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Religious attitudes and home bias: theory and new evidence from primary data

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Abstract

This paper examines the relationship between religion and home bias. We develop a theoretical framework suggesting that countries might show a certain degree of religion-enhanced international altruism that is associated with a lower home bias. We investigate empirically these predictions using original individual-level data from a survey on religious attitudes and preferences over consumption of home versus foreign goods and services that we have designed and collected in 15 countries. Contrary to previous evidence, our empirical investigation suggests that religious denominations might not play an important role in determining home bias. Our findings also partly corroborate the hypothesis that an open and tolerant attitude towards own religion and alien confessions may enhance trust and altruism and, hence, may have a pro-trade effect by lowering home bias. We conclude that models investigating the relationship between religion and home bias should incorporate different aspects of religion beyond specific affiliations and should consider different dimensions of home bias.

Keywords: religion, religious openness, home bias, pilot survey.

JEL classification: Z12, Z10, F15.

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1. Introduction

Home bias is a well-documented phenomenon in international finance and trade (French and Poterba, 1991; McCallum, 1995; Tesar and Werner, 1995). It refers to a preference for goods and services that are home produced. Home bias constitutes an intangible barrier between countries that hampers deeper trade integration. Despite its relevance, the roots of home bias are not yet fully understood.

Home bias can be partly explained by physical barriers between countries, such as transportation costs (Obstfeld and Rogoff, 2000), administrative man-made restrictions such as international tariffs and duties (Frankel et. al., 1995; Heliwell, 1998; Lewis, 1999), exchange rate risks (Stulz, 1981; Adler and Dumas, 1983) and international asymmetric information (Ahearne et al., 2004; Stulz, 2005). Nonetheless, many scholars acknowledge that there is a residual portion of home bias that still remains unexplained (Lewis, 1999; Bradford and Lawrence, 2002; Sercu and Vanpee, 2007). A large chunk of this unexplained component of home bias may depend on individuals' embeddedness in a social network which may quite well overlap a national group. Recent studies suggest that the degree to which individuals are enmeshed in a social web might affect trust and ultimately influence economic choices (Butler et al., 2009; Guiso et al., 2006 and 2009).

Religion is an important part of an individuals' life. It often provides a fundamental basis for social aggregation and the development of intangible networks. Religion can affect people through personal involvement. The influence of peers and local religious groups and institutions has in many cases an impact on a bunch of political decisions. Religion is likely to inform and shape several individuals' attitudes towards other members of the same network as well as other networks. Historically, sharing the same religious confession has helped to promote and enforce a large set of cooperative behaviours. For example, during the Middle Ages Maghribi traders successfully managed long-distance trade in the Mediterranean region as the common creed increased mutual trust within merchants belonging to the same religious network (Greif, 1989, 1992, 1993, 1994). Leeson (2005) provides a similar argument about trade in pre-colonial Africa where social proximity, signaled by religion and other social attributes, was the main support for trade and group-cooperative economic activity. In contemporary societies the sharing of a common system of belief appears to be related to trust and altruism (Schoenfeld, 1978; Bahr and Martin, 1983; Guiso et al., 2006; Hoff, 2010; Henrich et al., 2010) with notable spillover on economic activities and trade (Forsythe et al., 1994; Knack and Keefer, 1997; La Porta et al., 1997; Lindbeck and Nyberg, 2006; Laury and Taylor, 2008; Tabellini, 2008; Guiso et al., 2009).

The aim of this paper is to explore whether embeddedness into a religious doctrine network influences individuals' attitudes towards home bias, i.e., whether it makes individuals more or less eager towards the consumption of foreign goods and services. We develop our analysis, first, proposing a theoretical framework that outlines the relationship between religion and home bias. In our model, countries,

described as interacting via their representative individuals, show some degree of religion-enhanced international altruism that, in turn, may be associated to higher integration, even if, at the same time, countries engage in competitive international exchange. Secondly, we present individual-level information on religious attitudes and several indicators of home bias drawn from a survey that we have designed and carried out among university students in fifteen countries.[5] Finally, we exploit this information and analyse empirically the relationship between religious attitudes and home bias. To the best of our knowledge this is the first study that collects and analyses rich individual-level information on several dimensions of religious attitudes and home bias.[6]

In the past the relationship between religion and economic behaviour has captured the attention of prominent scholars such as Adam Smith and Max Weber.[7] More recently the literature on the relationships between religion, economic activities and growth has flourished rapidly (Blum and Dudley, 2001; Ekelund et al., 2002; Barro and McCleary, 2003, 2005; Guiso et al., 2003; Glaeser et al., 2004; Cavalcanti et al., 2007; Becker and Woessmann, 2009). A stream of studies has focused on the nature of religious organizations, the "religious market", its "competitiveness" and how these influence religious participation. According to these studies, in the spirit of Adam Smith's work, religious denominations compete in the market to attract affiliates or maximize alternative objective functions (Iannacone, 1992, 1998; Finke and Stark, 1988, 1989; Voas et al., 2002; Montgomery, 2003; Gruber and Hungerman, 2008; Hungerman, 2011). Previous studies have also analysed the impact of religion on international trade. Lewer and Van den Berg (2007a,b) employ a gravity model that allows for religion to explain pairwise international trade flows between countries. These studies attempt to disentangle institutional and network effects of sharing a common religion. Helble (2007) also uses a gravity approach but focuses on specific religious denominations and their impact on trade. His findings highlight that religious adherence, measured in this case by the variety of religions in a country, is among the most important determinants of bilateral trade. Both Lewer and Van den Berg (2007 a,b) and Helble (2007) aim at identifying the impact of shared religious affiliations on country-level trade flows. Guiso et al. (2009) focus on the influence of culture on trade. The authors employ several proxies of cultural traditions, including sharing a common religion, to explain bilateral trust. They find that culture affects bilateral trust and that this has a large impact on both trade and investment between countries. Finally, Benjamin et al. (2010) attempt to

[5] Given the limited amount of resources available, this pilot study is based on a sample which is only partially representative of whole populations even though the number of observations is quite close to that of the best surveys mentioned in the next sections.

[6] This study is part of a larger research project that aims at exploring the relationships between religion, culture and HB in an institutionally comparative perspective. The questionnaire presented here is a pilot for a future broader survey.

[7] Adam Smith in his seminal book "The Wealth of Nations" (1776) is believed to be the first author to have analyzed religion as a market. Max Weber (1930) famously argued that the Protestant ethic was crucial for the development of own enterprises and the accumulation of wealth in modern Northern Europe.

identify the effects of religious affiliations on a series of economic attitudes using individual level data collected through experiments on individuals' contribution to public goods. Quite often the use of experiments is due to the lack and the cost of sound empirical evidence on the influence of religion on economic choices. According to experimental evidence, Protestants appear to be more inclined to pay for public goods while lower risk aversion may explain the reduced level of contribution of Catholics.

