Trust and the Rule of Law. A Multilevel Analysis

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Frederik Gremler, 22, from Dortmund (Germany), is a recent graduate of Zeppelin University Friedrichshafen with a Bachelor's Degree in Sociology, Politics and Economics. His paper "Generalized Trust and Rule of Law" is strongly based on research for his bachelor's thesis. The investigation shows his penchant for the nexus of quantitative methods, sociology and comparative political studies. As of October 2017, Frederik is going to pursue his Master's degree in political science and administration at the University of Konstanz, Germany.

Abstract

This study examines the relationship between generalized trust and the rule of law on a national level. Previous research has often neglected this issue, instead focusing on related issues of property rights, economic freedom and corruption. Employing multilevel modelling with cross-sectional data from the World Values Survey, Freedom House and other sources, this paper finds that the quality of the rule of law negatively affects levels of generalized social trust. I argue that this is due to laws crowding out trust in social interactions as a mechanism of guaranteeing fulfillment of expectations. However, severe restrictions caused by possible endogeneity and validity of the rule of law measure utilized apply.

Keywords

Crowding Out; Generalized Trust; Hierarchical Analysis; Multilevel Analysis; Political Sociology; Rule of Law

1 Introduction

It has become a commonplace to view trust as having beneficial effects for societies. Trust, be it as constituting social capital (e.g. Putnam 1995) or in its oft-cited generalized form (e.g. Nannestad 2008), affects economic growth (cf. Putnam 1995; Fukuyama 2001; Knack and Keefer 1997; La Porta et al. 1997; Glaeser et al. 2000; Bjornskov 2007; Nannestad 2008), health (cf. Jen et al. 2010) and confidence in institutions alike (Sonderskov and Dinesen 2016). Thus, questions about the embeddedness of trust have attracted increasing academic attention (cf. Wang and Gordon 2011; Berggren and Jordahl 2006; Kumlin and Rothstein 2003). These and other scholars aim to predict trust altogether (Bjornskov 2007; Knack and Keefer 1997) or examine the influence of specific aspects. Consequently, the impact of factors like inequality (Uslaner 2002), Gross Domestic Product (Nannestad 2008) and confidence in political institutions (Sonderskov and Dinesen 2016) have received ample attention. However, research on institutional ramifications has remained rare. This relative scarcity leads Nannestad (2008: 425) to state that mechanisms linking trust and institutions "have not been exhaustively tested yet". This work strives to aid in filling that gap.

Curiously, it is especially the issue of institutional arrangements' objective quality that largely remains untouched by trust research (for some rare examples s. Wang and Gordon 2011; Berggren and Jordahl 2006; Kumlin and Rothstein 2003) – even though this has attracted countless studies in neighboring fields (s. e.g. Acemoglu and Robinson 2013; Lijphart 1984). Driven by this omission, this work examines how the quality of rule of law affects generalized trust. To my knowledge, no study has explicitly focused on this issue. The aspects mentioned above culminate in the following research question: *How does the quality of rule of law affect the level of generalized social trust?*

To answer this question, I utilize the theoretical approach of Rousseau et al. (1998) towards trust relating it to the notion of its generalized form (Section 2). Drawing on recent empirical research, I then develop a hypothesis postulating a negative impact of rule of law on generalized trust as it is crowded out due to institutional settings. I test this hypothesis by employing multilevel modelling (cf. Gelman and Hill 2007: Chapter 4) with recent data from the sixth wave of the World Values Survey (henceforth: WVS6) and various country-level data sources (Section 3). Rule of law data is taken from Freedom House (Freedom House 2017). Various models confirm that high levels of rule of law indeed decrease the probability of displaying generalized trust (Section 5 and Section 6) although several serious restrictions apply (Section 7).

Whereas the topic alone offers a contribution to the academic discussion, this work additionally demonstrates several improvements over past research: In contrast to e.g. Zmerli and Newton (2013) and Bjornskov (2007) I conduct multilevel analysis instead of pooling different countries, thereby accounting for dependent observations within nations. Furthermore, survey years

of WVS6 are matched with corresponding years of national-level data - a procedure presumably not conducted by neither Wang and Gordon (2011) nor Paxton (2007).

While the merits of this work are primarily academical, policy makers may be interested in its implications. If rule of law and generalized trust are negatively related, what are measures to avoid an erosion of trust? Many similar questions arise, sparking relevant questions for further research and political decision making.

2 Theory and Hypotheses

The following section proposes a theoretically derived definition of generalized, social trust. I then turn to defining rule of law relying on the work of Lauth (2001). Finally, an evaluation of current works on related issues culminates in the main hypothesis postulating a negative impact of rule of law on trust. Here, trust is exclusively examined in its generalized form.

2.1 Generalized Trust: A Definition

Any undertaking tackling the concept of trust has to start with a thorough definition. As existing ones are manifold (Nannestad 2008: 414), the following section only presents findings relevant to this research instead of attempting to evaluate and relate the diverse body of work examining trust in itself. Unfortunately, there are no readymade, agreed-upon definitions tailormade for cross-national trust research. Nannestad (2008: 414) states: "There is still a wide gap between much of the theoretical and conceptual work on trust and the bulk of empirical studies". The following section attempts to bridge this gap - at least for the present investigation. Specifically, this article examines generalized, social trust.

Still: Any definition of generalized social trust necessitates an antecedent definition of trust itself. I turn to this in the next paragraphs. A prerequisite for trust is the existence of two parties: a trustor and a trustee. The latter could, often to a degree, fulfill or disappoint the expectations of the trustor (Skinner et al. 2014 206f.). Thus, trust assumes imperfect control mechanisms or even their absence (Möllering 2006b: 8). Trusting is consequently characterized by uncertainty and implies some vulnerability of the trustor (Möllering 2006b; Williamson 1993; Luhmann 2014: 6, 485f.). If the trustee had nothing to lose, trust could never be placed - it would simply be a calculative gamble with another party fulfilling expectations or failing to do so (Möllering 2006a: 356f.). Presupposing this, generalized trust - loosely speaking - is based on an attitude towards generalized others (Möllering 2006b: 7, 9). This may then induce specific interactions, but not necessarily so. A commonly used definition incorporating all of the abovementioned aspects is the one given by Rousseau et al. (1998):

Trust is a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another (Rousseau et al. 1998: 395)

This definition elegantly combines the central aspects of trust: it may enable others to inflict harm upon the trustee, nevertheless expectations are that this will not happen. Moreover, trust is not a deed but a state: Trust may be present but never spark any action.

In addition, Rousseau et al. (1998: 397) posit: "microlevel trust relations are constrained and enhanced" - it is most prominently institutions that play a role in this. They bear great importance by embedding the trustor in a setting that largely determines his or her trust levels. Despite this, the nexus of formal institutions and generalized trust remains somewhat neglected in the field of trust research. In contrast, other fields have extensively examined the efficiency of institutions for example by assessing institutions impact on economic development (Acemoglu and Robinson 2013; North 1990). Interestingly, trust research oftentimes analyzes the related topic of trust in political institutions and its connection to social trust (Sonderskov and Dinesen 2016; Rothstein 2000; Newton 1999; Braithwaite and Levi 2003). While this may seem very similar to my research questions, it is a related but different issue as confidence in institutions does not provide evidence of their actual quality. Trust in institutions may arise because of favorable outcomes for one individual in spite of those institutions' overall faultiness. For example, laws favoring specific individuals may increase their trust in legal institutions, but reduce the same institutions' overall quality because they disregard principles of equality by giving this advantage. Moreover, political trust is a subjective evaluation that may be severely flawed. I therefore turn my focus to the objective quality of institutions represented by rule of law and its consequences for generalized trust (Uslaner 2004: 10).

