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Religiosity and trust: a causal cross country approach

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Abstract

The aim and focus of this paper is to examine the origins of social trust and to add a theoretical contribution to the existing discussion regarding this topic. The paper will more precisely focus on the causes of social trust and on one factor in particular, how religiosity could explain differences in levels of social trust between countries. Earlier research has focused on matters such as religious affiliation and religious participation as explanatory factors of generalized trust. This paper tries to show that cross-country differences in levels of generalized trust might not depend so much on religious affiliation or participation but rather on the degree of religiosity in a given country. The first stage of the analysis consists of statistically examining whether a negative relationship can be detected between religiosity and generalized trust, with the results indeed showing a negative correlation between religiosity and levels of generalized trust. A second stage serves to explain why there might be a negative relationship between religiosity and generalized trust. Here variables measuring gender equality, tolerance of homosexuality and individual autonomy confirms a negative relation to religiosity whilst a positive one to generalized trust. The final stage of the analysis aims at verifying whether a causal relationship between religiosity and generalized trust would stand the test when confronted with alternative explanations to differences in levels of generalized trust. The multiple regression analyses confirms that religiosity has an independent and significant effect on differences in levels of generalized trust even when controlling for competing variables.

Keywords: generalized trust, religiosity

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1. Introductory discussion on social trust and principal aim of the study

The aim and focus of this paper is to examine the origins of social trust and to try to add a theoretical contribution to the existing discussion regarding this topic. The paper will more precisely focus on the causes of social trust and on one factor in particular, how religiosity could explain differences in levels of social trust between countries. The reason why this paper focuses on analyzing the relationship between religiosity and social trust derives from an initial hypothesis regarding this relationship, which emerges from impressions gathered when studying earlier research on causes of generalized trust. The Nordic countries here constituting interesting cases, being countries scoring among the highest in the world when it comes to levels of generalized social trust, while at the same time being countries where religion seemingly plays a relatively insignificant role in the conscience and daily life of the majority of its populations (Delhey & Newton, 2005, p. 315). These particular cases puts a question mark to earlier research establishing a causal link between liberal Protestantism and higher levels of generalized social trust. Instead my hypothesis would predict that countries with lower levels of religiosity could be linked to higher levels of generalized social trust. As of this, the main contribution of this paper will be to examine the effects of different levels of religiosity on levels of generalized trust, manifested through the following research question: **Could variations in levels of religiosity explain variations in levels of generalized trust in a cross-country perspective?** This will be different from earlier research that has studied the impact of religion on trust levels through differences between various religious traditions.

Before giving an account for some principal theories on mechanisms that affects levels of social trust, it would be appropriate to define the concept of social trust and equally to indicate why this concept is worth examining by describing it's importance and function within the field of political science.

A definition of the term social trust would be the following; this can be described as an optimistic expectation or belief regarding other individuals' behaviour. The concept of social trust is argued to contain two different varieties of trust, particularized (thick, personal) trust and generalized (thin, interpersonal) trust (Delhey & Newton, 2005, p.311). Particularized trust is often generated between members of a relatively small community or group. This type of trust is of a bonding character where trust and faith can grow strong

between individuals who personally know each other. A consequence of this bonding kind of trust might be that each high-trusting group primarily seeks to secure their own interests while their trust rarely extends to other groups. Thus, particularized trust generated by bonding through formal social interaction may not account for any general desirable effects on societies.

In turn, generalized interpersonal trust might be considered a societal asset, as it is believed to be one of the most important parts of social capital, with social capital being linked to a number of desirable factors. Generalized social trust goes beyond personal interaction, and indicates that citizens through informal social interaction can generate a bridging kind of trust where individuals learn to believe that most other people, equally unknown ones, can be trusted. Studies have shown that people who believe that most other people can be trusted are more prone to support democratic institutions, to show more engagement in politics and to participate more in civic organizations. Generalized social trust can thus enhance feelings of solidarity and tolerance towards other people, groups and minorities as this trust can stretch across economic, ethnic, religious and racial boundaries. At the societal level regions and countries whose citizens show high levels of generalized trust are more likely to have better functioning democratic institutions, more open economies, greater economic growth and less crime and corruption (Rothstein & Uslaner, 2006, p.3, Rothstein & Stolle, 2007, p.3-4, Delhey & Newton, 2005, p.311). These positive correlations between generalized social trust and desirable outcomes for societies are the main reasons why finding possible explanations and causes with regards to differences in levels of trust between societies and countries is an important topic in contemporary political science. This is also the reason to why this paper will focus on contributing to and developing the discussion regarding which variables might cause high or low levels of generalized social trust.

The rest of this paper proceeds in six main sections. Sections two and three will review earlier research on causes of the creation of generalized social trust, with section three focusing specifically on a religious perspective. In section four I will go on to present the hypotheses that have been drafted in order to examine the relationship between religiosity and generalized trust. Section five will present the data and methods used to perform the analyses. In section six the results of the analyses and the answers to the hypotheses will

be accounted for, this will then be followed by a concluding section where all the results and conclusions of the study are compromised.

2. Theoretical approaches on the creation of generalized trust

In the forthcoming section I will account for some of the most carefully developed and prevailing theoretical approaches currently existing to describe how generalized social trust is generated.

2.1 The society centred approach

This approach to explaining the generation of social trust focuses on the role of civil society and more specifically on voluntary organizations as a stage for social interaction. The approach emphasizes the importance of citizens engaging in voluntary associations and civil society as this would bring people together and through social interaction learning people to trust each other. Informal and formal associations are thought to have socializing effects on citizens democratic and cooperative values and norms. One of the leading advocates of this approach to the generation of social trust is Robert Putnam, who emphasizes the importance of engagement in certain voluntary activities, more precisely those who bring together members from different socio-economic backgrounds and thereby bridging social differences and cleavages. Once members of this type of associations learn to trust each other their trust will spread to include trust in other groups and in the government as well. Thus, meaning an increase in levels of generalized trust (Delhey & Newton, 2005, p.313, Putnam, 1993, 2000, Rothstein & Stolle, 2007, p.6).

The society centred approach has encountered certain criticism, and some problems are worth highlighting. Some earlier research have questioned the real importance of engagement in voluntary organizations given that most individuals spend a relatively limited amount of time interacting within these, as compared with time spent with family, at the workplace or in their neighbourhood. Other problems that this approach faces are that empirical analyses have generated fairly weak support regarding the importance of voluntary associations in creating social capital and trust. It has equally been theoretically complicated to identify which type of associations that actually provides social interaction

that increases generalized trust (Rothstein & Stolle, 2007, p 4-6). According to certain scholars generalized social trust is not something that exists and is being generated in civil society without influence from the governmental/ institutional sphere. The role of government quality and political institutions on the generation of social trust is therefore emphasized in the rival approach confronting the society centred (Cohen, 1999, p.219-23, Levi, 1996, Newton, 1999).

Later on in the analysis section a control variable representing the society centred approach measuring voluntary work for organizations will be deployed when testing the strength of a causal relationship between religiosity and generalized trust.

2.2 The institutional approach

This approach focuses on a top-down perspective, where the main implication of the theory predicts that the *quality of government* institutions, through government officials and policies, affects the creation of generalized trust. The quality and trustworthiness of government institutions is believed to play an important role in shaping the citizens democratic and cooperative skills and beliefs. If the government and the political institutions are considered to be trustworthy then this would be a crucial factor in establishing social trust also between citizens. Factors that are of great importance to determine the efficiency and trustworthiness of political institutions are their capacity to establish contracts and policies that enforces rights and rules, that sanctions those who break the law, that protects minorities and that supports the democratic participation of citizens. The prevalence and quality of these characteristics are argued to greatly influence the generation of social trust (Levi, 1998, p.85-86, Rothstein & Stolle, 2007, p. 9, Tarrow, 1996, p. 395).

The next step within the institutional approach is to identify and specify which political institutions that are important for the creation of generalized social trust. Certain scholars adhering to the institutional approach regarding the creation of generalized trust argue that the most important institutions in this context are street-level order institutions. The implementation side of these institutions such as the police force and the judicial system must be *impartial* and fair. These institutions are important as they offer a direct contact between street-level bureaucrats and citizens, they function in accordance with important

norms such as impartiality and fairness, and they have a particular task in detecting and punishing untrustworthy citizens. Thus, legal institutions are believed to be more important for the generation of social trust, with the main factor deciding if these institutions can be trusted being their impartiality. This stands in contrast to institutions dominated by politicians whose trustworthiness is based on partisanship.

Rothstein & Stolle (2007) provides a concrete explanation on how the impartiality and fairness of order/ legal institutions might influence generalized trust in society. The authors argue that the fairness of these institutions affects citizens trust in institutions but also how the citizens experiences feelings of safety and protection. Furthermore the impartiality of these institutions determines how citizens make inferences from the representatives of the institutions to other citizens and how they understand the behaviour of others. Finally the impartiality of order institutions also influences how citizens experience discrimination against themselves or others (Rothstein & Stolle, 2007, p.4-5).

The causal relationship between impartiality and generalized trust is developed further in Rothstein & Teorell (2005). Here the authors define quality of government as the impartiality of political institutions implementing government policies. They once again, like in the above mentioned article, stress that what is important for quality of government and consequently generalized trust is impartiality in the exercise of power (implementation) rather than the impartiality of the access to power (representation). Rothstein & Teorell also provides a definition of impartiality with regards to relevant political institutions, for an order/ legal institution to be impartial is to act without any certain sorts of consideration and to treat all citizens alike irrespectively of personal relationships (Rothstein & Teorell, 2005, p. 3-8).

The theoretical arguments regarding the causal mechanisms that connect quality of government through impartial order/ legal institutions and generalized trust appear highly plausible and relevant, I have therefore chosen to account more closely for this theoretical explanation of causes of social trust. Further on I will also use a measure of quality of government as control variable when analysing a causal relationship between religiosity and generalized trust.

By extension higher levels of quality of government through impartial and fair political institutions can help decrease economic inequalities in a society. Another acknowledged theoretical explanation therefore concerns a causal relationship between levels of economic inequality and levels of generalized trust. The more economically equal a society is the higher will the levels of generalized trust be. As of this one important aspect of quality of government is a government's capacity to implement policies that reduces economic inequality.

Social divisions and cleavages are believed to have a harmful effect on levels of generalized trust, as people tend to associate with and trust others that are perceived to be similar to themselves. The greater the dissimilarities are between citizens the more they will distrust each other. Rothstein & Uslaner argue that two particular types of equality are important for generalized trust, as mentioned economic equality but also equality of opportunity. Equality of opportunity is a consequence of good quality of government signifying that citizens are equally treated without discrimination in areas such as the labor market and educational domain. Rothstein & Uslaner provides several arguments as to why both types of equality are causally related to generalized trust. They conclude that economic and opportunistic inequalities make people less optimistic about their possibilities in life which acts harmfully on their trust in political institutions and other people. Secondly, if resources and opportunities are not equally distributed in society it will hamper people's belief that all citizens share a common faith or destiny which will cause people to turn to their own group and identify less with others in society. The authors further argue that the most appropriate way of coming to terms with these inequalities is the governmental implementation of universal social policies. These policies are redistributive and based on impartiality through equal treatment. Universalistic policies also strengthen sentiments of social solidarity and thereby helps reduce social cleavages. Though the implementation of such social policies might be easier said than done, as a society can find itself caught in a *social trap*. A social trap is a situation when social trust in a society cannot increase because massive inequality prevails, this inequality creates lack of trust both towards other people in general and in the government, which in turn makes it very difficult to find support and resources that enables the implementation of social welfare programs. The delicate task for governments therefore becomes to identify and strengthen specific institutions that can reduce feelings of inequality and pave the way for a social climate with sufficient trust in political

institutions, to make the implementation of universal policies possible (Delhey & Newton, 2005, p.312, Rothstein & Holmberg, 2010, Rothstein & Uslaner, 2006, p. 2-13).