Our paper contributes to the literature in several ways. First, our theoretical framework offers a description of the interactions between religious adherence, altruism and home bias through a two-stage game model between countries' representative individuals. According to our model, religious openness boosts between-nations' altruism, which ultimately makes countries more likely to trade. Second, differently from the majority of previous studies, we focus our analysis at the individual level and examine the influence of individuals' religious attitudes on a series of individual-level choices that proxy home bias in several economic contexts (e.g. labour market decisions, choices about consumption of goods and services, cultural media). Third, contrary to most of the literature we focus on religious adherence as being associated to a certain level of home bias towards a generic trading partner. Moreover, our analysis does not extract the specific confession prevalent in partner countries. In this sense we depart from bilateral trade models where a common religion is supposed and, often found, to favour trade. Finally, unlike most previous studies, in our survey we distinguish between different dimensions of home bias and religion. Home bias is identified using individuals' choices towards the consumption of home-produced versus foreign goods and services. These include choices concerning the labor market and consumption of food, cars, health care, media and cultural products. Religious attitudes include several dimensions of religion: *religious denominations*; *religious intensity*; *religious openness;* and *religious importance*. Religious denominations relate to individuals' affiliation (if any) to their religion of reference (e.g. Buddhism, Christianity, Hinduism, Hebraism, and Islamism). Credo intensity concerns the degree of an individual's self-reported participation and attitudes towards religion (e.g. whether an individual is a believer either attending or not attending services, atheist, agnostic or syncretistic). Religious openness comprises tolerant and even sympathetic attitudes towards all confessions and other individuals' religions. Finally, faith importance concerns the relevance of religion in an individual's life, i.e., in public and private-life related decisions.

The rest of the paper is structured as follows. Section 2 illustrates our theoretical framework. Section 3 presents the survey we have designed and collected. Section 4 discusses the empirical strategy and the main findings. Section 5 concludes.

2. A simple theoretical approach to religion and home bias

2.1 Theoretical framework

We present a simple theoretical framework that describes the relationship between religion and home bias. The starting point is a two-country model based on the analysis of institutional governance provided by Dixit (2009). The model shows how the religious attitude of each country's representative individual may be associated to cooperative behaviour and low cultural barriers towards goods and services produced in a foreign country. Our approach emphasises religious openness, i.e., a free and tolerant attitude towards own and alien confessions. We do not stress the importance of sharing the same faith or attitude of a specific confession.

We begin assuming that income (y) is generated by the representative individual's production effort (x). The activity endeavour may be enhanced by the extent of the representative person's degree of openness (z), that measures her political and cultural stance towards free trade, attractiveness of foreign consumption patterns and goodwill towards foreign fellow workers. Openness is beneficial, yet costly to individual welfare. Moreover, the beneficial effect of openness increases if it is reciprocated. Therefore, partner countries' openness boosts the per capita income of a community which eventually makes for a larger welfare. In this sense, each country's representative individual may care about the welfare of partner countries showing a kind of international altruism. Here comes religion: The extent of reciprocation may be affected by the degree of confessional adherence or, more generally, by the attitude towards religion. These considerations are embedded in the ensuing formal relationships.

In a simple two countries framework, the representative individual in country i derives her income y_i according to the following relation:

$$y_i = \left(1 + \frac{\sum_{i=1}^{2} z_i}{2}\right) x_i \ , \qquad (1)$$

with $i = 1, 2$ countries engaging in reciprocal trade and constituting the world. z_i is the openness commitment of each individual in country i and x_i is the individual effort commitment or the extent of resources individually devoted to production. Then, from the above relationship it appears that the internal commitment to production can be magnified in terms of income according to the degree of openness of the representative individual-country and of trade partners. The representative agent in each country has a utility function which looks as follows:

$$u_i = y_i - a\,(z_i + x_i)^2 + r_i\ r_j\ u_j \qquad \forall\ i,j = 1, 2;\ j \neq i \qquad (2)$$

where u_i is the welfare of the representative individual of country i, while $a \in]0, 1]$ is a discomfort sensitivity parameter. The quadratic form in brackets captures the discomfort related to both the effort and the willingness to be open. The third part of (2) is associated to altruism (Lindbeck and Nyberg, 2006;

Tabellini, 2008). The introduction of cross border altruism in the individual's utility function implies the appreciation of the welfare of a fellow individual in a partner country. In other words we think of countries not as rival but, on the contrary, as somewhat cooperative. This sort of collective altruism may interact - i.e., may be enhanced or decreased - by the extent of religious openness in all countries, represented by an individual scalar index [$r_{i,j} \in (0,1)$] multiplied by the corresponding index of the foreign representative individual. The religious scalar index ($r_{i,j}$) may be seen as the extent of cross border altruism of a country towards other communities as a result of the attitude towards religion. In other words, the utility of a representative individual of country *i* grows with the utility of individual of country *j* and the extent of religious openness in both countries. Following this assumption we are able to introduce a direct relationship between religion – particularly religious openness - and willingness to be internationally open, which is the opposite of home bias. Notice that the influence of u_j on u_i also reveals a kind of love for variety attitude, since the utility of one country is positively affected by its own output and foreign output. Therefore the positive relationship between the utilities of the two countries may also be the expression of a preference for international variety.

The representative individuals of the two countries interact as Nash players to maximize their utility using two controls: openness and effort. The timing of the game is as follows. First, individuals set their openness, which becomes a sort of first fundamental step. Second, they set their optimal production effort. The game is solved using standard backward induction with sub-game perfection. In that case, the resulting equilibrium may be described in its properties and comparative statics, in the following:

Proposition 1

- ***(i)*** Suppose that countries interact via their representative individuals and show some degree of international altruism enhanced by religion. Then, there may exist an international equilibrium in efforts and openness with non-negative levels of both per capita income and individual welfare.
- ***(ii)*** A higher degree of religious openness should be associated with more trade openness and, as a consequence, with a higher income.

Proof. (i) We proceed by getting the reduced forms of each country's representative individual welfare function:

$$u_i = \frac{2a\left[(x_i+z_i)^2+r_i r_j (x_j+z_j)^2\right]-(x_i+r_i r_j x_j)(2+z_i+z_j)}{2\left(r_i^2 r_j^2-1\right)}, \tag{3}$$

The two countries' representative individuals maximize their respective utility. A Nash equilibrium of the two stage game in both production effort (x_i) and openness (z_i) may be found. The equilibrium utility and production for country *i* and *j* are:

$$x_i^* = \frac{4a}{\theta} = x_j^*, \tag{4}$$

$$z_i^* = \frac{1+r_i\ r_j\ -4a}{\theta} = z_j^*, \tag{5}$$

$$u_i^* = \frac{\left(1+r_i\ r_j\ \right)(1+r_i\ r_j\ -8a)a}{(r_i r_j-1)\theta^2} = u_j^*, \tag{6}$$

$$y_i^* = \frac{8(1+r_i r_j)a^2}{\theta^2} = y_j^*\ , \tag{7}$$

where: $\theta = 6a + r_i r_j(2a-1) - 1$.

The non-negativity of the two endogenous variables z and x, for any $r_{i,j} \in [0,1)$, requires that: $a \in [a_1, a_2]$

where $a_1 = [(r_i r_j-1)/(6+2 r_i r_j)]$ and $a_2 = [(1+r_i r_j)/4]$. The same holds for $u_{i,j}^*$ and $y_{i,j}^*$.