I define this concept as a latent level of trust that individuals commonly display towards others. The individual has the opportunity to decide whether to act upon his trust. However, his general level of trust will constantly be present (Hardin 2002: 59). In contrast to what one may call particularized (intimate) trust, the trustee is not a specific person that must be known to the trustor: it is someone - or a collective group - the trustor could possibly conceive to interact with (Nannestad 2008: 414). Experimental work suggests that this type of trust can indeed be observed (McEvily et al. 2006: 65). This type of trust is then generalized in the sense that it constitutes an implicit level of trust presented towards others. Offering a more intuitive, slightly sloppy definition one could say that it is 'everyday trust'.

In contrast to this, definitions in comparable studies seem vague. Sonderskov (2011b) has proposed the definition that generally trusting means that "people in general are trustworthy" (ibid., 53). This seems tautological, especially in light of Hardin's (2002: 29) critique postulating a "slippage from trust to trustworthiness" (ibid.,31). "The belief that others will not deliberately or knowingly do us harm [...] and will look after our interests if this is possible" is the definition used by Delhey

and Newton (2005: 1): Firstly, defining trust as expecting absence of harmful doing seems crude. Only because individuals are free from harm, they do not trust everyone that does not hurt them. Moreover, others acting in one's interest is perfectly possible without trust because of cultural norms, overlapping preferences and/or institutional control. I will expand on the latter aspect below.

Thus, I deviate from these two insufficient definitions and similar ones. Simply speaking, my abovementioned definition conceives generalized trust as representing a baseline level of trust towards others that may increase or decrease in specific interactions due to certain characteristics of the trustee, the situation's context and historically induced circumstances.

2.2 Literature Review

Summarizing recent research, several authors have attributed differences in trust to phenomena that can very broadly be grouped under the concept of institutions (Helliwell and Putnam 1995; Uslaner 2002; Bjornskov 2007; Levi 1998). For instance, institutions may serve to minimize the risk of being betrayed as this would be appropriately sanctioned (s.a. Cook et al. 2005: 151).

In a similar manner, institutional conditions may influence the routines of trust: Social norms, laws and cultural traits construct stable circumstances that enable trustors to continually engage in trusting relationships (ibid.). Of course, the opposite is equally possible: institutions can also undermine the basis of trust. An example of this is Bjornskov (2007: 4) research on post-communist nations.

I argue that rule of law bears special importance when examining trust and formal institutions. I define the concept as equal and just application of transparent legal norms by an independent judiciary (s. Chapter 3.2 in Lauth 2001). Societal levels of generalized trust are set against the backdrop of rule of law as it greatly determines social interactions (s. e.g. Acemoglu and Robinson 2013).

In conclusion, it has become clear that institutions heavily influence the baseline level of trust a person displays thereby also rendering interactions more or less probable. Nevertheless, the actual quality of rule of law so far only played a minor part in trust research. This study directs its focus towards this previously neglected nexus.

The effect of rule of law on trust has - as of now - not attracted extensive examination through research. In point of fact, oftentimes related and overlapping factors like democratization, security and political trust have been investigated. I use those findings to derive my main hypothesis that higher quality of rule of law results in lower trust.

Wang and Gordon (2011: 4) find that just legal systems have a positive effect on trust. While their measure, namely the Fraser Index, bears some similarity to common rule of law measures, they

are explicitly interested in how fair the legal system is with regard to property rights. Here, they report a significant positive effect (Wang and Gordon 2011: 5). Berggren and Jordahl (2006: 2) apply a similar approach using the abovementioned Fraser Institute's Index assessing economic freedom (s. Fraser Institute 2017). Although mainly concerned with economic liberties, they suppose that their chosen variables also quantify rule of law.

While their findings may indeed hold for economic institutions, this study offers several improvements in form of added variables and a broader focus. I argue to apply a more general sense of rule of law by considering other realms of social life impacted by it. Moreover, with their explicit focus on property rights Wang and Gordon (2011) as well as Berggren and Jordahl (2006) omit other factors like contract law, speediness of legal processes and fairness of courts. Additionally, my analysis offers some improvement by controlling for corruption, post-communist heritage and lagging macro-level variables by one year.

Notwithstanding, Berggren and Jordahl (2006: 4) provide an interesting argument for the emergence of trust in economic systems: "Customers must make it credible that they are able to fulfill their side of the bargain" - rule of law then ensures that "breakers of contracts and rules are brought to justice" (ibid.: 5). I argue that the exact opposite is the case: Strong institutions providing control and enforcing sanctions eliminate the necessity to trust or prove trustworthiness because the fulfillment of expectations is guaranteed by the formal institutional setting.

Berggren and Jordahl (2006: 4) continue in arguing that trustworthiness may offer a comparative advantage for businesses and customers in a free economy where information is readily available: One chooses the actor that seems more trustworthy to buy a product, seal a contract or sell to, all else equal. While this definitely is plausible, I argue that it is even more so the case with strong formal institutions lacking: Business partners need to seem and indeed be trustworthy in order to have successful businesses as customers cannot be certain that potential wrongdoing will be penalized. If actors have no at least relatively reliable guarantee of fulfillment, most interactions simply are not going to take place.

As this argument is economically tinted, I expand it to a more general base: Formal law and its executive as well as judicial implementation affect issues ranging from taxes (e.g. tax evasion) to food (e.g. nutritional information). Thus, if rule of law is feeble, one mechanism to cope with this may be to heavily rely on trust and act accordingly. Consequently, in most cases fulfilling trust will be rational as actors are dependent on it and betrayals may lead to a permanent loss of perceived trustworthiness: Trust results in higher long-term benefits than betrayal.

This line of thinking is not entirely new when considering theoretical and empirical literature on trust. Cook et al. (2005: 155) state: "The backdrop of state-enforced law creates a context in

which individuals feel safe to begin to take risks [...] without having to rely on trust". Following this line of thinking, a strong rule of law reduces the inherent risks of interactions, hence rendering them more likely to take place: be it with or without trust between the parties (Cook et al. 2005: 155f., 187).

Empirical evidence for this does exist: Letki and Evans (2005: 522) find that institutional conditions, in their case democratization of post-communist states, affected levels of trust. The found effect was negative with democratization reducing levels of trust. They then argue that generalized trust drops as soon as nations reach a certain degree of institutional quality: trust is crowded out (Letki and Evans 2005: 524). Institutional inefficiency and high levels of generalized trust consequently go hand in hand because the latter to some extent replaces property rights, contract law and other formal institutional arrangements designed to regulate cooperation. This is in line with the experimental findings of Bohnet et al. (2001) who state: "When contracts are completely specified, interpersonal trust is replaced by institutional trust in the legal system" (ibid., 141). They arrive at this conclusion by investigating contract breaches and trust levels in a laboratory setting with external sanctions for non-cooperation.

2.3 Hypothesis

In conclusion, high quality of rule of law takes up functions of generalized trust. It thereby ensures interactions and processes that would otherwise have been safe-guarded by trust. The concepts and findings presented above lead me to the following hypothesis:

Higher quality of rule of law reduces the probability of generalized, social trust.

I do not maintain that this can be generalized so that more rule of law automatically equates fewer generalized trust. Critics may argue that rule of law renders a positive outcome of the calculative assessment of the trustworthiness of others more likely (cf. Möllering 2006a, Möllering 2006b). Individuals then develop a habit of trusting each other. An example of this could be seen in Sweden and other Scandinavian countries (Delhey and Newton 2005). To refute this, I argue that in those cases other institutional variables like social structure and cultural norms play an important role superseding the influence of rule of law. For example, Sweden's comparably small cities - its capital Stockholm only has around 900,000 inhabitants - and villages may foster generalized trust. Therefore, it is important to control for macro-level factors like population and GDP varying by country as they affect generalized trust and rule of law (s. Chapter 4).

Adding to this, my hypothesis can also be viewed through the eye of transaction cost theory (Williamson 2005; Bromiley and Harris 2006). Trust (and in this case especially trustworthiness) provides a sense of security, thereby reducing the costs of interactions - a function otherwise taken by a functioning legal system. Using a different theoretical perspective, one could argue that trust

and rule of law both help to reduce complexity. If rule of law falls short, trust has to step in (cf. Luhmann 2014).