As stated above in the section on impartiality, quality of government and generalized trust, the theoretical arguments causally linking economic and opportunistic (in) equality to generalized trust constitutes an acclaimed explanation to the generation of social trust. Thus, using a measure of economic inequality I will later control for and put this theoretical explanation in relation to my explanatory variable. This introductory chapter on generalized social trust and its possible causes will now be concluded by shortly accounting for some other widely acknowledged causal factors regarding the creation of generalized trust.

2.3 Other causes of generalized trust

In the two preceding sections I have accounted for a few important theoretical explanations regarding the creation of generalized trust, such as involvement in voluntary associations (the societal approach) and impartiality of government institutions and economic equality (the institutional approach). There are however other variables that have been argued to be explanatory to societies levels of generalized trust. As mentioned earlier homogeneity in a society is considered an important factor that creates higher levels of trust. Evidence suggests that disparities in society with regards to class, religion, language and ethnicity will lead to lower levels of trust (Knack & Keefer, 1997, Alesina & La Ferrara, 2002). In an article by Delhey & Newton (2005) a wide range of variables are examined and tested as to verify their significance in relation to levels of generalized trust, and their findings indicate that ethnic homogeneity have a direct impact on generalized trust, as well as an indirect one through its consequences for income equality (as a measure of class homogeneity).

Other variables that the authors examine are social strain, conflicts and wars, where their theory depicts that internal conflicts would be associated with low levels of trust. They also use measures of economic development and modernization through examining correlations between wealth as GDP/capita, education levels, size of agricultural sector, life expectancy and levels of generalized trust. Equally they control for variables measuring democracy and good government as well as engagement in voluntary associations, factors that as described above are believed to positively correlate with more generalized trust. Finally they check for

variables related to religion and culture in order to examine correlations between religious beliefs, cultural traditions and generalized trust.

By performing extensive cross-country bivariate correlation analyses and multivariate regression analyses, the results of the study show that countries with high levels of generalized trust are characterized by ethnic homogeneity, protestant religious traditions, good government, high GDP/capita and income equality. More specifically ethnic homogeneity and Protestantism seem to have a direct impact on trust and an indirect one through their consequences for good government, wealth and income equality (Delhey & Newton, 2005, p.1-4).

The findings of this article regarding the importance played by religious traditions, especially Protestantism, in the creation of generalized trust are of particular interest for this study. I will from now on focus on the relationship between religion and generalized trust, but differently from earlier authors like Delhey & Newton I will not study the impact of religion on trust levels through different religious traditions, I will rather examine and relate levels of religiosity with levels of generalized trust.

3. Religion and generalized trust

In this chapter I will present the research question of the paper going from the general to the specific regarding the relation between religion and generalized trust. I will start by concluding what some of the earlier research has said on this topic.

Research on possible causal relationships between religion and generalized social trust has mainly focused on religious denomination, participation and attendance with regards to explaining trust levels. No real attention has yet been given to the angle that will be explored in this paper, the degree of religiosity and its impact on generalized trust. Earlier research has hypothesized that religious participation may generate trust in others, but that the actual level of trust depends on what religious tradition the individual adheres to. Liberal, often protestant, religious denominations are described as characterized by looser networks and may thereof generate more bridging (generalized) trust, than more closed fundamentalist denominations. Hence, religious affiliation is a variable sometimes argued

to have a notable effect on levels of generalized trust (Alesina & La Ferrara, 2002, Daniels & Von der Ruhr, 2009, p.2-4, Putnam, 2000).

Religious participation may influence generalized trust in two ways. In accordance with the voluntary association theory (society approach) more participation in religious networks should lead to more trust. From a more institutional point of view participation in certain religious denominations with specific beliefs and traditions could influence and enhance trust.

In an article by Joseph Daniels and Marc Von der Ruhr (2009) the relationship between religion and social trust is thoroughly examined. In this analysis it is concluded that the impact of religion on trust must include a study of affiliation effects, participation effects and the interaction between affiliation and participation. The results show that members of conservative or fundamentalist religious denominations are less likely to trust others and that religious participation independent of affiliation leads to higher levels of trust (Daniels & Von der Ruhr, 2009, p.10-11). As illustrated by this article research on religion and social trust is mainly focused on variables concerning religious affiliation and participation. Religion influences trust foremost through attendance and participation. In this paper the aim is to examine religiosity effects both through a societal and institutional perspective studying how in fact low participation in religious activities and weak presence of religious beliefs could impact levels of trust. One important step will therefore be to more closely describe how religious participation might negatively influence levels of generalized trust by clarifying the distinction between generalized and particularized trust.

I briefly touched upon this subject earlier in the paper, but I shall nevertheless once again stress the importance in distinguishing between generalized and particularized trust when discussing its relation to religion. In an article by Welch et al (2004) the authors are somewhat treating this topic. The differences between generalized and particularized trust are best described in terms of bridging and bonding social capital. Conservative or fundamentalist religious groups are more likely to generate bonding social capital between the members, which might strengthen boundaries between the in-group and outside groups, with a possible reduction of the members' tolerance for social differences, an increase of prejudices towards others, this eventually making it difficult to establish

generalized social trust. In contrast bridging social capital is inclusive and may create ties of trust and reciprocity that extend across social distances between groups. This type of social capital, which might foster generalized trust is more likely to occur in religious congregations where the prevailing religious and moral beliefs do not lead to the construction of mental barriers towards the outside society. In the articles referred to here it is argued that this may be the case of Liberal protestant denominations. Religious communities adhering to liberal protestant traditions have characteristics that makes it more likely that bridging social capital will be created which in turn could lead the members of these communities to have more generalized trust than members of exclusive conservative groups characterized by bonding social interaction (Putnam, 2000, p.20-22, Sjöstrand, 2008, Welch et al, 2004, p.2-5).

Thus, according to research liberal Protestantism is often regarded as being positively correlated with the generation of social trust in two ways. Either through participation effects when an individual is being involved in a liberal protestant congregation, as in accordance with the society approach and its theories on voluntary associations and generalized trust. Or, it could be explained by the institutional approach by arguing that it is certain religious and moral beliefs connected to liberal Protestantism that guides and influences the work (and quality) of institutions which then spurs the creation of generalized trust. This explanation is also in line with Max Weber that noted the link between protestant ethics and impersonal trust, through certain protestant traditions emphasizing equality, direct accountability to God and the religious and economic importance of trust and trustworthiness (Delhey & Newton, 2005, p.313).

3.1 Religiosity- a new approach to the relationship between religion and generalized trust

As described above correlations and explanations regarding the relationship between religion and the creation of generalized trust have been centred on religious affiliation and participation. Liberal protestant denominations are believed to have more trusting members than more conservative traditions. Also participation in liberal protestant communities might increase trust, while participation in conservative or fundamentalist religious communities might increase particularized trust and function in a detrimental way for generalized trust. One reason as to why these conclusions have been drawn in

earlier research is that when examining the relationship between religious traditions and generalized trust the results show that the countries with the highest levels of trust are mainly protestant ones, such as the Scandinavian countries, Canada and the Netherlands. When studying this material and these findings, one factor emerges that seem to be omitted in this research. Religious affiliation and participation and its effects on generalized trust having been carefully analyzed, but not through the angle of religiosity, as the degree of religiousness of the citizens in the examined countries. The countries with the highest levels of generalized trust are countries where religiosity assumingly could be relatively weak in a global perspective (f. e. Norway, 65 %, Sweden 60 %, Denmark 58 % of population trusting other people in general). This would then stand in contrast to countries with lower levels of generalized trust who might at the same time have higher levels of religiosity (f. e. U.S.A 36 %, Italy 35 % of population reporting to trust other people in general) (Delhey & Newton, 2005, p.315).

As the degree of religiosity amongst citizens most likely vary between countries, it would appear fruitful to examine whether there might exist a causal relationship between religiosity and levels of trust. Given the existing research arguing that certain protestant beliefs and traditions would be more suitable for generating social trust, then taking into account the assumption that several of the most trusting countries might have low levels of religiosity, leads to the formulation of a an alternative explanation. Perhaps it could be low participation in religious activities together with the absence, or weak presence, of religious thoughts and beliefs amongst citizens that can explain the creation of higher levels of generalized trust, rather than the citizens actually participating and believing in certain protestant traditions. As of this, the paper will focus on the degree of religiousness in societies and how this may be related to levels of generalized trust.

The main research question of the paper is the following: **Could variations in levels of religiosity explain variations in levels of generalized trust in a cross-country perspective?**

This question will be answered not only by examining a direct causal relation between religiosity and generalized trust, but also by studying and testing relations between religiosity and various trust-related variables measuring concepts like mistrust and intolerance. These variables will also be tested against the variable of generalized trust to

verify their validity and proximity to this concept. I will then use control variables to further test the relation between religiosity and generalized trust, before finally exploring whether the religiosity variable stands the test when confronted with three other acknowledged explanatory factors for generalized trust, voluntary work for associations, quality of government and income equality.

In the coming section I will provide a more detailed description of the hypotheses and mechanisms that will be deployed in order to explore a possible causal relation between religiosity and generalized trust.

4 Hypotheses

4.1 Main hypothesis: Religiosity being negative for the creation of trust

As accounted for above some earlier research have argued that religion either through certain affiliations or through participation would have a positive impact on levels of social trust (Delhey & Newton, 2005, Welch et al, 2004, Putnam, 2000, Alesina & La Ferrara, 2002, Daniels & Von der Ruhr, 2009, Sjöstrand, 2008). However the social trust that is being generated in these cases could be determined as particularized trust where it is still difficult for people coming from the outside to be included in the trust of the community. This highlights the problem that might occur when discussing the positive effects of religion on social trust, it may be that what is in fact often positively influenced by religion is particularized trust while the effects of religion on generalized trust are more complicated to detect. Therefore I will also test a few related mechanisms aiming at establishing whether religiosity in some ways may be detrimental for the creation of generalized trust. A detailed description of how these mechanisms will be tested follows in the coming methodological chapter.

H1. Hypothesis on Religiosity and generalized trust- the lower the degree of religiosity is in a country the higher the levels of generalized trust will be.

In relation to this principal hypothesis I will also test the following two mechanisms, which could serve to indicate that a stronger prevalence of religious beliefs in a society could be related lower levels of generalized trust.

Trust in religious institutions and generalized trust- more trust in religious institutions negatively correlated to generalized trust.

Support for the incorporation of religious beliefs, norms and traditions in political institutions and generalized trust- more support for a close relation between religion and politics negatively correlated to generalized trust.

4.2 Hypothesis including variables that can be related to religious beliefs and generalized trust

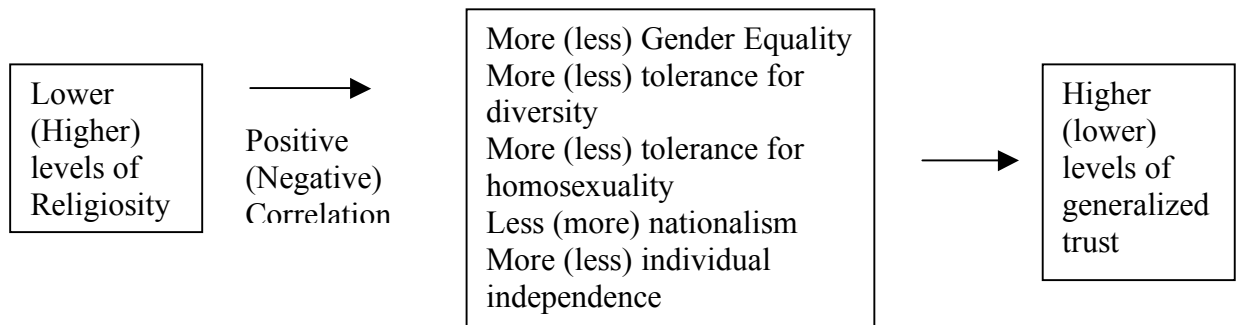
As mentioned earlier the next step in the analytical process will be to examine certain variables that can be related to trust and religiosity. This will be done in order to explain *why* religiosity through religious beliefs and norms might be negatively correlated to levels of generalized trust. My idea is that religiosity in terms of people holding certain religious beliefs and following certain norms could be negatively related to certain variables which in turn are positively correlated to generalized trust. Perhaps it could be possible to show that a negative relation between these variables and religiosity is one explanation as to why the creation of generalized trust is more difficult in a society with a higher degree of religiosity. Signifying a society where in-group trust is strong while mistrust and low tolerance towards diversities and minorities might be prevalent to a higher extent.

