Three Essays on the Economics of Religion

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Contents

Abstract

The economics of religion comprises two concepts. The first is commonly referred to as religiosity which, in this study, is defined as the importance of religious beliefs in people's everyday decision making processes. Second, religious diversity is an important component of the economics of religion. The first chapter of this thesis examines the relationship between religiosity and religious diversity and finds that higher religious diversity leads to lower levels of religiosity which supports the so-called Secularization Hypothesis. Furthermore, religiosity and national identity appear to be substitutes. A new measure for national identity supports this idea. Democratic institutions and mobility throughout the country seem to be other important determinants for the formation of a national identity. Finally, this thesis analyzes the relationship between religiosity and happiness. Religiosity can be considered a substitute in the happiness function so that the same level of happiness can be maintained with different levels of religiosity.

Zusammenfassung

Die Ökonomik der Religion umfasst zwei Konzepte. Das erste wird gemeinhin Religiosität genannt, welche in dieser Studie als die Wichtigkeit religiösen Glaubens in alltäglichen Entscheidungsprozessen definiert ist. Desweiteren ist religiöse Diversifikation ein wichtiger Bestandteil der Religionsökonomik. Das erste Kapitel dieser Arbeit untersucht die Beziehung von Religiosität und religiöser Diversifikation und zeigt, dass höhere Diversifikation zu geringerer Religiosität führt, welches die Sekularisierungshypothese unterstützt. Desweiteren scheinen Religiosität und nationale Identität Substitute zu sein. Eine neue Maßzahl für nationale Identität unterstützt diese Idee. Demokratische Institutionen und Mobilität scheinen weitere wichtige Einflussgrößen für das Entstehen einer nationalen Identität zu sein. Schließlich analysiert diese Arbeit die Beziehung zwischen Religiosität und Glücksbefinden. Religiosität kann als Substitut in der Glücksfunktion angesehen werden, sodass das gleiche Glücksniveau mit verschiedenen Religiositätsniveaus erreicht werden kann.

Keywords: Religiosity, Religious Diversity, Identity Formation
Schlagwörter: Religiosität, religiöse Diversifikation, Identitäsbildung

Chapter 1

Introduction

> "Man is a religious animal. He is the only religious animal. He is the only animal that has the True Religion - several of them. He is the only animal that loves his neighbor as himself and cuts his throat if his theology isn't straight." (Mark Twain)

1.1 Religion and Economics

Religion is often considered to be something irrational. It is not possible to actually prove the existence of something divine. Though, there is no proof neither that God does not exist. Thus, it is not irrational to be religious, it is only intractable if faith and a religious lifestyle do affect outcomes after the end of life on earth.

The science of economics is considered to be rational. Economists build models which assume that subjects always maximize their utility, are forward-looking, and form rational expectations. The two worlds of economics and religion seem to collide frontally. However, the first and maybe most influential classical economic writer, Adam Smith (1776 [1976]), devotes a whole chapter to the institutions of religion. He lays the foundation for the economics of religion as he describes the market structure for religion and the consequences for monopolistic and competitive churches. It is therefore not surprising that in the following decades and centuries religion has always stayed in the interest of economic research, such as in the works of Karl Marx (1844) or Max Weber (1904/05), just to mention two of them. Marx (1844) declares religion "the people's opium." He argues that man creates religion and that religion can be used as a means to exploit the population. Weber (1904/05) compares ethical attitudes across denominations and finds, amongst other things, that the Protestant work ethic explains higher prosperity in Protestant

compared to Catholic regions.

Nevertheless, after the work of Max Weber it took another 70 years until religion finally found its way into modern economic modeling. Azzi and Ehrenberg (1975) develop a model in which rational households allocate their time to religious matters as a consequence of utility maximization. This was the starting point for many scholars to analyze people's decisions concerning religiosity and the consequences for economic outcomes[1].

This work aims to contribute to the growing literature on the economics of religion. However, religion is a very abstract concept and different people might have different perceptions and definitions of what religion, or religiosity, actually is. The theological and social science literature offers many definitions of religion, however, remarkably fewer of religiosity. As Bréchon (2007) points out, religiosity refers more to the individual level. Glock and Stark (1965) define religiosity as a combination of five different dimensions. The ideological dimension refers to beliefs and ideas about the divine, whereas the intellectual dimension takes account of the knowledge of the doctrines and origins of the respective religion. The ritual dimension refers to the religious acts carried out and the experiential dimension to feelings and beliefs an individual has made concerning his religion. The consequential dimension measures attitudes and conduct in all aspects of life and the relationship to religious beliefs. All these categories, especially the consequential dimension, have in common that they refer to people's attitudes concerning their religion, independent of the denomination, and the influence on their lives. Implicitly Glock and Stark (1965) define religiosity as the "intrinsic importance of religion in the life of man" (p.19). Hence, in the remainder of this work religiosity is defined as the importance of religious beliefs in people's everyday decision making processes.