(ii) As for the comparative statics results, we can show that:

$$\frac{\partial z_j}{\partial r_i} = \frac{8r_j a^2}{\theta^2} \geq 0, \tag{8}$$

$$\frac{\partial z_j}{\partial r_j} = \frac{8r_i a^2}{\theta^2} \geq 0, \tag{9}$$

$$\frac{\partial x_j}{\partial r_i} = \frac{4r_j(1-2a)a}{\theta^2} \geq 0, \tag{10}$$

$$\frac{\partial x_j}{\partial r_j} = \frac{4r_i(1-2a)a}{\theta^2} \geq 0, \tag{11}$$

$$\frac{\partial u_i}{\partial r_i} = \frac{r_j a[(1+r_i r_j)^3-2(1+r_i r_j)^2(7+r_i r_j)a+32\left(2+r_i r_j(1+r_i r_j)\right)a^2]}{(r_i r_j-1)^2\theta^3} \geq 0, \tag{12}$$

$$\frac{\partial y_i}{\partial r_i} = \frac{8r_j a^2[1+2a+r_i r_j(1-2a)]}{\theta^3} \geq 0. \tag{13}$$

Cross effects are:

$$\frac{\partial u_i}{\partial r_j} = \frac{r_i a[(1+r_i r_j)^3-2(1+r_i r_j)^2(7+r_i r_j)a+32\left(2+r_i r_j(1+r_i r_j)\right)a^2]}{(r_i r_j-1)^2\theta^3} \geq 0, \tag{14}$$

$$\frac{\partial y_i}{\partial r_j} = \frac{8r_i a^2[1+2a+r_i r_j(1-2a)]}{\theta^3} \geq 0. \tag{15}$$

All inequality signs hold in the feasible set, i.e., for $a \in [a_1, a_2]$. *Q.E.D.*

2.2 Discussion

We proposed a stylised model to highlight how religious attitudes may be associated to trade openness. The mechanism we outline relies on cross-border altruism. If religious openness enhances international altruism, then the latter has a beneficial influence on income and finally feeds back on the productive effort. Clearly, religious adherence may relate (positively or negatively) to religious openness. It is the latter, however, to motivate individuals to be more altruistic, for example, by reducing the relative cost of work discomfort or increasing the preference for foreign products. In equilibrium, then, religious openness is associated to a more open attitude towards trade and, hence, should imply a lower home bias. Religious enhanced altruism has an effect on the foreign country as well: the cross effects (14) and (15) highlight how religious openness may also positively affect partner country's income and overall welfare. Our model is quite general and as such it lends itself to many interpretations. However, it is a meant to be a stylised description and does not aim at modeling the mechanisms that lead to trade between the two countries in details. Keeping in mind the limits of the approach, our conclusions lead us to formulate an important testable prediction: on the basis of the results in Proposition 1 and the previous discussion, we may expect religious openness to be associated to lower levels of home bias. This is ultimately an empirical issue and it will be tackled in the rest of the paper together with a more general empirical analysis on the relationship between religion and home bias. So far empirical and theoretical studies have emphasised the increase of international altruism among countries and communities sharing the same confession, even when they are separated by national borders. Our research aims to go a step further and attempts to evaluate the theoretical relation outlined: an open religious attitude adds to altruism and reduces home bias, no matter the religious affiliation.

3. Data

3.1 A survey on religion and home bias

In this section we present individual-level data on religious and economic attitudes obtained through an original survey questionnaire that we designed and collected. We subsequently use this data to examine empirically the relationship between religion and home bias. Copies of the questionnaire were distributed to students in 16 universities of 15 countries during the period 2008-2010. The questionnaire was distributed in the following universities and countries: University of Bologna in Buenos Aires, Argentina; Zhejiang University in Hangzhou, China; University of Turku, Finland; University of Marseille - Aix en Provence, France; University of Hamburg, Germany; National Law School in Bangalore, India; University of Bologna in Forlì, Italy; Recanati Graduate School of Business Administration in Tel Aviv, Israel; Ryukoku University, Japan; University Carlos III in Madrid, Spain; University of Lausanne, Switzerland; Bilgi University in Istanbul, Turkey; Kiev School of Economics, Ukraine; University of York, United Kingdom; Brown University and New York University at Binghampton, United States. After collecting

the data, our final sample consists of 1849 individuals. With the exception of Finland (76), Argentina (86), Ukraine (95) and Japan (99), we received more than 100 completed questionnaires from each country (see Table 1). The largest amount of replies were obtained from Germany (200), followed by India (162) and Italy (148). It should be noted that this is not a representative sample of the population of university students around the world. This is due to the limited resources available to collect the data and to the fact that not all the universities that we approached granted us permission to contact directly the students. Nonetheless, this is the first attempt to collect individual level information on a variety of aspects concerning religion, religious attitudes and home bias.

The survey focuses on a series of questions that attempt to proxy both religious attitudes and home bias.[8] More specifically, religious attitudes are identified through a set of questions that attempt to define religious openness, the relevance of religion in an individual's life, religious intensity as well as religious affiliation. Home bias is captured by questions that aimed at revealing individuals' preferences in three main dimensions: labour market decisions, consumption of home-produced versus foreign goods and services (including health care), interests in foreign cultures and access to foreign media. The survey contains questions on respondents' demographic characteristics such as age, gender and nationality.[9]

(Table 1 here)

3.1 Descriptive statistics

Religion and religious attitudes

Table 2 proposes the basic descriptive statistics and clarifies the content of the questions about religion.

(Table 2 here)

The largest percentage of respondents (26%) considers themselves as believers, although, as they report, not attending religious services. Atheists are the second-largest group (21%) followed by believers attending services (14%). About a third of the respondents have attended services from religions they do not profess and about a quarter of the entire sample of respondents self-report reading holy texts from other creeds. Even though 55% of individuals report being believers, the amount of those who wish to

[8] The questionnaire was issued in the language predominantly used during lectures of each university (e.g. English in India, etc.). The English language version of the questionnaire deployed in the US is available in Appendix A.

[9] Questions on individual or household income have not been included due to the large share of missing answers in a related previous survey, reported in Reggiani and Rossini (2013).

have the state comply with religion on matters such as abortion is relatively low (18%). 10% of individuals in the sample would favour the state to support religion (one or the most professed ones) and to have religion affecting politics (10%); the same percentage would like a state religion. Also, 39% would like religious principles to be taught at school.

Only 16% of our sample of respondents wishes religion to be a guide for the welfare state. The low importance attributed to religion in public choices and moral guidelines is also reflected by the low percentage of those who believe religion has a high importance for their private matters (20%). Almost half of respondents (44%) think home-based firms should trade with a country without religious freedom. Only 20% think that there should definitely be no trade with countries with no religious freedom.

As for religious affiliations, Christians represent the largest religious group (with 15.7% of Catholics 10.2% of Protestants and 10% on other non-specified Christians). The largest non-Christian groups are formed by Hindus (9.1%) and Jews (8.2%). Members of Orthodox churches constitute the smallest groups with 5.8% of respondents while respondents explicitly stating no affiliation amount to up 8%.[10]

Overall, replies also indicate that despite the relatively large percentage of believers, about one third of them neither respects nor thinks positively of strong believers. Moreover, less than 20% consider religion to offer guidance for important personal and institutional issues such as abortion and the welfare state. Nonetheless, a good disposition towards strong believers touches almost half of the sample. This might mean that religion is considered as an important phenomenon to be open to, yet not much to comply with.

Proxies of home bias

Table 3 reports descriptive statistics and contents of the questions related to home bias.

(Table 3 here)

Home bias and labour market choices

We have included two questions about the respondents' willingness to accept a temporary job abroad (up to three years) with the same work conditions as in the home country. 47 % of individuals in our sample

[10] The under-representation of Muslim and the over-representation of Jewish individuals in our survey simply reflect the geographical composition of the sample. Also, we were not granted permission to collect data at all universities in Muslim majority countries that we have approached for our study.

would accept such a job offer. This percentage increases to 65% when we consider a foreign wage a 20% higher than the home salary.[11]

Home bias and consumption of home versus foreign goods and services

We ask respondents to choose between buying a nationally manufactured and/or branded car or a foreign car with analogous features. According to our interpretation, a preference for the home manufactured car may signal a potential home bias. In our sample, 40% of respondents would prefer to buy a nationally branded/produced car. We put a similar question related to food consumption. 55% of individuals in our sample would prefer to buy locally produced over imported food. However, attitudes towards food consumption may relate to other factors such as preferences for fresher locally grown food or environmental concerns. In order to identify preferences over consumption of health care, we ask respondents whether they would prefer to be treated by a local rather than a foreign doctor. The majority of individuals in our sample appear to distrust foreign doctors. This may be a partial confirmation at individual level of what has been observed before at macro level, suggesting that countries are more open to trade goods than services (Nordas, 2010).