The following hypothesis includes mechanisms that are intended to capture the relationship between certain normative variables and religiosity. They have been included due to their validity with regards to the context of this analysis, and equally due to their measurability as they can be appropriately handled with existing data.

H2. Hypothesis regarding that higher levels of gender equality, more tolerance for diversity, more tolerance for homosexuality, less nationalism and more individual independence should be found in countries with lower levels of religiosity.

The below figure serves to illustrate the causal chain depicted in hypothesis 2.

Figure 1.



4.3 Trust related variables and generalized trust

After these variables have been tested against religiosity I will also test their validity by verifying their correlation with generalized trust. This is captured in the following hypothesis.

H3. Hypothesis regarding that higher levels of gender equality, more tolerance for diversity, more tolerance for homosexuality, less nationalism and more individual independence should be found in countries with higher levels of generalized trust.

4.4 Religiosity and generalized trust: controlling for alternative explanations

The next step in the analysis of the relation between religiosity and generalized trust will be to control for some variables that have been argued to have an impact on levels of generalized trust. By performing analyses where I include control variables for GDP/capita and ethnic fractionalization I will be able to detect whether a correlation between the independent variable, religiosity and the dependent, generalized trust, exists and still shows statistical significance.

Finally, I would like to test the strength of a relationship between religiosity and levels of generalized trust by controlling for three other explanatory variables that have been accounted for in this paper voluntary work for organizations, quality of government and income inequality. The first variable representing a society centred approach to the generation of social trust while the last two represents an institutional approach to the

same phenomena. Does religiosity show an impact on levels of generalized trust also when controlling for voluntary work for organizations, quality of government and income inequality? This analysis could be of considerable interest if the hypothesis is confirmed and religiosity could be added to the others as an explanatory component. These controls may also serve as a certain protection against suggestions that a causal relationship between religiosity and generalized trust could disappear, lose its significance, when introducing factors of economic development and quality of government.

In the forthcoming chapter I shall present the data that have been used to establish or reject the hypotheses and I will likewise account for the statistical and quantitative methodology that is deployed to analyze the data.

5. Data and methods

5.1 Data source

The source of information which has been used to examine the above stated hypotheses is the Quality of Government Open Source Cross section data set (Teorell et al, 2009). The 2009 version of the dataset was deployed (although later versions are now available) as this version includes data for the most appropriate variables for this study, while in later versions some of these variables are not included. The QoG Data Set contains cross-national comparative data accounting for a wide range of cross-sectional data sources. The data set includes sources that measure variables such as corruption, bureaucratic quality, religion, social fractionalization, economic development, gender equality and trust among citizens. Which particular sources I have deployed from the QoG data will be indicated for adjacent to each hypothesis in the results section.

5.2 The dependent variable

The dependent variable in this paper is generalized trust, with the aim being to explain differences in levels of generalized trust across countries. The principal independent variable is religiosity as this is being put forward as a possible cause to high or low levels of trust. Furthermore a string of other independent variables will be used as well to

examine and describe the relationship between religiosity and generalized trust. Given the essential role that the dependent variable constitutes in the analysis, and the sometimes confusing definitions that persist regarding the concept of social trust, I will here shortly discuss the data that is used in this paper to measure generalized trust.

The measure comes from the World Values Survey questionnaire where it is named “Interpersonal trust” and where the following standard question is asked: Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people? The scale ranges from 0 (need to be very careful) to 1 (most people can be trusted). The cross-section data covers 78 countries from all over the world, with a slight over-representation for Western and Eastern Europe, and its based on the years 1999-2002 (varies by country) (Teorell et al, 2009, p. 178). The WVS data has been argued to face some problems concerning an over-representation of urban and high-income groups in certain countries. However, these surveys are the only ones that cover a rather large number of countries, and are hereof often used in research as a measure of generalized trust (Delhey & Newton, 2005, p. 314). Another objection that has been raised against this measure concerns the definition of “most people”. It is open to interpretation how wide coverage this term may signify, does it extend further than to include family and friends? Earlier research however confirms that the question works adequately as it includes trust in strangers and it should therefore be considered as a correct measure of generalized trust (Uslaner, 2000, p.575, 2002, p.54).

5.3 The religiosity variable

The importance of this variable for the study makes it appropriate to present it more closely. The religiosity variable used here is like the trust variable based on a measure from the WVS. As of this the religiosity measure covers the same period and the same number of countries (78) as the trust measure. The religiosity scale ranges from 0 to 100, and is composed of six components in the WVS questionnaire (Teorell et al, 2009, p. 174).

- Independently of whether you go to church or not, would you say you are...a religious person, not a religious person, or a convinced atheist?” (% religious).
- Apart from weddings, funerals and christenings, about how often do you attend religious services these days? (% once a week or more).

- How important is God in your life? (% “very” scaled 6-10)
- Do you believe in God? (% Yes).
- Do you believe in life after death? (% Yes).
- Do you find that you get comfort and strength from religion?

The six components of this measure fits the purposes of this paper well, as it is a measure that indicates religious participation rates as well as the level of adherence to religious beliefs, norms and traditions. It also measures religiosity in general without making differences between religious affiliations. Thus, this measure seems appropriate and satisfactory when examining a relationship between levels of religiosity and levels of generalized trust.

5.4 Methods

Out of the theories and hypotheses outlined above one dependent variable and a wider range of independent variables have been chosen. Correlations between these variables will be examined with the use of cross-sectional statistical analysis. The analysis will proceed through two stages. In the first stage, a significant number of bivariate correlation analyses will be performed to determine and describe the relation between the dependent variable and religiosity, as well as testing for correlations with other trust related independent variables. Then, in the second stage of the analysis linear multivariate regression analyses will be deployed through the introduction of certain control variables. This will be done in order to test and compare the strength and significance of different variables within equations to seek to fully establish a causal relationship between religiosity and generalized trust.

6. Results

The results section is presented through the rejection or confirmation of the hypotheses outlined earlier. Each hypothesis will be treated individually with a brief description of the variables that have been used, and of the statistical findings that have been established. All figures can be found at the end of the paper.

6.1 Cause, effect and multicollinearity

In almost any case when you seek to establish a relationship between trust and other variables, the connection that you find may be one of cause or effect or both at the same time. This problem can emerge regarding relations between economic equality and trust, quality of government and trust or wealth and trust. It is obviously something that should be kept in mind also when discussing the results and findings of this paper. As suggestions may emerge that it is in fact trust that affects religiosity levels. However, this paper stands in certain opposition to a hypothesis outlining that lower trust would lead to more religious participation. The mechanisms used in this study reflecting mistrust and intolerance precisely serves to demonstrate how the causal direction could go from religiosity to trust. Religion is likely to be considered as somewhat a historical cause of social trust, while at the same time it is closely tangled up both theoretically and empirically as a cause or effect with regards to other variables of social, economic or structural sorts.

Another topic that deserves to be highlighted before discussing the results of the analyses is the statistical term of multicollinearity. A problem of multicollinearity that might occur in a statistical study of this kind could be that the religiosity variable used here really measures the same thing as a Protestant variable used in earlier research, with these two variables displaying the same results by indicating that protestant countries have higher levels of trust while Muslim and catholic ones have lower levels. Even if a somewhat similar pattern may be found when using these variables, I would like to stress that they do not measure the same thing. One variable is measuring religious affiliation on a state level, depicting countries official state religion, and is then related to levels of generalized trust. In this study the religiosity variable measures the degree of religiousness on an individual level, as a way of showing that countries with high levels of generalized trust may be officially protestant but that they principally are constituted of non-religious populations. In other words, on the *individual* level it may rather be the degree of religiosity than religious affiliation that explains differences in levels of generalized trust.

6.2 Main hypothesis: Religiosity being negative for the creation of trust

In this section I will provide the results from the analysis of the main hypothesis as well as the testing of two related causal mechanisms.

H1. Hypothesis on Religiosity and generalized trust - the lower the degree of religiosity is in a country the higher the levels of generalized trust will be. In order to examine the relationship between religiosity and generalized trust I have conducted a bivariate correlation analysis using the religiosity and generalized trust variables described above. The results showed a statistically significant negative correlation between the two, $r = -0.431^{**}$ with $n = 78$. Thus, the analysis confirms a negative relationship where lower levels of religiosity are related to higher levels of generalized trust.

Trust in religious institutions and generalized trust- more trust in religious institutions negatively correlated to generalized trust. I have here used a measure of confidence in churches (%) from the WVS (Teorell et al, 2009, p.166) as an independent variable relating it to generalized trust. The relationship could be confirmed as a significant negative correlation was identified, $r = -0.338^{**}$, $n = 75$, indicating that in countries where confidence in churches is higher, the levels of trust are lower.

Support for the incorporation of religious beliefs, norms and traditions in political institutions and generalized trust - more support for a close relation between religion and politics negatively correlated to generalized trust. When examining this relationship another measure from the WVS has been deployed indicating “support for theocracy”. This measure is composed by the following four components as to which respondents should indicate whether they agree or disagree (Teorell et al, 2009, p.172).

- Politicians who do not believe in God are unfit for public office.
- Religious leaders should not influence how people vote in elections.
- It would be better for [this country] if more people with strong religious beliefs held public office.
- Religious leaders should not influence government decisions.

This measure equally shows a statistically significant negative relationship with generalized trust. The bivariate analysis indicating a negative correlation of $r = -0.358^{**}$, $n = 60$, where a higher degree of support for theocracy correlates with lower levels of generalized trust.

Worth mentioning is also that both of the variables, confidence in churches and support for theocracy display strong positive correlations with the religiosity measure, $r = 0.842^{**}$ and $r = 0.733^{**}$ respectively.

When performing these analyses and by studying figures 2-4 (see end of the paper) certain interesting and deviating cases emerges, i.e. Iran and Indonesia, being relatively high trusting countries while also displaying high levels of religiosity. Perhaps another angle that could be further analyzed in future research to seek to explain these cases would be to look more closely on countries characterized by theocracy vs. countries displaying considerable religious freedom and fractionalization. What impact does this have on levels of religiosity and by extension levels of generalized trust? This angle has been very briefly addressed in this paper by concluding that there is a positive correlation between support for theocracy and religiosity, while a negative relationship between support for theocracy and generalized trust. However could further studies provide more in depth knowledge on how theocracy, or “forced religion”, affects religiosity and trust in general.

6.3 Hypothesis including variables that can be related to religious beliefs and generalized trust

In the following section I will present the findings regarding the second hypothesis that focuses on certain normative variables that may be related to the undermining of peoples trust in each other through their negative correlations with religiosity.

H2. Hypothesis regarding that higher levels of gender equality, more tolerance for diversity, more tolerance for homosexuality, less nationalism and more individual independence should be found in countries with lower levels of religiosity. In order to examine this hypothesis I have chosen different appropriate measures. With regards to gender equality, the “Gender empowerment measure”, from the UNDP- Human development report has been deployed (Teorell et al, 2009, p. 156). This measure reflects gender equality in economic participation and decision-making, political participation and decision-making and power over economic resources. When related to religiosity a significant negative correlation can be found, $r = -0.481^{**}$, $n = 55$, confirming the

hypothesis that countries with higher levels of gender equality have lower levels of religiosity.

