective data containing information on events that took place in the lives of the respondents since adolescence) found that in The Netherlands the most significant factor in an attempt to explain disaffiliation is having a partner who does not belong to a religious group. Respondents whose partners were non-members of the church were 12 times more likely to become non-members themselves compared to respondents with a religiously affiliated partner. Voas (2003) found that in Britain, religious affiliation tends to be lost following marriage to someone from a different religion.

#### **4 Concluding Remarks**

Using ISSP-1998 data, this paper explored the determinants of disaffiliation, that is, determinants of individuals who were raised in a particular religion and currently define their religious affiliation as 'no religion'. Our Logit regressions used a large array of explanatory variables: country specific variables, personal attributes and marriage characteristics. It was found that the tendency of individuals to leave their religion is:

- i)* strongly correlated with the religious strictness of their country
- ii)* strongly correlated with the spouse's religious characteristics
- iii)* and, marginally correlated with personal features.

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<sup>24</sup> Some of the coefficients are insignificant for men.

<sup>25</sup> Being married also reduces the prospects of secularization but only for men in the larger sample.

<sup>26</sup> What we find is a positive relationship between disaffiliation of the respondent and the affiliation of her/his spouse that is 'no religion'. We do not have information on the date of disaffiliation of the respondent (and his spouse if the spouse is also with 'no religion'), whether it was before or after marriage. It is therefore not possible to distinguish between cause and effect: Perhaps the subjects converted-out when single, and then, naturally, married someone with a 'no religion' affiliation.

## References

- Barrett, D.B., Kurian, G. T. and Johnson, T.M. (2001). *World Christian Encyclopedia*, (2<sup>nd</sup> ed.) Vol. 1, Oxford Press.
- Barro, R.J. and McCleary, R.M. (2003), "Religion and Economic Growth across Countries," *American Sociological Review* 68:760-781.
- Barro, R.J. and McCleary, R.M. (2005), "Which Countries Have State Religions?," *The Quarterly Journal of Economics* 120(4) 1331-1370.
- Bibby, R. W. (2000), "Canada's Mythical Religious Mosaic: Some Census Findings," *Journal for the Scientific Study of Religion* 39(2) 235-239.
- Bisin, A. and Verdier, T. (2000), "Beyond the Melting Pot: Cultural Transmission, Marriage, and The Evolution of Ethnic and Religious Traits," *The Quarterly Journal of Economics* 115(3): 955-988.
- Bisin, A. and Verdier, T. (2001), "The Economics of Cultural Transmission and the Dynamics of Preferences," *Journal of Economic Theory* 97: 298-319.
- Bisin, A., Topa, G. and Verdier, T. (2004), "Religious Intermarriage and Socialization in the United States," *Journal of Political Economy* 112(3): 616-664.
- Brañas-Garza, P. (2004), "Church Attendance in Spain: Secularization and Gender Differences," *Economics Bulletin* 26(1):1-9.
- Brañas-Garza, P. and Neuman, S. (2004), "Analyzing Religiosity within an Economic Framework: The Case of Spanish Catholics," *Review of Economics of the Household* 2(1):5-22.
- Brañas-Garza, P. and Neuman, S. (2006), "Intergenerational Transmission of 'Religious Capital': Evidence from Spain," IZA (Bonn): Discussion Paper No. 2183.
- Branas-Garza, P and Neuman, S. (2007), "Parental Religiosity and Daughters' Fertility: The Case of Catholics in Southern Europe," *Review of the Economics of the Household* 5(3): 305-327.
- Bruce, S. (1992), "Pluralism and Religious Vitality," in: Bruce, S. (ed), *Religion and Modernization: Sociologists and Historians Debate the Secularization Thesis*, Oxford, England: Oxford University Press
- Cavalli-Sforza, L.L. and Feldman, L.W. (1981), *Cultural Transmission and Evolution: A quantitative Approach*, Princeton, NJ: Princeton University Press.
- Chaves, M. (1994), "Secularization as Declining Religious Authority," *Social Forces* 72:749-774.
- Chaves, M. and Cann, D.E. (1992), "Regulation, Pluralism and Religious Market Structure," *Rationality and Society* 4:272-290.
- Chaves, M. and Gorski, P.S. (2001), "Religious Pluralism and Religious Participation," *Annual Review of Sociology* 27:261-281.
- Durkheim, E. (1995), *Elementary Forms of Religious Life*, translated by Fields, K.E., New York: free Press.
- Fink, R and Iannaccone L.R. (1993), "Supply-Side Explanations for Religious Change," *Annals of the American Academy of Political and Social Sciences* 525: 27-39.