Home bias, foreign culture, media culture and international socialization

Aggregate "home bias" appears to decrease when considering cultural issues. 25% of individuals in our sample prefer national writers, 48% watch news from foreign broadcasters and only 7% declare no interest in foreign cultures. On the contrary, 76% of respondents travelled scantily abroad during the last 2 years, while a good portion has foreign friends (42% have between 1 and 5 foreign friends while 43% has more than 5).

Previous surveys on aspects of religion and home bias

The World Values Survey (2005) is a primary source of data and a reference point for the study of many aspects of culture and well-being, including religion.[12] The last wave of the survey contains two questions that are comparable to ours (Importance of religion in private life; Religion as guidance to welfare state). Another question (Belief in hell) was included in the Economist-YouGovPolymetrix (2008) survey on Anglo-Saxon attitudes. On top of that, our survey covers aspects of the religious sphere (religious openness, affiliation importance in life, intensity of belief) and home bias (in the labour market, in the goods, services markets and in the cultural choices) providing information that could not be otherwise accessed. A comparison of the frequencies registered in the comparable questions is reported in Appendix B; given the nature of our sample, however, no conclusions should be drawn from these.

[11] A 20% wage gap with respect to a home-based job may seem a low compensation for leaving the country; however, our sample is composed by young students, well-raised in a time of increasing globalization and cultural exchanges. This could partly explain the high percentage of individuals willing to accept this type of offer.

[12] A number of studies (e.g. Chuah et al., 2009; Guiso et al., 2009) use the World Values Survey as a direct or indirect benchmark.

4. Empirical analysis

We analyze data drawn from our survey to provide evidence on the relationship between religion, religious attitudes and home bias. More specifically, in this section we test whether the embeddedness into a religious network (defined through a series of attitudes towards religion as well as religious affiliation) is correlated with home bias. Home bias is identified through individuals' labour market choices, preferences towards consumption of health care, and home-produced versus foreign goods and services. As suggested by our theoretical framework we expect religious openness to be negatively correlated with home bias: a higher degree of religious openness should decrease home bias. On the other hand, the intensity of religious feelings might have either a positive or a negative effect on home bias. Given the characteristics of our data, the empirical analysis proposed here only attempts to identify the correlation between religious attitudes and home bias and we do not aim to identify causal effects at this stage. The analysis we present is the first empirical exploration of the hypothesis that religious attitudes might be related to home bias. Moreover, we emphasise several dimensions of religious attitudes and we try to highlight how they may have different effects on home bias.

We employ a series of probit models to analyse the correlation between four different dimensions of home bias (labour market choices; consumption of home-produced goods; choices over health care services provided by national versus foreign doctors and choices concerning consumption of cultural media) and religious attitudes. Religious attitudes are defined in terms of four main groups of explanatory variables: 1) religious affiliation to different denominations (Buddhism, Christianity, Hinduism, Hebraism, Islamism, using the category no religion as a baseline); 2) the intensity of religious beliefs (an individual describing himself as a believer attending services; a believer not attending services; an agnostic or atheist using a believer with no affiliation or a syncretistic as a base category); 3) the extent of religious openness/tolerance; 4) the importance of religion in an individual's life (captured by individuals' approval of a state religion or an active state support of the major religions; importance for public life and for private life). We control for demographic characteristics (age and gender) and a series of geographical variables (whether the individuals is a foreign student and the macro geographical area of the sample of origin: Northern, Southern, Central and Eastern Europe; North America; using South America as a benchmark). Finally, we also include in our regressions a set of country-specific macroeconomic variables imputed using publicly available data from the World Bank.[13] For each country in our survey, these variables contain GDP, unemployment rates, female labour participation rates and an index of research power.[14] We impute these variables because we believe that individuals' home bias may be smaller the richer is a country, the higher its research power. Also, individuals' home bias in labour market choices

[13] All these variables refer to the year 2008 (the first year the survey was issued) and are available at the World Bank website (http://data.worldbank.org/).

[14] The index used is R&D expenditure as a percentage of GDP of the country.

may be negatively related to unemployment and the extent of female labour participation. A full description of the variables used in this analysis and their summary statistics are reported in Appendix C.

Tables 4 to 7 summarise results from our empirical analysis. These tables report marginal effects from our probit models on the effects of religion on different proxies of home bias. In each table, Models I and II analyse the effects of religious attitudes on labour market choices. Models III and IV present the effects of religion on choices between home-produced versus foreign goods (car and food, respectively). Model V identifies the effects of religion on individuals' preferences towards the use of health care (national versus foreign medical doctors). Finally, Models VI, VII and VIII reveal the effects of religion on preferences over foreign media, cultures and novels. In particular, the dependent variables of these models are all dummy variables that proxy home bias, taking value 1 when an individual is not willing to accept a job abroad; prefers home produced cars and food; being attended by native medical doctors; and is not interested in the fruition of foreign media, culture and novels. Our empirical strategy is to progressively add in each model different sets of variables concerning religion. This is to isolate and better identify the effects of different aspects of religion on home bias. Accordingly, Table 4 reports marginal effects on the influence of religion on home bias by including only variables on religious denominations; Table 5 includes religious denominations together with religious intensity; models in Table 6 comprise denominations, intensity and openness; Table 7 presents results for models that include the effects of the full sets of variables on religion: denominations, intensity, openness and importance.[15]

Table 4 focuses on the effects of religious denominations on home bias. The majority of marginal effects related to religious denominations appear to be small and not statistically significant. Exceptions include self-professed Christians that appear to be home biased in the consumption of health care (with the probability of choosing a national versus a foreign doctor that increases by almost 13 percentage points) and media (with the probability of consuming home produced versus foreign media increased by 2.5 percentage points). Hindus appear to be less home biased in their choice of novels (with a decrease of almost 11 percentage points in the preference for home-produced narrative) while the opposite applies to Buddhists (with an increase of 21.6 percentage points in the consumption of home produced novels). Buddhists, however, are also slightly less negatively biased towards other cultures. Finally, self-professed Jewish appear to be significantly less home biased when choosing food. Being Muslim does not appear to be correlated with any of our home bias proxies. Overall, systematic and strong correlations paths between religious denominations and home bias are not apparent in our data. Therefore, contrary to previous studies, religious denominations do not appear to play a major role in determining home bias.

(Table 4 around here)

[15] It should be noted that all models also include the full battery of controls outlined above but that in this version of the paper marginal effects for these variables are omitted. Full results are available upon request.