Further on to check whether more tolerance for diversity could be found in countries with lower levels of religiosity, I once again used a measure from the WVS, “Tolerance of diversity” (Teorell et al, 2009, p. 177). The measure is based on people being asked the following question: On this list are various groups of people. Could you please sort out any that you would not like to have as neighbours?

A. People who have aids

B. Homosexuals

0 = mentioned, 1 = not mentioned

The relationship between tolerance of diversity and religiosity turns out to be weak, showing an insignificant correlation of $r = -0.135$, $n = 75$. The non-existent causal relationship between the two variables results in the omission of tolerance of diversity from the second stage of the statistical analysis.

The next mechanism intended to verify if more tolerance for homosexuality could be found in countries with lower levels of religiosity. To analyze this relationship I deployed data from the WVS, whose questionnaire includes a question that measures the justifiability of homosexuality (Teorell et al, 2009, p. 175). The statistical analysis shows a significant negative correlation between the variables, $r = -0.413^{**}$, $n = 77$, indicating that more tolerance of homosexuality are to be found in countries with lower levels of religiosity.

I then proceeded to test whether lower levels of nationalism could be found in countries with lower levels of religiosity. As a measure of nationalism I used the WVS data measuring “national pride”, a variable showing how proud people are to be of their particular nationality (Teorell et al, 2009, p. 177). Assuming that this possibly could have an effect on their trust in other nationalities. The measure is using a reversed scale, where lower values means more nationalistic. This relationship can also be confirmed as the analysis show a strongly significant correlation between national pride and religiosity, $r = -0.603^{**}$ (negative due to reversed scale), $n = 78$. Thus, countries where people are less nationalistic also tend to be less religious.

The last mechanism to be tested regarded that more individual independence and open-mindedness, as opposed to obedience to religious traditions, could be found in countries with lower levels of religiosity. To examine this I used an “Autonomy Index” collected from the WVS (Teorell et al, 2009, p.175-76). This index is composed by posing the following question: Here is a list of qualities that children can be encouraged to learn at home. Which, if any, do you consider to be especially important?

- A. Independence.
- B. Determination
- C. Religious faith
- D. Obedience

(0) Not mentioned, (1) Important

The Autonomy index is computed as $(A+B)-(C+D)$, generating the following five-point scale:

- (-2) Obedience/Religious Faith
- (-1)
- (0)
- (1)
- (2) Determination, perseverance/Independence

The Autonomy index and religiosity displays a negative correlation indicating statistical significance, $r = -0.796^{**}$, $n = 77$. The values from the bivariate analysis confirm the initial prediction that higher levels of personal independence/ autonomy correlates with lower levels of religiosity.

6.4 Trust related variables and generalized trust

The reason as to why the variables above have been tested against the religiosity variable is that they might in one way or another, through mistrust or intolerance, be related to and affect generalized trust. Tolerance of diversity or homosexuals could very well be something that affects generalized trust in others different from oneself. Likewise could gender equality (as trust in the female sex, opposed to gender inequality-mistrust in the female sex) and less nationalism (more openness to other groups or nationalities) and more individual/ autonomous ideas be components that could stimulate the prevalence of generalized trust. My hypotheses above were also drafted around the idea that a greater prevalence of religious beliefs amongst populations could hamper or correlate negatively with these variables. Also, religious participation and affiliation might generate strong particularized trust through bonding, but have a negative influence on bridging-type of trust and tolerance of people or groups different from the in-group. This has been confirmed in all cases except for tolerance of diversity through these bivariate analyses. Now, I must however verify that these variables also truly correlate with generalized trust as my initial assumptions have predicted.

H3. Hypothesis regarding that higher levels of gender equality, more tolerance for diversity, more tolerance for homosexuality, less nationalism and more individual independence should be found in countries with higher levels of generalized trust. The analysis here has consisted in performing a number of bivariate correlation analyses between these variables, using the same measures as above, and the generalized trust variable. Tolerance of diversity has been left out of the analysis as no connection was found between that variable and religiosity. The results of these analyses confirm the hypothesis in all cases except for national pride where no significant correlation is found. Gender equality shows a positive correlation with generalized trust of $r = 0.524^{**}$, $n = 55$, tolerance of homosexuality correlates at $r = 0.326^{**}$, $n = 77$ and individual independence/ autonomy also correlates with trust at $r = 0.427^{**}$, $n = 77$. The analysis of the relation between nationalism and trust gave the insignificant value of $r = 0.149$, $n = 78$. The conclusion with regards to this hypothesis is that it is confirmed for gender equality, tolerance of homosexuality and individual independence. These variables show positive bivariate relationships with generalized trust, and at the same time they show negative relationships with religiosity. The two remaining variables measuring national pride and

tolerance for diversity has failed to indicate any significant patterns and can not be concluded to work positively or negatively in relation to religiosity and generalized trust.

6.5 Religiosity and generalized trust- controlling for alternative explanations

The analyses of hypotheses H1-H3 have identified a negative bivariate correlation between religiosity and generalized trust, and also that certain other relevant variables correlates positively with generalized trust but negatively with religiosity. However, before establishing that there really is a causal relationship between religiosity and generalized trust a control should be made for some competing variables to exclude the possibility that there is a spurious relationship between religiosity and generalized trust. Two variables that could be argued to be the underlying reason to my results, the real effect behind such a spurious relationship, are GDP and ethnic fractionalization.

In order to perform these controls traditional multiple regression analysis (OLS-regressions) is applied where the relationship between the dependent variable, generalized trust, and the independent variable, religiosity, is being verified for using the mediating variables, GDP and ethnic fractionalization. The data for GDP per capita was collected from the QoG data set using Gleditsch measure of GDP (Teorell et al, 2009, p.97). As for ethnic fractionalization a widely used source was deployed, Alesina et al's measure which reflects the probability that two randomly selected people from a given country won't belong to the same ethnolinguistic group. The definition of ethnicity involves a combination of racial and linguistic characteristics. The regression analysis confirms the above stated hypothesis, showing that religiosity has an independent and significant effect on levels of generalized trust after controls have been made for measures of GDP per capita and ethnic fractionalization (see table 1). The limited number of cases, 78 countries, may give the results certain fragility. Nevertheless these findings are very interesting and important and should be considered as one of the main contributions of the paper as they show that religiosity matters for generalized trust even after these control variables have been taken into consideration. This could to a certain extent eliminate the risk of a spurious relationship between religiosity and generalized trust through underlying effects of socio-economic development.

The final test of this paper will be a control of the causal relationship between religiosity and generalized trust by introducing three independent explanatory variables to generalized trust that have been presented in detail earlier in this paper, voluntary work for organizations, income inequality and quality of government. These variables have won rather strong acclaim in the theoretical literature on explaining levels of generalized trust seen from a societal or institutional perspective. If the relationship argued for in this paper could stand the test also when controlling for these variables, then the hypothesis regarding religiosity, as being a relevant and significant explanatory factor of levels of generalized trust would be further strengthened.

The analysis including these competing variables has been conducted using commonly deployed measures of income inequality and quality of government. For income inequality the United Nations University Gini measure has been collected from their Income Inequality database, the measure ranging from 0 (perfectly equal distribution of income to 100 (a society's total income accrues to only one person/ household unit) (Teorell et al, 2009, p. 146). As for quality of government an Index of Objective Indicators of Good Governance has been used. The Index is built on nine indicators: the regulation of entry, contract enforcement, contract intensive money, international trade tax revenue, budgetary volatility, revenue source volatility, telephone wait times, phone faults, and the percentage of revenues paid to public officials in bribes, as reported in surveys of business firms (Teorell et al, 2009, p. 55). When controlling for an explanatory variable representing the societal approach to the generation of trust (in accordance with Putnam's theories) a WVS measure of voluntary work for organizations has been used (Teorell et al, 2009, p. 171). The measure indicates membership or voluntary work in a range of different types of organizations. The multivariate analysis performed here confirms the hypothesis. Even when controlling for explanatory variables such as voluntary work for organizations, income inequality and quality of government, a causal relationship between religiosity and generalized trust can be established with religiosity showing an independent and significant impact on levels of generalized trust (see table 2).

7. Conclusions

The aim and scientific contribution of this paper has been to present an alternative explanation and theoretical angle on the relationship between religion and generalized trust. This has been done through showing that cross-country differences in levels of generalized trust may not depend so much on religious affiliation or participation but rather on the degree of religiosity in a country. Certain earlier research has primarily focused on such matters as religious affiliation and religious participation as explanatory factors of levels of generalized trust. A principal conclusion has been that religious affiliation and participation through liberal protestant traditions would benefit higher levels of generalized trust as opposed to other religious traditions. The research has pointed to the fact that the countries showing the highest levels of trust are dominantly liberal protestant countries like the Scandinavian ones. However, as stated in this paper would it not be a slight misinterpretation to conclude that Protestantism characterizes the countries with the highest scores on generalized trust, if the citizens of these countries hardly can be classified as being religious? The measures which are being used to indicate levels of religiosity and levels of generalized trust are based on information given by individual citizens, with the respondents in the WVS survey being more or less the same group. Weber argued that Protestantism facilitates and enforces the development of impersonal trust in a society through certain protestant ethics. These arguments may certainly be correct on a societal level, but what is being examined here is the relationship between religion and generalized trust on an individual level. Studying the relationship at this level a population's degree of trust in each other could instead be linked to the level of participation in religious activities and a weak or strong presence of religious beliefs. In order to analyze whether a negative relationship between religiosity and generalized trust could be established, this paper has been organized and directed through three stages.

The first stage of the analysis consisted in examining whether a negative relationship could be detected between religiosity and generalized trust. The results of the statistical analysis showed indeed a negative correlation between religiosity, as well as related variables such as trust in religious institutions and support for theocracy, and the dependent variable generalized trust. The analysis more precisely showed that several of the most trusting countries like the protestant Scandinavian ones accordingly indicated

low levels of religiosity, while other protestant countries like the USA displayed a higher level of religiosity and lower levels of trust.

The second stage served to explain *why* there might be a negative relationship between religiosity and generalized trust. This part of the analysis was performed by examining the relationship between certain variables, which could be related to an individual's trust and tolerance of others, and the variables of religiosity and generalized trust. Hypotheses were analyzed to see whether there could be a negative relationship between these variables and religiosity, while a positive connection between them and generalized trust. Two of the variables, national pride and tolerance of diversity did not show a significant pattern in accordance with the hypothesis. However, variables measuring gender equality, tolerance of homosexuality and individual autonomy confirmed a negative relation to religiosity while a positive one to generalized trust. These results indicate that countries with higher levels of religiousness have lower levels of gender equality, tolerance towards homosexuality, individual autonomy and also displays lower levels of generalized trust. The negative correlation between these variables and religiosity could be illustrating a negative relation between religious participation and religious beliefs and trust in other people and groups, through the creation of strong particularized trust. At certain levels in-group trust (particularized), in a religious context, could be detrimental to factors such as openness, trust and tolerance towards diversities and other groups.

The third and final stage of the analysis aimed at verifying whether a causal relationship between religiosity and generalized trust would stand the test when confronted with alternative explanations to differences in levels of generalized trust. Five variables were used in the multivariate stage of the analysis, two serving as pure control variables; GDP per capita and ethnic fractionalization, while three others were deployed as competing explanatory factors to levels of generalized trust; voluntary work for organizations, income inequality and quality of government. The multiple regression analyses confirmed that religiosity has an independent and significant effect on differences in levels of generalized trust also when controlling for these five variables. By standing the test when controlling for GDP the analysis somewhat deals with the possibility that it would be socio-economic development that indirectly creates a negative relationship between religiosity and generalized trust. The results of these controls are to be considered as the most important of this paper. The findings indicates that levels of religiosity could be

added as one factor that could help explaining cross-country differences in levels of generalized trust, and most importantly it shows that the hypothesis of this paper not can be discarded by referring to any of the competing variables. However, the results presented in this paper discussing a causal relationship between religiosity and generalized trust has been obtained through rather elementary statistical analyses. Therefore, should these findings rather be considered as a preliminary examination of this hypothesis, where the outcome shows that the hypothesis regarding a negative relationship between religiosity and generalized trust displays certain explanatory power through its confirmed validity, relevance and accuracy.