Naturally, I do not assume that this replacement is characterized by the same high efficiency as an excellent rule of law. For example, interactions between partners that have little knowledge of each other may become more complicated (e.g. in different regions or of different ethnicities). Clearly, rule of law and economic prosperity are generally positively related (cf. e.g. Acemoglu and Robinson 2013). Cook et al. (2005: 151) argues: "rules and institutions [...] may be more successful in eliciting cooperation and compliance from citizens and subjects". Moreover, a lack of rule of law may still result in a surge in serious trust-breaching behavior like crime.

Corroborating this, the correlation between homicide rates and rule of law is -0.29 in my data. Still, a surge in heavy trust-breaching behavior like crime does not have to correlate heavily with low levels of generalized trust: It is possible to mistrust certain individuals while preserving a general sense of trust for the majority of fellow citizens.

3 Data

I argue that there are at least two levels to my analysis: The micro-level (individual-level data) and the macro-level (national-level data). This requires special attention when choosing the statistical method (s. Section 4) but also when choosing data sources. Hence, this section quickly elaborates on data sources and measurement of the dependent and independent variable of interest. I then turn to succinctly explain important control variables.

Individual-level data is taken from WVS6. The World Values Survey is a widely used source for similar investigations (e.g. Wang and Gordon 2011; Bjornskov 2007; Paxton 2007) as it offers cross-national comparative data. The sixth wave is the latest round available with the final dataset published on 01.01.2016. Respondents were questioned in the years from 2010 to 2014. In total, 90350 respondents from 60 diverse countries can be found in WVS6. These provide a sample that offers high variance within the dependent variable as well as all covariates.

However, various macro-level variables had to be added from different data sources. An overview of these can be found with the variable list (s. Appendix). These were added manually and then matched according to the survey year in respective countries, mostly employing one-year timelags. For example, individuals in Japan were surveyed in 2011: thus, only country-level data from this year or the year before was used in the analysis. Variables varying by year were lagged by one year as I assume that individuals react to changes of macro-level variables with a certain kind of delay. Nevertheless: As country-level variables values by year are often autocorrelated and only seldom display structural breaks, the discrepancies between analyses with non-lagged and lagged variables are small. Similar research has often ignored this issue which may have led to unreliable

results as individual data is not attributed to the corresponding year (Paxton 2007; Wang and Gordon 2011; Jen et al. 2010).

Almost all country level variables were unavailable for Taiwan, Hong Kong and the West Bank/Gaza Strip. Employment status was not surveyed in Argentina, specific trust questions used for constructing a trust index were not asked in New Zealand (see online documentation at World Values Survey 2016). Therefore, respondents from these countries are not represented in my analysis when the corresponding variables were used.

For a discussion of the control variables used, please refer to Section 7.5: Control Variables. In general, I selected control variables that have been shown to exert a significant effect on my independent variable (Rule of Law) and dependent variable (Generalized Trust).

3.1 Measurement: Generalized Trust

To measure trust, I use the WVS6's question item "Generally speaking, would you say that most people can be trusted or that you have to be very careful in dealing with people?", equaling one if respondents answer that "Most people can be trusted" and zero for the response "Need to be very careful". Virtually all cross-national studies examining generalized trust (e.g. Paxton 2007; Wang and Gordon 2011; Bjornskov 2007) use this measure.

Of course, this question also entails aspects of trustworthiness: It is a truism that respondents are only going to place trust in generalized others if they perceive them as trustworthy. Thus, the item also contains an assessment of trustworthiness. However, this relation is only indirect - at its heart the respondent still has to evaluate his or her own, personal trust level. Keeping this in mind, Hardin's criticism does not apply here (Hardin 2002: 29). Rather, the concepts of trust and trustworthiness are intertwined - neither rendering trustworthiness nor trust empirically useless in this regard (Weibel 2008: 502).

In WVS6 25 percent of all respondents (2427 responses are missing) answered that most people could be trusted. The rates deviate greatly between the different countries with 64 percent of respondents answering positively in Sweden, but only three percent doing so in the Philippines. This study also aids in explaining these stark discrepancies.

3.2 Measurement: Rule of Law

In order to expand on the short definition of rule of law given above (s. Chapter 2), I draw on the fourteen criteria for "Rechtsstaat" outlined by Lauth (2001: 33). These are:

1. General laws (not ad personam)
2. Publicly promulgated laws
3. Prohibition of retrospective laws

4. Understandable and unambiguous laws
5. Absence of contradiction between laws
6. Absence of materially impossible laws
7. Stable process of legislation
8. Proportionality in legislation
9. Equality before law
10. Everyone is subject to legislation
11. Independent and functioning judicial control
12. Existence of due process
13. Existence of indemnity legislation
14. Absence of arbitrary state action

While this list is rather exhaustive, I argue that it accurately represents the concept. Analyzing indicators tackling the concept, Skaaning (2010: 7) finds three empirical core dimensions of rule of law commonly used: "functioning of the legal system, personal integrity rights, and preservation of order". The latter does not, in my opinion, represent rule of law: Order can very well be preserved without rule of law. Moreover, the definition given by Lauth (2001) does not support the inclusion of this dimension.

I have chosen the rule of law index provided by Freedom House (Freedom House 2017) as it measures most of the criteria mentioned above without going beyond them. The Freedom House rule of law indicator forms part of the larger "Freedom in the World" project. It is one indicator used to assess political rights and civil liberties. According to Freedom House (2017) over 100 internal and external experts assess nations of the world according to criteria largely based on human rights. These scores are based on "news articles, academic analyses, reports from nongovernmental organizations, and individual professional contacts" (Freedom House 2017). The scores given by these experts are reviewed and agreed upon by regional panels. Concerning the rule of law indicator, up to 16 points are awarded. The relevant criteria are an independent judiciary, prevalence of rule of law, absence of political persecution and sufficient minority rights (Freedom House 2017; Skaaning 2010).

Alternative indicators were considered but discarded. Mentioning one prominent example in academic literature, the World Governance Indicator Rule of Law by the World Bank (Kaufmann et al. 2011) was not utilized as it includes assessments of the likelihood of violence and trust in

government (Skaaning 2010: 7). Adhering to the definition above these dimensions do not belong to the concept of rule of law. Instead, they constitute distinct dimensions of general security and political trust. Nevertheless, both of these factors are represented individually as independent control variables in my analysis.

The mean of the Freedom House rule of law indicator is at 8.03 with a standard deviation of 4.63 - Sweden is the only country to score 16 points while two countries (Uzbekistan and Iraq) received zero points. Unfortunately, Freedom House does not publish any information on which criteria remain unmet in individual countries. Thus, only general conclusions on rule of law levels can be drawn. Finally, Figure 1 provides a view of levels of rule of law and generalized trust in different countries.

3.3. Measurement: Control Variables

For reasons of parsimony, I refrain from introducing all control variables used in the analysis. Nevertheless, national-level variables and their underpinnings will be presented concisely so that the reader is able to grasp their relationships in context. For a fairly extensive overview of micro- and macro-level variables commonly used in trust research, I recommend Bjornskov (2007). Using the framework presented above (Chapter 2), these macro-level control variables mostly concern the institutional dimension.

Gross Domestic Product (GDP): There is ample evidence connecting high levels of trust and GDP (Delhey and Newton 2005; Knack and Zak 2003; Knack and Keefer 1997; Helliwell and Putnam 1995).17 However, for instance Bjornskov (2007: 10-15) does not find any significant effects. For this analysis, I included GDP measures made available by the World Bank (Kaufmann et al. 2011). Correlation between GDP per capita standardized with Purchasing Power Parity (PPP) and generalized trust takes on a modest, significant value of 0.3. This rises to 0.53 when solely using GDP per capita. Avoiding multicollinearity, I use the former version as in Bjornskov (2007). Moreover, average wealth is more accurately depicted when standardized with PPP. Finally, I account for the skewedness of the GDP-variable by taking natural logarithms.