Table 5 reports the marginal effects of religious denominations on home bias together with the set of variables defining religious intensity. The findings of Table 4 appear to be robust to the introduction of religious intensity. For example, Christians remain more likely to be home biased in the choice of national versus foreign doctors as well as the consumption of media. However, after having controlled for religious intensity, Christians also seem less likely to be home biased towards other cultures. Results on statistical significance and directions of other religious denominations on home bias appear to be confirmed although with slight changes in the quantitative effects. Moreover, Muslims are now less likely to be home biased towards different cultures. Religious intensity appears to be particularly important for labour market choices. A believer regularly attending services of his religion has a substantially higher probability (17.3 percentage points) of refusing a temporary job abroad with the same characteristics. The same applies to job offers with the same characteristics and an increase in salary, although the quantitative effect is reduced by half (9.4 percentage points). Similarly, a believer not attending services has also a higher probability (9.5 percentage points) of refusing a job abroad, an effect that, again, reduces in presence of a salary increase (5.5 percentage points). Also, individuals who are atheist or agnostic are more likely to refuse a temporary job abroad, although this effect becomes not significantly different from zero when the job offer includes a higher salary. The importance of religious intensity on home bias in the labour market seems to support the hypothesis that the embeddeness in a (religious) network can influence individuals. In this case, moving abroad for a temporary job would "eradicate" the individual from its network. Hence, belonging and actively participating in the activities of a religious network increases the likelihood of refusing a job abroad even in case of an increase in salary. Furthermore, the probability of refusing a job abroad appears to reduce for lower degrees of religious intensity and disappears for atheist or agnostic in case of an increase in salary.

(Table 5 around here)

Table 6 includes a third set of variables concerning religious openness. Results for these variables provide a further empirical test of the hypothesis proposed in our theoretical model of religious attitudes and home bias. In particular, from Proposition 1 – part (ii) and the following discussion, we expect lower religious openness to be associated with higher home bias (i.e. higher preference for consumption of home produced goods and services). In terms of our regression models, we coded these new set of religious attitudes' variables to signal lower religious openness. Hence, our theory predicts marginal effects for these variables to be positive, i.e. closer attitudes towards religion and other religions should be associated with a higher probability of being home biased. Results from our regressions are mixed and

only some of the variables on religion openness appear to confirm these predictions. In particular, Table 6 shows that closeness towards religion (i.e., individuals who would not be willing to read holy texts from other religions – "Holy text") is associated with higher probabilities of being home biased in five out eight of home bias choices (labour market, media, culture and novel – Models I,II,VI,VII and VIII). The larger marginal effects are correlated to home bias related to labour market choices (with and without salary increase, Models I and II). However, closeness ("Holy text") is also associated with lower home bias in the choice of health care (Model V – "Doctor"). Furthermore, another variable defining closeness towards religion, that is not being willing to attend religious services of other religions ("Service"), is positively associated with home bias in labour market choices, media fruition and foreign cultures (Models I, VI and VII respectively). The remaining variable that defines religious openness does not appear to be statistically significant in any of the eight home bias models. Again, the effects of denominations and religious intensity in Tables 4 and 5 are confirmed with slight changes in the magnitude of marginal effects but very similar levels of statistical significance.

(Table 6 around here)

Table 7 includes the full battery of variables on religion and attitudes towards religion: religious denominations, religious intensity, religious openness and proxies for the importance of religion in an individual's life. Interestingly, the set of variables capturing the importance of religion in an individual's life do not seem to influence home bias. In particular, individuals' preferences towards a state actively supporting religion(s) ("State/support") as well as higher levels of importance of religion in private life's choices ("Importance – private life") do not appear to have any influence, either positive or negative, on home bias. However, higher levels of importance of religion in an individual's private life appear to be correlated with higher levels of home bias for choices related to food and novels. The results in Tables 4, 5 and 6 are once again robust to the more comprehensive specification with slight changes in the magnitude of marginal effects but very similar levels of statistical significance.

(Table 7 around here)

5. Conclusions

This paper provides a first investigation on the relationship between religion and home bias using both a theoretical framework and a series of empirical models exploiting individual-level data from a survey that we have designed and collected in 15 countries. Whereas previous literature has focused primarily on the effects of religious denominations on bilateral trade flows, we analyse the influence of a series of religious attitudes on different domains of home bias. In particular, this paper attempts to establish whether and how attitudes towards religion, through altruism and trust, influence individual preferences for home-produced versus foreign goods and services.

We employ a simple two-country theoretical framework and show that religious-driven international altruism should increase trade openness and reduce home bias. We explore this empirically using new primary data from a pilot survey handed out to students of 16 universities in 15 different countries. We estimate a series of probit models and, although some of our findings are mixed, we find new and interesting results on the relationship between religion, attitudes towards religion and home bias within a series of individual-level consumption choices. First, contrary to the majority of previous studies, religious denominations do not appear to play a major role in determining home bias. Though we find that some religious denominations appear to be correlated with higher or lower levels of home bias, clear-cut paths between denominations and home bias do not seem to emerge. Similar observations apply even within the same religious denomination: individuals appear to be more or less biased depending on the specific home bias domain/choice considered. Hence, we conclude that an empirical analysis on the relationship between religion and home bias should include aspects of religion beyond simple religious affiliations. Secondly, some of our findings underline that religious intensity and openness towards other religions may influence home bias. More specifically, individuals who have open attitudes towards religion appear to be less home biased within most home bias domains (labour market, health care and cultural choices). These findings appear to partly support the hypothesis that religious-rooted altruism may have a pro-trade effect and, hence, decrease home bias. On the other hand, higher levels of religious intensity appear to be positively correlated with home bias, especially in labour market choices where believers display regularly higher levels of home bias than individuals who are atheist or agnostic.

Overall, our analysis highlights that religion is a multi-faceted phenomenon and it is important to distinguish between different dimensions of religious attitudes to fully capture the relevance of religion in economic choices. For this reason, our study accounts for religious denominations, religious intensity, religious openness and the importance of religion in an individual's life. Finally, as individuals appear to display different degrees of home bias within different economics choices, our results also suggest the need of accounting for different dimensions of home bias.

It should be noted that our study presents evidence on the relationship between religion and home bias based on a statistically non-representative cross-section of the worldwide population of university

students. More definitive conclusions can obtain after collecting and analysing more comprehensive data on these issues. In particular, our study could be extended and improved using representative samples of the population of the countries analysed. Also, longitudinal data could allow investigating the dynamics of the religious openness-home bias relationship and aid the identification of causal effects.

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Tables

Table 1. Number of respondents by country

Argentina	86	Japan	99
China	130	Spain	114
Finland	76	Switzerland	139
France	103	Turkey	101
Germany	200	Ukraine	95
India	162	UK	138
Italy	148	USA	144
Israel	114		

Table 2. Religious attitudes

Religious openness

Attended services of other religions home

Once	More	Never
524	257	932
30%	15%	53%

Attended services of other religions abroad

Once	More	Never
301	221	1092
17%	13%	62%

Read holy texts of other religions

Never	Yes	Not sure
455	979	265
26%	56%	15%

Respect strong believers

Respect	Positive	Neither	Not Sure
416	177	587	263
24%	10%	33%	15%

Importance of religion

Religion as guidance for abortion

Yes	No	Not Sure
313	1082	321
18%	62%	18%

Religion as guidance for welfare state

Yes	No	Not Sure
286	1097	333
16%	63%	19%

One religion supported by state

Yes	No	Not Sure
129	1397	205
7%	80%	12%

Should religion have influence on politics

Yes	No	Not Sure
178	1429	125
10%	82%	7%

Trade with countries without religious freedom

Yes	No	Not Sure
776	394	549
44%	22%	31%

State should support religion

Yes	No	Not Sure
239	1138	295
16%	65%	17%

Should religious principles be taught at school

Yes	No	No opinion
688	799	265
39%	44%	15%

Importance of religion in private life

Very	Not very	Not at all
356	746	609
20%	43%	35%

Religious intensity

Believer attending services	Believer not attending services
237	452
14%	26%
Believer with no affiliation	Atheist
255	371
15%	21%
Syncretistic	Agnostic
101	226
6%	13%