Following Clayton (1971) there seems to be one common underlying factor to the five dimensions of religiosity so that it becomes measurable unidimensionally. Paldam and Gundlach (2012) use the World Values Survey in order to calculate the so-called religiosity score which is a measure for the importance of religion. They consider all questions from the World Values Survey relating to religiosity and by conducting principal component analysis construct one comprehensive index.

The religiosity score ranges theoretically from zero to 100 percent, where higher values imply that religiosity is of higher importance in everyday decisions. The highest scores of approximately 90 percentage points are observed in some developing countries whereas the scores for the industrialized countries are mostly distributed between 20 and 40 percentage points. Important outliers are, not surprisingly, the United States which reveal religiosity rates which are far higher compared to the other industrialized nations, and China whose religiosity score, at least in the early observations is extraordinarily low.

[1] Iannaccone (1998) offers an overview of the economics of religion.

Figure 1.1: Relationship between (log) income and the religiosity score

Source: Paldam and Gundlach (2012); own calculations.

Paldam and Gundlach (2012) use a panel of over 90 countries observed over five waves of the World Values Survey to show that decreasing rates of religiosity are a consequence of economic development, a fact which social scientists call "Secularization". This relationship is depicted in Figure 1.1. It shows the relationship between income and the religiosity score for all countries for which it could be calculated.

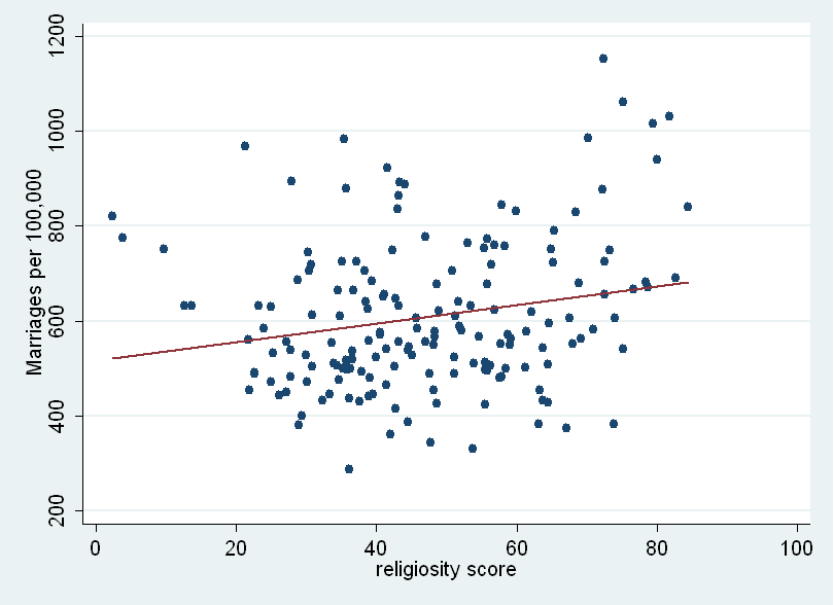
We expect this measure of religiosity to be related to measures of social norms which are proposed to be influenced by religious behavior. All religions endorse the role of marriage. As a consequence, if the religiosity score is indeed a good measure for the importance of religion in everyday life, one would expect to find a positive relationship between the religiosity score and the marriage rate. Figure 1.2 presents the correlation between these two variables.

Apparently there is a positive relationship between religiosity and the marriage rate. The marriage rate is higher in countries which reveal a higher level of religiosity, i.e. in countries in which religion plays a more prominent role in everyday decision making. As can be shown by simple regression analysis this relationship also holds when income is controlled for.