To wrap this paper up, I would like to invite to further research on the topic of religiosity and trust through the exploration of ideas that weren't fitted into the scope of this study. One such angle would be if possible to examine the variable of religiosity by type of religion, to see if being less religious in one religion relates to higher levels of trust than being less religious in a country dominated by another religion. Another angle that could merit further attention would be to look at the negative relationship between conflicts, wars and trust (see p. 11) by also introducing the religiosity variable. It would be interesting to perform an analysis in order to examine whether countries with higher levels of religiosity, and lower levels of trust are characterized by more involvement in conflicts and wars than less religious and more trusting countries.

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Appendix: Tables

Table 1 OLS-regressions [Beta] on dependent variable: interpersonal trust

	Model number			
	1		2	
	Beta	Std. err. est	Beta	Std. err. est
Religiosity	-0.377***		-0.291***	
Ethnic fractionalization	-0.129	0.136		
GDP			0.346***	0.129
R2	0.199		0.285	

Table 2 OLS-regressions [Beta] on dependent variable: interpersonal trust

	Model number					
	1		2		3	
	Beta	Std.err.est	Beta	Std.err.est	Beta	Std.err.est
Religiosity	-0.342***		-0.287**		-0.616***	
Quality of Government	0.345***	0.128				
Income inequality			-0.320***	0.131		
Voluntary work for organizations					0.145	0.127
R2	0.297		0.268		0.368	

Comments: Significance levels: $p \geq .01$ ***; $= .05$ **; $= .10$ *

Numbers of observations: 78 countries

Appendix: Figures

Figure 2

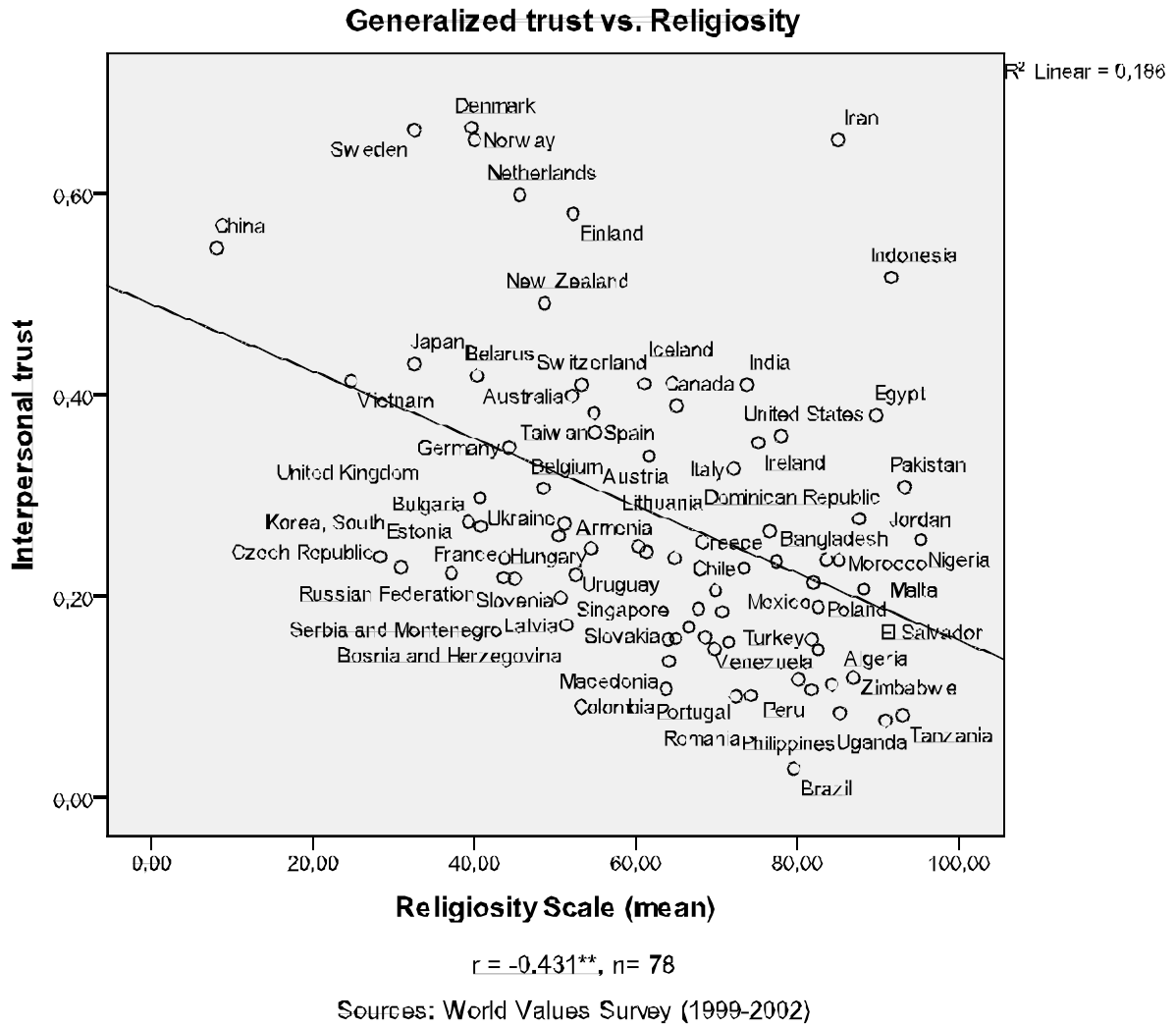


Figure 3

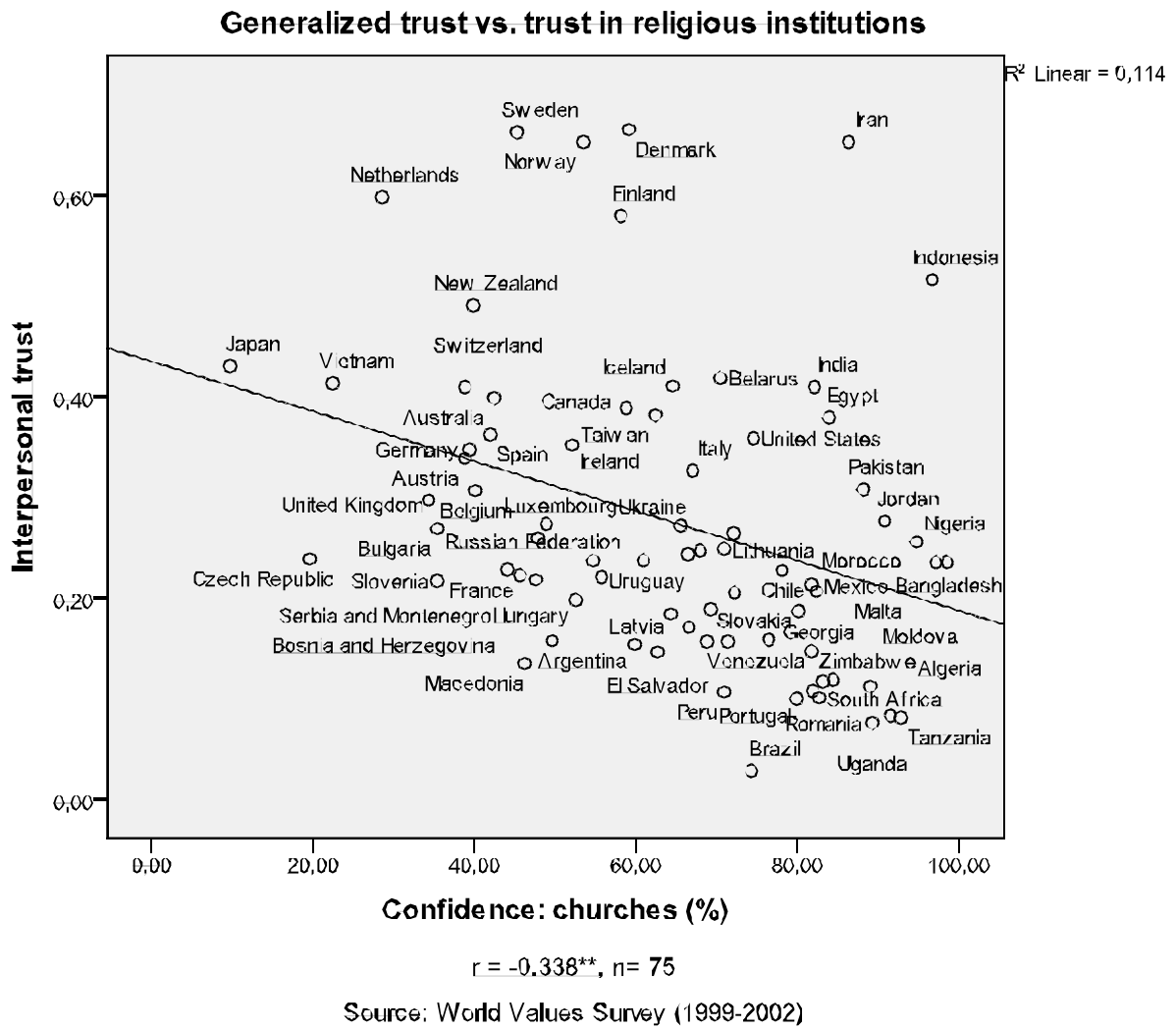
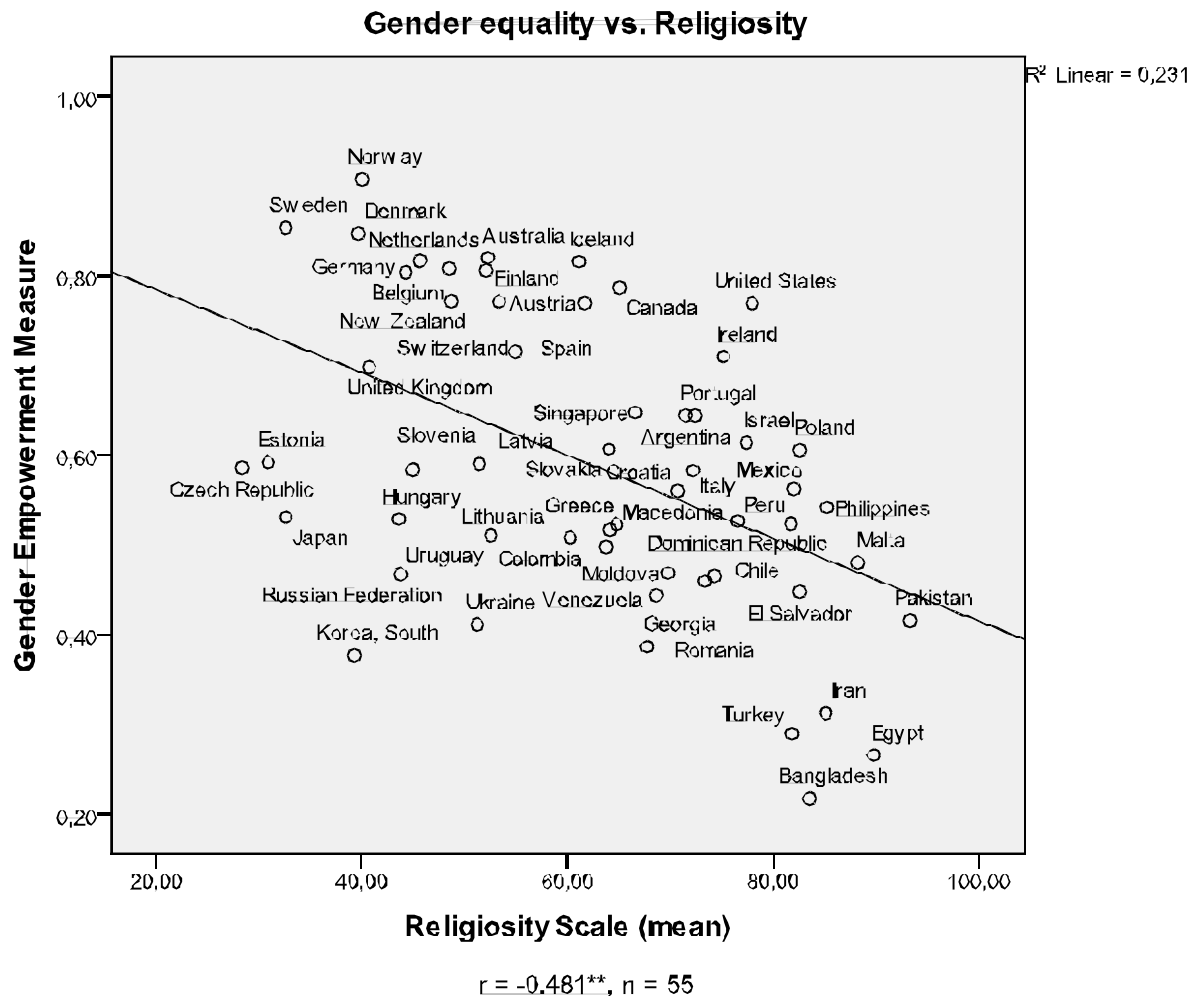
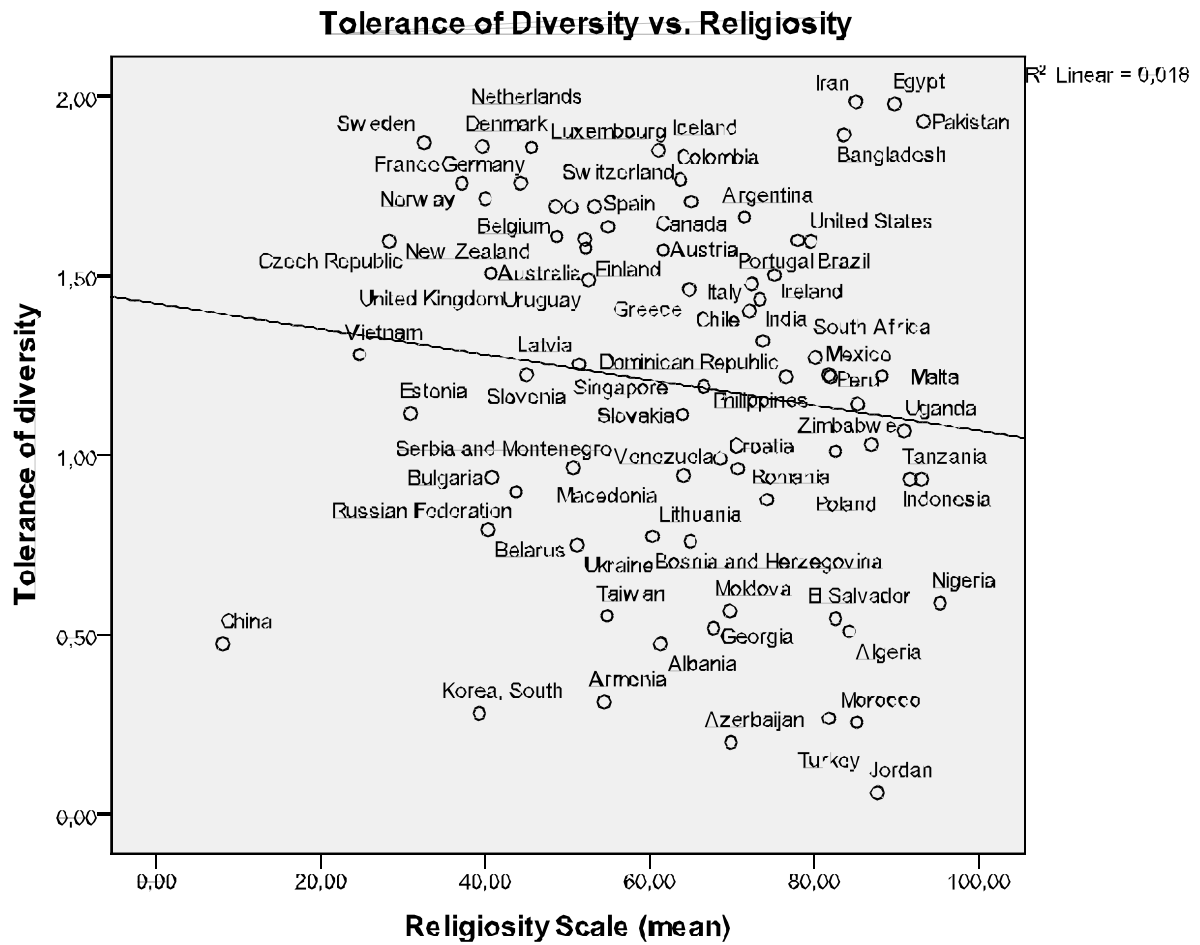