Table 3. Home Bias Indicators

Labour Market

Willing to take up a job abroad…			...for 20% higher salary		
Yes	No	Not Sure	Yes	No	Not Sure
820	502	410	1146	225	356
47%	29%	23%	65%	13%	20%

Consumption of goods and services

Would you buy a local brand car			Prefer local over imported food		
Yes	No	Not Sure	Yes	No	Indifferent
705	348	694	971	62	510
40%	20%	40%	55%	4%	29%

Prefer local over non-local doctor		
Yes	No	Indifferent
983	121	637
56%	7%	36%

Foreign culture and international socialisation

Prefer writer of own nationality			Interest in foreign cultures		
Yes	No	Not Sure	Yes	No	Not Sure
445	692	603	1453	116	174
25%	39%	34%	83%	7%	10%

Follow foreign media			How many friends from abroad			
Yes	No	Not Sure	None	1 to 5	6 to 10	10+
834	154	760	255	736	242	505
48%	9%	43%	15%	42%	14%	29%

No. of travels abroad in last 2 years		
5 or less	5 to 10	10+
1337	310	85
76%	18%	5%

Table 4: The effects of religion on home bias - denominations								
	(I)	(II)	(II)	(IV)	(V)	(VI)	(VII)	(VIII)
	Job	Job20	Car	Food	Doctor	Media	Culture	Novel
Religious denominations								
Christian	0.0308	0.00550	-0.00180	0.00117	0.129***	0.0252**	-0.0113	0.0326
	(1.01)	(0.25)	(-0.06)	(0.04)	(4.33)	(2.10)	(-1.21)	(1.10)
Hindu	0.0404	0.0368	-0.0736	0.0655	0.0548	0.0227	-0.00388	-0.107***
	(0.60)	(0.80)	(-1.10)	(1.05)	(0.82)	(0.43)	(-0.25)	(-2.60)
Jewish	0.0783	-0.0565	0.126	-0.190**	0.00188	-0.000212	-0.00463	-0.0319
	(1.06)	(-1.60)	(1.50)	(-2.54)	(0.02)	(-0.01)	(-0.28)	(-0.54)
Buddhist	-0.000191	0.0415	0.0527	0.0417	-0.0594	-0.0118	-0.0183*	0.216**
	(-0.00)	(0.77)	(0.64)	(0.53)	(-0.71)	(-0.81)	(-1.84)	(2.52)
Muslim	0.0731	0.0631	-0.0442	-0.0219	0.0898	-0.00817	-0.0157	0.0879
	(0.95)	(0.98)	(-0.61)	(-0.29)	(1.31)	(-0.29)	(-1.34)	(1.25)
N	1658	1659	1671	1480	1665	1676	1670	1665
Log-likelihood	-918.5	-602.5	-1022.8	-915.2	-1078.2	-372.4	-353.5	-800.3
Marginal effects; t statistics in parentheses								
* p<0.10, ** p<0.05, *** p<0.01								

Table 5: The effects of religion on home bias - denominations and intensity								
	(I)	(II)	(II)	(IV)	(V)	(VI)	(VII)	(VIII)
	Job	Job20	Car	Food	Doctor	Media	Culture	Novel
Religious denominations								
Christian	-0.0123	-0.0242	0.000547	-0.0333	0.0998***	0.0343**	-0.0189**	0.0162
	(-0.34)	(-1.00)	(0.01)	(-0.83)	(2.73)	(2.31)	(-2.01)	(0.47)
Hindu	-0.00126	0.0212	-0.0851	0.0586	0.0215	0.0420	-0.0111	-0.120***
	(-0.02)	(0.47)	(-1.25)	(0.89)	(0.30)	(0.65)	(-0.97)	(-3.00)
Jewish	0.0602	-0.0630*	0.124	-0.209***	-0.0174	0.00555	-0.00705	-0.0394
	(0.82)	(-1.93)	(1.46)	(-2.76)	(-0.21)	(0.22)	(-0.50)	(-0.67)
Buddhist	0.0112	0.0248	0.0365	-0.0249	-0.0926	-0.00906	-0.0207***	0.198**
	(0.14)	(0.46)	(0.42)	(-0.28)	(-1.04)	(-0.59)	(-2.81)	(2.19)
Muslim	0.0326	0.0272	-0.0247	-0.0356	0.0532	0.0119	-0.0243***	0.0473
	(0.42)	(0.46)	(-0.32)	(-0.44)	(0.71)	(0.28)	(-3.93)	(0.67)
Religious intensity								
Attendant	0.173***	0.0944**	-0.00536	0.00749	0.0653	-0.0163	0.0194	0.0667
	(3.46)	(2.34)	(-0.11)	(0.16)	(1.45)	(-1.56)	(1.12)	(1.53)
Non attendant	0.0956**	0.0552**	-0.0628*	0.00751	0.0617*	0.00122	0.00533	-0.0131
	(2.51)	(1.98)	(-1.69)	(0.19)	(1.66)	(0.10)	(0.49)	(-0.40)
Atheist/Agnostic	0.0681**	0.0183	-0.0398	-0.0584	0.0167	0.00986	-0.00844	-0.00849
	(1.98)	(0.78)	(-1.14)	(-1.58)	(0.47)	(0.87)	(-1.03)	(-0.28)
N	1612	1614	1626	1439	1621	1629	1624	1619
Log-likelihood	-889.4	-583.0	-990.4	-884.2	-1045.4	-351.6	-332.0	-773.5
Marginal effects; t statistics in parentheses								
* p<0.10, ** p<0.05, *** p<0.01								

Table 6: The effects of religion on home bias - denominations; intensity and openess								
	(I)	(II)	(II)	(IV)	(V)	(VI)	(VII)	(VIII)
	Job	Job20	Car	Food	Doctor	Media	Culture	Novel
Religious denominations								
Christian	0.000738	-0.0277	0.000442	-0.0294	0.0957***	0.0352**	-0.0134	0.0189
	(0.02)	(-1.15)	(0.01)	(-0.72)	(2.59)	(2.33)	(-1.63)	(0.55)
Hindu	0.0372	0.0336	-0.107	0.0492	0.0182	0.0474	0.00142	-0.0955**
	(0.53)	(0.71)	(-1.59)	(0.73)	(0.25)	(0.67)	(0.10)	(-2.15)
Jewish	0.0759	-0.0550	0.128	-0.189**	-0.00756	0.00682	-0.00236	-0.0238
	(1.00)	(-1.57)	(1.49)	(-2.44)	(-0.09)	(0.27)	(-0.17)	(-0.38)
Buddhist	0.0223	0.0237	0.0277	-0.0181	-0.0854	-0.000661	-0.0156**	0.205**
	(0.27)	(0.45)	(0.32)	(-0.20)	(-0.96)	(-0.04)	(-2.33)	(2.27)
Muslim	0.0754	0.0271	-0.0612	-0.0408	0.0275	0.0310	-0.0207***	0.0534
	(0.92)	(0.45)	(-0.80)	(-0.49)	(0.36)	(0.54)	(-4.32)	(0.74)
Religious intensity								
Attendant	0.172***	0.0866**	-0.00745	0.0000475	0.0766*	-0.0187**	0.0155	0.0537
	(3.36)	(2.14)	(-0.16)	(0.00)	(1.68)	(-2.00)	(1.05)	(1.22)
Non attendant	0.0885**	0.0448	-0.0587	0.00529	0.0794**	-0.00611	-0.000765	-0.0209
	(2.28)	(1.62)	(-1.55)	(0.13)	(2.11)	(-0.57)	(-0.09)	(-0.64)
Atheist/Agnostic	0.0614*	0.0131	-0.0389	-0.0539	0.0260	0.00557	-0.00620	0.00203
	(1.75)	(0.56)	(-1.10)	(-1.44)	(0.73)	(0.52)	(-0.88)	(0.07)
Religious openness								
Service	0.0542**	0.0271	-0.0230	-0.00682	0.00165	0.0229***	0.0157***	0.0333
	(1.98)	(1.54)	(-0.76)	(-0.22)	(0.06)	(2.85)	(2.62)	(1.32)
Holy text	0.119***	0.0889***	-0.0437	-0.00500	-0.0667**	0.0582***	0.0428***	0.0836***
	(3.83)	(3.67)	(-1.40)	(-0.16)	(-2.08)	(3.16)	(3.15)	(2.92)
Believer	0.0339	-0.00819	-0.0208	-0.0159	-0.00237	-0.0117	-0.00229	-0.0141
	(1.11)	(-0.43)	(-0.65)	(-0.45)	(-0.07)	(-1.46)	(-0.36)	(-0.51)
N	1569	1569	1581	1399	1577	1584	1581	1574
Log-likelihood	-849.3	-558.9	-961.6	-862.6	-1015.2	-324.1	-307.4	-748.0
Marginal effects; t statistics in parentheses								
* p<0.10, ** p<0.05, *** p<0.01								