Inequality: Bjornskov (2007: 5f.) states that income (in)equality is "among the most robust cross-country determinants of trust" as equality "reduces the social distance". Knack and Zak (s.a. 2003); Uslaner (s.a. 2002); Paldam (s.a. 2009); Bjornskov (s.a. 2007) all find that high inequality negatively affects trust. However, these publications use the Gini index as their measure of choice which seems somewhat inadequate as they base their argumentation on trustees' views on inequality rather than the level of equality actually present in a country (Nannestad 2008: 426). Although there is no obvious direct relationship between rule of law, one could argue that it tends to prevent individuals from enriching themselves at the cost of others which in turn reduces social distance.

Therefore, I have included variables measuring inequality in my analysis. However, in addition to its relative inadequateness, the Gini index resulted in a severe drop in observations because data on numerous countries was not available. Mostly, these were developing nations which caused an over-representation of industrialized states. Thus, generalization was not possible. To eliminate this issue, I used the most recent years available for various nations. Of course, this process is questionable - surely, inequality levels change over time. Thus, I tested models with and without Gini-values. Generally, there were no drastic changes in coefficients and p-values (s. Chapter 5). Inequality shows a moderate, significant correlation of -0.17 with the rule of law indicator.

Religion: While the findings on the effect of religion are somewhat unclear, they nevertheless point to significant effects (La Porta et al. 1997: 333; Knack and Keefer 1997; Uslaner 2002). Without going into too much detail, the discussion on this factor touches issues of cultural hierarchies (Bjornskov 2008: 6). Often, different religions are associated with different levels of rule of law: In my sample for instance, predominantly Muslim countries on average score 4.15 on the rule of law indicator. This is four points lower than the global average.

Eastern Europe: I include a dummy for Eastern European states - according to Paldam and Svendsen (2000) as well as Paldam (2009) these are shaped by former communist-soviet dictatorship (s.a. Jacob and Tyrell 2010). These former Soviet states are often characterized by high distrust of state institutions (Cook et al. 2005: 165). Nevertheless, for WVS6 nations the average level of rule of law is quite close to the grand mean (7.02). Although China could also be included here, other cultural traits may be more important in its case. These are to some extent captured by controlling for religion.

Corruption: Although corruption highly correlates with rule of law (0.75), I expect a different direction of the effect for corruption: High levels of corruption reduce trust in others as they devaluate general impressions of trustworthiness (Uslaner 2002). Due to corruption, trustors assume that others - be it in politics or business - regularly breach trust (Cook et al. 2005: 158f.). Moreover, corruption may be based on so-called particularized or bonding trust creating in-groups which in turn hampers generalized or bridging trust between various groups (cf. Helliwell and Putnam 1995). Recent findings have often confirmed this hypothesis (Paldam 2009; Uslaner 2002; Bjornskov 2007). I measure corruption with the commonly used corruption perception index published by Transparency International where scores within the range from 0 (highly cor-rupt) to 100 (very clean) are assigned to countries (Sampford et al. 2006; Transparency International 2016).

Several other additional national-level control variables not described below were added and tested. These include ethnic fractionalization (Alesina et al. 2003; Bjornskov 2008: 5f.), social diversity (Okediji 2005) and homicide rates (e.g. Paxton 2007). However, all these variables did not

contribute to my models: They were neither significant, nor did they change significance and direction of the rule of law variable. As a final note, the use of the variables of trust in courts and the police are used to present the notion of political trust (s. e.g. Sonderskov and Dinesen 2016: 188f.): Critics may deem trust in parliament or the ruling party more appropriate. However, the inclusion of nations like the Russian Federation, China, Belarus, Jordan, Qatar and Zimbabwe renders these items somewhat useless as some are monarchies or authoritarian regimes. This is why responses to these items cannot be trusted and/or the political system does not include parliaments.

The results of my analysis may also contribute to the discussion on the variables mentioned above as I am employing multilevel modelling techniques accounting for dependent observations within countries and rely on new data. Nevertheless, I do not extensively consider methodological and theoretical issues associated with these variables.

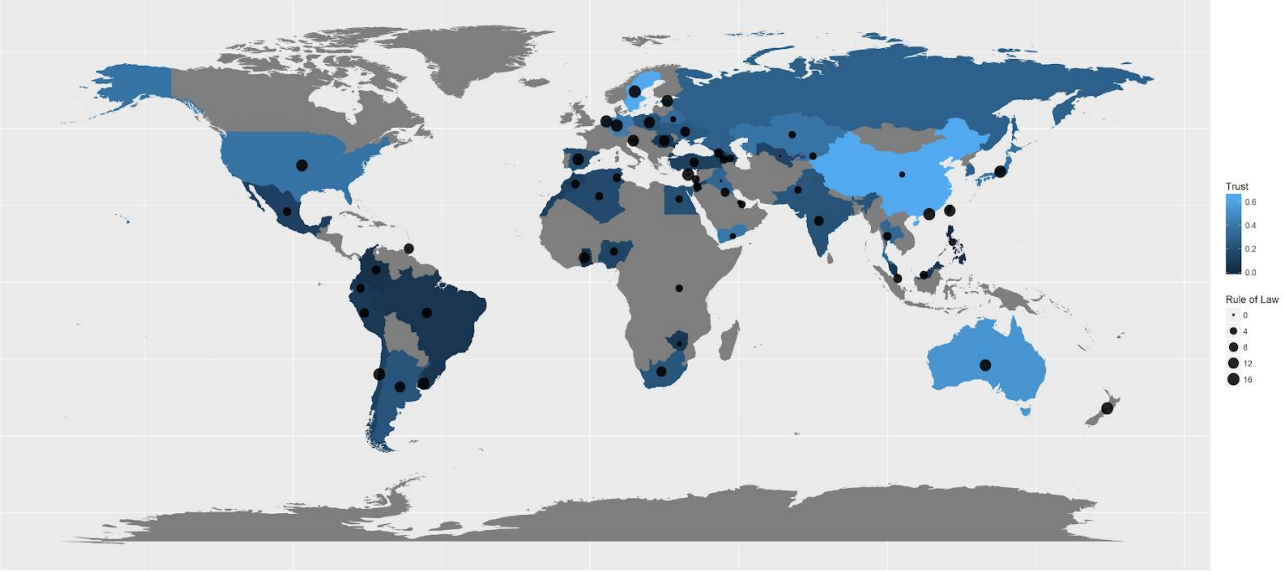

Figure 1: Quality of Rule of Law (World Bank Indicator, bubbles) and Average Generalized Trust by Country (WVS6)

4 Method

As I consider at least two levels of analysis (individuals and nations) I employ multi-level modelling grouping respondents within their countries. Thereby, I take note of having dependent observations. Alternatively, dummies for nations could have been used. However, my interest lies in examining effects on the total population and not country effects on trust. Snijders (2011: 46f.) recommends multilevel modelling in this case.

I examine individuals observed in various nations. Assuming that the respondents were subject to specific country-effects, I cannot assume that pooling all observations, i.e. considering them independent, is appropriate. As an example of this, respondents in Russia may all be influenced

by the country's communist past - this is definitely not the case for Sweden with its democratic history. As this violates basic assumptions for common linear estimators like Ordinary-Least-Squares, I utilize multilevel analysis for my analysis. Statistically speaking, considering all observations as independent would in most cases lead to an overestimation of significance levels and R^2-values, as well as an underestimation of standard errors (Bickel 2008: 34). This is because data will suffer from heteroskedasticity as standard deviations of the error terms will not be constant but collectively influenced by country-level variables. Bickel (2007: 33) calls this "nesting-engendered intraclass correlation". While heteroskedasticity is not an issue when conducting logistic regression, the dependence of observations still is (Hosmer et al. 1991: 1632). As explained above, the data used for this investigation is indeed nested and accordingly will display these conspicuities.