Figure 5



Sources: UNDP-Human Development Report (2002), World Values Survey (1999-2002)

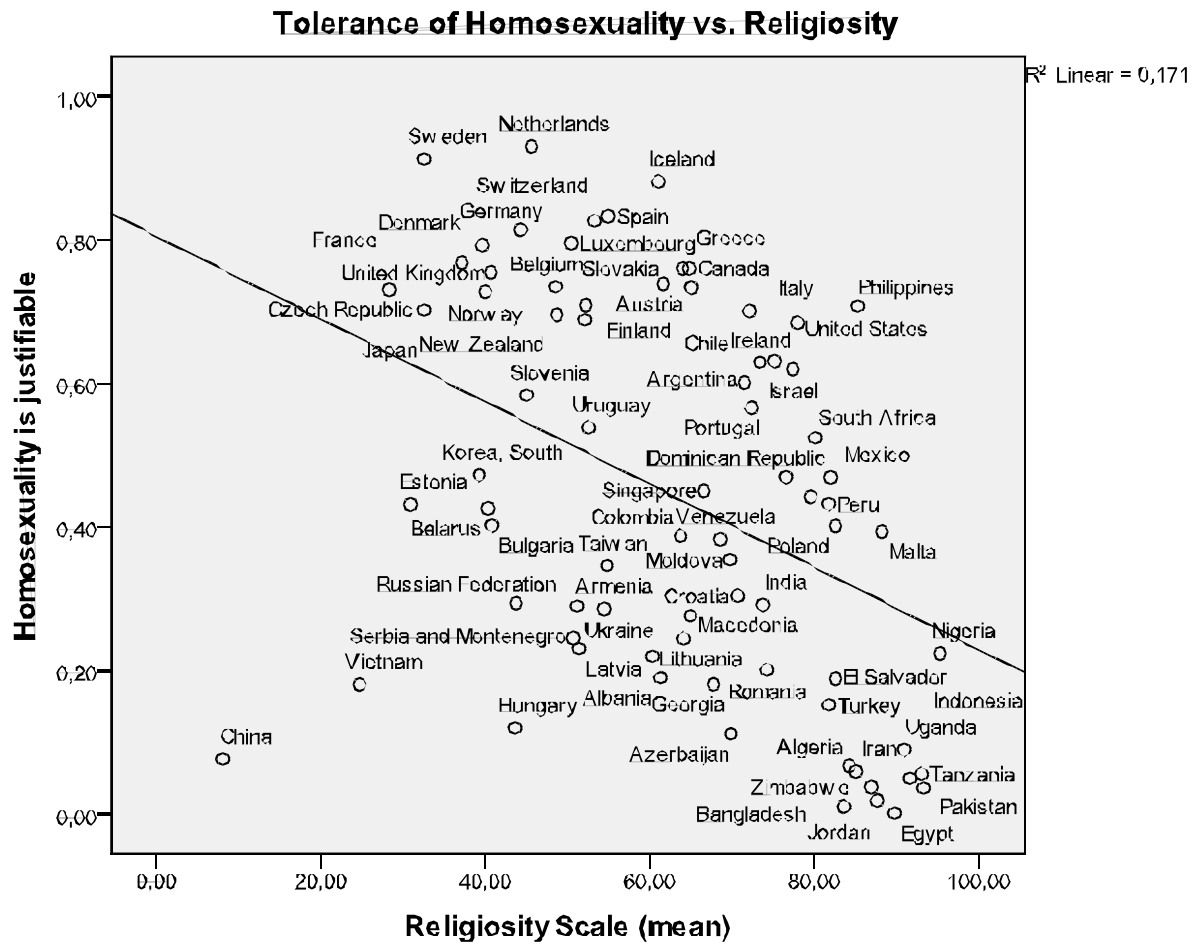
Figure 6



$r = -0.135, n = 75$

Source: World Values Survey (1999-2002)

Figure 7



$r = -0.413^{**}$, $n = 77$

Source: World Values Survey (1999-2002)