Table 7: The effects of religion on home bias - denominations; intensity; openess and importance								
	(I)	(II)	(II)	(IV)	(V)	(VI)	(VII)	(VIII)
	Job	Job20	Car	Food	Doctor	Media	Culture	Novel
Religious denominations								
Christian	-0.00392	-0.0261	-0.0144	-0.0389	0.0963**	0.0374**	-0.0139*	0.00926
	(-0.10)	(-1.08)	(-0.37)	(-0.93)	(2.55)	(2.37)	(-1.70)	(0.27)
Hindu	0.0294	0.0404	-0.110	0.0433	0.0181	0.0437	0.00293	-0.0982**
	(0.42)	(0.83)	(-1.63)	(0.63)	(0.25)	(0.63)	(0.19)	(-2.23)
Jewish	0.0513	-0.0561*	0.130	-0.184**	0.00294	0.00581	-0.00269	-0.0443
	(0.68)	(-1.68)	(1.46)	(-2.35)	(0.04)	(0.23)	(-0.20)	(-0.75)
Buddhist	0.0215	0.0193	0.0260	0.00616	-0.0589	0.00543	-0.0184***	0.204**
	(0.26)	(0.37)	(0.29)	(0.07)	(-0.65)	(0.24)	(-3.46)	(2.20)
Muslim	0.106	0.0567	-0.107	-0.0468	0.0297	0.0248	-0.0196***	0.0624
	(1.22)	(0.81)	(-1.44)	(-0.54)	(0.37)	(0.45)	(-3.66)	(0.83)
Religious intensity								
Attendant	0.185***	0.0692	-0.0226	-0.0300	0.0731	-0.0138	0.0189	0.0121
	(3.24)	(1.64)	(-0.43)	(-0.53)	(1.43)	(-1.12)	(1.07)	(0.27)
Non attendant	0.0862**	0.0458	-0.0393	0.0111	0.0729*	-0.00545	0.00136	-0.0350
	(2.17)	(1.63)	(-1.00)	(0.27)	(1.88)	(-0.49)	(0.15)	(-1.06)
Atheist/Agnostic	0.0686*	0.0252	-0.0285	-0.0416	0.0223	0.00596	-0.00682	0.0190
	(1.91)	(1.05)	(-0.79)	(-1.09)	(0.61)	(0.54)	(-0.95)	(0.59)
Religious openness								
Service	0.0537*	0.0274	-0.0323	-0.00331	0.00615	0.0240***	0.0176***	0.0327
	(1.95)	(1.58)	(-1.05)	(-0.11)	(0.20)	(2.94)	(2.90)	(1.29)
Holy text	0.124***	0.0962***	-0.0451	-0.00192	-0.0715**	0.0593***	0.0410***	0.101***
	(3.88)	(3.87)	(-1.41)	(-0.06)	(-2.19)	(3.14)	(3.00)	(3.41)
Believer	0.0272	-0.0112	-0.0228	-0.0186	0.00114	-0.0134	-0.000309	-0.0111
	(0.88)	(-0.60)	(-0.69)	(-0.52)	(0.03)	(-1.64)	(-0.05)	(-0.39)
Importance of religion								
State/support	0.0211	-0.0277	-0.0100	0.00489	0.0169	-0.00526	0.00768	0.0194
	(0.64)	(-1.46)	(-0.29)	(0.14)	(0.49)	(-0.53)	(0.87)	(0.64)
Importance - public life	-0.0367	0.00861	0.0300	0.0169	0.0431	-0.0125	-0.00148	0.0478
	(-1.12)	(0.39)	(0.82)	(0.44)	(1.20)	(-1.22)	(-0.19)	(1.45)
Importance - private life	0.0326	0.0282	0.0174	0.0522*	-0.0365	0.00371	-0.00459	0.0551**
	(1.15)	(1.53)	(0.58)	(1.65)	(-1.21)	(0.42)	(-0.68)	(2.10)
N	1522	1524	1534	1360	1530	1537	1535	1527
Log-likelihood	-817.5	-532.7	-930.3	-837.5	-982.5	-320.0	-297.6	-717.3
Marginal effects; t statistics in parentheses								
* p<0.10, ** p<0.05, *** p<0.01								

Appendix A

The questionnaire: English language version for the US

PART I

- Please specify your age.....
- Please specify your sex MALE FEMALE
- Would you be willing to accept a TEMPORARY (max. 3 years) job in a foreign country for the same salary and work conditions of your home country? YES NO NOT SURE

…and for a salary at least 20% higher? YES NO NOT SURE

- Between a US made car and a car made outside the US with similar features and same price, which one will you prefer?

US FOREIGN INDIFFERENT

- Do you prefer to buy locally produced rather than imported food? LOCAL IMPORTED INDIFFERENT
- If you needed a doctor and had the choice between one from the US and one from the rest of the world (ROW), which one would you prefer? US ROW INDIFFERENT
- Do you prefer to read novels by writers of your nationality? YES NO NOT SURE
- Do you watch foreign TV news / read foreign newspapers / use other foreign media? OFTEN RARELY NEVER
- Do you consider yourself as being interested in foreign cultures? YES NO NOT SURE
- How many times did you travel to a foreign country during the last 2 years? [<5] [5-10] [>10]
- How many foreign friends do you have? [NONE] [1-5] [6-10] [>10]
- Would you mind the US trading with a country where there is no religious freedom? YES NO DO NOT KNOW
- If a country raises trade barriers against US, what would you suggest? WAIT RETALIATE IGNORE
- What is your nationally? US FOREIGN

PART II

- As to religion, do you consider yourself as:

- a believer regularly attending services of your confession [ ]
- a believer not attending services [ ]
- a believer with no religious affiliation [ ]
- a syncretistic (believe in the fusion of many religions) [ ]
- an atheist [ ]
- an agnostic (existence of God cannot be proved) [ ]
- other ..... [ ]

- Did you ever attend services of a religion which is not yours,

- in your home country? ONCE MORE THAN ONCE NEVER
- during a journey abroad? ONCE MORE THAN ONCE NEVER

- Would you read holy texts of religions which are not yours? YES NEVER
- Should religion give you guidance to questions such as abortion? YES NO NOT SURE

- Should religion give you guidance to questions such as the welfare state? YES NO NOT SURE
- On the whole, how important do you think religion in general is for your private life?

