Religious Attitudes and Home Bias*

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Abstract

Home bias affects trade in goods, services and financial assets. It is mostly generated by "natural" trade barriers. Among these dividers we may list many behavioral and sociological factors, such as status quo biases and a few kind of 'embeddedness'. Unfortunately these factors are difficult to measure. An important part of 'embeddedness' may be related to religious attitudes. Is there any relation between economic home bias and religious attitudes at the individual tier? Our aim is to provide a first answer to this question, by going through the econometric analysis of data from a survey conducted among in 11 European universities.

Keywords: Home bias, religion, embeddedness.
JEL: F15, L8, Z12

1 Home Bias and Religion

Home bias is a deeply investigated phenomenon. Financial 'home bias' can be seen as a departure from the efficient market portfolio. Perfect international integration should lead to efficient risk hedging in consumption. Home bias affects international real markets which look more segmented than expected after controlling for distance and trading partners size. Home bias can be explained only partially by natural barriers such as transport and communication costs.

Obstfeld-Rogoff[11] try to find a general explanation of home bias in both finance and trade simply resorting to international transaction costs, mainly due to cross-border transport and communication costs. Nonetheless, trade cost are not able to entirely account for observed home biases.

Intangibles and hard to measure factors as language, culture, rules and common national habits are deep sources of 'home bias'. In some cases home bias seems to be the aftermath of fences purposely set up by people and governments of countries as a defence against radically free trade in goods and services, which may be thought as a threat to some national features embedded in firms, products, rules and culture.

All in all home bias lays deeply rooted in regional or national specificities and is not the result of any intentional trade policy, even though the final result is similar to that produced by actual trade barriers.

In this paper we focus on these latter sources of home bias, interpreted as the result of 'embeddedness' of consumers in the network represented by their country. As emphasized for the first time by Granovetter[3], any economic action is carried out within structures of human relations and economic home bias is not confined to financial and real markets, but it emerges quite often also in the acquisition of culture and knowledge.

Then, we wish to provide a first evaluation of how and to what extent 'embeddedness' may be a determinant of home bias. And here it is where religion comes into play.

Religion is not only a private and intimal feeling. It provides also the basis to set up tangible groups and intangible networks. As witnessed by a magazine report[1] and recent literature [6], religious habits interact and overlap extensively with political, social and economic choices.

Religion has been at the centre of economists' attention ever since Adam Smith, who maintained that market forces affect religious attitudes. Alfred Marshall, introducing his 'Principles of Economics', recognizes the role of religion besides economics in determining man's action and social behavior: «For man's character has been moulded by his every-day work, and the material resources which he thereby procures more than by any other influence unless it be that of his religious ideals; and the two great agencies of the world's history have been the religious and the economic[2]». Max Weber went on [15] highlighting the role of Protestantism as one of the triggers of the industrial revolution.

Recent contributions investigate competition between religious denominations as promoting the supply of efficient services to members (see Iannacone[7]). A series of influential studies by Barro-McCleary focus on the choice of a state religion[2] and on the relation between religion and economic growth[1]. A new stream of literature, dubbed as economics of religion, uses microeconomics tools to interpret religious habits (Pita Barros-Garoupa[13], Montgomery[10] and Peppal-Richards-Straub-De Bartolo[12]). These contributions concentrate on the relation between competition and religious participation with some extension to other spheres of socio-economic action.

Our approach, however, deals with religion in quasi-sociological terms. We start with the assertion that religious feelings are liable to be strongly influenced by the 'embeddedness' of the individual in its own social network. As underlined by Granovetter[3], 'embeddedness' plays a crucial role in deter-

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[1] Economist, "Religion and Public Life", Special Report, 1st November 2007.
[2] Marshall[9], p.1.

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mining trust, which is fundamental to promote economic transactions (Guiso, Sapienza and Zingales[5]) as it seems to be the sharing of a common religion (Helble[6]). Religion generated trust can influence economic decisions and, in particular, international trade and finance. In this sense these last contributions are close to ours, as they provide evidence on the relationship between 'embeddedness' in social (and national) networks and international transactions.

The contribution of this paper is to evaluate the relationship between religious openness and individuals' attitudes towards national vis à vis foreign goods. Our conjecture is that both, home bias and religious attitudes, may be linked to the extent of 'embeddedness' in social networks.

The structure of the ensuing pages is made up of 5 sections. In Section 2 we formulate a few testable predictions on the relationship between 'embeddedness', religious attitudes and home bias. Section 3 describes the data used in the analysis. Section 4 presents the empirical results providing a first assessment of the hypothesis. Section 5 contains the concluding remarks.

2   Religious Openness and Home Bias: Testable Predictions

Our speculation is based on the assertion that religious feelings and attitudes are somehow affected by the 'embeddedness' of a subject in his social and/or national network, making for home bias determine the extent of religious openness.