Multilevel regression allows for random parameters in the regression model: these can be either intercepts or slopes varying by certain groups - in my case nations. The simplest case is a model including only random intercepts. This entails the assumption that observations in groups generally have different levels of the dependent variable to begin with (Snijders 2011: 46). The intercept than denotes the value of the dependent variable within a group with all independent variables' value at zero. Still, this model assumes that the relationship between the dependent and independent variables is the same for each group. In my case, random intercepts thus implicate a different level of trust in nations. Adding random coefficients, i.e. varying slopes in groups for certain parameters, then assumes that specific variables' effects differ between groups. Of course, random slopes cannot be added for variables measured at the highest hierarchical level as there will be no variance within those groups.

Hence, in my case random slopes are of limited use and I focus on random intercepts as rule of law is measured at the highest-level, namely the national-level. Still, models fit with random slopes for various micro-level variables could improve model fit and may lead to different conclusions. However, at some point they become computationally expensive with model estimation times becoming extremely long. Accounting for the fact that individual level variables are not the main interest, I limited my models to two random slopes (always combined with random intercepts) at most.

As the dependent variable is binary (1 = "Most people can be trusted", 0 = "Cannot be too careful") logistic multilevel models were t using the statistical open-source software R (R Core Team 2017). In particular, multilevel models were estimated using the package „lme4" (Bates et al. 2015) sometimes using optimizers contained in the package "optimx" (Nash et al. 2011).

Model specification was done by fitting the full model with all available, relevant variables. Insignificant control variables were then dropped in order to achieve parsimony checking for

changes in significance and direction of the relevant rule of law coefficient. This process was done using only random intercepts. Random slopes of various micro-level variables were then tested (the strategy resembles the one proposed by Hox 2010: 51f.). Following, Likelihood-Ratio-tests provided evidence for keeping or dropping the specific random parameter. Eventually, several different specifications did not result in salient changes in the parameter of interest.

Finally, Barr et al. (2013) recommend using "maximal" models with all random slopes possible. Although Bickel (2007: 165) considers them of limited use due as they use up degrees of freedom and are computationally expensive, I included them into my analysis.

Convergence initially failed for some model specifications. Thus, several optimizers were compared observing convergence and parameter values. Coefficients varied very little between different optimizers, even if those optimizers did not converge. Moreover, no changes in direction of coefficients were observed for the different optimizers. For the models presented, I use lme4's default combination of Nelder-Mead and Bobyqa optimizers (Bates et al. 2015).

5 Results and Interpretation

The results of several models reported in Table 1 support my main hypothesis: Rule of law, measured with the Freedom House Index, does indeed show a significant, negative effect on generalized trust. Interestingly, the coefficient does not vary greatly oscillating around 0.32. Converted into odds, this means that with every increase of the rule of law variable by 1, the odds of generally trusting increase by 1.6, all else equal.

Table 1 presents several models: Model 1 is the full model, with all variables included. Model 2 is the same model, only that the inequality measure (Gini) is excluded as some of the values rely on time points falling before the WVS6. Model 3 was stripped of insignificant variables (except gender which was determined to be demographically important). Only random intercepts were estimated for these three models. Model 4 then shows the results of a three-level regression: individuals nested in religious groups nested in nations. However, this model did not present a significant improvement in comparison to Model 3.

Random coefficients for educational level were added in Model 5. For Model 6 this was done with income. Finally, Model 7 presents random slopes for both education and income (s.a. Wang 2011). This model was determined, via Multiple-Likelihood-Tests, to be superior to the ones with only one random coefficient. For reasons of clarity, the nominal variables of employment and marital status are not reported as they did not contain any notable results differing from previous works. Moreover, marital status was excluded from all models except Model 1 and 2.

Model fits were examined using the Akaike Information Criterion (henceforth: AIC), the Bayesian Information Criterion (henceforth: BIC) and Likelihood-Ratio-Tests to test the usefulness

of different random slope configurations (s. Snijders 2011). Evidently, the full model (Model 1) fits the data best. As this is not an exercise in accurate prediction of trust levels, however, I eliminated insignificant, non-essential variables. This greatly increased the number of observations and nations that could be used for estimation. Moreover, models considering a medium level of religions (subdivided into Catholic, Orthodox, Protestant, Muslim and Other) did not achieve any improved results as AIC scores were higher and Likelihood-Ratio-Tests insignificant.

Interestingly, the coefficient of corruption consistently stays positive. Although rule of law and corruption are highly-correlated (0.75), excluding corruption from the analysis did not produce any different results concerning the rule of law indicator. High levels of corruption do indeed negatively impact generalized social trust (s. Appendix: Control Variables).

The random coefficients for income varying by country in Model 4 range from -0.18 (Thailand) to 0.13 (Uzbekistan). I speculate that this can be attributed to different security situations in nations: If theft and robbery become more probable, wealthier individuals may consider trusting costlier as they fear to lose their property. Still, generally the fixed parameter is positive and highly significant. A possible reason could be that individuals have developed a successful habit of trusting. While this relationship has not been a focus of this study, further investigations could lead to interesting results as other lines of thoughts can be devised.

GDP does not seem to have a clear effect. In Models 3 and 6 the coefficient is significant at the 10 percent level - however, the strongest models contradict this. Thus, my analysis supports Bjornskov's findings that GDP does not seem to predict trust levels. The general wealth of nations does not affect the propensity of trusting one's compatriots in general. The same goes for income inequality: The coefficient only reaches significance at the 5-percent level in Model 4. Still: For both coefficients the direction of effects remains stable with the expected direction.

At first sight, Eastern Europe's post-communist heritage does indeed still seem to affect trust levels: Only the models with religious groups as a third meso-level do not show significance. However, the effect is reversed. Instead of reducing the propensity to trust, as previous literature has found (s. Chapter 2), belonging to an Eastern European state increases the probability of trusting when considering these models. It does not lie within the scope of this work to delve into reasons for this, but I speculate that this is due to other common features that are often shared by Eastern European states. These factors then are unwittingly included in the dummy-variable.