  VERY IMPORTANT NOT VERY IMPORTANT NOT IMPORTANT AT ALL
- Do you respect or think positive of people who consider themselves as strong believers?

  RESPECT THINK POSITIVE BOTH NEITHER NOT SURE
- Do you believe that there is a hell, where sinners who do not repent their sins go when they die?

  YES I DO NO I DON'T NOT SURE
- Do you think one religion should be actively supported by the state? YES NO NOT SURE
- Do you think that most common religions should be actively supported by the state? YES NO NOT SURE
- Do you think religion should have some influence on politics? YES NO NOT SURE
- Should your country trade freely with a state without religious freedom? YES NO NOT SURE
- Should there be a state religion in your country? YES NO NO OPINION
- Do you think that religious principles should be taught at school? YES NO NO OPINION
- If you wish, please name your religious affiliation……

Appendix B

Table B.1. Comparison with the World Values Survey (2005)

Importance of religion		Country	Guidance to welfare	
Our study	WVS		Our study	WVS
32.5	33.4	Argentina	30.2	39.6
20.4	6.7	China	23.1	-
10.5	17.6	Finland	7.9	38.5
22.3	13.0	France	3.7	-
20.5	11.2	Germany	28.5	29.6
30.9	62.3	India	28.4	38.5
7.0	-	Israel	7.1	-
21.6	34.4	Italy	10.8	49.5
5.1	6.5	Japan	4.0	7.6
18.4	14.9	Spain	14.3	24.4
13.7	17.1	Switzerland	3.6	41.9
35.6	74.7	Turkey	23.8	42.8
15.9	21.0	UK	16.0	-
33.6	18.3	Ukraine	23.1	36.5
19.2	47.4	USA	14.3	43.9

Table B.2. Comparison with the Economist poll, belief in hell

Economist			Our study	
US	UK		US	UK
54.0	16.0	Yes	30.0	15.0
27.0	57.0	No	43.0	44.0
19.0	27.0	Not sure	23.0	38.0

Appendix C

- **Home bias proxies**
  - Job Abroad: dummy identifying individuals with no willingness to accept a temporary job abroad for the same salary as at home.
  - Job Abroad 20: dummy identifying individuals with no willingness to accept a temporary job abroad for a salary 20% higher than at home.
  - Car: dummy identifying individuals with preference for the home made (brand) car.
  - Media: dummy identifying individuals that never watch foreign TV news / read foreign newspapers/ use other foreign media.
  - Doctor: dummy identifying individuals with preference for the home doctor.
  - Food: dummy identifying individuals with preference for locally produced food.
  - Culture: dummy identifying individuals with no interest for foreign cultures.
  - Novel: dummy identifying individuals with preference for novels written by writers of same nationality.

- **Religious openness/closeness**
  - Service: dummy identifying individuals that never attended a service of another religion.
  - Holy Text: dummy identifying individuals with no willingness to read a holy text of a different religion.
  - Believer: dummy identifying individuals that neither think positive nor respect a person that describes himself as a strong believer.

- **Importance of religion**
  - Importance - Private life: dummy to signal an individual who thinks religion should give guidance on questions like abortion and/or is very important in the individual's private life.
  - Importance - Public life: dummy to signal an individual who thinks religion should give guidance on questions like welfare and/or that religion should influence politics and/or that religion should be taught in school.
  - State/Support: dummy to signal an individual who thinks that one or the most popular religions should be actively supported by the state.

- **Religious intensity**
  - Atheist/Agnostic: dummy identifying individuals describing themselves as atheists or agnostics.
  - Non attendant: dummy identifying individuals describing themselves as believers not attending services of their religion.
  - Attendant: dummy identifying individuals describing themselves as believers attending services of their religion.
  - Other Believers: dummy identifying individuals describing themselves as believers with no affiliation, syncretistic or other.

- **Religious affiliation**
  - Christian: dummy identifying individuals describing themselves of Christian religion.
  - Hindu: dummy identifying individuals describing themselves of Hindu religion.
  - Jewish: dummy identifying individuals describing themselves of Jewish religion.
  - Buddhist: dummy identifying individuals describing themselves of Buddhist religion.
  - Muslim: dummy identifying individuals describing themselves of Muslim religion.

- **Demographic characteristics**
  - Female: dummy identifying a female individual when taking value 1.
  - Age: declared age of the individual in years.
  - Country: dummy identifying a home student when taking value 1.

- **Geographic characteristics**

  - North Europe: dummy to identify the Finland and UK samples.
  - Centre and East Europe: dummy to identify the France, Germany, Switzerland and Ukraine samples.
  - South Europe: dummy to identify the Italy and Spain samples.
  - Middle East: dummy to identify the Israel and Turkey samples.
  - Asia: dummy to identify the China, Japan and India samples.
  - South America: dummy to identify the Argentina sample.
  - North America: dummy to identify USA sample.

- **Aggregate economic indicators**
  - GDPpc: GDP per capita, World Bank data, 2008.
  - Labour Female: female participation rate to the labour market, World Bank data, 2008.
  - Unemployment: unemployment rate, World Bank data, 2008.
  - R&D: expenditure in research and development as a percentage of GDP, World Bank data, 2008.

Table C.1 Summary statistics of variables used in the empirical analysis

	Obs	Mean	SD	Min	Max
Age	1820	22.763	4.945	17	64
Female	1829	0.465	0.499	0	1
Country	1697	0.854	0.353	0	1
GDPpc	1845	27014.680	13799.144	2868	47155
Unemployment	1845	7002.844	2274.329	3500	11325
Labour Female	1845	50.29106	10.7632	25	68
R&D	1845	2.031	1.137	1	5
Job Abroad	1817	0.303	0.460	0	1
Job Abroad 20	1813	0.140	0.347	0	1
Car	1832	0.402	0.490	0	1
Food	1627	0.628	0.483	0	1
Doctor	1825	0.570	0.495	0	1
Novel	1825	0.252	0.434	0	1
Media	1845	0.085	0.278	0	1
Culture	1827	0.063	0.244	0	1
Service	1845	0.721	0.448	0	1
Holy Text	1782	0.264	0.441	0	1
Believer	1802	0.244	0.430	0	1
Importance - private life	1782	0.481	0.499	0	1
Importance - public life	1783	0.284	0.451	0	1
State/Support	1794	0.197	0.398	0	1
Hindu	1845	0.060	0.238	0	1
Buddhist	1845	0.025	0.158	0	1
Muslim	1845	0.049	0.215	0	1
Jewish	1845	0.051	0.220	0	1
Christian	1845	0.328	0.470	0	1
North America	1845	0.073	0.260	0	1
South America	1845	0.047	0.211	0	1
North Europe	1845	0.116	0.320	0	1
South Europe	1845	0.142	0.349	0	1
Centre East Europe	1845	0.292	0.455	0	1
Mid East	1845	0.117	0.321	0	1
Asia	1845	0.215	0.411	0	1
Attendant	1784	0.141	0.348	0	1
Non Attendant	1784	0.276	0.447	0	1
Other Believers	1784	0.235	0.424	0	1
Atheist-Agnostic	1784	0.369	0.482	0	1
N	1845				