Another common norm throughout all major religions is that suicide is regarded a sin. Consequently, one expects to find a negative relationship between religiosity and the suicide rate. A confirmation would be another piece of evidence supporting the idea that the religiosity score is indeed a good proxy variable for the importance of religion. Figure 1.3 shows the relationship between the religiosity score and the

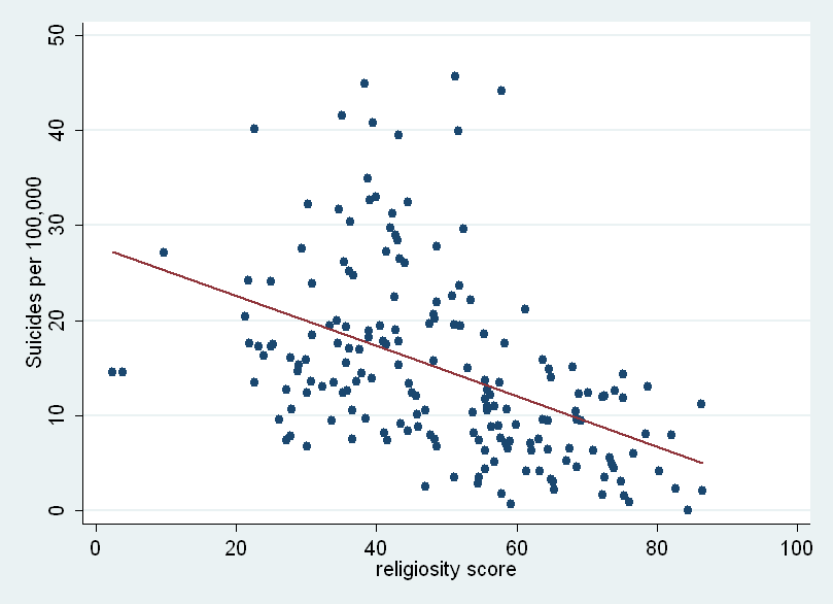
suicide rate.

Figure 1.2: Relationship between the religiosity score and the marriage rate



Source: Paldam and Gundlach (2012) and UN Statistics division; own calculations.

Figure 1.3: Relationship between the religiosity score and the suicide rate

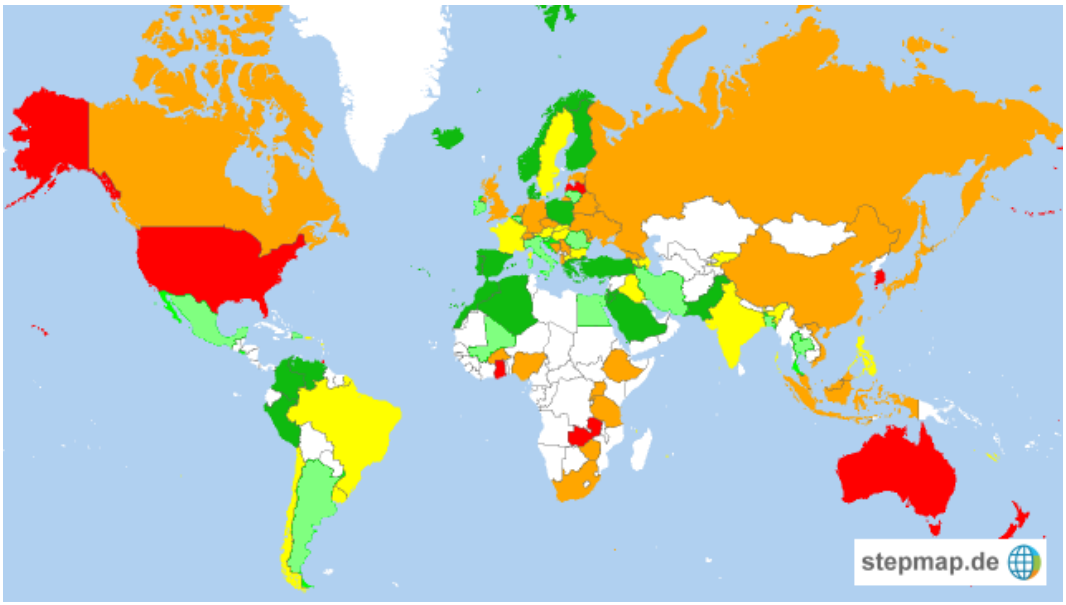


Source: Paldam and Gundalach (2012) and World Health Organization; own calculations.

The proposition that religiosity correlates with social norms is again supported. We find that the suicide rate is significantly lower in countries which reveal higher levels of religiosity. Once more, this relationship still holds if the level of income is controlled for. It appears that the religiosity score is a reasonable variable to measure the importance of religion in everyday decision making.

The line of reasoning up to this point suggests that the level of religiosity is the only important factor in the research on the economics of religion. But there is another important variable concerning religion which is worth being studied. Not only the level of religiosity might vary across countries but also the number of different religious denominations might differ substantially. An index of religious diversity can measure the probability that two randomly drawn persons from one group belong to the same church. Higher index values imply more religious fragmentation in the society. Figure 1.4 presents the distribution of religious diversity over the world. The map shows the values for those countries which are used later in the empirical estimations.