Table 1: Regression Results

	Dependent variable:						
	Generalized Trust						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Gender	0.142***	0.111***	0.142***	0.143***	0.137***	0.137***	0.133***
	(0.018)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)
Age	0.040	0.031	0.038	0.038	0.049**	0.033	0.044*
	(0.027)	(0.024)	(0.023)	(0.023)	(0.023)	(0.023)	(0.024)
Feeling of Safety	0.005***	0.005***	0.006***	0.006***	0.005***	0.005***	0.005***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Education	0.223***	0.186***	0.236***	0.237***	0.228***	0.229***	0.224***
	(0.017)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
Citysize	0.055***	0.049***	0.053***	0.053***	0.065***	0.053***	0.063***
	(0.006)	(0.006)	(0.005)	(0.005)	(0.015)	(0.005)	(0.014)
Importance of Religion	−0.007	−0.013**					
	(0.006)	(0.005)					
Income	0.041***	0.061***	0.037***	0.037***	0.031**	0.039***	0.033***
	(0.014)	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)
Community Organization Membership	0.061***	0.042***	0.065***	0.065***	0.063***	0.069***	0.066***
	(0.006)	(0.006)	(0.005)	(0.005)	(0.006)	(0.013)	(0.012)
Number of Kids	0.319***	0.261***	0.301***	0.300***	0.294***	0.284***	0.283***
	(0.031)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)
Trust in Police	0.021**	0.010					
	(0.010)	(0.009)					
Trust in Courts	0.129***	0.121***	0.133***	0.133***	0.134***	0.133***	0.134***
	(0.018)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)
GDP (logged)	0.339	0.148	0.321*	0.242	0.234	0.292	0.143
	(0.210)	(0.168)	(0.193)	(0.224)	(0.193)	(0.195)	(0.190)
Income Inequality	−0.023		−0.024	−0.031**	−0.021	−0.025	−0.020
	(0.019)		(0.016)	(0.015)	(0.016)	(0.016)	(0.015)
Corruption	0.085***	0.084***	0.079***	0.082***	0.077***	0.079***	0.078***
	(0.011)	(0.010)	(0.010)	(0.009)	(0.009)	(0.010)	(0.009)
Rule of Law (FH)	−0.348***	−0.325***	−0.329***	−0.343***	−0.325***	−0.314***	−0.311***
	(0.041)	(0.038)	(0.037)	(0.035)	(0.037)	(0.037)	(0.036)
Eastern Europe	0.757**	0.929***	0.663**	0.480	0.689**	0.771**	0.856***
	(0.362)	(0.334)	(0.325)	(0.319)	(0.314)	(0.338)	(0.318)
Predominant Religion: Catholic	−0.001		−0.317		−0.234	−0.442	−0.474
	(0.493)		(0.391)		(0.376)	(0.394)	(0.377)
Predominant Religion: Muslim	0.398		0.049		0.332	−0.056	0.301
	(0.614)		(0.496)		(0.514)	(0.489)	(0.489)
Predominant Religion: Orthodox	0.145		−0.223		−0.091	−0.417	−0.324
	(0.605)		(0.522)		(0.515)	(0.533)	(0.508)
Predominant Religion: Other	1.321**		0.749		1.000*	0.447	0.663
	(0.625)		(0.496)		(0.521)	(0.536)	(0.517)
Intercept	−7.804***	−6.208***	−7.178***	−6.272***	−6.554***	−6.927***	−5.787***
	(1.940)	(1.436)	(1.853)	(2.025)	(1.816)	(1.877)	(1.769)
Observations	48,489	58,080	61,142	61,142	61,142	61,142	61,142
Log Likelihood	−21,860.690	−26,785.430	−28,253.160	−28,256.120	−28,154.530	−28,184.990	−28,110.080
Akaike Inf. Crit.	43,785.380	53,624.860	56,560.330	56,560.230	56,367.050	56,427.980	56,284.160
Bayesian Inf. Crit.	44,066.630	53,867.040	56,803.890	56,776.740	56,628.660	56,689.580	56,572.830
Note:							*p<0.1; **p<0.05; ***p<0.01

Finally, the predominant religion of a country (with the reference level of Protestantism) does not seem to play a very important role. Only the category "Other" is significant in the full model (Model 1). However, this is insubstantial, since the category collects a great variety of countries. The conclusions by Delhey and Newton (2005) concerning religious groups thus cannot be confirmed.

6 Conclusion

This study is the first to address the impact of rule of law on generalized trust. The effect is found to be significantly negative and consequently supports my hypothesis. As a reason for this, I suppose that efficient and fair laws as well as regulations can surrogate trust. The process behind this could be described as crowding out (s. e.g. Meidert and Wiemann 2016). As rule of law safeguards societal transactions, trust between different parties is no longer necessary. Consequently, this study contributes to the current debate on the nexus of (in)formal institutions and trust (e.g. Nannestad 2008) buttressing findings and results by Letki and Evans (2005); Bohnet et al. (2001) and Cook et al. (2005). Additionally, the models presented here provide further empirical indications on the effect of various indicators of interest to contemporary trust literature (e.g. Bjornskov 2007). Finally, the use of current data in the form of the World Values Survey 6 and national-level data constitutes an improvement over past research - as is the case for the chosen method of multilevel modelling which accounts for observational dependency within countries.

Despite these consistent results, I do not claim that a high level of rule of law impairs societal interaction just because it reduces the probability of trusting. Governments should not reduce rule of law just to reap the benefits of high levels of trust - on the contrary: As was curtly argued in Chapter 2, rule of law may be more effective in eliciting cooperation than trust is. Moreover, the two concepts are not mutually exclusive. The example of Sweden scoring one of the highest values in rule of law and trust at the same time makes this clear. Instead, this research poses a challenge to explanations that in some cases almost have become commonplace: Maybe the sup-posed loss of trust in the United States and other developed countries (cf. Putnam 1995) is not that precarious when accompanied by similar mechanisms that negate trust's necessity (s.a. Cook et al. 2005: 164f.)? Here, further investigation, into the interplay of different factors and causal mechanisms is appropriate. This research may also uncover if and how mediating and confounding variables may produce cases like Scandinavia where both measures are very high. Comparative methods like case studies, qualitative comparative analysis and time series are especially suitable for this.

Nevertheless, some restrictions apply and the results of my analysis should be taken with caution. These limitations mainly concern questions of endogeneity and validity of the rule of law indicator. I address these objections in detail in the appendix. These limitations could be resolved by

using different rule of law indicators, panel data and adequate instrumental variables. Moreover, a different set of countries could lead to more robust assertions.

7 Appendix

The following paragraphs will assess criticism that applies to the chosen design. This includes both the validity of rule of law and trust measures, as well as problems of endogeneity. Moreover, I present robustness checks using linear models with an index measuring generalized trust.

7.1 Validity: Rule of Law

While the results presented above hold for a broad range of model specifications, this is not the case when employing different indicators measuring the rule of law. As reported in Table 2 the same models with the rule of law indicator published by the World Bank as part of the World Governance Indicators achieve different results (Kaufmann et al. 2011): Albeit insignificant, the coefficient is consistently positive. Interestingly, the correlation coefficient for both measures is 0.8 and highly significant. This may also be due to the World Bank Indicator using Freedom House as one of its sources. Nonetheless, the regression results in Table 3 show opposite effects - if linear models are used the results are significant.

However, the validity of rule of law measures in general is contested. Davis (2004) states two basic objections. Firstly, indicators could include items that do not necessarily measure only legal aspects. Moreover, often indicators include variables that describe "products of interaction between both legal and non-legal factors" (Davis 2004: 146f.). An example of this can be found in the measure published by the World Bank which includes survey questions like "Have you been a victim of a crime?" and similar ones (World Bank 2017). This concerns absence of harm and violence - an aspect which according to the definition given above (Chapter 2) is excluded from rule of law. Moreover, the World Bank has faced criticism for advancing Western (business) interest and a bias for neoliberalism (Skaaning 2010: 4, Uvin 2002: 4, Moore 2007). Although this criticism in itself seems somewhat ideologically tinted, it may reflect a bias towards liberal countries.

Furthermore, contradictory results with different indicators are fairly common. Nannestad (2008: 425) states: "One reason for these somewhat contradictory results from studies on the relationship between institutions and generalized trust might well be that different researchers are relying on different operationalizations". This may very well be the case for the Freedom House and World Bank indicators: Not only do the measures vary in their composition, the definition of the World Bank is broader than what is measured by the Freedom House indicator:

"Rule of law captures perceptions of the extent to which agents have confidence in and abide by the rules of society" (World Bank 2017)

Thus, including enforcement of laws, confidence in executive and judicial branches as well as the absence of violence and crime, the World Bank indicator is extremely broad. My analysis includes these factors as control variables where they consistently show expected effects (e.g. higher feelings of security lead to more trust). With these measures aggregated in the World Bank Indicator, it becomes inaccurate. This then may explain the differing results: With security, political trust and other items obscuring rule of law, it is no wonder that coefficients may become positive.

While the criteria provided by Freedom House are more precise, the organization does not provide a definition of rule of law. Nevertheless, their evaluation criteria is easily combined with existing definitions (s. Chapter 2). Still, the available data on methodology provided by Freedom House is sparse (cf. Freedom House 2017). How exactly ratings were determined each year and by whom is not made available. In contrast, the World Bank indicator publishes almost all primary data. Examining the sources, the use of enormously diverse indicators supports the thesis of relative vagueness as a smorgasbord of indicators is utilized. For instance, one indicator examines access to water for agriculture and another the cost of organized crime. The total number of representative indicators combined amounts to eight, rising to 22 with non-representative sources (World Bank 2017).