Figure 8

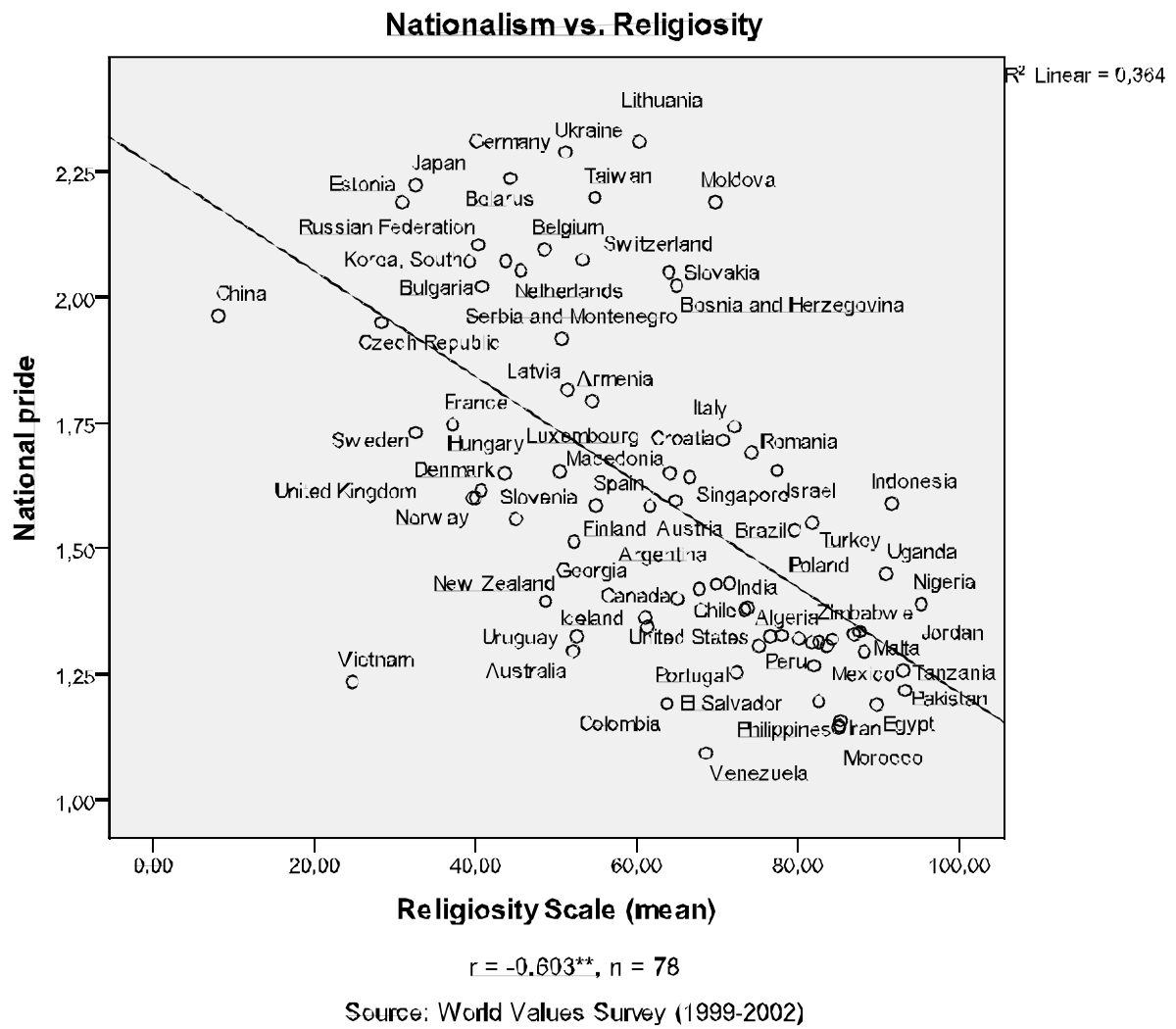
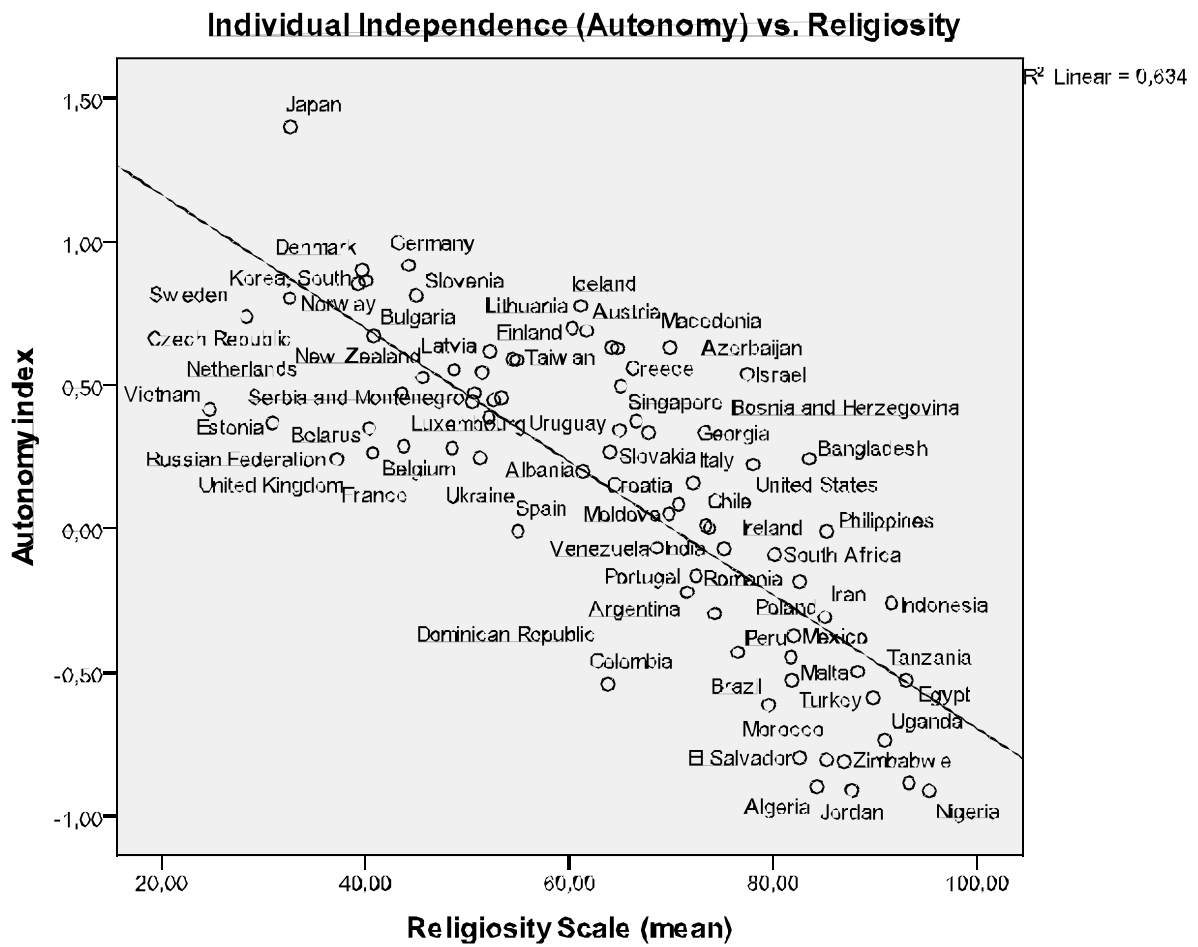


Figure 9



$r = -0.796^{**}$, $n = 77$

Source: World Values Survey (1999-2002)

Figure 10

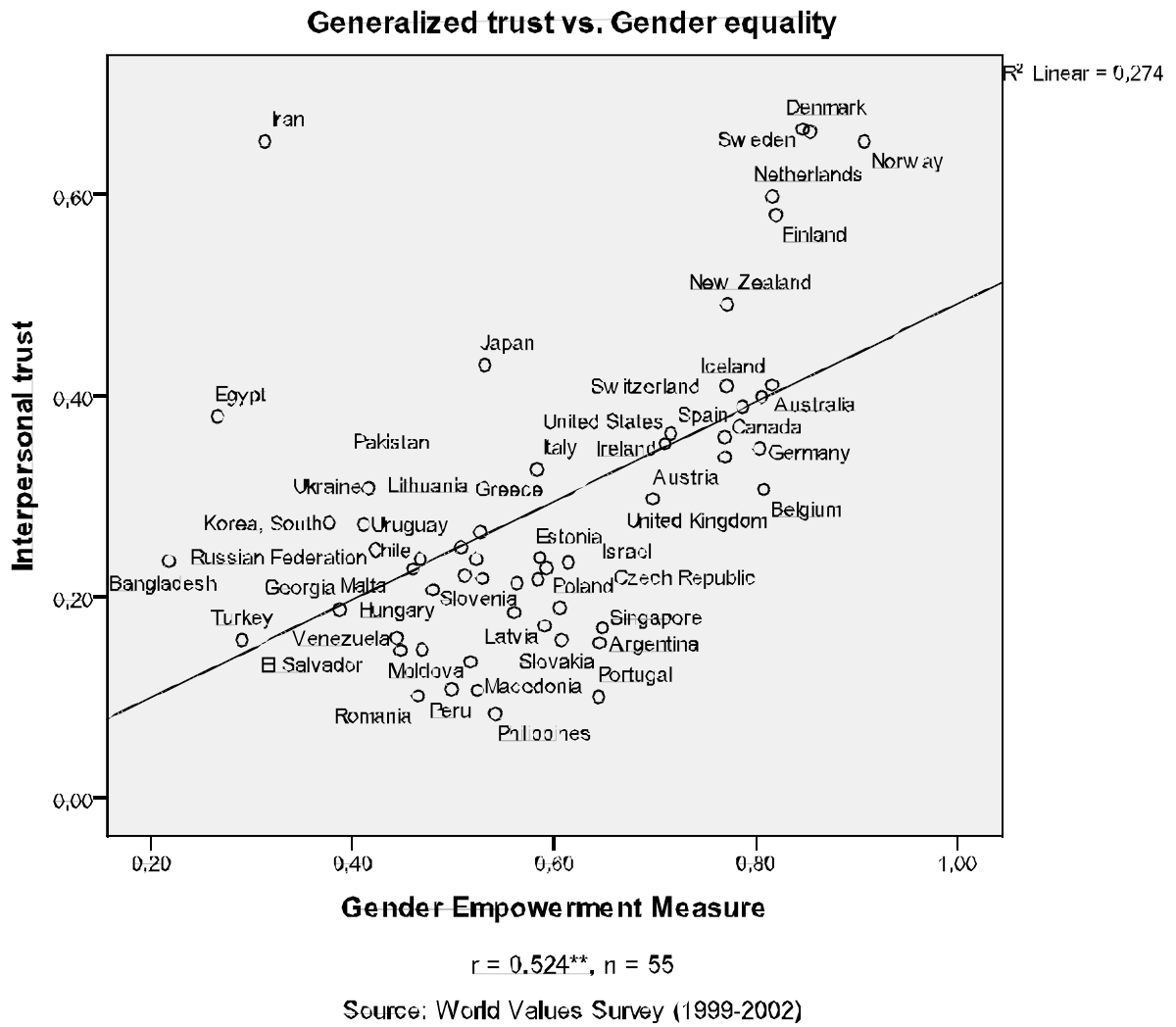
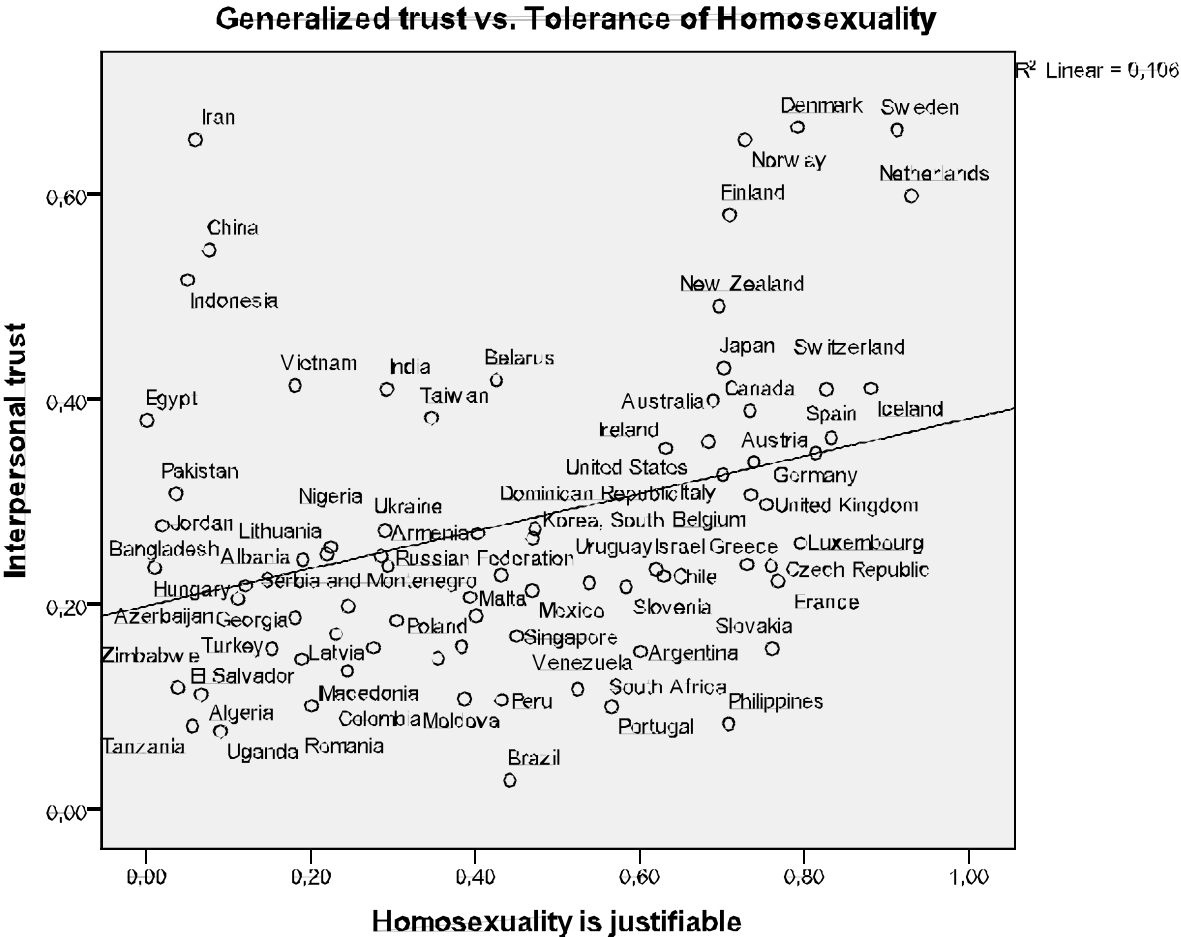