Figure 1.4: Religious Diversity around the World



Source: World Christian Encyclopedia; own calculations, created with stepmap

The lowest values of religious diversity are symbolized by dark green color. Higher levels of religious diversity are revealed by light green, yellow, orange, and red color in ascending order. The United States, Australia, and New Zealand reveal high rates of religious diversity, along with the Sub-Saharan African countries. Religious diversity appears to be lower in countries that had or still have a state religion, such as, e.g. Spain, Turkey, Saudi-Arabia, or some Latin-American countries. Income does not seem to be the

driving force behind these results as rich and poor countries have the highest rates of religious diversity and comparably prosperous countries, such as Norway and Sweden differ markedly.

The role of social fragmentation for economics has been studied by several authors (Alesina et al., 1999; Easterly and Levine, 1997; La Porta et al., 1999; Montalvo and Reynal-Querol, 2005). The majority states that higher fragmentation leads to worse economic outcomes. This effect could be either direct or indirect through worse government performance, a smaller amount of publicly provided goods, or a higher probability of civil conflict.

This work contributes to the empirical research on the economics of religion as it combines the importance of religiosity and religious diversity instead of focusing on one of the two dimensions. The concept of religiosity is an individual attitude whereas religious diversity is influenced by surrounding societal factors. It is an important question how these concepts are interrelated. Furthermore, this study generates links to other social phenomena, such as national identity and happiness and thereby offers interesting insights into the relationship of economic and social factors as well as it helps understand the formation of different identities. As such, it can contribute to a better understanding of the relationship between economic outcomes and matters of culture and personal identity.

1.2 Summary

Chapter 2 examines the relationship between the two variables on religion, religiosity and religious diversity. The literature offers two conflicting theories on this relationship. The Religious Market Theory which describes a supply side model of the market for religion proposes that rising levels of religious diversity should lead to increasing religiosity (Iannaccone, 1991). Following the Religious Market Theory which is based on microeconomic foundations, a monopoly church does not exert optimal effort if its servants are paid a fixed income by the government. A suboptimal effort level creates a lower quality good, in this case religion, which induces people to reduce their demand for this sub-optimal good. High competition on the market for religion should increase the quality of the produced good which raises the demand for religion. The contrasting demand side model of the market for religion suggests that religiosity decreases with rising levels of religious diversity. According to Bar-El et al. (2012) this is also called the "Secularization Hypothesis". This might appear confusing since secularization also describes the decreasing importance of religion with rising incomes. Since the demand side model builds on this idea I will stick to the term "Secularization Hypothesis" and refer to the income channel as the "secularist view". Whenever necessary in this work, I will clarify the terms. The main argument of the Secularization Hypothesis is that increasing the level of religious diversity raises people's doubt in the uniqueness and correctness of their respective

beliefs. Instead of switching beliefs to a denomination which might fit their preferences best people drop out of religion altogether. As a consequence, the Secularization Hypothesis proposes that higher levels of religious diversity lead to lower levels of religious involvement.

The religiosity score from Paldam and Gundlach (2012) is used as a comprehensive proxy variable for the importance of religion in people's lives. The World Christian Encyclopedia (Barrett, Kurian, Johnson, 2002) is used to estimate an index of religious diversity which also considers atheistic and non-religious as separate denominations. We run several cross-country OLS regressions with different control variables to investigate the relationship between religious diversity and religiosity. The findings suggest that there is a negative relationship which supports the demand side model. Apparently, the Secularization effect of people dropping out of religion is stronger than the Market effect of people switching their denominations to a faith which might better fit their preferences. This finding still holds when conducting different robustness tests.

Furthermore, ethnic diversity seems to be positively related to the level of religiosity. It appears that if the country is religiously diverse so that people might not identify with their religious group, they choose to identify on another level. Following the work of Bruce (2000) it is argued that a national identity might be a substitute for identification with the religious community.

This line of thought is developed further in Chapter 3. Similarly to the religiosity score proposed by Paldam and Gundlach (2012) we construct a composite measure which is supposed to capture the national identity of a person. We also rely on the World Values Survey and extract those questions which relate to the respondents' attitudes towards politics and their respective home countries. We come up with eight different indicators with which we are able to calculate national identity for 62 countries.