Skaaning (2010: 5, 13) states that the Freedom House measure "reflect[s] the practices of the government/state and its agents" (ibid, 5) in contrast to the World Bank Indicator which provides a general estimate of the condition taking into consideration crime levels and obedience towards the law. He is able to prove his theoretically grounded views via factor analysis. While crime and law-obedience of course are also relevant to questions of trust, I argue that the aspect was covered by including items of political trust (trust in courts, trust in police28) as well as controlling for homicide levels. Furthermore, the World Bank indicator will combine, due to its aggregative nature, different sets of indices for different countries depending on availability. This raises doubts concerning the comparability of scores - which is precisely important for my work (Kaufmann et al. 2008: 5f., Knack 2006: 18).

Nevertheless, Freedom House has been criticized for its liberal bias exaggerating levels of rule of law in countries politically close to the United States (Skaaning 2010: 4, Barahona 2007). To some extent, this can be used to criticize the results presented in this paper as for example the United States typically displays relatively low levels of trust (Putnam 1995).29 Furthermore, the codebook of the Freedom House Indicator resembles a checklist only listing criteria to fulfill. Still: This is not any different for most indicators except the World Bank Indicator which I have discarded for the reasons mentioned above (Skaaning 2010: 11).

Hence - while the above shows that most rule of law indicators seem to be flawed - alternative measures could invalidate or support the found results. Since extensive evaluation of different rule of law indices was not within the scope of this work, this opens up possible avenues for future research. Furthermore, changing results with different indices unfortunately seem to be normality and not rarity as Skaaning (2010: 14) demonstrates.

A final limitation could be that measuring the quality of institutions as a whole may simply be to broad: Trust levels may very well depend on the type of institutions. Various theoretical schools could be examined here, ranging from Lijphart's "Worlds of Welfare" to Acemoglu and Robinson's extractive and inclusive institutions. This is supported by the results of Kumlin and Rothstein (2003): They find that trust in Sweden increases if subjects had contact with institutions related to universal welfare and decreases if subjects had contact with institutions related to means tested welfare. Thus, it could be the case that contact with types of institutions may lead to more ne-grained results than simply measuring the quality of institutional contexts.

7.2 Endogeneity

One key limitation to this work may be constituted by issues of endogeneity, i.e. intertwined relationship between the independent and dependent variable. Nannestad (2008: 419) has criticized this in the context of trust research. Thus, the relationship between trust and rule of law may not be as clear as supposed: The existence of high levels of trust may impede the creation of strong institutions. similar relationships can be thought of when considering other variables like association membership (Sonderskov 2011a), inequality (Bjornskov 2008: 5f.) as well as political trust (Sonderskov and Dinesen 2016; Uslaner 2004). For institutions, Uslaner (2002: 218f.) argues that "trusting societies develop strong legal systems that gain the confidence of citizens. The opposite dynamic - strong legal systems leading to greater trust - does not hold". Although this study does not offer any evidence on the emergence of legal systems, the catalysator of high trust remains doubtful. Still, the statement that strong legal systems do not lead to high trust stay valid in light of the findings presented above (Chapter 2): The converse is true. The issue of trust conditioning rule of law rests unsolved in this regard.

Tackling the endogeneity problem, instrumental variables and controlled experiments may provide a remedy (Nannestad 2008: 416). In a similar study by Berggren and Jordahl (2006), this was attempted by using instrumental variables in cross-country regressions. Future research could investigate the issue further thereby improving the reliability of subsequent models.

Table 2: Models with Rule of Law Indicator by World Bank

	Dependent variable:						
	Generalized Trust						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Gender	0.041	0.031	0.037	0.037	0.048**	0.032	0.043*
	(0.027)	(0.024)	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)
Age	0.005***	0.005***	0.006***	0.006***	0.005***	0.005***	0.005***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Feeling of Safety	0.210***	0.175***	0.225***	0.225***	0.218***	0.218***	0.213***
	(0.017)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
Education	0.053***	0.047***	0.051***	0.051***	0.068***	0.052***	0.066***
	(0.006)	(0.006)	(0.005)	(0.005)	(0.015)	(0.005)	(0.014)
Citysize	−0.005	−0.011**					
	(0.006)	(0.005)					
Importance of Religion	0.048***	0.067***	0.044***	0.044***	0.037***	0.046***	0.039***
	(0.014)	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)
Income	0.061***	0.042***	0.064***	0.064***	0.062***	0.069***	0.065***
	(0.006)	(0.006)	(0.005)	(0.005)	(0.006)	(0.013)	(0.012)
Community Organization Membership	0.342***	0.280***	0.319***	0.319***	0.312***	0.302***	0.301***
	(0.030)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)
Number of Kids	0.017*	0.008					
	(0.010)	(0.009)					
Trust in Police	−0.135***	−0.127***	−0.138***	−0.138***	−0.139***	−0.138***	−0.139***
	(0.018)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)
Trust in Courts	−0.142***	−0.110***	−0.142***	−0.143***	−0.137***	−0.137***	−0.133***
	(0.018)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)
GDP (logged)	1.617***	0.997***	1.084**	1.143***	1.181**	0.968***	1.063**
	(0.345)	(0.289)	(0.503)	(0.394)	(0.515)	(0.289)	(0.419)
Income Inequality	0.007		−0.006	−0.007	−0.010	−0.009	−0.011
	(0.025)		(0.023)	(0.021)	(0.022)	(0.019)	(0.020)
Corruption	−0.556*	−0.162	−0.312	−0.332	−0.302	−0.177	−0.213
	(0.309)	(0.220)	(0.317)	(0.283)	(0.305)	(0.256)	(0.285)
Rule of Law (WB)	0.453	0.284	0.470	0.255	0.519	0.607	0.604
	(0.464)	(0.359)	(0.383)	(0.416)	(0.391)	(0.386)	(0.395)
Eastern Europe	−1.101*		−0.968**		−0.853*	−1.080**	−0.971**
	(0.621)		(0.457)		(0.468)	(0.446)	(0.472)
Predominant Religion: Catholic	−0.342		−0.055		−0.290	−0.207	−0.320
	(0.747)		(0.580)		(0.633)	(0.545)	(0.607)
Predominant Religion: Muslim	−1.313*		−1.070*		−1.154*	−1.297**	−1.286**
	(0.740)		(0.599)		(0.621)	(0.597)	(0.611)
Predominant Religion: Orthodox	0.560		0.455		0.181	0.070	−0.003
	(0.764)		(0.608)		(0.640)	(0.617)	(0.644)
Predominant Religion: Other	−17.292***	−11.823***	−12.250**	−13.083***	−13.087**	−10.985***	−11.911***
	(3.393)	(2.753)	(5.143)	(3.929)	(5.089)	(2.925)	(4.112)
Observations	48,489	58,080	61,142	61,142	61,142	61,142	61,142
Log Likelihood	−21,914.740	−26,839.220	−28,313.360	−28,318.580	−28,211.810	−28,244.410	−28,168.420
Akaike Inf. Crit.	43,891.490	53,730.430	56,678.720	56,683.160	56,479.610	56,544.820	56,398.840
Bayesian Inf. Crit.	44,163.950	53,963.640	56,913.270	56,890.640	56,732.200	56,797.400	56,678.490

Note: *p<0.1; **p<0.05; ***p<0.01

7.3 Validity: Generalized Trust

Survey items measuring generalized trust have often, and rightfully so, been criticized. Respondents' interpretation of the binary survey question used for the analyses presented here is prone to vary across time, culture, groups and even individuals (Nannestad 2008: 417, Glaeser et al. 2000: Ahn et al. 2003). Moreover, skepticism is raised as to whether it is really generalized trust respondents think of and not trust within a homogenous community they are embedded in when answering the question (Nannestad 2008: 417f.). Finally, the question does not address the level of trust: I would trust almost everyone to refrain from stealing ten eurocents but be very prudent with a hundred euros (Nannestad 2008: 418). The binary responses to the trust item do not allow for this differentiation. However, there is also ample support for the validity and reliability of the item (Holm and Danielson 2005; Knack and Keefer 1997; Bjornskov 2007; Nannestad2008). These authors mention the high correlation (0.67) between the return of planted wallets and the level of generalized trust in nations (Knack and Keefer 1997: 1257).33

Cook et al. (2005: 165) suggests an improvement: "Instruments should reveal the domain-specificity of both 'trust' and 'distrust'". However, his criticism stems from a different definition of trust that very strictly examines trust with respect to the specific parties and the interaction in question. As outlined above, I utilize a different definition. Nevertheless, more nuanced results could be achieved by examining this "domain-specificity" (Cook et al. 2005: 165) of trust. Here, the WVS6 offers trust in family, acquaintances, the neighborhood, people first met/of another religion/of another nationality. These items can indeed help to examine the impact of certain factors of trust on specific trust relationships.