Figure 11



Source: World Values Survey (1999-2002)

Figure 12

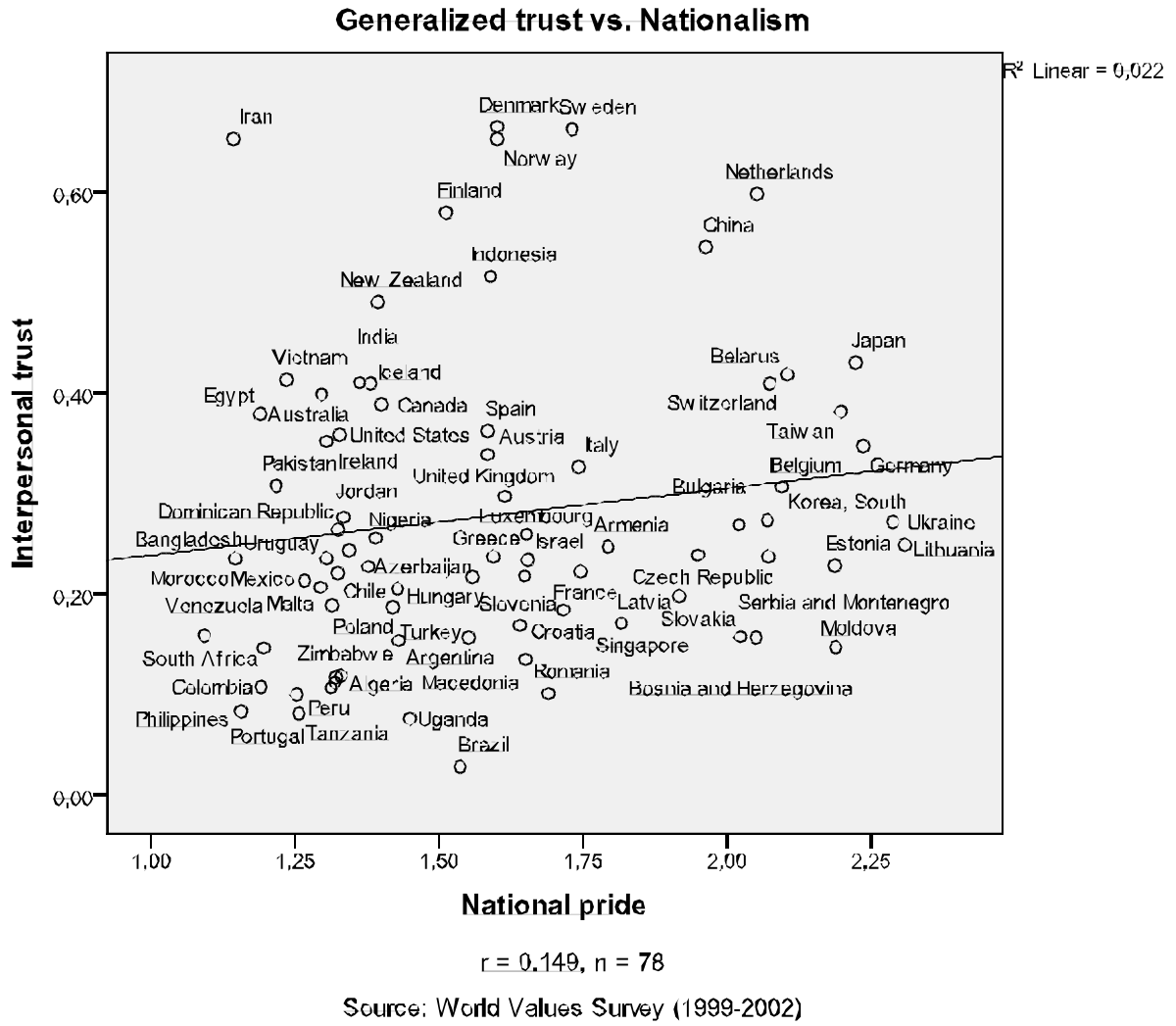


Figure 13

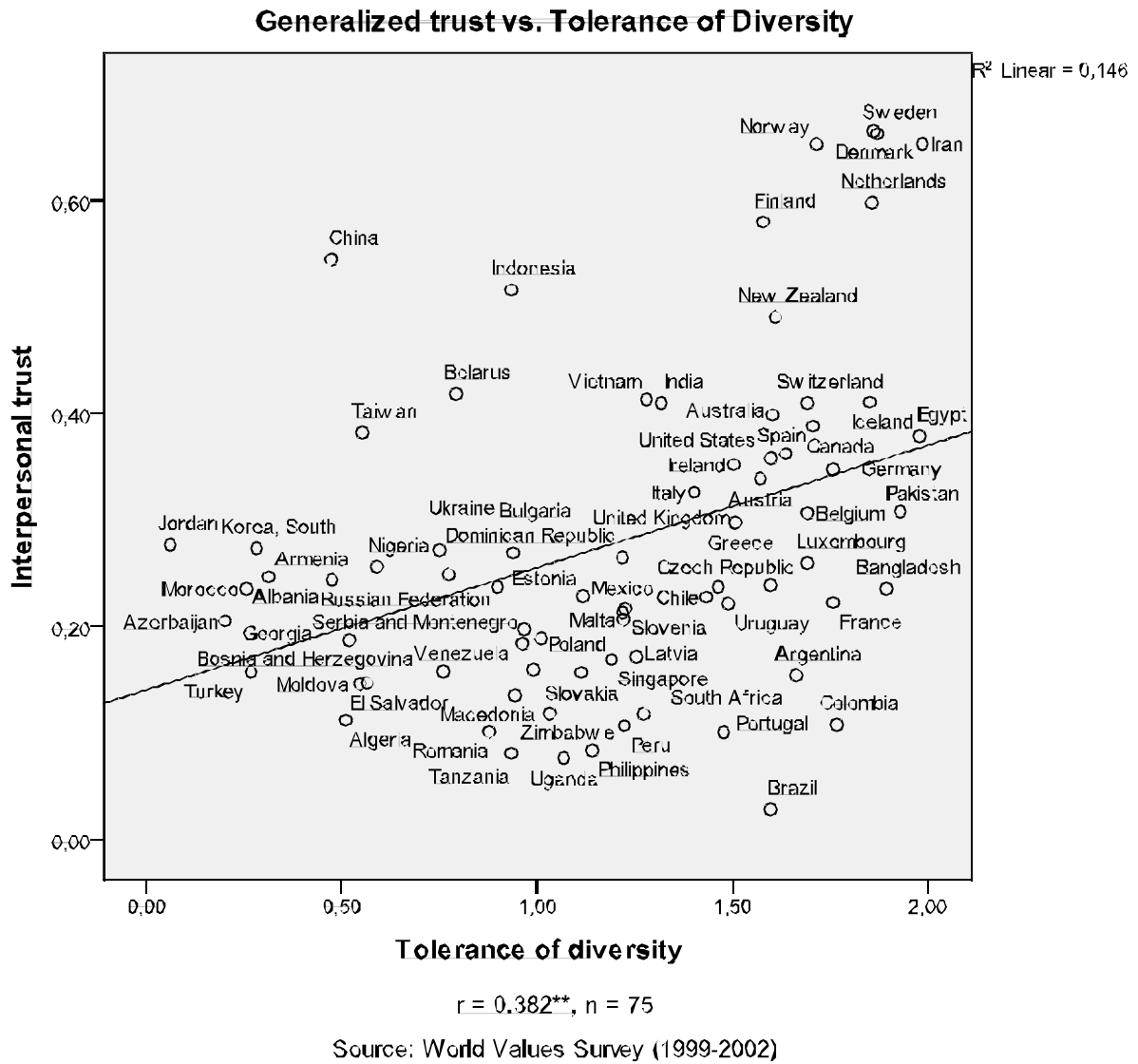
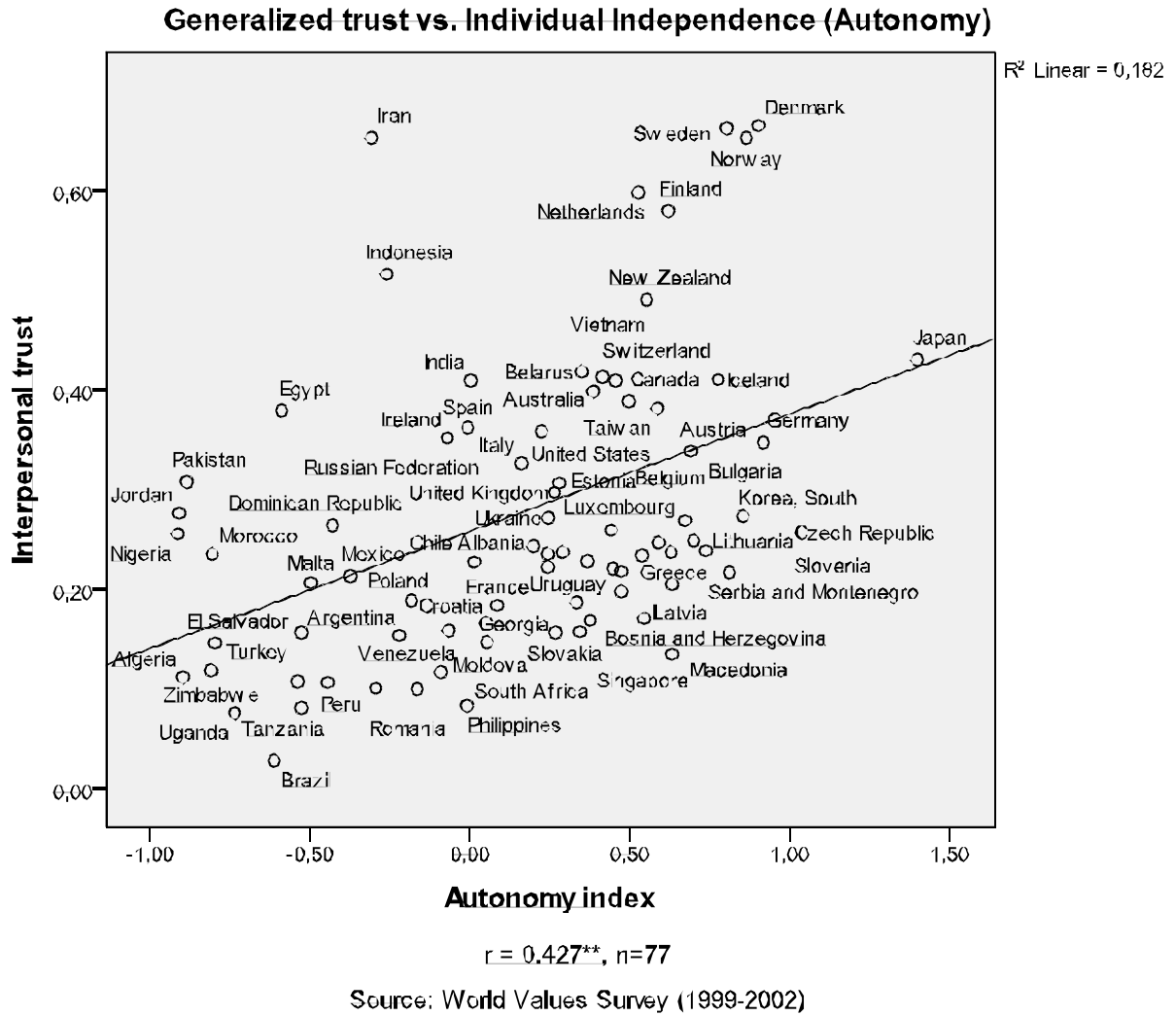


Figure 14



** Correlation is significant at the 0.01 level