Nonetheless, three possible alternative interpretations may be explored.

First: the preference between a foreign and a home good or service is affected by religious attitudes. The causality nexus can be interpreted as follows: belonging to a specific religious network influences individuals' behaviour. Openness, or extended ecumenism, towards other religions may generate openness towards foreign produced goods and services and reduce

home bias. Then, the relationship can be summarized as follows:

$$\text{Religion} \implies \text{Home Bias}$$

Second: the causality nexus, if any, may go the other way around: the exposition of individuals to a wider choice of goods and services of different nationalities may induce more open attitudes towards different confessions. In summary:

$$\text{Home Bias} \implies \text{Religion}$$

Third: religious closeness and home bias are two distinct manifestations of a common phenomenon: 'embeddedness' in social networks. We should not find any kind of causal relationship between religious attitudes and home bias, notwithstanding a relevant degree of correlation between the two.

$$\text{Home Bias} \qquad\qquad \text{Religious Openness}$$
$$\nwarrow \text{Embeddedness} \nearrow$$

Evaluating the correlation between home-bias and religious attitudes in individual choices should enable us to get a first broad estimate of the impact of 'embeddedness' as a determinant of home bias.

The evidence provided in the next sections enables us to discard a fourth hypothesis, i.e., that religious attitudes and home bias are completely unrelated issues.

We choose the second hypothesis on the basis of the following considerations: 1. we conduct our analysis in Europe, 2. the degree of religious openness is represented by the attendance of services of alien religions when abroad 3. people travelling across countries are usually those with lower home bias. Then, those with lower home bias and more cultural openness, shown up in consumption of foreign goods and services, should be more inclined to attend a service in an alien temple. However, we are aware that a causality assessment would be desirable even though our survey data do not allow it. It will certainly be a must for future research on the topic.

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3 The Data

Information on individuals and their 'embeddedness' in a social network may be efficiently gathered through questionnaires: our investigation is based on survey data obtained from a paper questionnaire dubbed 'Test on Home Bias', made up of 21 questions.

As a first step , the questionnaire has been handed out to undergraduate students during the academic year 2005-06 in universities of 11 countries across Europe (Great Britain, Ireland, Italy, Spain, Portugal, France, Germany, Austria, Finland, Poland, Czech Republic), and proposed in six languages (English, Italian, German, French, Spanish and Portuguese).

All questionnaires contained several sections on economic decisions regarding: 1. labor market, 2. services, 3. financial markets, 4. goods markets, 5. socio-cultural consumption with questions on culture and entertainment, 6. customs and religion, 7 economic policy issues. Some two thousand observations were collected.

Due to the social non representativeness of the sample, made up just of students, our data are likely to underestimate the degree of home bias of the entire population[3].

This paper will focus mainly on the relationship between religion and economic decisions in the labor and product markets.

In order to measure individual attitudes towards religion, we submitted the following question: «Did you ever take part, during a journey abroad, in a service of a religion different from yours?». We think that this question can be used as a rough proxy of religious openness: if a subject did not attend a service of a different religion when abroad, we can not deduce he or she is not open towards other religions; if he had such an experience, however, we can be fairly sure the subject is quite open to other religious views.

Questions on labor market asked students wether they would accept a job

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[3]For a more detailed description of the sample and the structure of the survey, please refer to Reggiani-Rossini[14]

abroad. The questions implied the students run a mental experiment and assume all conditions 'ceteris paribus' with respect to the country in which the job is based and to the salary. A first question asked about willingness to work at the same conditions, the same job, the same salary just in a different EU member state. The second question offered a fictional 20% higher salary for the same job in another EU country. The third question 'offered' the same job and the same salary but in a non-EU member state, while the fourth replicated the third but giving a 20% higher salary.

Questions regarding finance and services tried to elicit home bias in choices regarding banking services, holidays and airlines. With regarding to foreign products students were asked to choose between a home or a foreign durable and a non-durable good. Once more all questions were formulated trying to induce a 'ceteris paribus' choice.

A further feature of the questionnaire is to concentrate on attitudes towards religion and home bias. Criticism as to the reliability of answers that applies to survey studies and non-inducted experiments clearly applies. Nevertheless, as underlined by Guiso-Sapienza-Zingales[4], this feature should not be seen as a shortcoming in its own: attitudes fit better than actual outcomes or behavior the goal of our analysis, since they they are filtered of confounding factor that influence real world choices.

The following section will present the descriptive statistics of the sample and an econometric analysis of the relation between home bias and religion.

4   Statistical Analysis

The cross-sectional nature of the data and the binary structure of the dependent variable, i.e., the religious attitudes of subjects, suggest that the analysis should be based on a non-linear probability model to be estimated through the maximum likelihood approach. The results of this study are referred to the specific sub-sample of the European population constituted

by college students. Then, it is not necessary to use survey data techniques to assess the representativeness of the sample. We use a probit model, whose advantages are known and are not discussed here[4]. This section provides the results of the probit analysis of the relation between religious attitudes and choices in the job, goods and services markets are analyzed.