Following the argument which was developed in Chapter 2 we analyze the relationship between our new measure of national identity and ethnic and religious heterogeneity. We would expect to find a positive relationship between religious diversity and national identity and/or a negative relationship between ethnic diversity and national identity. In fact our results reveal that religious diversity is positively correlated with our measure of national identity, whereas other measures of social heterogeneity do not reveal a significant relationship.

We interpret our finding in the way that people choose to identify with the group which offers the narrowest set of common values and norms which is probably the religious community[2]. As a consequence, people identify with their church. If the society is religiously very diverse so that people from the same neighborhood adhere to different religious denominations they cannot identify with the same religious

[2]The role of norms and identification in the social psychology literature is discussed in e.g. Jetten et al., 2002; Terry et al., 1999; Turner, 1975.

values and norms. But still, they feel some closeness to the people in their society. It follows that they search for other common values and norms. These might be based on the cultural or historical heritage of a country which entices people to identify with their nation. This community offers a broader set of common values and norms so that it becomes possible for people of different religious faiths to identify with the same norms which are based on the nationality. It appears that religiosity and national identity are indeed substitutes.

In addition we are able to test other predictions concerning the formation of a national identity which could not be validated earlier due to a missing numerical measure for national identity. We find that democratic institutions and mobility throughout the country are possible determinants for the formation of a national identity. Both variables are positively related to our measure of national identity. Non-physical mobility which we measure by the number of phone lines seems to be more important than physical mobility as measured by the number of kilometers of paved roads. A communist past seems to have a detrimental effect on national identity. Concerning the role of income we do not find a clear pattern. Our baseline regressions do not reveal a significant relationship between national identity and income whereas the robustness tests hint in a direction that there might exist a negative relationship. Probably the concept of a national identity is beyond the dimension of income as it might be possible to identify with values and norms the nationality proposes independent of the economic circumstances. However, the negative relationship that appears in the robustness section might also indicate that with rising levels of economic development the ties to the social community become weaker, which might be a sign for growing individualism in the richest societies (compare, e.g. Beck and Beck-Gernsheim, 2005; Bellah et al., 2008; Lukes, 2006; Oyserman et al., 2002; Schwartz, 1994; Triandis et al., 1990).

In Chapter 4 we develop a theoretical framework which delivers hypotheses on the relationships between income, religiosity, and happiness which are estimated empirically. The empirical happiness literature has long been influenced by the Easterlin paradox which states that rising levels of income do not increase the level of happiness of societies (Easterlin, 1973, 1974). This finding has led to two theoretical explanations. First, people might make mistakes when maximizing their utility in cases where happiness maximization does not correspond to utility maximization. A better paid job, for example, might lead to lower levels of happiness if it comes along with higher commuting costs (Frey and Stutzer, 2006). The other possible rationalization for the Easterlin paradox proposes that happiness itself is not a suitable proxy variable for utility (Becker and Rayo, 2008). Rather, happiness is an argument of the utility function. Thereby, lower levels of happiness can correspond to higher utility if other arguments of the utility function rise.

However, new empirical results seem to disprove the Easterlin paradox. If income is measured in

logarithmic terms there seems to be a robust positive relationship between income and happiness across countries and over time (Deaton, 2008; Stevenson and Wolfers, 2008; Sacks et al., 2010). This finding suggests that happiness might be a suitable proxy variable for utility. In a comment to the paper by Stevenson and Wolfers (2008), Becker and Rayo (2008) propose a framework which rationalizes that happiness is only a part of the utility function. We extend this approach by considering happiness as a direct proxy for utility, similar to Frey and Stutzer (2002). We develop a theoretical framework which can explain three stylized facts from the empirical literature. First, there is a positive correlation between happiness and religiosity, second, a positive correlation between happiness and income, and third, a negative relationship between income and religiosity.

We use an unbalanced panel data set in order to estimate the different relationships. The happiness data is taken from the study be Stevenson and Wolfers (2008) who calculate a measure of national happiness based on the World Values Survey. Paldam and Gundlach (2012) also use the World Values Survey in order to calculate a composite measure of religiosity. These two measures are used to analyze the relationship between religiosity and happiness.

In our empirical estimations we find that the same level of happiness can be maintained with different levels of religiosity. We argue that religiosity is an element of the happiness function, which is a proxy for the utility function. We find that political participation and the absence of misery, which is a weighted average of inflation and unemployment, are further elements of the happiness function. Our results indicate that decreasing levels of religiosity can be substituted for higher levels of political participation or for lower levels of the misery index. Our empirical results support the three hypotheses gained in the theoretical section.