In consequence, the used trust measure may indeed be somewhat inadequate. All the same, while not perfect, I consider the measure to be sufficiently robust to allow for general conclusions. Nonetheless: taking into account the heavy criticism it has attracted I present a slightly more varied approach supporting my results in the next section.

7.4 Robustness Checks

Accounting for the criticism addressing the measurement of generalized trust with the operationalization utilized above, I constructed a scale similar to Zmerli and Newton (2013: 71-74) as well as Yamagishi and Yamagishi (1994: 144-150) measuring the concept of generalized trust. However, I dropped trust in family members and neighbors as these are not generalized others but very specific others. More-over, some of the items used by Yamagishi and Yamagishi (1994) were not available in WVS6. This procedure was also rooted in exploratory factor analysis which confirmed the adequacy of the chosen scale, assuming correlated factors oblique rotation with Promax achieved factor loadings ranging from 0.53 to 0.85. However, it has to be noted that the

item "How much do you trust people you first meet?" still showed 63 percent unexplained variance. With the definition given above, this should actually be the item that best fits the concept. As an explanation, trusting people of another religion or another nation probably reflect trust in what one may call strangers rather than generalized others. Accordingly, cautionary interpretation of the results and the developed index is appropriate.

Despite this, the quasi-metric nature of the index allowed for linear multilevel models. This allowed me to check the same configurations presented above with a different dependent variable measuring the same concept. For these models, the significance and direction of coefficients only differed in few cases from those reported above. This provides evidence for the validity of the binary variable and presented outcome above (s. Table 1 and Table 3). Nevertheless, some of the criticism discussed above may also apply to the index constructed.

In Table 3 linear models with the following specifications are presented: Model 1 is the same full model as in Table 2 with the Freedom House rule of law indicator, Model 2 uses the World Bank indicator. Models 3 and 4 show the full model without inequality and the Freedom House indicator and World Bank indicator respectively. Models 5 and 6 compare the indicators with insignificant variables dropped. As before, all these models estimate random intercepts by nation. Model 7 is a model with varying slopes for income and education. As the correlation coefficient of corruption and rule of law is at 0.95, corruption is excluded from all models using the World Bank indicator in order to avoid multicollinearity. Due to missing responses in items contained in the built trust index, the number of cases is considerably lower than in the logistic models presented above (Table 1).

Remarkably, the rule of law coefficient for Freedom House remained consistently negative and significant across the linear models. This is also true for corruption. For the World Bank measure the picture is not as clear which also triggered the investigations reported in Section 7.1. Yet, Model 2 shows that the measure can also be negative. Having said this, the coefficient is only significant at the 10-percent level in all models.

Table 3: Linear Regression Results with Index of Trust

	Dependent variable:						
	Generalized Trust (Index)						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Gender	0.053***	0.053***	0.037**	0.038**	0.039**	0.039**	0.049***
	(0.020)	(0.020)	(0.019)	(0.019)	(0.018)	(0.018)	(0.018)
Age	0.010***	0.010***	0.010***	0.010***	0.008***	0.008***	0.008***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Feeling of Safety	0.119***	0.118***	0.121***	0.113***	0.139***	0.131***	0.140***
	(0.012)	(0.012)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)
Education	0.067***	0.067***	0.062***	0.061***	0.079***	0.077***	0.091***
	(0.005)	(0.005)	(0.004)	(0.004)	(0.004)	(0.004)	(0.013)
Citysize	0.027***	0.027***	0.021***	0.022***			
	(0.004)	(0.004)	(0.004)	(0.004)			
Importance of Religion	−0.101***	−0.099***	−0.104***	−0.098***	−0.098***	−0.093***	−0.106***
	(0.011)	(0.011)	(0.011)	(0.011)	(0.010)	(0.010)	(0.010)
Income	0.054***	0.054***	0.045***	0.045***	0.056***	0.056***	0.057***
	(0.005)	(0.005)	(0.004)	(0.004)	(0.004)	(0.004)	(0.011)
Community Organization Membership	0.106***	0.109***	0.160***	0.175***	0.110***	0.123***	0.112***
	(0.023)	(0.023)	(0.022)	(0.022)	(0.021)	(0.021)	(0.021)
Number of Kids	−0.036***	−0.036***	−0.029***	−0.031***			
	(0.007)	(0.007)	(0.006)	(0.006)			
Trust in Police	0.217***	0.219***	0.217***	0.221***	0.205***	0.208***	0.202***
	(0.013)	(0.013)	(0.012)	(0.012)	(0.011)	(0.011)	(0.011)
Trust in Courts	0.107***	0.108***	0.092***	0.092***	0.104***	0.105***	0.105***
	(0.013)	(0.013)	(0.012)	(0.012)	(0.011)	(0.011)	(0.011)
GDP (logged)	−0.015	4.849***	−0.066	0.404**	0.157	0.707***	0.316
	(0.257)	(0.535)	(0.184)	(0.159)	(0.212)	(0.189)	(0.195)
Income Inequality	0.006	0.143*			0.005	0.017	−0.003
	(0.022)	(0.076)			(0.018)	(0.016)	(0.016)
Rule of Law (FH)	−0.246***		−0.224***		−0.228***		−0.210***
	(0.037)		(0.031)		(0.033)		(0.031)
Rule of Law (WB)		−1.635*		0.269*		0.015	
		(0.884)		(0.149)		(0.197)	
Eastern Europe	0.579	0.578	0.727**	0.263	0.380	0.231	0.444
	(0.403)	(1.426)	(0.312)	(0.255)	(0.358)	(0.315)	(0.329)
Corruption	0.083***		0.077***		0.069***		0.065***
	(0.011)		(0.009)		(0.009)		(0.009)
Predominant Religion: Catholic	0.116	−1.640			0.033	−0.477	0.164
	(0.547)	(1.901)			(0.428)	(0.377)	(0.393)
Predominant Religion: Muslim	0.416	−0.178			−0.054	−0.276	−0.168
	(0.682)	(2.320)			(0.544)	(0.462)	(0.499)
Predominant Religion: Orthodox	0.686	−1.073			0.268	−0.478	0.211
	(0.666)	(2.275)			(0.570)	(0.492)	(0.523)
Predominant Religion: Other	0.712	1.123			−0.038	−0.355	−0.215
	(0.691)	(2.358)			(0.543)	(0.472)	(0.499)
Intercept	−1.006	−47.230***	0.114	−2.663*	−1.662	−5.595***	−3.031
	(2.424)	(5.404)	(1.581)	(1.513)	(2.028)	(1.917)	(1.867)
Observations	45,903	45,903	54,635	54,635	57,633	57,633	57,633
Log Likelihood	−95,150.750	−95,185.050	−114,528.900	−114,568.600	−119,358.100	−119,397.600	−119,141.400
Akaike Inf. Crit.	190,367.500	190,434.100	229,113.900	229,191.200	238,772.200	238,849.100	238,348.900
Bayesian Inf. Crit.	190,655.700	190,713.600	229,363.300	229,431.800	239,023.100	239,091.100	238,644.600

Note: *p<0.1; **p<0.05; ***p<0.01

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