The model specification has the following form:

$$P(\text{Religion} = 1) = f(\mathbf{X}\boldsymbol{\beta}) + \boldsymbol{\epsilon}$$

where $\mathbf{X}$ is the vector of variables that contribute to explain the probability of an answer displaying religious openness while $\boldsymbol{\beta}$ is the vector of coefficients from which to compute the 'marginal effects' we are interested in. The vector of regressors considered were drawn from the answers collected in the questionnaire, regarding the attitude of individuals in international economic decisions. Each regressor and the interpretation of its effect will be discussed after presenting the results of the statistical analysis.

Table 1. The impact of working abroad in the EU on religious attitudes.
Probit Estimation - Dependent variable: Religion

Independent Variables	Coefficient	Marginal Effect
Work Abroad EU	0.0875*(0.049)	0.0289
Work Abroad Non-EU	0.1213**(0.048)	0.0402
Search Engine	−0.1141**(0.045)	−0.0378
News Bulletin	0.3708***(0.060)	0.1232
Food	−0.1265***(0.043)	−0.0417
Constant	0.7341***(0.082)	

$LL = -894.952$	$PseudoR^2 = 0.055$	$N = 1651$
$LR\,\chi^2(5) = 103.88(0.000)$	% Corr Pred $= 74.32\%$	
$\text{Reset} = -0.17(0.862)$	Pearson $\chi^2(167) = 181.61(0.21)$	

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[4]The discussion of the advantages of non-linear probability models with respect to the linear approach is contained in most micro-econometrics textbooks as, for example, Woolridge[16].

Table 1 shows the econometric estimation of the model. The statistical results can be summarized as follows. The likelihood ratio chi-squared test shows that the model is statistically significant. Despite the $Pseudo - R^2$ assuming a level around 5.5%, the model can correctly predict 74.32% of the answers and the Pearson chi-squared test displays a reasonably good fit of the model. A simple version of the Reset test, using the square of the predicted outcomes, points out that we cannot reject the null hypothesis of correct specification of the model.

The results can be interpreted as follow. The model stated that the probability of a positive answer to the question aiming to proxy religious openness is explained by a non-linear function of a vector of variables aiming to assess the degree of home bias of individuals and by a stochastic error term. All the coefficients of the explanatory variables have the predicted sign.

In what follows we will provide the interpretation of each relationship.

Religious openness is positively related to the willingness of an individual to take a job abroad. In particular, accepting to work in another EU country increases the probability of being open with respect to religion by almost 3%. The acceptance of a job in a non-EU country increases the probability of 4% . This finding can be interpreted as follows. A companion study[14] documented the rise of an EU bias between young generations of Europeans; if religious openness is related to attitudes to get a job abroad then, consistently, we expect that acceptance of a job outside the EU is likely to signal a more open attitude towards other religions.

The preference for a domestic web search engine, on the other hand, is likely to indicate a bias towards the locally supplied good or service. As such, we expect to find a negative relationship between the preferences for the web search engine and the probability of being open with respect to other religions. This is exactly what the statistical results seem to highlight and a preference for the local web search engine implies a reduction of 3.78% in

the probability of having attended a service of a different religion.

A similar effect is expected when dealing with local food and cookery. The subjects in our sample were asked whether, when abroad, they looked for restaurant serving food from their country. A positive reply is interpreted as a possible signal of a lower level of openness towards the culture of the visited country. As such it can be conjectured to decrease the likelihood of a subject to be open towards different religions. This is what our data suggest. Looking for national food when abroad decreases of 4.78% the probability of attending a service of a different confession abroad.

Finally, watching foreign broadcasting companies news bulletins seems to have a really important weight on the probability of being open to different religious messages. The positive effect of 12% says that watching foreign news TV channels indicates a high level of cultural openness with a strong impact on the religious attitude of a subject.

5 Concluding Remarks

This research concentrated on two seemingly unrelated issues: religious openness and home bias effect. We went through individual attitudes as recorded by a questionnaire handed out to students from universities in 11 European countries. The questionnaire regarded both preferences between home and foreign goods and services and the stance towards other religion. According to the results of our study low home bias towards foreign supplied goods determines a more open religious attitude.

A few possible explanations of this relationship were put forward. Home bias is the manifestation of many kinds of national and cultural 'embeddedness' of individuals within a specific social network. This sort of home skewness may determine a less open religious stance.

We are aware that this is just a first step of a research on the relationship between home bias and religious openness. Nonetheless, a common link seems

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to relate all known home biases: the concept of 'embeddedness' and its role in determining the degree of overall openness.

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