- Fink, R. and Stark, R. (1988), "Religious Economies and Sacred Canopies, Religious Mobilization in American Cities, 1906," *American Sociological Review* 53: 41-49.
- Fink, R. and Stark, R. (1992), *The Churching of America: 1776-1990*, New Brunswick, NJ: Rutgers University Press.
- Iannaccone, L.R. (1991), "The Consequences of Religious Market Structures: Adam Smith and the Economics of Religion," *Rationality and Society* 3:156-177.
- Iannaccone, L.R. (1992), "Religious Markets and the Economics of Religion," *Social Compass* 39:123-131.
- Iannaccone, L.R. (1995), "Voodoo Economics? Reviewing the Rational Choice Approach to Religion," *Journal for the Scientific Study of Religion* 34:76-89.
- Iannaccone, L.R. (1998), "Introduction to the Economics of Religion," *Journal of Economic Literature* 36(3): 1465-1495.
- Kelley, D.M. (1977), *Why Conservative Churches are Growing: A Study in the Sociology of Religion*, New York: Harper & Row.
- Lehrer E (1998), "Religious Intermarriage in the United States: Determinants and Trends," *Social Science Research* 27: 245-263.
- Lieberson, S. (1969), "Measuring Population Diversity," *American Sociological Review* 34: 850-862.
- Loveland, M. T. (2003), "Religious Switching: Preference Development, Maintenance, and Change," *Journal for the Scientific Study of Religion* 42(1): 147-157.
- Martin, D. (1978), *A General Theory of Secularization*. Oxford: Basil Blackwell.
- Montgomery, J. D. (1996), "Dynamics of the Religious Economy," *Rationality and Society* 8:81-110.
- Roof, W.C. (1989), "Multiple Religious Switching: A Research Note," *Journal for the Scientific Study of Religion* 28: 530-535.
- Sacerdote, B. and Glaeser, E.L. (2001), "Education and Religion," Cambridge, MA: NBER, DP #8080.
- Sandomirsky, S. and Wilson, J. (1990), "Processes of Disaffiliation: Religious Mobility among Men and Women," *Social Forces*: 68: 1211-1229.
- Sherkat, D.E. (1991), Leaving the Faith: Testing Theories of Religious Switching Using Survival Models," *Social Science Research* 20: 171-187.
- Sherkat, D.E. and Wilson J. (1995), "Preferences, Constraints, and Choices in Religious Markets: An Examination of Religious Switching and Apostasy," *Social Forces* 79:993-1026.
- Shy, O. (2007), "Dynamic Models of Religious Conformity and Conversion: Theory and Calibrations," *European Economic Review* 51: 1127-1153.
- Smith, A. (1791), *An Inquiry into the Nature and Causes of the Wealth of Nations*, London, England: Strahan (6<sup>th</sup> Edition).
- Stark, R. and Iannaccone L.R. (1994), "A Supply-side Reinterpretation of the 'Secularization' of Europe," *Journal for the Scientific Study of Religion* 33:230-252.

- Te Grotenhuis, M. and Scheepers, P. (2001), "Churches in Dutch: Causes of Religion Disaffiliation in the Netherlands: 1937-1995," *Journal for the Scientific Study of Religion* 40(4): 591-606.
- Torgler, B. (2006), "The Importance of Faith: Tax Morale and Religiosity," *Journal of Economic Behavior and Organization* 61: 81-109.
- Voas, D. (2003), "Intermarriage and the Demography of Secularization," *British Journal of Sociology* 54(1):83-108.
- Voas, D., Olson, D.V.A. and Crockett, A. (2002), "Religious Pluralism and Participation: Why Previous Research is Wrong," *American Sociological Review* 67(2): 212-230.
- Warner, R.S. (1993), "Work in Progress for a New Paradigm for the Sociological Study of Religion in the United States," *American Journal of Sociology* 98: 1044-1093.
- Weber, M. (1930), *The Protestant Ethic and the Spirit of Capitalism*, London, England: Allen and Unwin.
- Williams, L.M. and Lawler, M.G. (2001), "Religious Heterogamy and Religiosity: A Comparison of Inter-Church and Same-Church Individuals," *Journal for the Scientific Study of Religion* 40(3): 465-478.
- Wilson, B. (1966), *Religion in a Secular Society*. Londres, C. A. Watts & Co.